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Message from the Editor-in-Chief

Hello from TOJDEL

TOJDEL welcomes you. TOJDEL looks for academic articles on the issues of distance education and e-learning and may address assessment, attitudes, beliefs, curriculum, equity, research, translating research into practice, learning theory, alternative conceptions, socio-cultural issues, special populations, and integration of subjects. The articles should discuss the perspectives of students, teachers, school administrators and communities. TOJDEL contributes to the development of both theory and practice in the field of distance education and e-learning. TOJDEL accepts academically robust papers, topical articles and case studies that contribute to the area of research in distance education and e-learning.

The aim of TOJDEL is to help students, teachers, school administrators and communities better understand how to organize distance education for learning and teaching activities. The submitted articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJDEL. TOJDEL provides perspectives on topics relevant to the study, implementation, and management of learning with technology.

I am always honored to be the editor in chief of TOJDEL. Many persons gave their valuable contributions for this issue.

TOJDEL will organize the INTE 2023 International Conference on New Horizons in Education (www.int-e.net) in July 2023 in Rome, Italy.

Call for Papers

TOJDEL invites article contributions. Submitted articles should be about all aspects of distance education and e-learning. and may address assessment, attitudes, beliefs, curriculum, equity, research, translating research into practice, learning theory, alternative conceptions, socio-cultural issues, special populations, and integration of subjects. The articles should also discuss the perspectives of students, teachers, school administrators and communities.

The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJDEL.

For any suggestions and comments on the international online journal TOJET, please do not hesitate to contact us.

April 01, 2023

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A DEEP DIVE INTO MACHINE LEARNING

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ABSTRACT
Data mining and machine learning approaches look at data from beginning to end to find hidden patterns in the dataset. A variety of study areas support the establishment of the multidisciplinary discipline of machine learning. The digital era has access to a multitude of data which includes business information, data from social media sites, Internet of Things (IoT) data, cyber security data, cellular data, health data, etc. In deep learning, multiple layers of interconnected neurons are used to process and learn complex patterns in data. These layers allow the network to automatically extract high-level features from raw input data, such as images, speech, or text. Machine learning permits the user to use a computer algorithm for a large amount of data and analyse the same with the help of a computer and make recommendations based on available data and decisions on the base of input data. Machine learning is of four kinds viz. Supervised learning, Unsupervised learning, Semi-supervised learning and Reinforced learning. We have done a deep analysis of techniques of machine learning through this research.
Keywords: Machine Learning, Algorithms, Decision tree, Neural networks, Metadata.

Introduction

Machine learning was created by Arthur Samuel, an American scientist in 1959, when he was working at IBM. According to him, machine learning is a study which gives computers an ability to learn without any systematic programming. Machine learning has a connection with artificial intelligence, which is involved in developing algorithms and statistical models, which enable computers to improve the performance in activities through experience. Machine learning is of four kinds viz. Supervised learning, Unsupervised learning, Semi-supervised learning and Reinforced learning. A recent study showed that machine learning (ML) engineers outpaced all others in salary package, demand as well as growth. In short, ML is a smart career choice for job aspirants. ML is also an important component in areas such as Big Data, Predictive Analytics, Data Mining and Computational Statistics.

The main responsibilities of an ML engineer include the following:

- Study of computer architectures, data structures and algorithms
- Designing machine learning systems
- Creating infrastructure, data and model
- Analyse large, complicated datasets
- Develop algorithms
- Build and maintain machine learning solutions in production etc.

A few examples of machine learning are as under:

- Recognition of speech and image, which help to convert speech into text.
- Google translation
- Prediction
- Extraction
- Extraction

Real-World Examples of Machine Learning (ML) are as under:

- Facial recognition
- Production recommendations
- Financial accuracy social media optimization
- Healthcare advancement
- Predictive analytics

Review of Literature

Murugan, Sathiyamoorthi (2022) aims to provide an in-depth overview to several commonly applied machine learning techniques and their applications, which are divided into supervised, unsupervised, and reinforcement learning which also serves as a concise manual for prospective researchers of data and machine learning.

Choudhary, Gianey (2017) in their study have provided a general comparison on machine learning algorithms. Unlike static programming methods, which require explicit human instruction, machine learning algorithms are designed to learn from the data and generate predictions.

Dheepak, Vaishali (2021) have provided a brief summary and viewpoint on many machine learning applications by this survey. Duarte, Ståhl (2018) in their study highlights the subdivision of the machine learning field the purpose of which is to make it possible for computers to learn.

Paluszek, Thomas (2016), in the subject of machine learning, past data are utilised to anticipate or respond to future data. It has a close connection to artificial intelligence, computational statistics, and pattern recognition. In fields like facial recognition, spam filtering, and others where it is not practical or even practicable to develop algorithms to execute a task, machine learning is vital.

Rath (2022) in his study has stated that business learning made various techniques. Every financial platform has become safer and more user-friendly for financial transactions as a result of advancements in the internet and digital marketing.

Thakur, Tembhurney & Rane (2021) aims to give readers a mature perspective on the fundamentals of ML, one of the experts' most popular recent study subjects. It outlines the problems and difficulties with machine learning (ML). The selection of features is relevant to feature engineering because feature engineering creates novel features to improve learning objectives while feature selection aims to select the features that are most appropriate.

Objectives

1. To define the study's scope by considering the traits patterns of data, which help in making predictions.
2. To detect and analyse trends which helps to solve problems.
3. To explore the ways in which the solutions based on machine learning might be used in various real-world scenarios.

Secondary Data Analysis

Real-World Data Types

Data is required for the development of machine learning models. There are different types of data, such as structured, unstructured and semi-structured data. The difference is as under:

Structured data: It is organised data, which is easy to search in any database which is rational and mostly categorised as quantitative data, which most researchers and scientists used to work with. It has fixed fields and columns in relational databases and spreadsheets. Examples are names, dates, addresses, credit card numbers and more.

Unstructured data: It has no proper format or pre-defined format and hence it is difficult for collection, formalisation and analysis. It is often qualitative data which cannot be processed and analysed using normal methods and tools. For unstructured data, in order to understand customer buying habits and timings, patterns in purchases and sentiments towards a particular product etc. can be obtained by using data mining techniques.

Semi-structured data: It is a type of structured data which stands at the mid-way between structured and unstructured data. It does not have a rational or tabular data model. Common examples of this are JSON and XML.

Metadata is "data about data," not the usual form of data. Metadata refers to data that describes other data. It provides context and information about the data, such as its format, structure, content, and relationships to other data. In other words, metadata is "data about data."

Metadata: It is used to help organize and manage data, making it easier to search, retrieve, and use. It can be stored in various forms, such as tags, labels, or fields, and can be associated with different types of data, including documents, images, videos, and databases.

Machine Learning Algorithms

There are different types of machine learning algorithms as under:

(1) **Supervised:** It is a learning function where a pair is taken, and this pair consists of input object and output value. It analyses the training data, which can be utilised for mapping new examples. Both classification and regression problems are supervised learning problems.

(2) **Semi-supervised learning:**, the algorithm is trained to use both small amounts of labelled data and large amounts of unlabelled data. The idea is that the labelled data provides information about the target labels, while the unlabeled data helps the algorithm to learn the underlying structure of the data and generalize better to unseen examples. One common technique for semi-supervised learning is to use the labelled data to train a supervised model, and then use that model to make predictions on the unlabeled data. The predictions can then be used to label some of the unlabeled data, which can be added to the labelled data for further training. This algorithm is mainly used for recognising image and speech as well detection of fraud. Generally it is used where it is very expensive to use labelled data.

(3) **Unsupervised Learning:** It is a type of machine learning algorithm, which is used to draw inferences from sets of data consisting of input data without labelled responses. Unsupervised learning algorithms are not included in observations. Since this is unsupervised, the accuracy cannot be evaluated. This method is used for cluster analysis, which is used for exploratory data analysis.

(4) **Reinforcement input data without labelled responses:** It is the problem of getting an agent to act in the world in order to maximise the rewards.

In machine learning, a learner is not informed as to what action he has to take. He has to discover which technique to use in order to derive the desired results. For example, we can teach a new trick to a dog; and we can use the technique of reward or punishment if it does right or wrong. Same method can be used in the case of computers to do many tasks such as playing chess, job scheduling and controlling robot limbs.

There are several different machine learning techniques, each with its strengths and weaknesses. Here are some comparisons of different techniques:

1. **Supervised learning vs. Unsupervised learning:**

Supervised learning is a learning function where a pair is taken, and this pair consists of input object and output value. It analyses the training data, which can be utilised for mapping new examples. Both classification and regression problems are supervised learning problems. Whereas Unsupervised Learning is a type of machine learning algorithm, which is used to draw inferences from sets of data consist of input data without labelled responses. Unsupervised learning algorithms is not included in observations. Since this is unsupervised, the accuracy cannot be evaluated. This method is used for cluster analysis, which is used for exploratory data analysis.

2. **Decision trees vs. Neural networks:**

Decision trees are a simple and interpretable machine learning technique that uses a tree-like structure to make decisions. Neural networks or artificial neural networks are more complex and can model non-linear relationships between variables. Decision trees are useful when the problem is simple and the dataset is small, while neural networks are useful for more complex problems and larger datasets.

3. **Logistic regression vs. Random forests:**

Logistic model is a statistical model, which takes into consideration the probability of an event taking place by having the log-odds for the event be a linear combination of one or more independent variables. Logistic regression is useful when the problem involves a binary outcome and the relationship between the predictor variables and the outcome is linear, while random forests are useful for more complex problems and datasets with many features.

4. **Support vector machines vs. K-nearest neighbours:**

Support Vector Machine or SVM is one of the most famous Supervised Learning algorithms, that is used for classification and regression problems. SVMs are useful when the problem involves a large number of features and a clear separation between classes, while KNN is useful when the dataset is small and the relationship between the features and the outcome is non-linear.

5. **Clustering vs. Dimensionality reduction:**

Clustering is a technique of unsupervised learning that gathers data pointed to on the basis of its similarity. Dimensionality reduction, on the other hand, is a technique that reduces various features in a set of data, when you are retaining so much of the original information as possible. Clustering is useful when exploring the structure of a dataset or when identifying outliers, while dimensionality reduction is useful for reducing noise and simplifying complex datasets.

Table:1 gives an understanding of the different techniques which is suitable for different scenarios as per the data sets available.

Algorithm	Type	Pros	Cons
Linear Regression	Supervised Regression	Simple to implement and interpret, performs well on linearly separable data.	May underfit or overfit data if not properly tuned.
Logistic Regression	Supervised Classification	Simple to implement and interpret, performs well on linearly separable data.	May underfit or overfit data if not properly tuned.
Decision Trees	Supervised Classification/Regression	Easy to understand and visualize, can handle both categorical and numerical data.	May overfit data if not properly tuned, sensitive to small changes in the data.
Random Forest	Supervised Classification/Regression	Reduces overfitting by combining multiple decision trees, handles both categorical and numerical data.	Can be slow to train on large datasets.
Support Vector Machines (SVMs)	Supervised Classification/Regression	Performs well on high-dimensional datasets, effective in handling non-linearly separable data.	Can be slow to train on large datasets, requires careful selection of kernel function.
Naive Bayes	Supervised Classification	Simple and fast to train and classify, works well with high-dimensional data.	Assumes independence of features, may not work well with highly correlated data.
k-Nearest Neighbors (k-NN)	Supervised Classification/Regression	Simple to implement and interpret, works well with small datasets.	Can be slow to classify new data, sensitive to the choice of k.
Neural Networks	Supervised/Unsupervised Classification/Regression	Can handle complex non-linear relationships, can learn from unstructured data.	Can be difficult to interpret and may require a lot of training data.
Clustering Algorithms (e.g., k-Means, Hierarchical)	Unsupervised	Can identify underlying structure in data, can be used for anomaly detection.	Requires careful selection of the number of clusters, may not work well with high-dimensional data.

Table 1: Pros and Cons of Machine Learning Algorithms subject to the kind of data used.

Machine Learning Algorithms

Classification Analysis

• Binary classification:

• Multiclass classification:

• Multi-label classification:

Regression Analysis

Cluster Analysis

Dimensionality Reduction and Feature Learning

Association Rule Learning

Reinforcement Learning

In addition to classification analysis, there are other similar algorithms that fall under the broader umbrella of machine learning, including:

1. **Regression Analysis** - This involves predicting a continuous numerical output rather than a categorical one.
2. **Clustering Analysis** - This involves grouping similar data points together based on their features, without predefined labels or categories.
3. **Dimensionality Reduction** - This involves reducing the number of input features while retaining as much information as possible, to make it easier to analyze and visualize the data.
4. **Neural Networks** - These are a class of algorithms that can be used for both classification and regression tasks, and are modelled after the structure of the human brain.

Conclusion

The effectiveness and quality of the dataset of the algorithms of learning are needed for machine learning models in order to be successful. In this study, we have looked closely at machine learning techniques for uses that call for sophisticated data processing. Both supervised and unsupervised machine learning are possible. Unsupervised Learning typically provides superior performance and results for huge data sets, while Supervised Learning is the preferable option if you have a smaller amount of data and clearly labelled data for training. On the other hand, use deep learning approaches when you are in possession of a sizable data collection that is readily available. All of these algorithms have different merits and demerits and the algorithm merits are in line with the specific available problem as well as on the basis of data to be analysed.

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A LITERATURE REVIEW OF CYBER SECURITY ADOPTION IN AUTOMOBILE SECTOR: WITH SPECIAL REFERENCE TO CONNECTED AUTONOMOUS VEHICLES IN INDIAN CONTEXT

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ABSTRACT

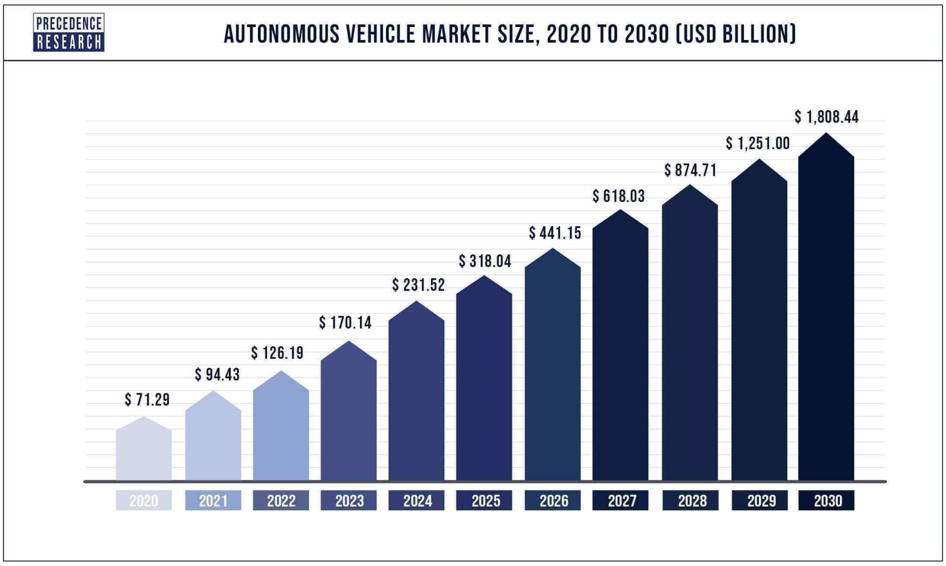
Technology is progressing rapidly with the intent to have higher performance, scalability, and accuracy. Security which often used to take a back seat now has become prevalent in terms of maintaining integrity, confidentiality, and authentication of the information. An automobile sector is also adopting exponential and transformational technologies and vehicular networks. Cyber security in this sector is becoming challenging for the organizations to come up with optimal solutions. The growing emphasis on OEMs [Original Equipment Manufacturers] on autonomous driving and connected car systems have increased the risk of data breaching, thus augmenting the demand for cybersecurity solutions in the automotive market.

The researchers attempted to explore the connotation of decision models for cyber security implementation in automobile sector. The literature study undertaken revealed that; while positioning and fostering the technology-equipped integrated solutions for the cyber security implementation in the automobile sector, the decision models will play a vital role. The study of cyber challenges becomes more evident, predominantly when vehicular networks are used in autonomous vehicles. Furthermore, in the current scenario, the inevitable impact of cyber attacks, upcoming known and unidentified threats will imply the necessity of application of appropriate cyber security measures and controls is the major scope of the study.

Keywords: Cyber Security, Automobile Sector, Vehicular Networks, Autonomous Vehicles, Decision Models

Introduction

The automobile sector in India is one of the largest industries in the world although autonomous vehicular technology is recently evolving but with a promising future. An autonomous vehicle or a self-driving vehicle is self-operated, technology-controlled owing to its ability to sense its surrounding. Such vehicles use strategic decision models based on advanced exponential and transformational technologies. According to the study by McKinsey (2017), consumers across the globe have expressed interest in hybrid and electrified vehicles equipped using technological evolutions. The public consciousness is impacting the use of high-end vehicles with inbuilt features such as automation and digitization etc. The newer ways of mobility using AI and algorithm-led systems to drive innovations such as self-driving cars and drones are revolutionizing the automobile sector across the globe.



Graph 1: Autonomous vehicle market size
(Source: https://www.precedenceresearch.com/autonomous-vehicle-market)

The global autonomous vehicle market was estimated USD 94.43 billion in 2021 and it is projected to **hit around USD 1808.44 billion by 2030**, poised to grow at a compound annual growth rate **(CAGR) of 38.8% from 2021 to 2030. Autonomous vehicle market is being evolved gradually with technological advancement may be at a rapid pace, yet mass deployment not gained the desired momentum as on today.** (Rajasekhar and Jaswal, 2015).

A developing country like India, is witnessing a shift in mobility trends with technological innovations and the consumer expectations from automobile manufacturing companies. Nevertheless, in Indian context the application of automation and digitization in vehicular networks is gradually gearing up.

As modern vehicles can establish communication between the vehicles that is vehicle-to-vehicle and vehicle-to everything; automotive security threats must be well-thought-out and addressed. Vehicular networks are largely susceptible to cyberattacks such as eavesdropping, jamming, spoofing, man-in-the-middle attacks, compromising the security of control layer and navigation related aspects. (El-ewini, Sadatsharan, Selvaraj, Plathottam, Ranganathan, 2020)

To provide a better cyber security to autonomous vehicles, it is imperative to follow certain strategic process in terms of implementation as design decisions or decision models for strategy building or policy making. There are challenges as technology is evolving with an exponential speed and consumers are in a great demand of evolutionary autonomous vehicles. (Li and Liu, 2021). The world-wide organizations like Tesla Inc, Volkswagen AG, ABB, Magna International, General Motors¸ Uber¸ Waymo are some of the famous autonomous vehicles driving companies. In Indian context Tata motors, Mahindra & Mahindra, Hindustan Aeronautics Ltd. Are some of the key players working on the functionalities of autonomous vehicles and vehicular network in coordination with components makers such as Bosch, Continental, and Delphi. The start-up such as minus zero is coming up as first company building affordable fully Self Driving Cars in India.

Objectives of the study

1. To review the available secondary information related to the cyber security implementation and threats in vehicular networks.
2. To identify the challenges in making strategic decisions related to cyber security adoption in autonomous vehicles in Indian context.

Scope of the study

The chosen area of research being critical, sensitive, and complex, it is having vast scope beyond this paper leading to the doctoral research work undertaken.

The scope of this research paper has been kept limited for carrying out the literature review thereby, identifying the gaps and problem statement; that led to confirmation of the title of the research study. The geographical scope of the research work has been confined to the Indian context.

Literature Review
Cyber security adoption in autonomous vehicles is one of the upcoming research areas. A thorough literature review has been the strongest base considered by the researchers for exploring the context of the study undertaken. This being one of the key areas among various technological innovations in autonomous vehicles.

Cyber Security Adoption in Automobile sector
While positioning and fostering the technology-equipped integrated solutions for the cyber security implementation in the automobile sector, the decision models will play a vital role. Decision science utilizes a variety of tools which include models for decision-making. Establishing the criteria for evaluating and adopting appropriate and best alternatives will aid in implementation of the strategic decisions to be made for vehicular cyber security. The decision models based on hardware, software and services which are an integral part of upcoming automobiles will help in making technology management related strategic decisions and the impact can be studied. (Wang, Qin, Wang, Ji, Zhang, Wang, 2021).

Autonomous Vehicles in Indian context
Yadav, Kumar, Kumar, Yadav, (2022), proposed that; Indian automobile industry has historically been one of the prominent indicators of the growing economy along with the technological advancements. However, in context with autonomous vehicles and related networks developing globally at a rapid pace, the Indian counterpart has been a little sluggish. Wherein, until recently where Minus Zero got introduced as India's first startup, building affordable fully Self Driving Cars in the country in 2021. The new era of Autonomous vehicles is giving rise to a concept for an integration of self-driving vehicles into Industry 4.0 revolution leading to industry 5.0 technology evolution.

According to the study done by Technvaglobal about what is new for the Automotive Industry, India is gradually on the path of becoming a global automotive industry hub with more than 30 automotive R&D centres. As a result of the increase in R&D services in India, the connected car market is projected to grow exponentially by 2025. The in-vehicle connectivity and cyber security adoption in autonomous vehicles will become the default demand for car drivers in the coming years, which will lead to an increase in the number of connected cars to 250 million by 2022.

With the aggressive global automobile market rising, there has been a massive growth in the consumer market giving thrust for innovative solutions to the cyber threats in vehicular networks specific to self-driving vehicles. In this context, cyber security of such vehicles that are imitating human capabilities becomes inevitable.

Gupta, Iyer (2018) revealed that in India, the market for autonomous and connected vehicles is just coming into existence and beginning to display signs of future potential. Soon, most automobile manufacturers will have to consider the advanced features leading to embedding software in their vehicles to manage the complex system of hardware such as sensors, processors, and storage devices. It is important to develop a clear and time-driven strategy for embracing digitization, big data analytics, and connectivity to build and manage the integration of new technologies. Ensuring cyber security mechanisms for secure communication between connected vehicles is essential for the predicted growth in this sector.

Bimbraw (2015) investigated that Autonomous vehicles should be developed as efficient and practical vision guided vehicles. Indian Car buyers top the list when it comes to being open to increased vehicle connectivity. The research has claimed that 80% of Indian customers think that increased vehicle connectivity will be beneficial in the long-term. One of the largest car markets in the world, India ranks first in data collection related to connected vehicles.

Kim, Kim, Jeong, Park, and Kim (2021) deliberated that the Indian connected car market is expected to grow at a CAGR [Compound Annual Growth Rate] of 20% during the period 2020-2025. Since the connected car requires access to the internet for smooth functioning, many players are planning to launch their connected cars in India, and have collaborated with telecom companies to make their connected cars a reality in the Indian market. India is targeting of becoming an all-electric nation by 2030, where a mass production of connected cars is being considered. The Indian Government has mandated the presence of connected services for public transport that came into effect in April 2018. Industry 4.0 revolution leading to Industry 5.0 has expanded the possibilities of digital transformation in automotive and Research and Development is becoming an important aspect for the hybrid and electric vehicles, connected as well as autonomous cars.

Bernardini, Asghar, and Crispo (2017) explored that, the digitized world today, which is established on network of internet-enabled systems, is vulnerable to the risk of losing data integrity in the cyberspace. As a strong protective shield, Cyber threat management demands an integrated cyber risk identification and management approach to address and mitigate the cyber security risks and threats in the cyberspace. Configuring an effective threat defence mechanism also deals with data acquisition and leveraging automation. Also, depending on the domain in which organization is working, relevant analytics and cross correlation across the vast domains of Cyber security can be analysed in context to technological advancements. Since it is nearly impossible to guarantee that there are no logic errors in any complex computing system, every vehicle is likely to contain at least some vulnerabilities that a skilled attacker may be able to discover and exploit. Based on the deterministic nature of these systems, understanding the possible permutations in advance, and blocking any instruction calls that were not projected can prevent in-memory attacks.

Martínez-Díaz, Soriguera (2018) studied that, as managing upcoming threats dynamically have become very much challenging, data analytics and algorithms helps in generating better solutions to provide safe communication and connected environment in the autonomous vehicles. Identifying appropriate decision models aligning them for the implementation of cyber security solutions, in the context of cyber threat management thereby bridging the gaps between challenges faced in cyber space in context with autonomous vehicles and vehicular networks in an automobile sector. and implementable realistic solutions.

Li, Shu, Chen, and Cao (2021) proposed that all organisation's strategic-level decision making processes are highly based on its domain specific environment. It became imperative to address the ever-changing cyber security challenges in the context of the business environment as well as technological advancements in an automobile sector. The alternatives available in decision models which can assist in provide secure communication among the autonomous vehicles play an important role in providing sustainable growth in these perspectives to optimally utilise and align decision making models in adopting cyber security solutions, there is a need to consider relevant tools and techniques for making effective decision making; in the context of computer security, data management, also legal and risk management. The researchers have further attempted to explore how decision-making models can be an enabler in identifying challenges and solutions in implementing effective cyber security and in building better and cyber secure infrastructures in autonomous vehicles. To sustain in this hyper competitive and data sensitive digital era, securing wealth of data gets vital precedence, using decision science Capabilities through advanced proven analytics have acknowledged the case.

The diagram below depicts the key touchpoints for connected car security. The future of mobility systems will majorly include the infotainment systems, integrated vehicle security, connected vehicles services, vehicle communication busses and use of mobile applications, firmware, and wireless communications.

The ever-expanding cyber security issues must be addressed which can further cause availability, integrity and confidentiality problems leading to vulnerabilities and cyber attacks on vehicular networks.

Figure 1 : Connected car security touchpoints
Image source: Deloitte analysis (https://www2.deloitte.com)

Following are the examples of possible cyber threats in autonomous vehicles:

1. **Insider's threats**
   Attacker uses their authorized access to an organization's data and resources to impair the vehicle's information, networks, equipment, and systems. Insider's threats include unauthorized information disclosure, industrial espionage, degradation of resources, sabotage, introducing malware or ransomware attacks and cyber terrorism, etc. Connected and self-driving vehicles are more susceptible to such kind of attacks. (Masike, 2023).
2. **Dumpster diving for data**
   Organizations are not keen about discarding the documents and other media without shredding or properly destroying them. A sensitive information can be retrieved from searching through such discarded dump which can be used to carry out attacks such as malicious attacks, identity theft and phishing in vehicular networks. (Dibaei, Zheng, Jiang, Abbas, Liu, Zhang, Xiang Yu, 2020).
3. **Hacking into manufacturer-to-vehicle communications**
   Hackers can break into the vehicles and using Remote Code Execution (RCE), a vehicle can be accessed from a remote server by executing arbitrary commands by the attacker. Cloning and Denial of Service (DoS) attacks are also possible with the help of intruding into manufacturer-to-vehicle communications. (Bharati, Podder, Mondal, Md. Robiul, 2020)
4. **Hijacking vehicle controls and sensors**
   In this, the hackers can acquire unauthorised access to the car with the help of, Bluetooth channels, USB, monitoring systems, navigation consoles and wireless and cellular signals. The main concern is a huge data can be collected by the vehicle while in motion using GPS, sensors, cameras, radars, and the overall system components. (Naughton, 2018).
5. **Distributed Denial of Service**
   In Vehicular Networks, there are many vehicles communicating with each other. The attackers can initiate attacks the victim from different locations and at different times. As a result, the victim cannot access the resources of the vehicular network. Such kinds of attack difficult to detect. (Zwilling, Klien, Lesjak, and Wiechetek, Sklodowska, 2022)
6. **Jamming**
   In context with the wireless communications and wireless networks, the intentional or even unintentional Wireless Radio Frequency (RF) jamming causes serious threats in Vehicular ad-hoc networks (VANET). Modern vehicular networks having safety-critical applications are vulnerable to such jamming attacks. (Kim, Chung, 2021)

7. **Impersonation**
A false information can be injected in order to mislead the target vehicles or impersonation attack can be implemented by tampering the on-board unit. Attackers may collect the confidential information about the vehicle, track the vehicle's location through compromised navigation systems and may record the messages and communication between the target vehicle and the other connected vehicles. By divulging the authentication details of a vehicle, the authentication information can be used to access classified information or even as verification or validation with other parties. Attackers could also impersonate other vehicles to gain an advantage. (Dibaei, Zheng, Jiang, Abbas, Liu, Zhang, Xiang Yu, 2020).
8. **Black hole**
This attack severely affects the availability attribute of CIA triad (Confidentiality, Integrity, and Availability Triad) in which data packets as well as the control packets are dropped by the malicious vehicle. This may prevent communication between vehicles entirely and can significantly reduce the accessibility of Vehicular Ad Hoc Networks (VANETs). We propose a solution to help secure these networks against this vulnerability by detecting the attack and removing the malicious node from the network. Dropping of data packets has a stern impact on a security, interoperability and performance of the vehicular networks which may lead to accidents, traffic jams and fatalities. (Tobin, Thorpe, Murphy, 2017)
9. **Masquerading**
It is nothing but; by using other vehicle's identity. the attacker pretends to be another vehicle to carry out the frauds and malicious activities. For example, attacker's car may masquerade as a Police vehicle to trick with other vehicle to stop the vehicle or slow down their speed. (Upadhyaya, Shah, 2018)
10. **Global Positioning System Spoofing**
In the self-driving vehicles, the navigation through the Global Positioning System (GPS) must be secure. In case, when the security mechanisms, cryptographic controls mechanisms and authentication techniques are not appropriately developed and implemented, the satellite signals can be easily replicated and GPS spoofing attacks can be launched by the attackers. With the help of such attacks, the spoofers can manipulate the navigation data and cheat or misguide the vehicle. (Krayani, Barabino, Marcenaro, Regazzoni, 2023).
11. **Threats in Protocol Layer of VANETs**
The network and the transport layer in case of data transmission and communication may suffer from inappropriate routing and intentional delays and man-in-the-middle attacks in VANETs. The vehicle's location, network topology, vehicle's velocity, and distance between two or more connected vehicles may affect the QoS (Quality of Service). Stealing od bandwidth allocated for the communication between the autonomous vehicles may lead to delay in delivering the messages as well as congestion and collision resulting in environmental impact. The cyber attacks in the protocol layers of VANETS may cause problems related to mobility, security, authentication, network management and scalability, etc. (Kugali , Kadadevar, 2020).

The ever-dynamic technological advancements globally are fast paced and so are the new challenges that threaten the precious knowledge becoming more susceptible to cyber attacks. Thus, such vulnerable data and network communications would need stringent mechanism to address and resolve not only the anomalies but as well defend the cyber-attacks. Traditional model may form a basis of any solution that is being proposed. Newer and better routes need to be evaluated and verified complimenting the legacy systems; to address the invading threats to knowledge in the cyber space.

Gaps Analysis and problem description

Till date, there have been many decision models identified, proposed, and implemented in various sectors applying various business logic. Thereby, facilitating decision making process through some workflow or pattern or model. In context of cyber security implementation as well, such decision-making models has been already proposed (Aitor, 2019).

For the first time in a century, the nature of how we use motor vehicles is on the verge of a

fundamental technological change. In the coming decade, an increasing number of travelers will go from; directly manipulating vehicle control inputs for accelerating, braking, and steering to simply entering a destination and sitting back for the ride. These people using connected and automated vehicles beforehand, must have assurance about their vehicles being adequately protected from malicious actors, trying to do physical or financial harm via cyber-attacks. (Abuelsamid, 2016).

One of the primary goals in adopting new technologies such as connected vehicles and autonomy is; to drive the fatality rate toward zero. However, that can only happen if those technologies work as intended and malicious actors are prevented from tampering with the systems. Unfortunately, it is impossible to guarantee that any complex code base is free of logical errors, and according to researcher's observations; there is a significant probability that some number of those errors will lead to security vulnerabilities. With hundreds of millions of connected and automated vehicles expected to be on the road in the coming decades, the likelihood of attacks from hackers, stalkers, vandals, intruders, thieves, and those with political motivations; that may exploit those security vulnerabilities, for mass attacks increase exponentially.

The cyber security challenges in the secure communication modes in autonomous vehicles require greater level of exploration in terms of powerful decision models supporting technology adoption. In a sector such as an automobile and a subdomain of autonomous vehicles, the functionality is focused but cyber security takes a backseat. So, there is a need to focus on adoption of cyber security features which specifically in automobile sector is not done extensively. (Gekker , Hind, 2019)

Finally, data treatment must also be regulated. Security and privacy are the main goals, while ensuring the data sharing required by a cooperative driving environment. (Martínez-Díaz, Soriguera, 2018).

Based on literature review, gap analysis is being done, thereby arriving to the problem statement based on which the title of the research study has been evolved and justified. Furthermore, approaches towards designing and implementing algorithms for selecting the appropriate strategic decision model used in automobile sector are also being explored.

In a swiftly changing world, security of the vehicular network from the potential cyber attacks and the entire ecosystem of mobility is quite challenging as the stakes are very high and so is the complexity. The consumers are cautiously approaching towards the prospect of self-driving vehicles though the automakers and information technology companies are pushing themselves to keep themselves ahead of the hackers and other adversaries. In Indian context as well as in general; the investment in self-driving vehicles will be lucrative only when such vehicles will function securely. The thoughtfully developed standards can be enforced, encryption can be implemented to protect the integrity and protocols for secure development of critical vehicle systems and related networks can be implemented with caution.

Conclusion

The auto industry is among the most competitive business sectors in the world, with very little barrier to prevent customers from switching brands. Customers in the highest volume segments of the industry are also very price sensitive, and costs for manufacturers are rising continuously; as they struggle to meet ever stricter regulatory requirements while developing new technologies. It is important to focus with an exploratory approach to know the impact on both current and future products. Protecting vehicular infrastructures and human beings will require holistic approaches to design, implementation, and response when the unexpected incidences take place. The researchers attempt to check on with the awareness of the consumers with respect to autonomous vehicles, so that later, the empirical research work is proposed to be carried out.

As per the literature review carried out by researchers, fully self-driving vehicles is certainly not just a trend but, a promising aggressive automobile market in Indian context. It has been well received in the global market since a decade, consumer market in India is still under latent stage, albeit with prospective demand. Meanwhile, the time needed to overcome the technological challenges must be used, to design cooperative traffic management strategies which will guarantee success upon their introduction. Also, special attention must be paid to legal and ethical issues, which will determine when the society is ready for the future autonomous driving environment.

The research work being multidisciplinary, it was interesting to review articles, reports, published analytical reports, research papers, official websites of car making companies in global as well as Indian market. Moreover, there were thought provoking informal discussions, with the experts associated with multiple focal points coming under the purview of the area of research work. These deliberations endorsed the scope, objective and the purpose of the research undertaken and channelized it. This facilitated to emphasize the fact about criticality of cyber security implementation and threats in vehicular network. It further highlighted the need to explore various strategic decision models; that are available specifically in Indian context, to support the and come up with the proposed appropriate strategic decision model.

Autonomous Vehicles could contribute to make future mobility more efficient, safer, cleaner, and more inclusive with, the shield of optimal and innovative cyber security solutions.

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A LITERATURE REVIEW STUDY ON PHYGITAL (PHYSICAL+DIGITAL) MARKETING PRACTICES RELATED TO RETAIL CREDIT GROWTH IN PUBLIC SECTOR BANKS

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ABSTRACT
The article is about a study of literature which looks into the act of marketing in physical and digital form. It explores how technology has had an impact on retail credit growth in public sector banks. The main objective of this article is to provide an insight on Phygital marketing practices related to retail credit growth in public sector banks, by conducting a systematic review of literature. The review of literature is based on a definition of Phygital marketing practices related to retail credit growth in public sector banks. Phygital marketing practices have been shown to have a positive impact on retail credit growth in public sector banks. The use of digital channels has made it easier for banks to reach a wider audience, resulting in increased customer acquisition. The convenience of digital channels has also led to higher customer retention rates. The integration of physical branches with digital channels has provided customers with a personalized banking experience, resulting in higher customer satisfaction levels.
Keywords: Phygital Marketing, Retail Credit Growth, Public Sector Banks, Digital Channels, Physical Branches, Customer Satisfaction.

Introduction

The rapid advancement of technology has brought about a major shift in the way businesses operate. The integration of physical and digital elements to enhance customer experience has given rise to the concept of Phygital marketing. In the banking industry, Phygital marketing practices have gained significant attention as banks strive to attract and retain customers, improve customer engagement, and boost growth. This literature review aims to explore the use of Phygital marketing practices in public sector banks to drive retail credit growth. The review will provide an overview of the current state of Phygital marketing practices and their impact on retail credit growth. The review will also highlight the key drivers and challenges associated with the adoption of these practices.

Phygital marketing practices involve the integration of physical and digital elements to create a seamless customer experience. In the banking industry, these practices include the use of digital channels such as mobile apps, online banking, and social media, along with physical branches and ATMs. The aim is to provide customers with a seamless banking experience by combining the convenience of digital channels with the personalized services offered by physical branches.

Phygital marketing practices have been shown to have a positive impact on retail credit growth in public sector banks. The use of digital channels has made it easier for banks to reach a wider audience, resulting in increased customer acquisition. The convenience of digital channels has also led to higher customer retention rates. The integration of physical branches with digital channels has provided customers with a personalized banking experience, resulting in higher customer satisfaction levels.

The adoption of phygital marketing practices in public sector banks is driven by several factors. One of the key drivers is the increasing demand for personalized banking services. Customers today expect a seamless banking experience that combines the convenience of digital channels with the personalized services offered by physical branches. Another driver is the increasing competition in the banking industry. With the entry of new players such as fintech startups, public sector banks are under pressure to adopt innovative marketing practices to attract and retain customers. However, the adoption of phygital marketing practices is not without its challenges. One of the key challenges is the need for significant investment in technology and infrastructure. Public sector banks must invest in digital channels and upgrade their physical branches to provide a seamless banking experience. Another challenge is the need to address security concerns associated with digital channels. Public sector banks must ensure that their digital channels are secure and protected against cyber threats.

Phygital marketing practices have become increasingly important in the banking industry as public sector banks strive to attract and retain customers and drive retail credit growth. The integration of physical and digital elements has provided customers with a seamless banking experience, resulting in higher customer satisfaction levels. While the adoption of these practices is not without its challenges, the benefits are clear. As the banking industry continues to evolve, public sector banks must continue to invest in phygital marketing practices to stay competitive and meet the evolving needs of their customers.

Retail credit growth refers to the increase in the number of customers taking out loans for personal use. In Public Sector Banks, retail credit growth is seen as an important driver of revenue growth, as it represents a significant portion of the banks' lending portfolios. According to a study by Roy et al. (2019), Public Sector Banks in India have seen a significant increase in retail credit growth in recent years, with many banks adopting Phygital Marketing practices to support this growth.

Objectives of the study

1. To perform a review of literature on the impact of phygital marketing practices.
2. Through the review of literature, assess the impact of phygital marketing on retail credit growth in public sector banks.
3. To analyse the gaps in the current literature and gain new insights about the research topic from previous studies.

Review of Literature

Impact of phygital marketing practices

Bora, Shah (2016) have discussed the concept of phygital marketing and its impact on customer experience. The authors have stated that phygital marketing is a dynamic process of integrating physical and digital in a way which adds value for the customers across all channels of interaction. The findings of the study suggest that Phygital marketing can be used to create a customer-centric marketing approach which will enhance customer relationship and make communication more meaningful.

Thakur, Kalra (2020) conducted a study on the impact of phygital marketing practices on retail credit growth in public sector banks. The study found that the use of digital channels resulted in higher retail credit growth rates. The researchers suggested that the use of digital channels provides customers with convenience and accessibility, leading to higher customer acquisition and retention rates. Additionally, the convenience of digital channels leads to higher customer satisfaction levels.

Sharma, Agarwal (2021) conducted a study on the adoption of phygital marketing practices in public sector banks. The study found that the integration of physical and digital channels resulted in higher retail credit growth rates and improved customer satisfaction levels. The researchers suggested that the use of phygital marketing practices can lead to a better customer experience and increased business growth for public sector banks. They identified the need for public sector banks to adopt a customer-centric approach to marketing and highlighted the importance of leveraging technology to provide customers with personalized experiences. The study also found that the use of digital channels such as mobile banking and online platforms was preferred by customers due to its convenience and accessibility. Overall, Sharma and Agarwal's study highlights the potential benefits of phygital marketing practices for public sector banks and emphasizes the importance of adapting to changing consumer preferences in order to stay competitive in the market.

Kumar (2015) have investigated the phygital marketing adoption practices of (Banking, Financial services and Insurance) BFSI organisations for their digital marketing initiatives. These authors have stated that adoption of digital technologies in the BFSI sector is equivalent to the speed of internet connectivity as customers are becoming digitally savvy and are preferring digital channels for their transactions as well as communication with banks. In order to keep pace with customers, banks need to adopt smart analytics and cutting edge technologies such as social media, mobile applications, cloud computing etc.

Singh, Srivastava (2019) conducted a study on the impact of phygital marketing practices on customer engagement. The study found that the integration of physical and digital channels resulted in higher customer engagement levels. The researchers suggested that the use of digital channels provides customers with convenience and accessibility, while physical channels provide a more personalized and tangible experience. The combination of these two channels leads to higher customer engagement levels and improved customer experience.

Jain (2021) have conducted research on the implementation of Phygital marketing practices in a retail banking organisation. The study has come up with some insightful insights regarding the importance of Phygital marketing in the banking sector. The authors have stated that an integrated phygital approach would bring about increased customer experience, increase of sales and more informed customers. They have observed that banks should take extra care to develop rapid and smooth mobile applications, to improve customer experience and the bottom line.

Kumar, Patnaik (2019) have conducted a study to understand the impact of phygital marketing practices on customer purchase behaviour for retail banking sector. The research has stated that the adoption of digital channels would result in enhanced customer interaction, enhanced customer experience and higher market share, through improved communication.

Saraf (2017) conducted a study to understand the impact of phygital marketing practices on retail credit growth for the banking sector. The study has stated that adoption of phygital practices would improve customer experience and enhance loyalty towards the bank. This in turn would lead to higher credit growth.

Chakrabarti, Mehta (2017) have explored the impact of phygital marketing practices on retail credit growth in India. The study has found that Phygital marketing plays an important role in Retail Credit Growth. The findings of the study indicate that the rate of Retail Credit Growth in India has reduced over the years especially, when it was at its all-time high level, which is attributed to digitisation of all modes of payments including payment systems and retail banking.

Deol (2018) have conducted a study to understand the impact of phygital marketing practices on retail banking products and services. The study has found that the use of digital channels improves customer experience and leads to increased sales and market share. The use of digital channels in retail banking can provide better solutions to their customers and help them increase the level of engagement with the bank's offering.

Goyal (2014) have conducted a research study which aimed at analyzing the relationship between phygital marketing practices adoption for Retail Banking sector in India. The study has found that phygital marketing practices adoption would provide banks with a significant competitive advantage in the retail banking services.

Bhattacharya (2013) has conducted a study to investigate the relationship between Phygital marketing practices and Customer Experience Management in the Indian banking sector. This study has found that phygital marketing practices would provide banks with an edge over their competitors in terms of leading in customer experience management, sales, brand equity etc. The authors have recently observed that the adoption of digital channels would result in enhanced customer interaction, enhanced customer engagement levels and higher market share through improved communication.

Impact of digital channels

Osei-Kyei, Chan (2018) conducted a study on the adoption of digital channels in the banking industry. The study found that the use of digital channels resulted in increased customer acquisition and retention rates. The researchers suggested that the use of digital channels provides customers with convenience and accessibility, leading to higher customer acquisition rates. Additionally, the convenience of digital channels leads to higher customer retention rates.

Pham, Ho (2020) conducted a study on the impact of digital marketing on consumer behavior and found that digital marketing positively influences consumer behavior, particularly in terms of brand awareness and purchase intentions. The study also found that social media marketing is an effective tool for promoting brand awareness and building customer relationships. The authors suggested that businesses should focus on creating engaging and relevant content for their digital marketing campaigns to increase their effectiveness.

Yaseen (2019) conducted a study on the impact of mobile banking on customer satisfaction and loyalty in the banking industry. The study found that mobile banking has a positive impact on customer satisfaction and loyalty, and can be used as an effective tool to build customer relationships. The authors suggested that banks should focus on providing secure and user-friendly mobile banking services to their customers to increase their adoption.

Khan (2020) conducted a study on the adoption of digital banking services in Pakistan and found that the use of digital channels has a positive impact on customer satisfaction levels, and can lead to increased customer loyalty and retention. The study also found that customer education and awareness of digital banking services are important factors in promoting their adoption. The authors suggested that banks should focus on providing convenient and user-friendly digital services to their customers.

Impact of Social Media marketing practices

Wang, Wang (2019) conducted a study on the impact of social media marketing on customer engagement and loyalty in the banking industry. The study found that social media marketing positively influences customer engagement and loyalty and can be used as an effective tool to build customer relationships. The authors suggested that banks should develop social media strategies to engage with their customers and build stronger relationships with them.

Chen (2021) conducted a study to explore the impact of social media marketing on customer engagement and loyalty in the Taiwanese banking industry. The study found that social media marketing has a positive impact on customer engagement and loyalty in the Taiwanese banking industry. Specifically, the results revealed that social media marketing positively influences customer engagement by increasing their involvement and interaction with the bank's social media pages. Moreover, the study found that social media marketing positively influences customer loyalty by enhancing customers' trust and satisfaction with the bank. The researchers suggested that social media marketing can be an effective tool for Taiwanese banks to build strong customer relationships and improve their overall performance. This study highlights the importance of social media marketing for banks and provides valuable insights for bank managers to design effective social media marketing strategies to improve customer engagement and loyalty.

Kotwal (2019) conducted a study to explore the impact of social media advertising on customer engagement, trust and loyalty behaviors in the Indian banking industry. Specifically, the results revealed that social media advertising positively influences customer engagement by increasing their involvement and interaction with the bank's online advertisements. Moreover, the study found that social media advertising positively influences customer loyalty by enhancing customers' trust and satisfaction with the bank. The researchers suggested that social media advertising can be an effective tool for Indian banks to build strong customer relationships and improve their overall performance. This study highlights the importance of social media advertising for banks and provides valuable insights for bank managers to design effective social media advertising strategies to improve customer engagement, trust and loyalty.

Challenges and Drawbacks of phygital marketing

Asthana, Punjabi (2021) identified several challenges associated with the adoption of phygital marketing practices in the banking industry. These challenges include the need for significant investments in technology and infrastructure, as well as the need for a skilled workforce to manage the integration of physical and digital channels. Additionally, privacy and security concerns related to the collection and use of customer data can be a major challenge in the adoption of phygital marketing practices.

Kapoor, Gupta (2020) highlighted several potential drawbacks of phygital marketing practices in the banking industry. One such drawback is the potential for data breaches and cyber attacks, which can compromise customer information and damage the reputation of the bank. Additionally, the integration of physical and digital channels can be a complex and time-consuming process, requiring significant investments in technology and infrastructure. Furthermore, customers may face challenges in navigating the different channels, which can lead to frustration and dissatisfaction.

Sinha, Sheshadri (2019) noted that while the integration of physical and digital channels can lead to higher customer engagement levels, it can also lead to information overload and confusion for customers. Additionally, the use of technology may not be preferred by all customers, particularly those who prefer more traditional banking methods. Furthermore, the adoption of phygital marketing practices can require a significant cultural shift within the organization, which may be met with resistance from employees.

Gupta (2019) found that while social media offers tremendous opportunities to grow customer engagement levels, the integration of physical and digital channels may not be needed in every case. For example, the expansion of social media can improve the bank's brand awareness and overall credibility, but may not impact customer engagement levels or satisfaction.

Selvarajah, Candanga (2021) explained that customers who are new to banking institutions are likely to experience more challenges when they first use phygital channels. These customers could have difficulty grasping the concepts behind phygital marketing practices, and may struggle when interacting with social media accounts, digital marketing tools and website pages.

Kaur, Singh (2019) highlighted the challenges faced by customers in using phygital marketing practices. For example, customers may not understand how to use these tools and may find it difficult to communicate with others through social media channels. Additionally, customers may have difficulty navigating the different channels, which can affect their overall brand experience.

Literature review gap

The existing literature suggests that phygital marketing practices have a positive impact on customer engagement, satisfaction, loyalty, retention, and business growth in the banking industry. These studies highlight the potential benefits of integrating physical and digital channels to provide customers with a more personalized, convenient, and accessible experience. However, there is a research gap in the literature regarding the specific phygital marketing practices related to retail credit growth in public sector banks.

Therefore, there is a need for further research to identify and analyze the specific phygital marketing practices that are effective in promoting retail credit growth in public sector banks. This research could help banks to develop more effective marketing strategies that take advantage of the benefits of integrating physical and digital channels. For example, a study could explore how public sector banks are using phygital marketing practices such as augmented reality, virtual reality, interactive displays, and mobile applications to promote retail credit growth.

Furthermore, the existing literature focuses primarily on the impact of phygital marketing practices on customer-related outcomes, such as engagement, satisfaction, loyalty, and retention. There is a need for further research to explore the impact of phygital marketing practices on other important outcomes, such as financial performance, operational efficiency, and risk management in public sector banks. This research could help to establish the business case for adopting phygital marketing practices in public sector banks and provide insights into the trade-offs between investments in physical and digital channels.

In summary, the existing literature on phygital marketing practices in the banking industry highlights their potential benefits for customer-related outcomes. However, there is a research gap in the literature regarding the specific phygital marketing practices related to retail credit growth in public sector banks, the challenges and limitations of implementing these practices, and their impact on other important outcomes. Further research in these areas could help to inform the development of more effective and efficient marketing strategies in public sector banks.

Findings

The findings of the reviewed studies suggest that the integration of physical and digital channels in marketing, also known as phygital marketing, can have a positive impact on various aspects of customer behavior and satisfaction in the banking industry.

Overall, the reviewed studies suggest that phygital marketing practices have the potential to positively impact various aspects of customer behaviour and satisfaction in the banking industry. The integration of physical and digital channels can lead to higher customer engagement, satisfaction, and loyalty, as well as increased retail credit growth and customer retention rates.

However, the studies reviewed in this literature review have some limitations. Most of the studies were conducted in the context of the banking industry in India, limiting the generalizability of the findings to other regions and industries. Additionally, most of the studies used self-reported measures of customer behaviour and satisfaction, which may be subject to social desirability bias.

While phygital marketing practices have several potential benefits, there are also some drawbacks and challenges associated with their adoption.

1. High initial investment: Implementing phygital marketing practices often requires significant investment in technology infrastructure, staff training, and other resources. This can be a major challenge for small and medium-sized enterprises with limited resources.
2. Integration challenges: Integrating physical and digital channels can be a complex process that requires coordination across different departments and teams. Ensuring that different systems and technologies work seamlessly together can be a significant challenge.
3. Security concerns: The use of digital channels can also increase the risk of cybersecurity threats, such as data breaches, hacking, and other malicious attacks. Banks and other organizations need to take steps to ensure the security and privacy of customer data.

4. Lack of customer adoption: Despite the potential benefits of phygital marketing practices, some customers may still prefer traditional methods of banking or shopping. Banks and other organizations may need to educate customers on the benefits of phygital channels and provide incentives for their adoption.
5. Resistance to change: The adoption of phygital marketing practices may require a cultural shift within organizations, as well as a willingness to embrace new technologies and ways of working. Some employees may be resistant to change, and organizations may need to invest in training and support to ensure a smooth transition.
6. Limited access to technology: Finally, there is a risk that some customers may not have access to the technology required to use phygital channels, such as smartphones, tablets, or high-speed internet connections. This can limit the reach and impact of phygital marketing practices, particularly in developing countries or among low-income populations.

Overall, while phygital marketing practices offer significant potential benefits, they also come with several challenges and risks that need to be addressed to ensure successful adoption and implementation. Further research is needed to better understand the potential benefits and challenges associated with the adoption of phygital marketing practices in different industries and regions. Future studies could also use more objective measures of customer behavior and satisfaction, as well as examine potential drawbacks or challenges associated with the adoption of phygital marketing practices.

Conclusion

The literature review on phygital marketing practices related to retail credit growth in public sector banks suggests that the integration of physical and digital channels can lead to higher customer engagement, satisfaction, and loyalty, resulting in increased retail credit growth. The studies reviewed in this literature review consistently found that the use of digital channels provides customers with convenience and accessibility, while physical channels provide a more personalized and tangible experience, and the combination of these two channels leads to improved customer experience and business growth. The studies reviewed in this literature review highlight the importance of adopting a customer-centric approach to marketing and leveraging technology to provide customers with personalized experiences. The use of digital channels, such as mobile banking and online platforms, was found to be preferred by customers due to its convenience and accessibility. The integration of physical and digital channels was found to result in higher customer engagement levels, as it provides customers with multiple touchpoints to interact with the bank.

Furthermore, the use of phygital marketing practices was found to result in higher customer satisfaction levels, as it allows customers to have a more personalized and seamless experience when interacting with the bank. This, in turn, leads to higher customer loyalty levels and improved customer retention rates. The studies reviewed in this literature review consistently found that the use of phygital marketing practices can lead to increased retail credit growth rates in public sector banks, as it results in higher customer acquisition and retention rates. Despite the potential benefits of adopting phygital marketing practices, the literature review also highlights potential drawbacks or challenges associated with their adoption. One of the main challenges identified was the need for banks to invest in the necessary technology and infrastructure to support phygital marketing practices. This can be particularly challenging for public sector banks, which may have limited resources and face regulatory constraints.

Another challenge identified was the need for banks to ensure that the integration of physical and digital channels does not compromise the security and privacy of customer data. Banks need to ensure that they have adequate measures in place to protect customer data and comply with regulatory requirements. Moreover, banks need to ensure that they have a clear understanding of their customers' preferences and behaviors to effectively implement phygital marketing practices. This requires banks to collect and analyze customer data and use this information to tailor their marketing strategies and offerings to meet customers' needs. In conclusion, the literature review suggests that the adoption of phygital marketing practices can have a significant impact on customer engagement, satisfaction, and loyalty, leading to increased retail credit growth in public sector banks. While there are potential challenges associated with the adoption of these practices, the benefits of providing customers with a personalized and seamless experience through the integration of physical and digital channels outweigh the costs. Public sector banks should consider investing in the necessary technology and infrastructure to support phygital marketing practices and prioritize the adoption of a customer-centric approach to marketing. This will not only lead to increased retail credit growth but also improve customer experience and retention rates.

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A REVIEW OF MOONLIGHTING IN THE INDIAN IT SECTOR

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ABSTRACT
Gig working or moonlighting has grown significantly over the years and Covid had amplified this trend. Moonlighting is a phenomenon where people work outside their working hours for another organization, either full-time, contract, or freelance. Working for more than one organization to combat various issues like boredom, additional finance, etc. is becoming common and the new generation of employees is more inclined towards it. Moonlighting is adding to withdrawal behaviors where they become avoidant and disengaged from their workplace, employees focus more on building self-identity than the team, which are leading to various other issues.

Some people pursue hobbies in their free time, while others look for part-time jobs. Especially in her IT industry, employees worked her two jobs at the same time and leveraged the remote working model. The idea of working for two organizations is termed moonlighting. This case study covers various aspects and impacts of moonlighting in the Indian IT industry including pre- and post-Covid situations to IT company's stand and future of work.
Keywords: Work-life balance, Ethics, Integrity, Moonlighting, Job Insecurity, Covid Pandemic

Introduction
The term 'Moonlighting' became famous in America when people began working a second job notwithstanding their current regular positions. Since the ascent of the work-from-home idea during the pandemic, employees got extra time after work hours. Moonlighting means the company carried out by an employee of a company after his regular office hours This is not freelancing because freelancers work for many companies at the same time and are not full-time employees of any company. The concept of overwork or moonlighting is not new in the USA. To earn more money to fulfill the need of living a lavish life in the USA, they may choose to work for different employers and different shifts. Suppose the waiter works in both the morning and evening restaurants. This allows a person to make more money with two jobs and pay the bills.

In India, moonlighting by employees expanded after the Coronavirus pandemic and the work-from-home model, particularly among IT area employees. There is no legitimate system for undeclared work by employees of IT organizations. Work regulation in India disallows factory workers from working two times. However, manual workers do not cover her IT department employees. Before beginning work, IT industry employees accept the offer letter's legal or NDA obligations. Many organizations state in their proposition letters that twofold recruiting is restricted or that representatives should not work for one more organization while working for one. In such cases, employees should not depend on undeclared work. Any other way and that employee may be removed from work.

Contribution to the IT industry in India
With the founding of Tata Consultancy Services in Mumbai in 1967, India's IT services began in India. In 1977, after partnering with Burroughs, India began importing IT services. India is the biggest exporter of Technology in the modern, thrifty world. India's IT sector increased its GDP contribution from 1.2% in 1998 to 10% in 2019. Around 79% of the overall earnings in the Indian IT industry come from exports. But local demand is also sizable and experiencing strong profit growth. From less than 4% in FY1998 to almost 255% in FY2012, the assiduity's percentage of all Indian exports (goods + services) increased. As of 2006, Sharma estimates that India's technologically advanced services industry contributed 40% of the nation's GDP and 30% of its import revenues while only employing 25% of its labour force (2006). Tata Consultancy Services, Infosys, Wipro, Tech Mahindra, and HCL Technologies are the "Top Five Indian IT Services Providers" by Gartner. In FY 2021, the earnings of the IT and BPM assistance was US $194 billion, a rise of 2.3% YoY. In FY 2021, the IT industry was expected to generate local profits of $45 billion and import profits of $150 billion. In FY 2021, the IT

industry employed close to 2.8 million people. (As of March 2021, the IT-BPM industry employed 4.5 million employees. Companies in the sector had significant hand waste and fierce hiring competition in 2022. In the COVID-19 epidemic-hit FY22, Indian IT earnings grew at their quickest rate in a decade to $ 227 billion. Five million individuals are employed across the entire IT-BPM business as of March 2022. In its Strategic Review, NASSCOM predicted that the US IT industry may reach its lofty goal of $350 billion by FY26 while expanding at a rate of 11–14%.

History of moonlighting events

In the mid-1950 the term did indeed mean someone who held a second job, the implication being that they worked by the light of the moon. However, the expression originated in the early 1880s and referred to Irish gangs who operated exclusively at night committing theft and burglary in rural areas and were known as 'Moonlighters.'

In the United States, this trend has increased since 1996. The concurrent employment rate rose to 7.2% in 2018 from 6.8% in 1996, based on Longitudinal Employer-Household Dynamics from the US Census Bureau.

As of the September quarter of 2021, when the 2020 pandemic began, WFH seemed like an innovative idea for IT bosses. As costs fell, profit margins rose, and stock prices rose. The pandemic has only exacerbated the problem of disgruntled employees and those who want better wages. Many friends in HR tell me that undeclared labor is a breach of contract, but the practices of employees at major Indian IT companies could certainly improve from where they are now.

Types of Moonlighting

Moonlighting can be categorized into different types based on the circumstances and factors as follows:

- **Blue Moonlighting**: During the evaluation of an employee's performance, the company may respond favourably to their requests for increased wages or benefits. However, some staff members might not feel that this is sufficient and try to obtain a second job for additional income. If they do not have the necessary abilities or make the adequate effort, this could be unsuccessful, which is referred to as Blue Moonlighting.
- **Quarter Moonlighting**: Quarter moonlighting is the practice of finding a second work in addition to one's primary job when one is unhappy with one's current pay and wants to increase their income. You can only utilize this kind of moonlighting to supplement your income or to pay for extra charges.
- **Half Moonlighting:** Numerous staff members have the habit of spending more than what they bring in. They have a desire for a luxurious life and want to set aside a suitable sum for the future. Consequently, they dedicate half of their available hours to get extra income to obtain a sizable additional amount. This is known as Half Moonlighting.
- **Full Moonlighting**: When staff in particular professions discover additional hours or sense that their wages are not up to what they anticipated, or their companions are making an immense amount of money while having lower certifications and having a superior standing, they may build their own business or industrial unit while still holding their normal job, which could be beneficial in difficult times. Nonetheless, their second employment has an impact on their financial and social standing. This practice is full moonlighting.

Literature Review

Employee moonlighting has numerous benefits and drawbacks for both the employee and the business. Employers must prevent employees from Moonlighting as it lowers the organization's performance Lotich (2010). The number of sick days employees take and the likelihood of information theft rise because of moonlighting. Lotich (2010). Moonlighting has both beneficial and adverse effects on the employee and the company, according to Banerjee (2012). When a person moonlights while simultaneously employed by two distinct companies, their diverse skills improve, claims the author. Compared to workers who just hold one job, moonlighters are multitaskers and may have better time management abilities. So, there are progressive features that companies may benefit from, and such workers have greater retention rates. Nevertheless, it may also be negative because employees tend to sacrifice resources and are only prepared to devote a little amount of time to their primary jobs. Banerjee (2012) Moonlighting on the other side can be beneficial for employees as they earn additional income, motivation, status, and their satisfaction with their job increases Kulikowski (2019).

Research into the motivations behind having a second job has uncovered multiple potential underlying causes. For example, the hours or pay of the primary job might be restrictive and the individual may want to work more hours or take a job that pays more but cannot. This could be due to laws regulating working hours, the presence of short-term contracts in periods of economic uncertainty, or a lack of a minimum wage. This is particularly true for those who are paid for their work but do not have a limit on the hours they can work, yet still do not make enough money to meet their goals. Inkson (2006) This is referred to as financial motivation. Employees who moonlight may also do so because they are dissatisfied with their pay, feel forgotten by their workplace, or think that the company is taking advantage of their extra work without paying them fairly. This has knock-on effects on all aspects of Human Resource management. It is a challenge for HR managers as most of the time moonlighting affects them negatively.

Research Methodology

The research is based on secondary data. The data is obtained from newspaper clippings and IT policies developed by the companies regarding moonlighting. This is qualitative and exploratory research.

The objectives of the research are

1. To examine the phenomenon of moonlighting
2. To understand the perspectives of employers and employees in the Indian IT sector
3. To study the pros and cons of moonlighting

Secondary Data Analysis

The current work situation of remote work has allowed personnel to have more leisure time. Some businesses are honest and have full disclosure when it comes to the idea of working from home. This approach is effective. However, this is not feasible in service-based sectors. There has been a transition in India, including individual project advisors and educators beyond the school. Another illustration is individuals who have varying jobs and are part-time LIC agents. A lot of successful start-ups were established when the founders had additional income. Moonlighting people are good at managing and everything comes down to time management. Not everyone is freelance or moonlighting, just 20% of professionals are smart enough to do this and achieve more. Even so, moonlighting can lead to multiple projects at once, providing professionals with numerous advantages, such as knowledge.

Employers can find out if an employee is unregistered and working for a rival by using the Employee Provident Fund (EPF) Universal Account Number (UAN). To determine whether two of an employee's PF contributions were made by distinct companies, employers can access the UAN number of the employee. The employee is moonlighting if two PF contributions are made to her UAN at the same time.

IT company ‘Wipro’ fired north of three hundred workers in the year 2022 for working two jobs by following the EPF accounts maintained with the UANs. In any case, it is not difficult to track down working two jobs for an employee when he/she takes up extra work as a specialist, consultant, or part-time since an employer does not make the PF contribution for such work.

Notwithstanding, organizations might utilize conveying trendy innovation to follow gadgets given to employees exclusively for office work and get to know when an employee utilizes it to go about another organization's work. They may likewise enlist an outsider organization for individual verifications to learn about working two jobs by an employee.

There is no direct regulation for the IT industry regarding moonlighting, there are regulations that can be utilized to restrict double work in India. A worker is not permitted to work in two workspaces at once, according to Section 60 of the Factories Act of 1948.

Employees working in shops, commercial establishments, restaurants, theatres, and other public amusement or entertainment venues are subject to regulations under the Shops and Establishments Act of 1948. Dual employment is prohibited by the Delhi Shops and Establishments Act and the Bombay Shops and Establishments Act.

According to the Industrial Employment (Standing Orders) Central Regulations, 1946, a worker must not work against the industrial establishment's interests and must not accept any supplementary job that could jeopardise the employer's interests.

All the laws, however, only apply to workers and do not include those who hold professional or administrative, or managerial roles. Hence, there is still no overturned law that forbids working two jobs or moonlighting in the IT industry. But, since employers incorporate such limits in the employment agreements, there can be a confidentiality violation (NDA) when employees work in similar types of positions.

Employers may view moonlighting as illegal if an employee's contract includes non-compete and single employment terms. However, it cannot be considered cheating or dishonesty when the employment contract is lenient or does not include any clause related to dual employment.

Employer's Perspective
Moonlighting is a burning discussion nowadays in the Indian job sector. Recently, some major Indian IT and tech firms have been cracking the whip on their employees for moonlighting. Few companies support moonlighting, while many top giants are against moonlighting. They consider this unethical. Employees who are moonlighting or planning to take up a side job must look at the clauses of their employment contracts and company policies regarding dual employment. Many IT companies have contractual/confidential clauses to restrict dual employment.

Employee's perspective
As part of the set of polls, BT asked if moonlighting is cheating. A majority of the voters across platforms said, no it is not as 'it is my free time and my choice' (Twitter - 44%, LinkedIn - 49%, YouTube - 56%)

Though, the voters on Instagram had a different opinion as 36% of them said it depends on their contract with the employer while only 29% said that it is their choice to do a part-time job during their free time.

Recently, Harpreet Singh Saluja, President of NITES, said that moonlighting is nothing new. Before he created Infosys, Narayan Murthy was employed by Patni Computer Systems. While working for Amazon, Sachin and Binny Bansal launched Flipkart.

Current Moonlighting Situation in India
Employee moonlighting in India has drawn notice, and the largest corporations are voicing their opinions on the subject. The morality and legality of moonlighting are still up for debate.

A moonlighting policy must be developed by the organization and its HR division. As a result, each organization may have a different policy about moonlighting.

A few businesses—Wipro, TCS, and IBM—have already established policies on moonlighting, and a few others are considering doing the same. Though most organizations are emphasizing prohibiting their employees from working in other organizations where the nature of work is similar and leads to a conflict of interest.

According to research, almost 30% of India's workforce will need to work remotely by 2022. Given the increase in telecommuting, statistics could alter. Telecommuters, or those ready to give up their day jobs to work from home, can now double their income by taking on a second job.

Employees' take-home pay has more than doubled since they started working as IT professionals, and their experience has increased as well. Many professionals now have two corporate Identities, two email accounts, and two bosses in WFH mode, according to a study. Techies are aware of this, particularly in the USA. The idea has further developed into the Overwork community, which assists professionals in leading multiple lives, but India is a different tale.

Current Trends on Moonlighting Policy by Corporates
Companies that are in favour of moonlighting:

- Swiggy announced a side job policy for its staff, allowing them to work on other projects outside of regular hours with some restrictions.
- Nova encourages moonlighting and gives employees the freedom to explore new opportunities and follow their passions or interests beyond work hours.
- C P Gurnani, the CEO of Tech Mahindra, said he would think about working a second job. We must realize that this is how work will be done in the future.

Companies which are against moonlighting:

- Recently, Wipro's CEO Rishad Premji called moonlighting dishonest and fired three hundred employees after learning they were working for competitors.
- IBM has warned its employees against accepting any additional employment outside the business.
- Moonlighting, according to TCS, is unethical and goes against company culture and ethics. Despite warning employees against moonlighting, Infosys has allowed them to work additional

tasks outside of regular business hours with the approval of human resources and company executives.

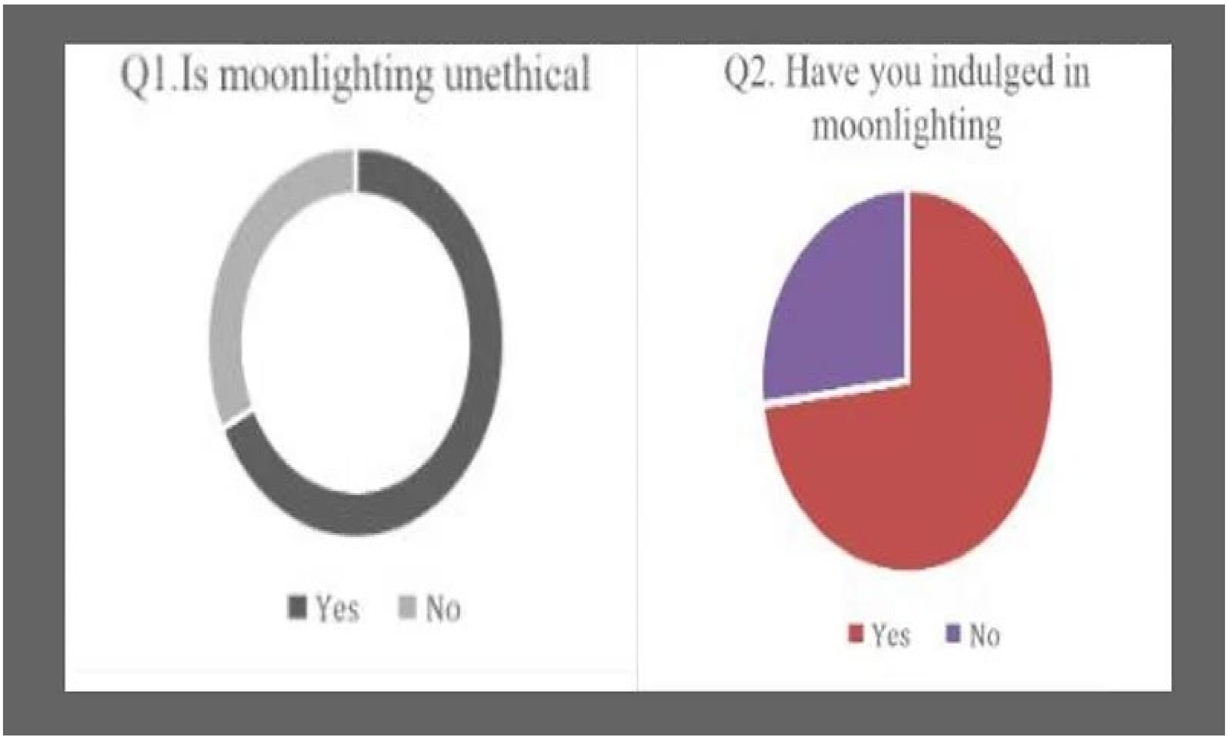
- Infosys has warned its employees against engaging in any sort of side job. On the other hand, it has permitted employees to take assignments from businesses during their downtime with approval from human resources and industry decision-makers.

Perspectives with regards to Moonlighting

As the internet is divided on moonlighting and everyone has their perspective, there is a question that arises, if the government is lenient and whether many IT companies are also ready to embrace the new work culture and demands of the future.

Ethical Considerations

Fig 1:Moonlighting Ethical/Unethical



Source:-https://www.freepressjournal.in/education/what-is-moonlighting-paradox-for-employers-and-employees

The above analysis is published in a Free Press Journal article.

Considering the impact of moonlighting on the business ecosystem, the PGDM student of FOSTIIMA Business School surveyed the 950 employees of five companies representing three industries-IT, education and financial services. The respondents were as follows:

IT companies: 540
Financial services: 325
Education industry: 85

61% of the respondents believed moonlighting to be unethical, nonetheless 73% of the respondents indulged in moonlighting.

According to the contract, any employee who works part-time, especially for a rival, is in flagrant breach of the letter and spirit of the agreement. From their point of view, it is just that businesses decide to fire these workers to safeguard their interests.

Employees, particularly the younger generation who were hired during the pandemic, do not appear to share this opinion, and they enjoy their freedom and flexibility to pursue different job options to increase their money balance. There is a glaring imbalance in terms of lack of ownership and long-term thinking, which businesses value.

Legalizing moonlighting has its own set of challenges and impacts. It is going to impact various aspects of business and the lives of employees too. Lots of HR practices need to be changed and the way corporate operates is also going to change. below could be a few examples,

- **Strict working hours**: It's surely going to empower employees, as allowing moonlighting will lead to extremely strict work timings, as employees who indulge in moonlighting will not be able to do starch beyond office hours but also, will be losing flexible work hours as their commitment of work will not allow stretching beyond timelines.
- **Stricter NDA policies and fines:** as an employer is aware of the dual employment of employees, it has become vital to save the confidentiality of work, data, and information shared with employees. Violation could lead to higher penalties and could not be limited only to the termination.

Creating two separate employer-employee contracts—one for full-time work and the other with built-in flexibility that permits contractual employees to pursue other possibilities so long as they do not clash with the employer's business—is the best course of action in this case. They are often temporary positions that do not give full-time employees any long-term rewards or chances for career progression. Many businesses already work on short-term contracts with a few of these part-time employees or gig workers.

- **Lesser salary packages**: as the employer's expectation is getting confined, it could lead to a significant reduction in salary packages of employees who indulge in moonlighting.
- **Less Flexible leave system**: it could lead to a reduction in leaves and other rewards like allowances, overtime, bonuses, etc. employees.
- **Better and employee-friendly policies to increase retention:** it is obvious to become a sticker for employers to save their confidential information but at the other end it is going to be challenging for companies to retain employees, as they have plenty of options for employment. to avoid a high attrition rate, there need to be employee policies to attract potential employees and discourage dual employment.

Legalizing moonlighting is not simple, as it comes with serious impacts, it becomes important to consider this crucial factor to abide by the labor laws and save the rights of both employees and employers. The following factors are important.

- **Work-life balance**: though employees are doing dual jobs, it has become important to have a work-life balance and it should not stretch to 24 hours.
- **Compromised physical and mental health**: as the person is doing additional work, each day. Considering health is important as prolonged extended working hours could lead to serious health conditions for both blue and white-collar jobs to maintain that serious amendments in labor laws, including insurance support, are needed.
- **Mental pressure**: there is no wonder that it would lead to a tremendous amount of pressure, to retain two jobs, sufficient support needs to be there from infrastructure and government, as well as employers.
- **Sufficient infrastructure** to support it needs to have adequate infrastructure to support the new system. Extended transport timings, creches for working mothers, sufficient food supply, medical support in office premises, enhanced safety measures for women employees, etc are a few measures to consider.

The idea of a "job" is evolving, according to Harold D'Souza, co-founder, and director of Walk Water Talent Consultants, as people demand greater freedom and flexibility because of the changes the pandemic has wrought. Moonlighting is a trend that will continue, and it also reflects what the market demands.

Harold states, there will be a skills gap in some fields, and I believe those individuals will have to juggle and work numerous jobs. Considering these elements, moonlighting will be effective in some contexts, according to Harold, who also asserts that since people develop over time, the industry will eventually accept it.

According to Kamal Karanth, founder of the specialized staffing solutions business Xpheno, - Employees were comparably less involved in and connected to their employers because of the widespread WFH and full-time remote working that the pandemic heralded. This distancing and physical anonymity of remote working has employees experimenting with moonlighting choices, to which they were previously not exposed. He believes that the availability of flexible remote work options and business control constraints have made it possible for workers to experiment with side jobs without jeopardizing their full-time jobs. Also, the availability of numerous gig sites like Work Flexibility and Flexible increased the potential for computer workers to moonlight.

According to NITI Aayog research, the number of web-based platforms available globally via which firms may outsource jobs like design, data entry, analytics, and financial services, among others, has tripled. These platforms have grown in number from 142 in 2010 to 777 in 2020, bringing in at least $52 billion in revenue in 2019—the most recent year for which such data is available—alone. According to the jobs search website Talent.com, the average annual income for part-time computer work in India is Rs. 2,60,000. The starting salary for entry-level positions is Rs 1,80,000 per year, and the annual salary for most experienced professionals is Rs 5,20,000.

A list of common causes of moonlighting,

- Layoffs
- Job insecurity due to recession or other factors
- Incompetent salary in the primary job to earn additional money to meet financial needs.
- Upskilling for higher job profiles
- Demotivation, lesser growth opportunity, or exploitation by current employers
- Utilizing free time, especially among unmarried/separated employees
- Starting a side venture/pursuing a passion
- Being over-competitive or ambitious

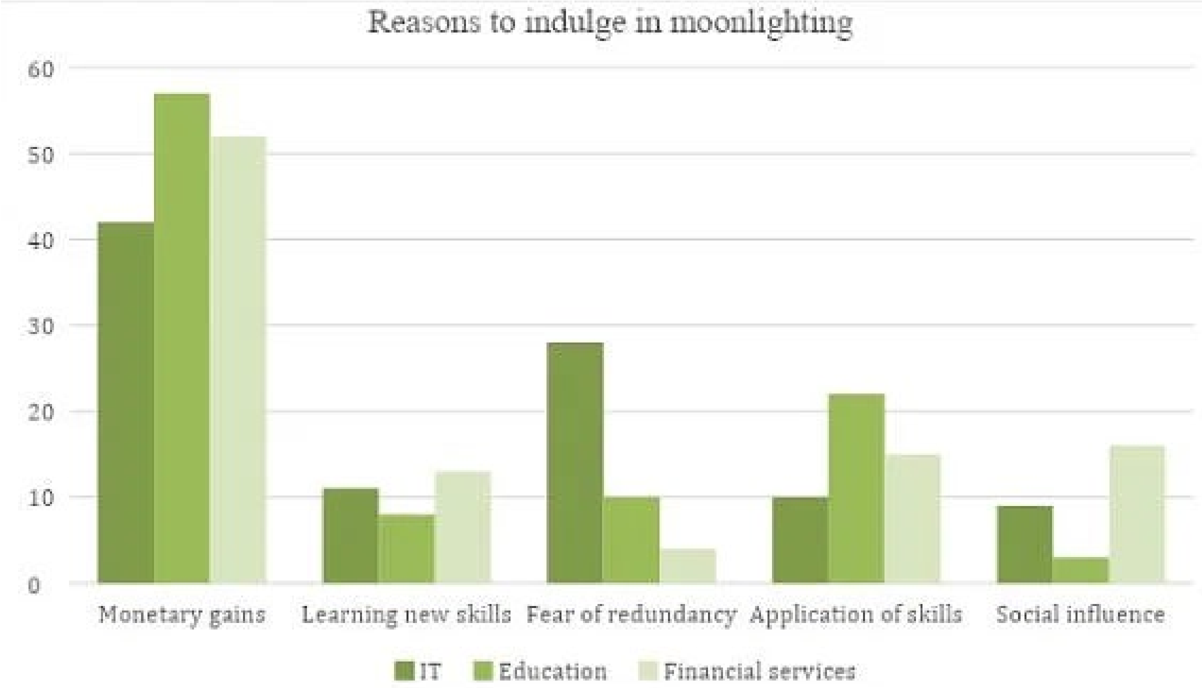


Fig 2 :- Reasons for indulging in Moonlighting
Source:-https://www.freepressjournal.in/education/what-is-moonlighting-paradox-for-employers-and-employees
(A survey conducted by a student mentioned that Employees go for moonlighting mainly because of Monetary gains.)

Findings

Today, the discussion of moonlighting usually creates a negative image of the employees who do it and it tends to paint a nasty picture of an employee living a "dual life" and even "deceiving" and cheating the organization where they work full-time. All these discussions in the IT industry ignore the fact that the benchmark for top management in an organization does not apply to juniors or middle-management people. When executives of one company can sit on the boards of other companies, can it be called moonlighting or ethical? A company's top management invests their money in start-ups and buys them out at a later stage, which could be considered moonlighting. If a senior or even a junior employee invests in the stock market and makes money, could this be moonlighting? Is a journalist authoring a book or opinion piece for another publication called Moonlighting? So why should any extra activity an employee does beyond the 9-5 working hours be called moonlighting? Interestingly, the pandemic and the subsequent lockdown have allowed people to acquire new skills and abilities that they now want to use in countless numbers and on different platforms.

A PGDM student of FOSTIIMA Business School surveyed the 950 employees of five companies representing three industries-IT, education and financial services. The respondents were as follows:

IT companies: 540, **Financial services: 325**, **Education industry: 85**
Published in Free Press Journal (2022) has following conclusions

1) 61% of the respondents believed moonlighting to be unethical, nonetheless 73% of the respondents indulged in moonlighting.
2) A survey conducted by a student mentioned that Employees go for moonlighting mainly because of Monetary gains.

Conclusion

Not that it was not there before the pandemic, but in the post-covid world, moonlight can be seen and felt even more, because employees have found and learned new ways to communicate with the outside world. Amazing facts emerge from the business world, especially from the IT sector. But the question remains should employees be allowed to do whatever they like in their spare time? When top management of an organization doing the same activities is still considered to be ethical then why does the radar only cover the junior level employees? Shouldn't that be considered cheating or injustice to junior employees? The growing trend of multitasking and more than one job is the future of work, as change is the only persistent thing in today's world, is it greed or need? ethical or unethical? Moonlighting should be adapted or addressed is the question that remains to be answered.

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A REVIEW OF THE WHEAT EXPORTS OF THE WORLD MARKET: THE INFLUENCE OF RUSSIA AND UKRAINE CONFLICT

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ABSTRACT
Recent changes in the Global Geo-political scenario between Russia and Ukraine have impacted the Global dynamics directly or indirectly. This has led to acute food crises. Russia and Ukraine are the largest exporters of wheat to other countries. The conflict between the two countries has shifted the demand and supply paradigm of the wheat exporting countries. Global wheat food security alarmed due to the war between the nations. Developing countries which are dependent on imports had to face a major burn with shortage of supply and price hike. This report is based on examining the exports of the last five years i.e., from 2017-2022 of wheat exporting countries. Due to recent changes in global dynamics, there has been some positive and negative impact on the consequences.
Our aim is to determine the impact and review the phenomena through statistical tools, graphs, to measure the growth and decline of the major and emerging wheat commodity players in the global market. Also, to study and examine the behavior of the countries to combat the supply and how they reframed their policies.
Keywords: Globalization, Supply Chain, Logistics, Conflict, Inflation, Economic Integration

Introduction

War and Conflicts between two countries is not an isolated subject. In the world of economic integration and globalization there is always a chain effect or multiplier effect. Some countries have an upper hand and enjoy the fruitful coming while the others suffer. One such situation in the modern era is the Russia and Ukraine War which escalated on February 24, 2022. Russia is the world's largest wheat exporter and Ukraine is positioned at fifth in the Global Exports. Wheat is one of the major crops that contributes to one's diet. It is one of the most exported crops followed by corn and millets. The situation of war has created a shortage and price inflation in the wheat market. The people suffering from hunger increased by 161 million from 2019 taking up the total between 720 billion and 811 billion. The risk of increase in hunger index is chronic and could add up to 11 to 19 million people. This is the result of the Russia – Ukraine Conflict. (FAO,2022). Global Food Security faced a threat. Ukraine exported 90% of their grains through the sea route. A major gateway of trade happens through the Black Sea, Sea Port which was blocked due to war. The whole supply chain mechanism got disrupted due to blockades, sanctions and destruction of roads, bridges, and railways. Hence, farmers in Ukraine were unable to supply their existing produce, store or transport it due to blockade of Odessa Sea Port. Ukrainian Farmers have produced about seventeen million hectares in 2021 which was reduced by 22 % next year. While sanctions on Russia by the rest of the world have made it difficult for them to export due to rise in price and currency exchange limitation (Araujo,2020). Additionally, it will have a longer impact as both Russia and Ukraine, farmers may lack crucial supplies to plant the next crop. The impact was not pertaining to other countries, but it impacted their own living standards too. Lack of storage and infrastructure, labor shortage can be experienced for upcoming years by the Ukrainian Farmers. There is a dependency of 34% on Russia and Ukraine Wheat exports which caters to about fifty countries. The supplies were jeopardized, with Russia ceasing food and fertilizer shipments and Ukraine's farmers dealing with an attacking troop instead of managing that year's harvest. Russia is hardly the only country restricting its exports.16 nations altogether had prohibited or limited their food trade. This significant drop in supply has contributed to inflation. Taken combined, the consequences for some of the world's most impoverished and most vulnerable individuals might be disastrous. If the conflict continues, several nations already burdened by pandemic debt may be obliged to borrow more subsidized essential goods, causing further misery. Approximately fifteen percent of Russian exports are processed in rubles, 55% in US dollars, and 30% in various other hard currencies. As a result, even if Russia's commercial partners were eager to import, limitations on USD settlement would impair these transactions.

India's role in the wheat trade has grown increasingly vital since the Russia-Ukraine war. Many countries have expressed a desire to import agricultural goods from India. This might be an excellent strategy to improve India's trade balance. However, wheat prices in India were rising even before the Russia-Ukraine crisis, which has caused challenges for India's indigenous wheat customers.

If it so chooses, India may fill the vacuum in worldwide market share for wheat left by the Russia-Ukraine conflict. Indian farmers are obtaining greater prices for their agricultural produce in global markets. However, home consumers across India are struggling to reduce their use of wheat owing to rising prices, resulting in a rise in the proportion of undernourished individuals in the nation. Due to rising wheat costs, the government was forced to reduce the price of wheat subsidized to the poor. India then concluded that serious efforts were required to protect home buyers. As a result, when the crisis erupted in February 2022, India had to plan between protecting its own customers and expanding into international markets.

In this context, this paper analyzes the decline and growth of wheat exports before and after the war. The implication of Russia-Ukraine conflict on wheat export and change in the supply pattern. It also focuses on the change in countries trade policy in regards with Wheat Commodity. The research speculates about the impact and the response of the world adhering to the demand and supply pattern of wheat. (Bechdol,2022; Benteley, 2022)

Literature Review

Wheat is one the most important commodities in the staple diet of the world. Russia accounts for the largest wheat producer and exporter in the world and Ukraine scores the fifth position. Both countries contribute 30% of the Global Wheat Supply. (Jeswani, H. K., C. Proc Soc. A 476, 20200351)

It is stated that a 1% increase in international trade in wheat could lead to a 1.1% decline in domestic wheat prices, which is larger than some previous studies and has serious implications for food security in countries which are in moderate to extreme food crises zones. (Abay, 2022)

Fifteen percent decline in Russian wheat exports and a 38% decline in Ukraine's wheat exports would drop below the predicted baseline levels. Domestic wheat could fall by 3%. As a result, the price of wheat on the world market will rise by 7% as per Global Food Security index at OECD. (OECD 2022) The production standalone is not just a crucial factor of export. Dependence of Fertilizers on Russia and blockages of Port lead to disruption in supply chain has impacted the export of Russia. Some of this Ukrainian grain has entered the global market because of an UN-brokered trade initiative that has lifted blockades at several Black Sea ports. (Elsevier, 2022). According to data released by Ukraine's Ministry of Agriculture Policy and Food in November 2022, about 5.4 million tons of wheat has been shipped from Ukraine since the war began. (Earth observatory/Nasa)

This situation has a negative implication on global food security and leads to a further increase in the number of undernourished people (FAO report, 2021), leading to global rise in undernourishment growth after the COVID-19 pandemic (FAO report., 2022).

A cap on wheat exports was levied to meet the domestic demand of the country. Sudden rise in global wheat demands due to the Russia-Ukraine war created a concern over the price of the wheat and disturbed domestic supply chains. As per the report, higher remuneration to farmers did not result increase in wheat prices for consumers in the country this was achieved by creating a balance between Farmers and Consumers.(Gomez,2017) The government prioritized the interests of farmers, allowing them to sell their wheat to private traders at increased prices than MSP in a few Mandis in addition to purchasing it at MSP in all the major grain-producing states, including Uttar Pradesh Haryana, Madhya Pradesh, Punjab, and Rajasthan. It did not increase the domestic price due to stability in supply and wheat export regulations. However, the exports were open for the countries which already had government to government contact or were facing food crisis (Mottaleb,2018). The motive of the green revolution was to meet the nation's consumption of wheat and ensure availability of food and reduce the dependency on the exports. India is the world's second largest producer of wheat but has only played a minor role in the worldwide wheat trade. The administration decided to safeguard food security by limiting wheat exports considering inflationary worries. (Banerjee, N)

The world wheat production will be pointing towards year-on- year decline still coping up to be the second highest on the record i.e., 784 million tons. In North America, U.S. farmers increased winter wheat sowing in 2023 to the highest level since due to higher prices and incentives. In Canada, official forecasts show above-average planted acreage in 2023 as farmers are expected to respond positively to higher grain prices. Due to favorable weather conditions, Canadian production of wheat is expected to reach thirty-five million tons. (Baquedano,2014)

In the Russian Federation, wheat production is expected to fall from record levels in 2022. This is due to the above-average drier climate in the southern regions and a decline in winter crops due to falling domestic prices.

In Ukraine, severe financial constraints, infrastructure damage, and blocked access to fields in parts of the country will result in an estimated 40% year-on-year decrease in winter wheat acreage in 2023, and an estimated 40% reduction in wheat production. (Bechdol 2022)

A major takeaway from the available literature is that wheat production has been hampered in two major contributing countries due to war, but the impact was on the Global wheat market due to their leverage on the market share. However, this also gave rise to other countries contributing more. However, Increase in Global Population & Consumption, Change in Weather, Trade policies remain a threat apart from the conflict. The Growing and Emerging countries such as Egypt, Turkey, Mongolia, Somalia, Benin, Sudan, Tanzania who depend on the import of wheat had to face soaring prices and threatening Global Food Security. (Bentley. Nature Food, 2022)

Research Objectives
The research intends to Study:
1. To analyze the wheat production across the glove
2. To find the impact of war on Agriculture produce
3. To study market reaction
4. To study emergence of new players

Research Methodology
The research is based on secondary literature available at News reports, Government reports.

Factual Analysis to study the pattern of the last 5 years and the impact responsiveness. The data available at various government domains was utilized to analyze and ascertain the impact of war. Statistical Tools &Techniques are used to study the pattern and the response.

Secondary Data Analysis
The data analysis below assists in achieving the objective of research. From the year 2018 to 2022 top wheat producing countries have been analyzed and what were the reasons and impacts that led to positive or negative shifts in the course.

Wheat Exports (1000 mt)

Country	**2018**	**2019**	**2020**	**2021**	**2022**
Russia	35863	34485	39100	33000	42000
United States	25503	26373	27048	21782	21092
Ukraine	16019	21016	16851	18844	11000
Australia	9006	9136	23846	27500	25000
Canada	24404	24142	26429	15000	26000
Argentina	12188	12785	11531	16250	12000
India	496	509	2561	8033	6500
Mexico	526	1168	612	924	900

Table No. 1 Wheat Exports (Top Countries)
Source: www.world wheat exports.com, www.indexmundi.com/agriculture

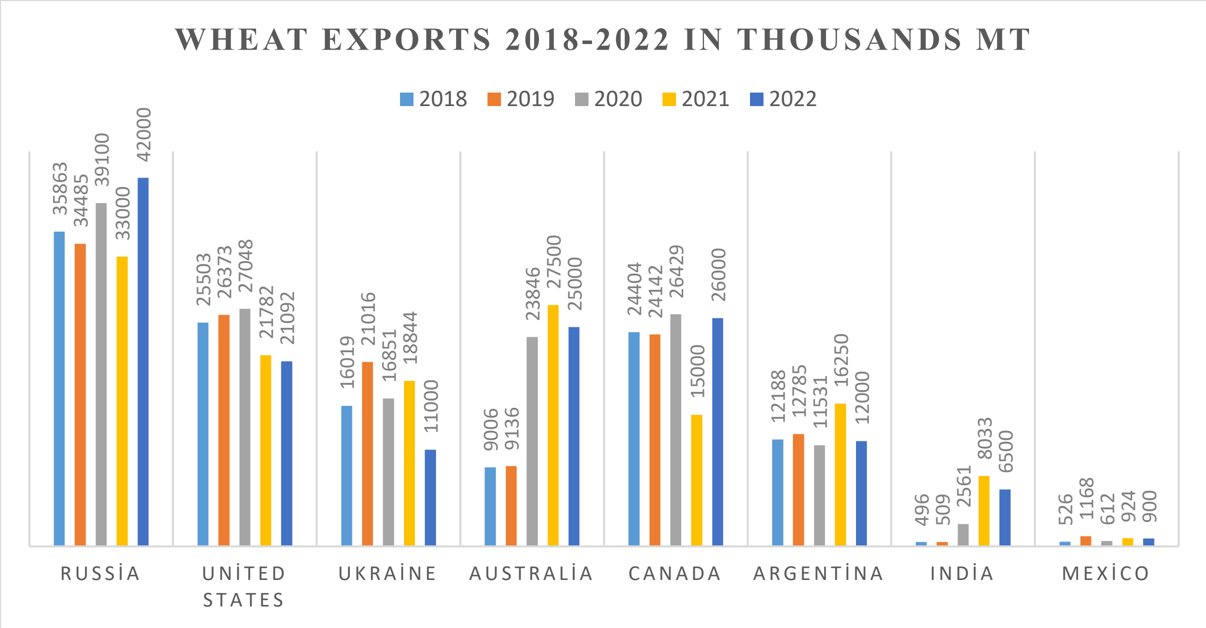

Figure No. 1: Graphical Representation of Year-wise exports of different countries
(Self-generated by the researchers based on Table 1)

Russia as known for its largest wheat export scores the top position and has contributed the major quantum of exports in the year 2022 as compared to the past. Due to restriction and instability in the supply the demand increased, and Russia exported the highest amount of wheat from the year 1987 to 2022. The impact of war on wheat export is majorly seen in Ukraine as compared to Russia. The exports have declined in Ukraine. Canada and Australia acquired the major market share after Russia.

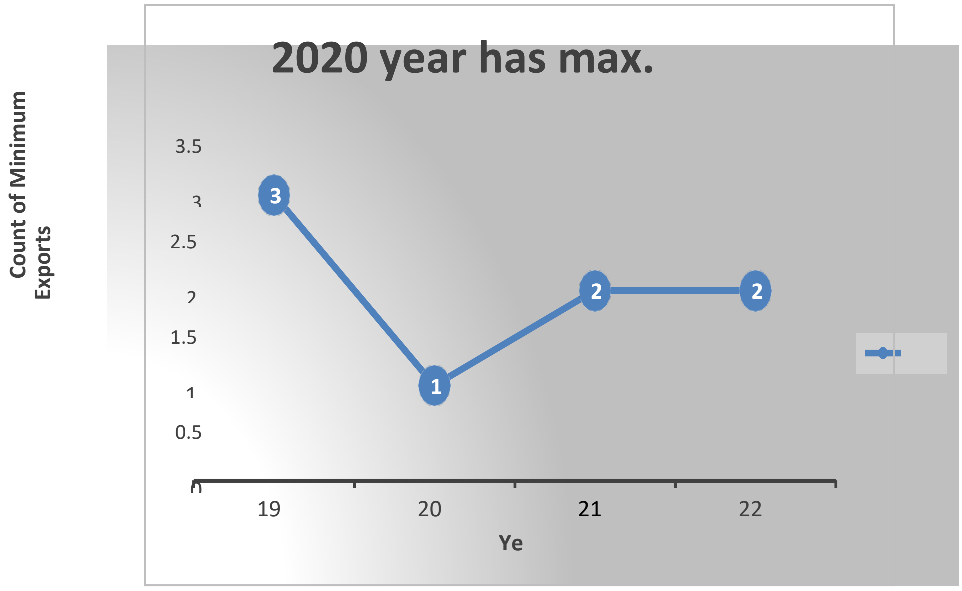

Figure No. 2 Trend line of the total exports of last 5 years
(Self-generated by the researchers based on Table 1)

Year 2020 has a Maximum decline in the Export of Wheat. The reason was the slowdown of the economy and supply chain barrier that occurred due to coronavirus, extreme weather conditions, currency fluctuations. As soon as the market started opening the export trendline raised for the year 2021.

GROWTH CALCULATION

Country	2018-19	2019-20	2020-21	2021-22
Russia	-4%	13%	-16%	27%
United States	3%	3%	-19%	-3%
Ukraine	24%	-20%	12%	-42%
Australia	1%	161%	15%	-9%
Canada	-1%	9%	-43%	73%
Argentina	5%	-10%	41%	-26%
India	3%	403%	214%	-19%
Mexico	55%	-48%	51%	-3%

Table No. 2 Year on Year Growth in Wheat Production
(Self-generated by researcher based on Table 1)

Figure No. 3 YoY Growth in Exports of Wheat – Russia
(Self-generated by the researchers based on Table 2)

The pace of Russia's wheat exports picked up dramatically in the second half of 2022, 11% ahead of the same period in 2021, according to Fast markets' export data analysis Agricultural. The slow pace of exports in the first months after Russia's invasion of Ukraine, combined with concerns over international sanctions and reputational risks from importers, has led to the signing of the Grain Corridor Agreement and a record wheat harvest. By volume, Russia was 11% higher than last year when it was finally able to pick up the pace of exports. In addition, Russian wheat remains among the cheapest origins worldwide.

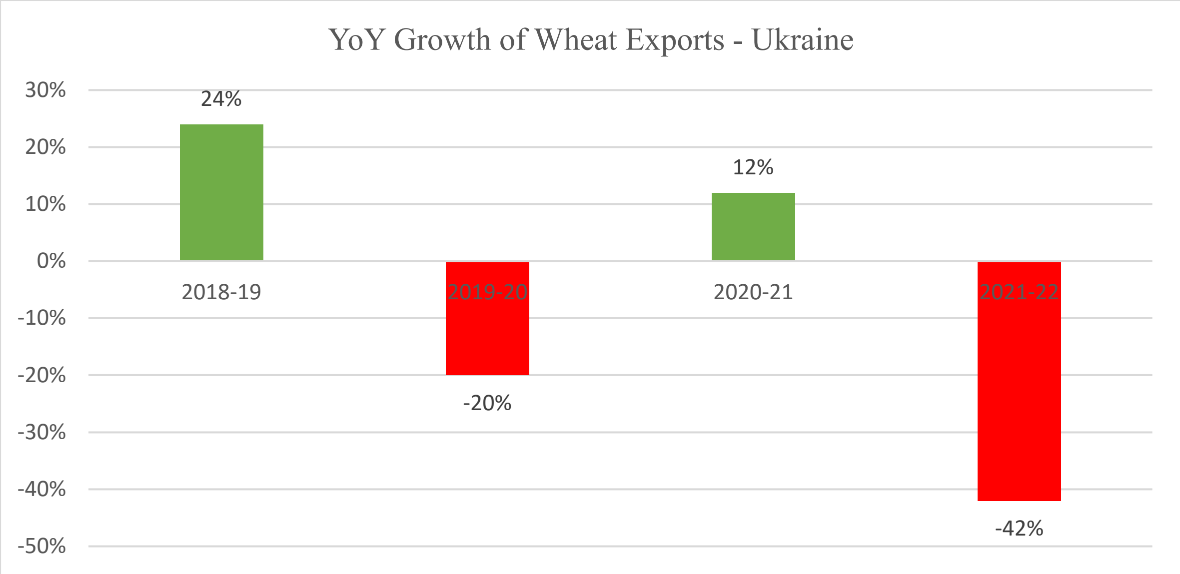

Figure No. 4 YoY Growth in Exports of Wheat – Ukraine
(Self-generated by the researchers based on Table 2)

The blockade triggered by the Russian invasion slowed the exports of Ukraine.3 ports in Ukraine's Black Sea resumed grain shipments in late July under a deal brokered by the United Nations and Turkey. The Black Sea Grains Initiative was extended for another 120 days on November 17th. However, the low yield and bad crop remained a big drawback for the exports.

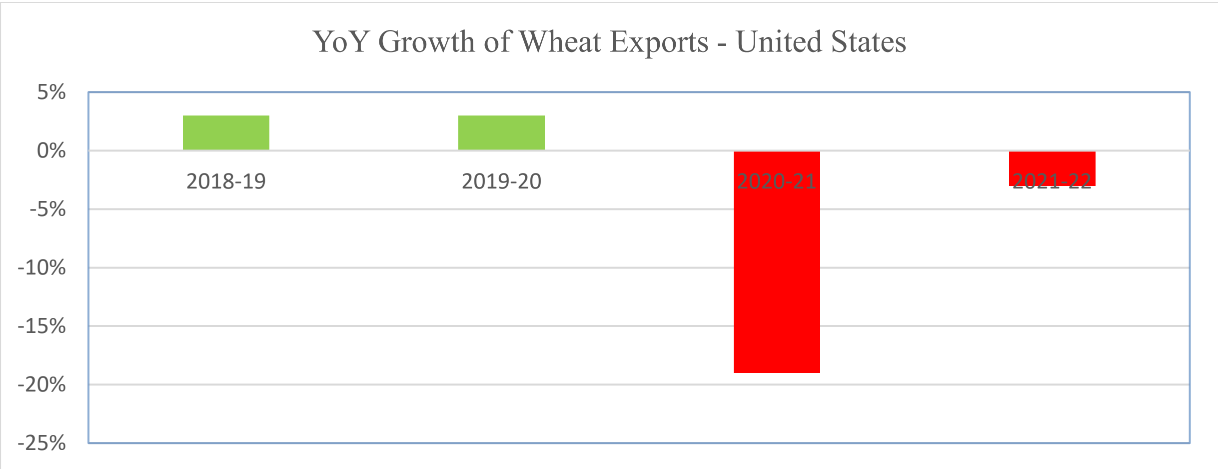

Figure No. 5 YoY Growth in Exports of Wheat – United States
(Self-generated by the researchers based on Table 2)

U.S sag 40 year low. The gap decreased at a higher rate but still faced a deficit in wheat exports. The reason is short supplies and cheaper overseas competition. Late fall through winter is also the slowest period for shipments.

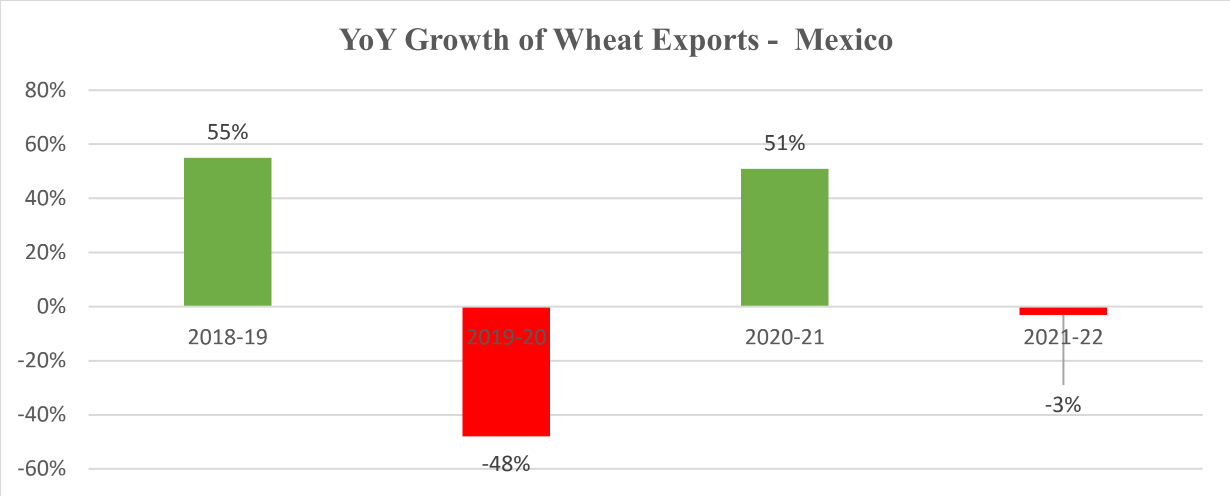

Figure No.6 YoY Growth in Exports of Wheat – Mexico
(Self-generated by the researchers based on Table 2)

The Mexican export of wheat was down in the year 2021-2022 by 3% as compared to 2020- 2021.
The decrease is observed due to a shift in supply pattern. The trade policies and food security strategy for their own consumption is one of the reasons why trade declined.

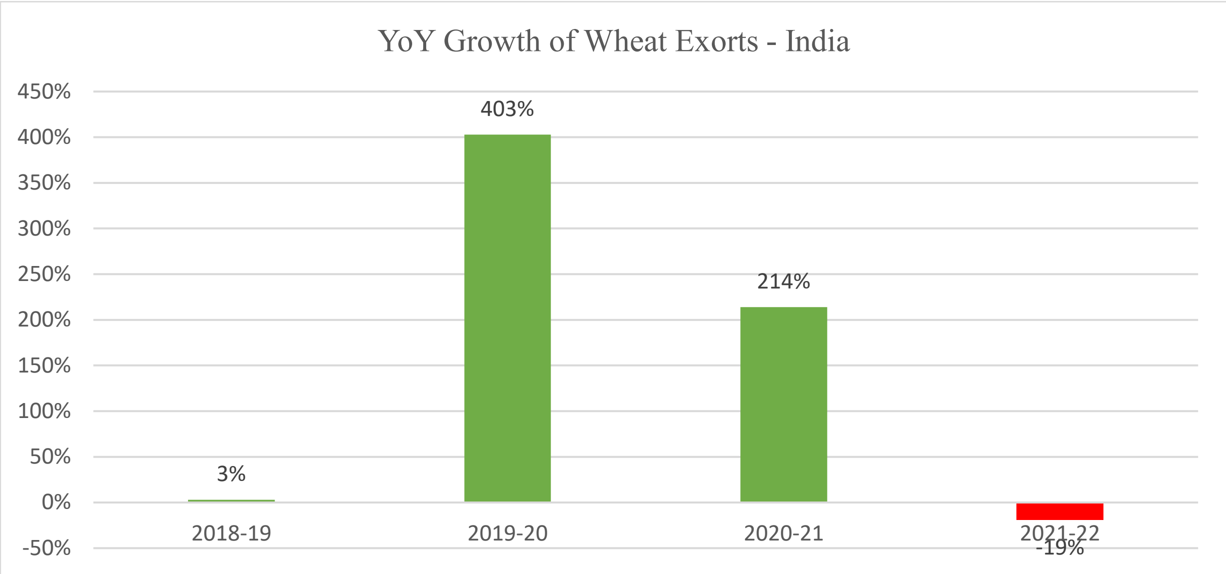

Figure No. 7 YoY Growth in Exports of Wheat – India
(Self-generated by the researchers based on Table 2)

Despite Covid19 and War the demand for Indian Wheat was rising at more than 100% rate which raised a concern for domestic customers and price inflation. Due to which the government-imposed wheat restriction policy to maintain stability and supply in the local market. However, a major part of Indian Wheat is exported on Humanitarian basis by the Government which remained unaffected.

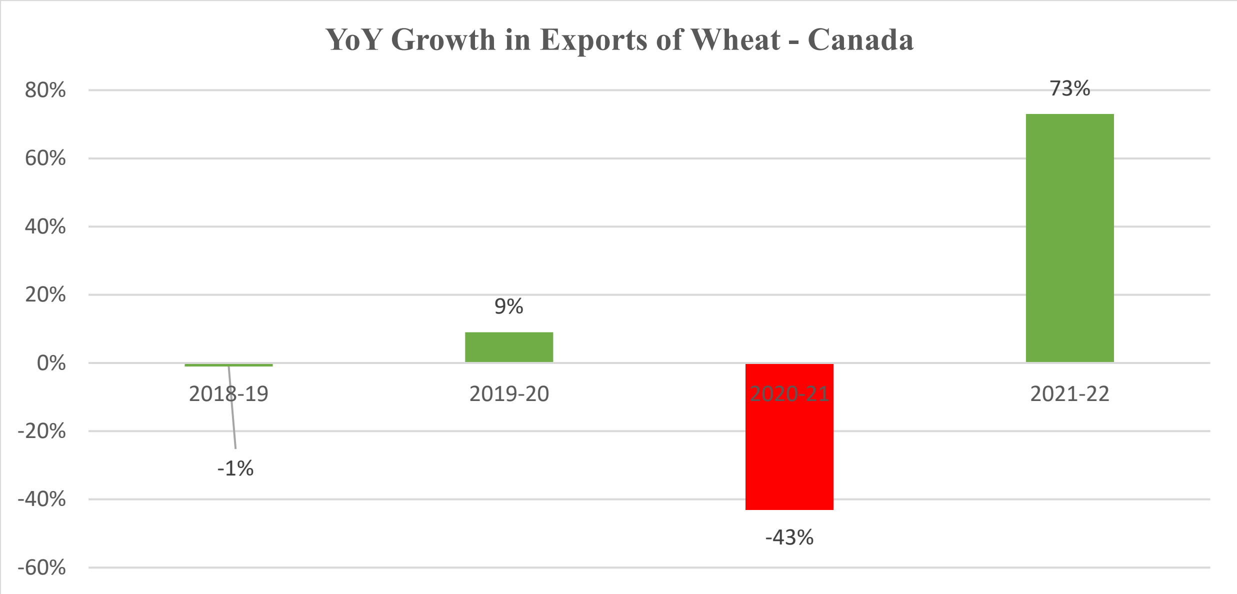

Figure No.8 –Growth in Exports of Wheat - Canada
(Self-generated by the researchers based on Table 2)

In 2021-2022 the Canada exports have significantly raised in wheat by 73 % from previous year due to increase in the production and the favorable moisture provided by the soil quality.
Canada has taken advantage of the market and has gained a significant market share in the wheat trade.

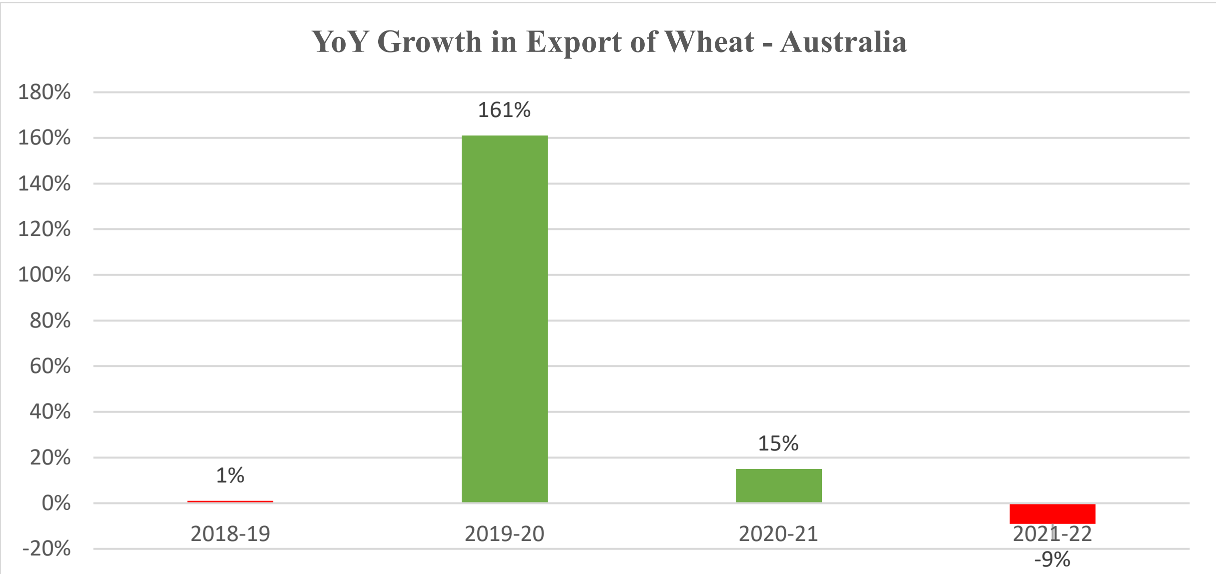

Figure No. 9 YoY Growth in Export of Wheat – Australia
(Self-generated by the researchers based on Table 2)

Due to its closeness to countries like Malaysia, Japan, South Korea, China, Taiwan, Vietnam, and Thailand which are key wheat-consuming areas and the fact that its freight costs are lower than those of its main rivals, Australia exports to these regions**.**

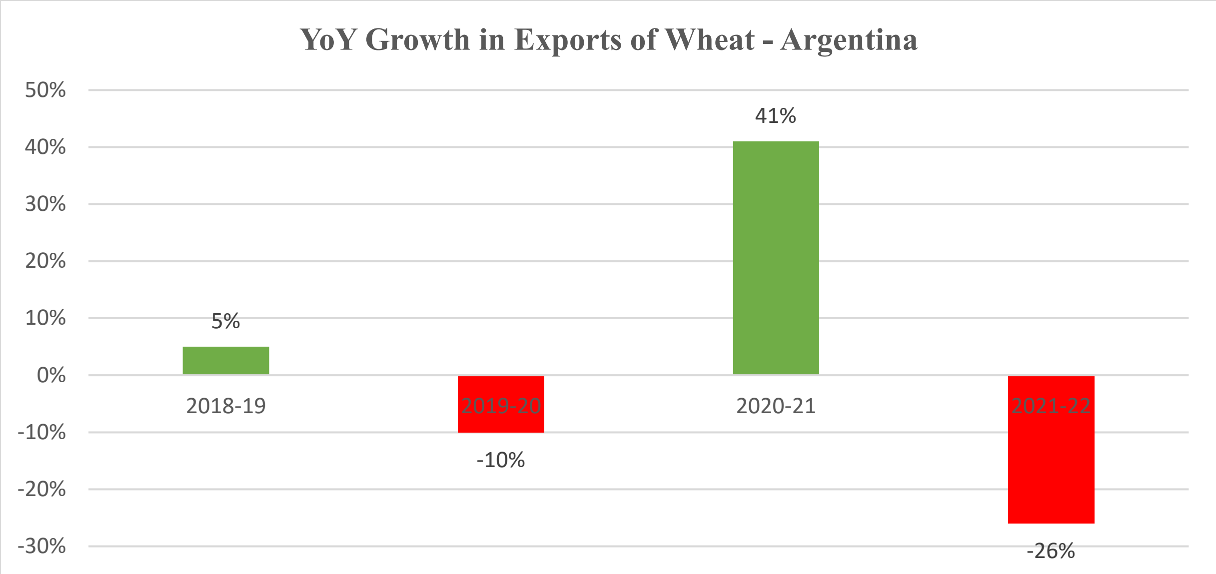

Figure No. 10YoY Growth in Exports of Wheat – Argentina
(Self-generated by the researchers based on Table 2)

Due to the impact of prolonging drought weather conditions the production of wheat observed declination of 26%. Hence, the supply was impacted. Otherwise, Argentina could have taken up the two positions above in the wheat trade.

Geometric Mean

Country	Geometric Mean
Russia	36748.81732
United States	24233.73173
Ukraine	16371.00662
Australia	16826.55677
Canada	22734.00337
Argentina	12850.11316
India	2021.529262
Mexico	792.5358162

Table no 3: Geometric mean of Export of Wheat by various countries
(Self-generated by the researchers based on Table 1)

Fluctuations in the sample do not affect the geometric mean. Hence, average value is calculated based on Geometric Mean to study the average performance between 2018 to 2022. According to which the rank is as follow:

1) Russia
2) United States
3) Canada
4) Australia
5) Ukraine

Findings

Due to the War, the impact on the supply and demand of wheat had a major impact on Ukraine. While Russia experienced a temporary slow-down. India observes the maximum increase in terms of export demand. However, due to India's own domestic consumption the trade was restricted. This cap is removed in 2023 but due to the increase in population of India the demand for wheat will grow substantially and would not be able to contribute much to exports.

The shortage of wheat created a perspective and influenced demand and price. The fear of war created panic among the countries, and it has worked as a benefit to Russia. Not just Russia, Australia and Canada also played a significant role in wheat exports over the period whereas the Mexican wheat export market rose at a marginal rate.

Canada emerged as one of the major Global Wheat Exporters.

Argentina will compete with Australia and Ukraine.

Diversity in the global food supply chain is the need of the hour. Single regions and countries dominating can be harmful in the case of any crises. While the developed countries coped with the wheat market fluctuation, the developing countries which heavily rely on imports of wheat had to suffer (Egypt, Turkey, Mongolia, Somalia, Benin, Sudan, Tanzania). Global Food Security faced a threat.

Wheat is the major staple diet of many countries and competitive price makes it easily accessible to countries like Africa. Egypt imports the maximum of wheat and is listed as the largest importer in the world. It imports 67% from Russia and 20% from Ukraine. Due to war the price of wheat inflated due to fear of shortage and less supply which hit the country's middle class and poor people.

Overall, there was an increase in the price of imports of wheat as two major wheat supplying countries had armed conflict. Shortage was created due to disruption of ports and supply chain and the less production. However, the degree of impact on Russia was less as compared to Ukraine. Russia has come back and responded with positive trade growth in wheat exports (they have exported more than previous years) while Ukraine exports are still lying low.

Conclusion

The ports have been opened by the U.S intervention. However, Russia still has an upper hand over it. The supply of fertilizers and other farming essential products are supplied by Russia to Ukraine. Hence, the growth of production depends on Russia. There is a need for diversification in the supply of wheat markets and to consider the impact on countries vulnerable due to such conflicts. India on a humanitarian ground has exported wheat and is the largest country to export wheat on humanitarian ground. However, this cannot be the ultimate solution. The emerging countries can be negatively impacted through this and could lead to decline in their GDP and Index of Hunger and the outcomes related to it.

However, certain restrictions are uplifting as dated March 4,2023. This is a positive influence on the export mechanism of wheat and hence the global supply will revive and there is a gleam of hope of improvement.

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A REVIEW ON COST EFFECTIVENESS OF CLOUD COMPUTING IN LIBRARIES

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ABSTRACT
Libraries are serving society for ages. In the last decade of the 20th century, library funds and services were being asked for their proper utilisation. The efforts are made to find the valuation of the library and its services globally. This study presents a review of literature on the cost effectiveness of cloud computing in libraries. Cloud computing has emerged as a powerful technology in recent years, providing a range of benefits to libraries. The current study is based on exhaustive literature search carried out on the internet. Cost effectiveness of Library services and Cost effectiveness of Cloud Computing in Libraries are focused in this work. It examines various cloud computing applications that libraries have adopted including Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). Several case studies of libraries that have successfully implemented cloud computing solutions are highlighted. This article provides a valuable resource for libraries to consider cloud computing adoption.
Keywords: cost effectiveness, the library, review, cloud computing, SaaS, PaaS, IaaS, operational cost, Information Technology, digital services

Introduction

For centuries the libraries are facing the traditional barrier i.e. getting reduced budget and managing the subscription of the resources within limited budget. In India various commissions viz., University Grants Commission Library Committee, University Education Commission, The Advisory Committee for libraries, National Knowledge Commission etc. have been set up to upgrade the library services and library budgets. Accordingly, commissions have given the recommendations with regards to the budget. On this background many libraries are undertaking studies through which they are trying to find the most cost-effective way to provide services and to build infrastructure so that the library services could be maximized. As the libraries continue to face financial constraints, the adoption of cloud computing can help them to overcome these challenges and provide quality services to their patrons.

In recent years, cloud computing has gained significant attention from libraries as a cost-effective alternative to traditional on-premise IT infrastructure. The study will draw on existing literature to analyse the cost-effectiveness of cloud computing in libraries, including case studies of libraries that have adopted cloud computing and their experiences.The cloud computing can provide increased flexibility and accessibility for library staff and patrons. Cloud computing can also enable libraries to provide online services to patrons, such as e-books, e-journals, and other digital resources, which can increase access and usage while reducing the need for physical space and resources.

While cloud computing can provide significant cost savings, libraries must pay attention to cost of migration, on-going maintenance and support and any potential hidden costs associated with cloud computing, such as data transfer fees or premium service fees.

Cloud computing offers a range of benefits including scalability, accessibility, and reduced operational costs. This has led many libraries to consider adopting cloud-based services for their various functions such as storage and data management. This work focuses on the cost effectiveness of cloud computing, which is one of the key factors driving its adoption in libraries. It discusses the cost savings achieved by libraries through cloud computing, such as reduced hardware and software costs. One of the major benefits of cloud computing is its cost effectiveness, as it offers libraries the opportunity to reduce their IT costs while improving the quality of their services.

This review will provide valuable insights for libraries considering cloud computing adoption and contribute to the broader understanding of cost-effectiveness of cloud computing in different contexts. The findings of this study will be of great significance to libraries considering the adoption of cloud computing. It will provide insights into the potential cost savings associated with cloud computing adoption. Ultimately, the work aims to contribute to the literature on cloud computing adoption in libraries and help libraries make informed decisions about it.

Objectives

- To study literature on cost effectiveness of library services and
- To study literature on cost effectiveness of cloud computing applications in libraries.

Definitions

Collin (2003) defines Cost effectiveness in Dictionary of Economics as, “The most economical way of achieving a desired result, either in the public sector or the private sector. It is essentially using the resources available to the best advantage”.
King (1970) defined cost effectiveness as, “Technique for evaluating broad management and economic implications of alternative choices of action with the objective of assisting in the identification of preferred choice”

Above definitions explain that the process is cost effective when it gives more output as compared to the cost used. In the case of libraries, the cost required to provide services can yield more benefit to users may in terms of money or cultural and social upliftment.

Methodology

A comprehensive literature search is conducted for the study. The reference sources such as books, periodicals, research papers and articles, Ph.D. theses, case studies are referred while conducting review of the literature. Along with the printed material, databases such as Shodhganga, Emerald, ProQuest, JSTOR,LISA and LISTA were searched. Google Scholar, Academia and Research Gate access also provided research articles. The identified studies were screened for relevance by examining their titles, abstracts, and keywords. Studies that meet the inclusion criteria have been selected for further review. The inclusion criteria included factors such as the focus on cost effectiveness in libraries and the use of appropriate research methodology. Data from the selected studies have been extracted and synthesized in a systematic way. The extracted data is analysed and synthesized to identify patterns and organized into themes and sub-themes. The comprehensive and reliable review of cost effectiveness studies with special reference to cost effectiveness in cloud computing applications in libraries is made.

Literature Review

The focus of the paper is to review literature on cost effectiveness of cloud computing applications in libraries. It has considered following themes:-
Cost Effectiveness in Libraries
Cost effectiveness of Cloud Computing in Libraries.

Cost Effectiveness in libraries

In the view of Wilson, Stenson & Oppenheim (2019) value of academic libraries is not a financial concept but the improvements in users through the information are the real value. But fund releasers expect cost analysis for proper utilisation of money. Efforts are made to measure cost effectiveness in Academic Libraries.The pioneer study by Payne (1996) at St Patrick's College Library, Maynooth focuses on ownership versus access to subscribed periodicals and articles. It concluded that article supply by mail should continue but few services such as CD-ROM databases should be reconsidered in view of cost effectiveness. Pawan , Gautam (2019a) noted, prices of e journals subscribed in libraries are smaller than benefits of journals received by researchers and faculty. 1:2.9 is the CBR reported by the author for Punjab Agricultural University (PAU) and 1:4.5 for Guru Angad Dev Veterinary And Animal Sciences University(GADVASU). Ahmad (2013) has studied the cost effectiveness of library operations which has included Aligarh Muslim University, Delhi University and Jawaharlal Nehru University. Average time to subscribe journals and time of book processing is studied. Mezick (2007) observed different stakeholders of the Library. This study indicated, positive relationship exists between library expenditure, professional staff and student retention in academic libraries in US and Canada. Study by Bano & Haridasan (2015) at Maulana Azad Library, Aligarh Muslim University, India revealed, cost of current journals and e journals subscribed in library is much lower than benefits of journals and e journals received by Faculty, Research scholars and (CBR) is 1:3.9. Pawan Gautam (2019b) analysed collection of print journals for its cost and benefits subscribed by Nehru Library, Chaudhary Charan Singh Haryana Agricultural University, Hisar, during 2015 which quantified benefits of printed journals referred by researchers and faculty into Indian Rupees and reveals that CBR is 1: 2.

Cost Effectiveness of cloud computing applications in libraries

Cloud computing is a new way of computing. It enables users to work with new avenues-different working environments. Users can access data as per needs. On demand computing services are an important feature of cloud computing. Libraries can use services, data processing, and preservation tools through the cloud for patrons. The cloud service models and their cost effectiveness are discussed below.

Cloud Computing - Software as a Service (SaaS)
Mell , Grance (2011), defined SaaS as "The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure." Grant (2012) has discussed the future of library systems. He has noted that multiple customers could use one instance of software application at a time. This multi-tenancy could be economical because software maintenance and development costs are shared. SaaS has important implications for libraries. He explained that when vendors run such applications, lesser resources are utilized and ultimately resulted in lowering the cost of SaaS to libraries. The cost of maintaining software and hardware in house is higher than multi-tenant computer architecture. Another economic benefit is observed. While upgrading software, vendors charged individual libraries, but in such cases, vendors used a single instance of software and lowered the cost of each library for up gradation of software. He concluded that in the long run libraries would get cost effective systems with efficient work flow. As compared to proprietary software, Librarika is a cost effective Integrated Library System (ILS) as no cost is required for hardware, software and installation. It also saves training cost and time of library staff and free up to 2000 titles (https://librarika.com/). Stephen (2017) stated, open source cloud based software for library management was adopted by National Institute of Electronics and Information Technology (NIELIT), Itanagar for management of e-books and Periodicals. Above example clearly shows, cloud based library management software is cost effective. Panda , Chakravarty (2021) noted that e Granthalaya eG4 is made available to Government libraries. Rs. 21275 is the amount charged for the software as a one-time payment. This amount is charged for the period of five years. It will provide hosting, maintenance and help-desk support. This is the cost effective use of SaaS applications to Government libraries in India.

Cloud Computing - Platform as a Service (PaaS)
"It allows users to deploy their own applications on the provider's cloud infrastructure under the provider's environment, such as programming languages, tools. The end users can control their own applications" (Mell, Grance, 2011). Such services are implemented in libraries. Roussel, Darmoni , Thirion (2009) conducted study on electronic journals access stating that digital OVID-providing full text electronic journals available directly or through Medline search at Rouen University Hospital France was cost-effective in comparison with inter library loan costs. The electronic versions with limited amount of inter library loans, reduced cost. Virtual Services, Criss Library, University of Nebraska Omaha shared, in the first year with WorldShare Management Service(WMS), USD 150000 saved. This amount was utilised for pilot ebook DDA (demand-driven acquisition) program on campus, well accepted by faculty and students (Erlandson , Ross, 2013). Dula , Ye (2012) have described the case study of Pepperdine University Libraries. They have migrated to OCLC's WorldShare Management Services. They declared that migrating to World Share has reduced total cost of systems and workflow of acquisitions and cataloguing were remarkably efficient. Further they stated that the need for replacing servers after two or three years has ended and systems librarians have more time to work on other projects.

Cloud Computing - Infrastructure as a Service (IaaS) or Hardware as a Service (HaaS)
Mell , Grance (2011) defined it as "capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications".

Han (2011) explained the cost of starting an instance on Amazon Web Services (AWS) is USD 0.03 per hour if reserved for the library. Total Cost of Ownership study showed that cost savings was fifty present if the life of the system is assumed to be five years. The Central Connecticut State University Library developed a system using Amazon Simple Cloud Storage (S3) for preserving digital storage. The comparative study by Iglesias & Meesangnil (2010) showed that the cost of Amazon Simple Storage Service (S3) is one third of OCLc's digital archives. For one year, Han (2010) migrated systems to cloud and running satisfactorily in terms of cost. Author shared that USD 480 was the amount to run two nodes while it took USD 4000 for hardware implementation. Hastings (2012) informed about backup service in the cloud. Library was paying USD 60 every 6 months for tapes and buying tape drives for three servers. In the virtualization setup, all contained within one physical server, cutting costs down to two backed up servers for about USD 15 per month. Wilkin (2009) revealed, use of cloud was prolific. At a minimum average 50 libraries holding 33000 public domain titles needing 19 miles of shelf-space regained. The result was aggregate cost avoidance of USD 6.2 M.

The study by Yang (2012) is illustrated here. Amazon Elastic Compute Cloud (Amazon EC2) allows users to pay as per the need, may be per hour. The prices are from USD 0.2 to USD 2.6 per hour. It also depended on power and server space. Another type of facility is spot instances. In this type users pay as spot price. Another example quoted by the author is explained. The cost of the Amazon EC2 server was in the range of USD 2750 - 3570,while USD 5858 - 7608 was needed for the server which was owned locally. When comparing the cost of 10TB data storage Amazon S3 compared with that of a local storage facility, it was observed that Amazon S3 found to be more expensive at USD 16800. This showed that cloud computing should be considered after financial investigations. Ogbu & Lawal (2013) discussed applications of cloud computing in e-library services in Nigeria. They pointed out that the cost of installing and managing in Nigeria is very high as it included capital cost and high operational cost. They noted that use of cloud computing provided a cost effective way to implement and manage e-library and solved the issues of poor infrastructure, lack of technical knowledge, support and high costs of e-library software development.

Yuvaraj (2013) compared existing Information Technology (IT) systems used in libraries with that of cloud based systems. He pointed out that the server cost of the IT system was USD 19050 and the cloud based system was USD 4500. The Total cost of the IT system was USD 38800 while that of cloud based system was USD 6500. This study is clearly showing that cloud based systems are more cost effective as compared to existing IT systems.

Research Gap

The cost effectiveness studies in libraries are reviewed. It is observed that very few studies are devoted to cloud computing applications in libraries and cost effectiveness of cloud computing is studied rarely.Cloud computing can provide libraries with a way to expand their services, improve accessibility, and reduce costs. However, there is still a need for research that examines the cost-effectiveness of cloud computing in libraries. This paper reviews the existing literature on the cost effectiveness of cloud computing in libraries and identifies gaps in the research.

The existing literature on cloud computing in libraries has mainly focused on the benefits and challenges of cloud computing adoption, including issues related to security and vendor lock-in. While some studies have examined the potential cost savings associated with cloud computing, very few studies are seen in academic libraries.

One area where further research is needed is the cost-effectiveness of cloud-based integrated library systems (ILS). While some studies have examined the benefits of cloud-based ILS, such as improved accessibility and reduced maintenance costs, there is a lack of research that examines the actual cost savings associated with this technology. Additionally, there is a need for research that compares the cost-effectiveness of cloud ILS to traditional, locally hosted ILS.

Another area where further research is needed is the cost-effectiveness of cloud-based digital repositories. Digital repositories can provide libraries with a way to store and preserve digital content, such as research data, e-books, and audiovisual materials. While some studies have examined the benefits of cloud-based digital repositories, such as improved accessibility and reduced storage costs, there is a lack of research that examines the actual cost savings associated with this technology.

This review has taken care to study the cost effectiveness of cloud computing applications in academic libraries. It has also considered few studies of cost effectiveness in libraries such as accessioning, journal cost etc. However the study observed that very few cases have been noted where cost effectiveness of cloud computing applications is discussed. To fill this gap, efforts are made to study the cost effectiveness of cloud computing applications in libraries.

Conclusion

Research work published across the world indicated that efforts are made to calculate traditional library services. The professionals are calculating valuation for acquisition and accessioning, journal collection, processing cost per unit of book and library services. The application of cloud computing in libraries is modern technology use and its valuation is indicating fruitful results.

The cloud computing applications in libraries have become increasingly popular due to its potential cost-effectiveness and flexibility. This paper has reviewed the existing literature on the cost-effectiveness of cloud computing in libraries and found that it offers several advantages over traditional on-premises systems. These benefits include reduced hardware costs, lower maintenance expenses, and the scaling of resources as per the demand of users. However, the use of cloud computing in libraries requires careful consideration and planning.

The review suggests that cloud computing applications will play a vital role in libraries. By adopting these applications, libraries can enhance their services and remain updated in the rapidly changing landscape of library services. Libraries can make extensive use of cloud computing technology to streamline their operations, provide better user experiences, and provide cutting-edge services to library patrons. This review emphasizes the importance of a careful and thoughtful approach to implication of cloud computing use in libraries. The study has highlighted the potential of cloud computing applications to transform library services and provide cost-effective solutions to the challenges faced by libraries.

With cloud computing, libraries can access a wide range of applications and services from a provider's data center, reducing the need for on-site hardware and software. Additionally, cloud providers typically handle software upgrades, maintenance, and troubleshooting, freeing up library staff to focus on other tasks. Cloud computing also gives an opportunity to libraries for scaling the resources, ensuring that they only pay for the resources they need, when they need them. This can lead to significant cost savings compared to traditional on-premises systems, which often require libraries to over-provision hardware to handle peak usage.

The research indicates that cloud computing can be a cost-effective option for libraries, particularly those with limited IT budgets or those looking to modernize their technology infrastructure. By embracing cloud computing, libraries can better serve their patrons while also saving money and increasing efficiency. With careful planning and evaluation, libraries can successfully migrate to cloud computing and reap the benefits of this technology while ensuring the continued delivery of high-quality library services.

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A REVIEW PAPER ON HIGH PERFORMING WORK TEAMS (HPWT): CASE STUDY OF KODAK AND CANON

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ABSTRACT
Every organization to succeed in the present competitive business context has to keep itself updated with social and technological progress. With innovative abilities organizations could become indeed successful to respond to such progress. High Performance Work Teams are close knit groups that are able to fetch the innovation goals of the organizations.
The present article shows that High Performance Work Teams (HPWT) are successful in bringing innovation and change in organizations. Thus they are able to sustain for the long run. Based on secondary data published in various journals, the present article illustrates the example of Kodak and Canon, producing cameras. In fact, Kodak had the highest market share, stuck to film photography. Canon, believing in the culture of High-Performance Work Teams, took over the advantage of technological advancement and introduced digital cameras into the market and became one of the top selling camera businesses.
Keywords: High-Performance Work Team, Teamwork, Technology, Innovation, Consumer Behaviour

Introduction

With the shift from product centricity towards customer centricity business organizations are operating in a complex business environment where they have to focus on human and material resources. businesses today have to rest on a strong knowledge base and strive towards providing enhanced products and or innovate the product design and delivery. Customer retention and competitive advantage and two crucial factors that govern the sustenance of the business organizations.

High Performance Work Teams (HPWT) are groups of employees that are organized to achieve specific goals and objectives within an organization. These teams are typically cross-functional, meaning they consist of members from different departments or areas of expertise, and are often self-directed and empowered to make decisions related to their work. HPWTs are designed to be highly efficient and effective, with a focus on achieving superior results through collaboration, communication, and shared responsibility. They are characterized by an elevated level of trust, mutual support, and a shared commitment to achieving organizational goals. The expertise of members of HPWT and typical characteristics, they are able to bring innovation and adaptation of change in business organization.

The theoretical background of High Performing Work Teams

The High Performance Work Teams (HPWT) refers to a group of purposeful individuals with specialized expertise and complementary skills who collaborate, innovate, and produce consistently superior results Don (2020). They have their trust, and they mutually respect all the colleagues, they practice effective work cultures, they have a shared vision and have an unobstructed vision and direction towards the common objective, and they communicate effectively and clearly among their superiors and subordinates. High Performance Work Team which regarded as "tight-knit" focused on goal, having the supportive and conducive environment which enables to break the barriers that any team member might have, moreover each one of them are highly skilled, highly cohesive so much so that are able appreciate conflicts and voice out their differences Satell (2021). A high-performance organization is only sustainable when it can identify dynamic changes in the market, adapt, respond, and finally, grab the opportunities available to survive in the market Reeves (2011). The latest study describes that High Performing Work Teams have positive as well as negative influences on the employee outcomes Delizonna (2019). The positive outcome helps in overall development of human capital which then helps us in providing a competitive advantage to the Organization. Negative influences on employee behaviour can be due to misalignment of HR Practices in any organization. HR plays a key role in creating a high performing team Vos (2021).

The conceptual Framework of High-Performance Work Teams and Innovation
High-performing teams are not desirable in achieving innovation and development; rather, they are the essential components to make innovation happen Jong (2015). Making the realization of the fact that how High performing work teams is important for innovation is the key to success, without realizing you are just running your business with an old mindset. What makes a team successful is the low cost of production, saving the time engaged in production, in short making the work done effectively and efficiently Kashyap (2023). Innovation is a concept that is dynamic in nature, it must be done whenever there is a need for a modern technology, which time demands. One person will work as per his/her views, and capabilities and he will take his initiative and, his alone capabilities are not enough to meet business needs. On the contrary, if they work in a team, they will have a diversity of thoughts, different approaches to tackle situations, to innovate a better product through proper coordination and delegation of Authority and Responsibilities Mehrotra (2021).

Literature Review
While surveying the various research papers and understanding the consumer behaviour, it has been analysed that where the team is high performing, they lead to innovation and vice-versa. Kodak, the American company was the first and world's best company in the Photographic industry and best infrastructure but could not successfully run a business model to support Team Oriented culture. They stepped back and kept on promoting old analogue photography and wasted ten important years promoting old analogue cameras. Their R & D department though was best but did not have the focus for business goals and did not work on adoption of change whereas Canon, the Japanese company adopted the change and kept on innovating new products. They focused on technological advancement and kept on releasing new products and promoted digital cameras and as a result, they became the world's second-best photographic company.

The founder of digital camera, Steve Sasson was an employee of the Kodak Corporation but due to lack of proper coordination and teamwork, they did not choose to market the new product, rather they chose to stick to analogue cameras Gann (2016). Kodak remains a sad story of potential lost. The American icon had the talent, the money, and even the foresight to make the transition. Instead, it ended up the victim of the aftershocks of a disruptive change Anthony (2016). Learn the right lessons, and you can avoid its fate. They had teams, revenues, resources, and knowledge but they did not utilize it.

Canon is one of the most famous companies when it comes to the photographic industry. They have maintained their place in the market, and they are doing very well. Canon also went through various difficulties, but they chose not to exit, and they kept on investing increased money in innovating the latest technological photographic equipment. This teamwork is one of the motivating factors for all the employees and made it an enormous success.

A Team is a group of individuals who work together to attain a common goal Smith (2023). A team is normally performing at every start but there are some factors which lead to High Performing which are Work Environment, Coordination and effective communication, shared vision of goals and constructive conflict Kozlowski (2006). When these factors are present in any team, it will lead to high performing work teams. As the culture prevailing in HPWT leads to innovation and sharing innovative ideas and views and are quite infectious, if any team member performs good in any organization others will also be motivated to perform good in the team Myer (2020). The needs of the customers were ignored by Kodak in this innovative world and thus led to huge losses and its failure Mui (2012). On the contrary, Canon worked very well in Team, and they adapted the modern technology and innovation was their focus point, to provide latest products to the Customers Nevens (1990). This led to high sustainable development and high revenues and getting more profits, becoming one of the best Camera Company in the World.

There are steps built to make a team high performing which guide the team leader to act in a certain way and make others act in that way. First process is to create a stable team with the help of efficient team members. Stability is required in any team to pave its way to success Ryba (2020). Second process is to build a cohesive and value aligned team dynamics. Francine Katsoudas, chief people officer for Cisco says that Teams with shared values will lead to better performance. A cohesive team will increase productivity as compared to other teams Gürlek (2021). Third process is to encourage open communication among all the team members. Coordination among all members is the key to open communication. Fourth process is to be open in learning new things. There should be more emphasis on understanding and making others understand the importance of learning as well. Fifth and last process is to Set Measurable Goals. Measurable Goals are those which can be analysed either by figures or any data, which ensures that goals are fulfilled as per the requirement.

Research Methodology

A research methodology is a set of principles, tools, and techniques that are used to plan, execute, and manage projects Westland (2021). There are many different methodologies, and they all have pros and cons. Descriptive method analysing the available secondary data based on success and failure of Canon and Kodak Corporation, customer's buying preferences were critically read and are reported.

Objectives of The Study

1. To understand the concept of High-Performance Work Teams
2. To understand the output of High-Performance Work Teams in terms of Innovation with respect to Kodak and Canon
3. To understand the unique culture that distinguishes High Performance Work Teams to other groups.

Secondary Data

- Annual reports were collected for Kodak for the years 2005-2021.
- Using the concept of Inflation, the profits, and net sales over years (2005-2021) were analysed.
- The net sales and profit were plotted to have an overview of the business performance of Kodak from 2005-2021.
- The pair of years which marked the steep downfall was identified and a comparative study was done on how Kodak performed in the previous years as compared to this year. The Cost per production for every product Canon produced was conducted.
- Analysis the initiatives taken by the Canon for surviving in the market.

Data Analysis

Kodak company had world wide great manufacturing facilities and distribution network to support the sales of photo business. Kodak had no clear cut business model, having disconnected business products, though invested heavily in research and development. It was majorly known for photography related products.

The company's structure allowed too much people centric culture having poor governance. Kodak also lacked Work Team culture. This allowed their R&D members to persuade their own interests. there was no check about what type of the products being innovated, whether they could fit Kodak's business perspectives.

For many years it did not have any competitor. Kodak failed to create the culture focussing on Team orientation that helps to innovate business related items and could not align the business model to support R & D members to focus on their photography related business. Instead they were left to innovate whatever they desired. There was a need for the digital cameras, they invested their money in promoting the old model Cameras and this led to huge fall in demand of their products and Company started incurring losses Don (2020) and led to failure of Kodak. Thus the sales of the Kodak shows the downtrend from 2005 till 2021.

Kodak's Sales were compared with respect to various years, and it was seen that Sales kept on decreasing from the year 2005 to 2021.

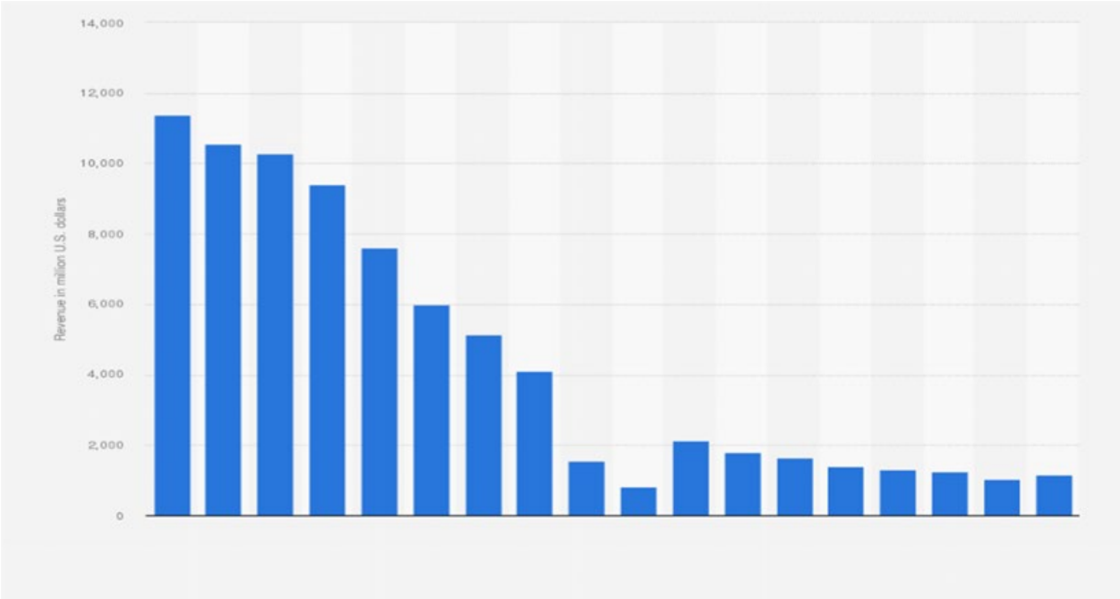

Figure 1: Kodak sales from 2005-2021 (Source:https://www.statista.com/statistics/277061/kodaks-global-revenue-since-2005/)

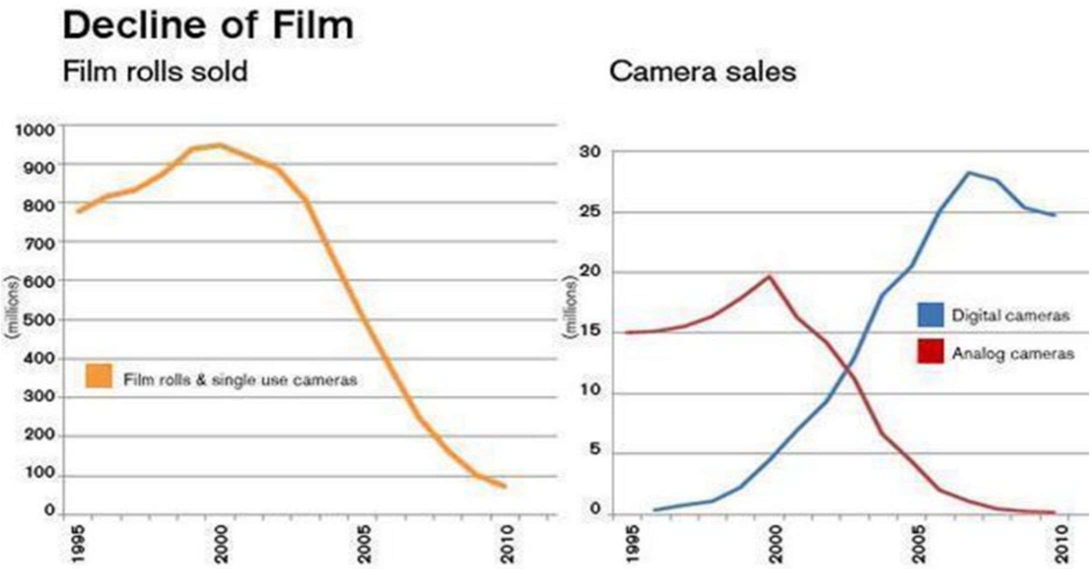

Figure 2: Sales of film rolls, Analog cameras, and Digital cameras
(Source: https ://d3.harvard .edu/ platform-rctom/submission/eastman-kodak-from -market -leader -to-bankruptcy/)

Figure 2 shows the decline of sales in film rolls and analog cameras. The indicator of sales of Digital cameras shows a growing trend. Thus we can interpret that the customers were not at all interested in analog cameras and film rolls required for them. These graphs also indicate Kodak's business decline as it was unable to keep itself to the expectations of the customers and their need for technologically smarter gazettes.

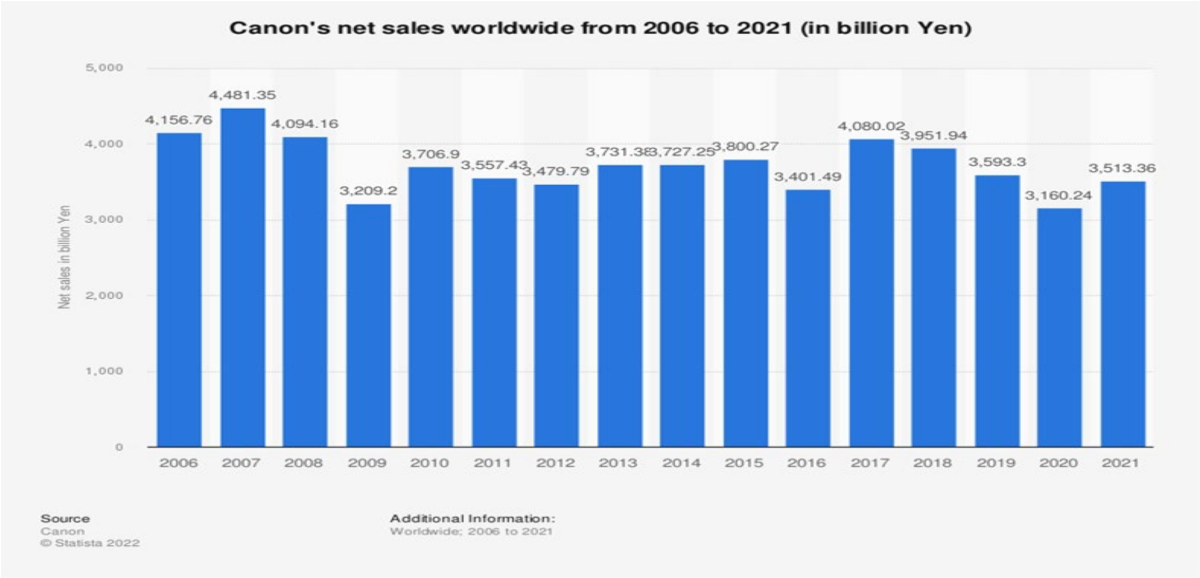

Figure 3: Canon's Sales from 2006 to 2021
(Source: https://www.statista.com/statistics/236434/total-revenue-of-canon/)

The above graph shows that Canon's sales are being steady and constant year on year. Thus, we can interpret that Canon kept on digitalizing the entire photographic market and thus, this led to an increase in demand for the product. As the above graph of Figure 2 shows the increasing trend of digital cameras, Canon beats Kodak in this race.

At Canon employees are free to share their ideas, celebrate milestones and achievements. The open culture creating a High Performance Work Team (HPWT) could openly discuss the goals and focus of the company. The team would be highly effective, if the team has best inputs, clear goals, well-designed rewards, enough assets and apt technology. The smaller size of the team helps to improve communication and coordination. On the contrary large groups lower the satisfaction, increase the turnover and social loafing. As skills contribute to the performance of any job, overall structure and staffing of a team with diversified talent promises anticipated results Gürlek (2021). The company is passionate about inclusivity and involves itself to the development of personal and professional skills of the employees. Canon believes in the culture of Team efforts, communication, diversity that gives it a cutting edge to determine customer's expectations and fulfil them before they realise it. The output of work culture is evident in the innovation and growth of the company.

Canon's Sales were compared with respect to various years, and it was seen that their sales kept on rising or being constant. In 2020-2021, their sales reduced a bit because of the pandemic (COVID-19) but the company survived it and made its place as soon as the pandemic ended, and sales started rising.

Findings

By surveying various research papers and analysing the graphs of Sales and Recent Trends, it has been analysed that Kodak's Sales kept on decreasing from 2005 to 2021 due to non-adaptability of Digital Cameras. They promoted old cameras, whose demand was not there in today's generation. They had a lack of vision that means that they did not look into the future and had an old mind-set. They did not open virtual stores, they stuck into selling through physical stores and this led to reduction in sales of the company. Kodak did not keep the knowledge of latest market trends and consumer's buying behaviour due to the lack of business model that supports team culture, whereas Canon had proper market knowledge about market trends and understood the consumer buying behaviour. Canon has a huge brand name and image due to the quality of the product they produced. Their forecasting abilities helped them to think out of the box inventions which no one can ever think of. This led to consistency in sales and people buy more of the Canon rather than any other Competitors company.

Suggestions

Management is getting the work done through peoples, which describes how a team is important for effective management. At some places, teamwork is there but they are not high performing which leads to non-efficiency and leads to ineffective management. If a team is not high performing, it will lead to delayed revenues, higher product costs, and higher support costs for low quality products which will lead to poor product reviews, lack of innovation, team fatigue and low morale of the employees and the staff Don (2020). With this, it can be concluded that high performing teams and innovation are interrelated and interconnected Satell (2021). Companies must adopt the change and keep themselves updated with the latest technology and work in teams Rayba, (2020).

Teams are a collection of various individuals who work collectively to fulfil common goals Smith (2023). Kodak could not create a business model to be supportive for Team efforts and did not bring innovation, so this caused them to suffer losses. Canon worked in a team and with that, they brought innovation and worked in bringing new and advanced technological products. So, improving your productivity and adopting change is the official mantra for key success.

Conclusion

Work teams are the backbone of contemporary business organizations. These teams could work wonders beyond their self-capacities if there is a deep sense of the goals accomplishment, understanding individual responsibility, mutual accountability, mutual trust, open communication, functional and value diversity of the other team members. The High Performance Work Teams (HPWT) provide several tangible and intangible benefits to the business organizations. The businesses could change, innovate and reinforce innovation culture to have competitive advantage in serving the customers in present business competition.

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A STUDY OF ENERGY AS A RECOVERY AND DISPOSITION OPPORTUNITY IN REVERSE LOGISTICS

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ABSTRACT
The reverse supply chains are more complex than the forward supply chain. There are numerous reasons for the reverse movement of materials. The recovery opportunities are also varied needing comprehensive judgment. Recovery could take several diverse forms such as products, materials or even energy. Industries have begun to focus on different reclamation opportunities in Reverse Supply Chains either for monetary, consumer, and eco-friendly motives. A possible strategic opportunity is 'Recovery of Energy by burning of waste.' This paper is an effort to understand the waste burning practices been embraced by industries. This study would be helpful to recognize waste burning as a part of energy recovery. The discussion on the benefits and challenges about waste burning practices for getting energy will give further insights into recovery management in Reverse Logistics. Energy recovery by burning waste is not a sustainable solution in the long run. Other alternatives of material reclamation and waste disposition need to be adopted.
Keywords: Reverse Logistics, Recovery options, Waste burning, Incineration, Energy.

Introduction
Rogers, Ronald and Lembke (1998) have described Reverse logistics exclusively in their book. Reverse logistics covers the procedure of preparation, implementation, & control of the well-organized & cost-optimum movements of varied materials such as starting materials, work in progress inventory, final products, and related data from final user to the initial point. The final outcome is recapturing some utility value or better disposition. This may also incorporate overhauling and remanufacturing activities. The Reverse logistics process includes movements from collecting to checking, segregation up to concluding disposition. The diverse alternatives in Reverse logistics could be resending to the selling organization, use again, sell again, redistribute, reclaim, repair, overhaul, restore, remanufacture, recycle, donate, or disposition through burning of waste (incineration) or ultimately transfer to landfill.

There are several disposition alternatives possible for fulfilling financial, statutory, and community commitments. Burning of surplus waste, also known as incineration, is one of them. Incineration comprises the skillful burning of waste resulting in reduction of mass and volume of the waste and yielding energy. One key reason is to lessen landfill costs. The outcome is reduced cost and better compliance . Study of energy as a recovery and disposition opportunity by burning surplus waste through incineration is presented in this paper.

Reverse Logistics definitions
Reverse Logistics described as opposite movement of the product or materials for the objectives of generating or recapturing value or for appropriate disposition.

Stock (2001) Reverse logistics is a comprehensive concept, covering numerous activities inside and outside of logistics**.** Referring to that part of logistics in product returns, decrease of sources, substitution of materials, material reuse, material recycling, disposal of waste, overhauling, repair, and remanufacturing.

Stock (1998) Reverse logistics is that part of logistics of return of materials, reducing sources, material replacement, recycling, and disposition of unwanted waste. It likewise comprises repairing, overhauling and even remanufacturing.

Sople (2007) Reverse logistics is the flow of goods from the point of usage to the location of manufacturing either for refilling, reconversion, repairing, or finally disposition. It is a prearranged flow of supplies in the reverse direction, intended for better cost-efficiency and effectiveness, through a systematized network of channels.

Hugo (2004) Reverse logistics targets at reducing waste & related costs of the supply networks by evolving techniques of the reverse distribution processes.

Steven (2004) Reverse logistics comprises of the activities for administering, controlling, treating, and disposition of unsafe and / or harmless waste from production, packing and product usage including the redistribution process.

Vogt (2002) managing all processes related to movement of materials, demand related data and funds in the reverse direction of the regular logistics flow. It includes reducing the waste generation and collecting, transporting, disposal, and reclamation of both safe and harmful materials thereby improving the bottom line in the long run.

An analysis of the above views indicate that waste disposition is been covered under Reverse Logistics. Waste gathering, treatment & further disposition are a significant portion of the Reverse Logistics sequence. A few goods which could not be claimed back either for technological, design changes or financial reasons are finally left for disposal as solid waste. These end up in the landfills wherein they are buried. Sometimes the industry can adopt the option of burning the waste known as incineration. Under this the waste materials are treated by controlled burning at higher temperatures. The resultant ash is disposed ahead in landfills or water bodies. The energy released in this process may be utilized for other purposes.

Drivers for Reverse Logistics
A number of incentives are there for Reverse Logistics. Goods returned if failing to perform accurately or discontinued performing. Materials could have opposite movement starting from several of the channel locations in the logistics chain.

Carter, Ellram (1998) explained the forces stimulating and restraining Reverse logistics with a model. They acknowledged four forces.
1) Government
2) Suppliers
3) Customers
4) Competing businesses

Reverse activities are either done proactively for financial reasons or are forcefully done. Industries resort to Reverse logistics because they see profits from it , they are statutorily required to do or have a social motivation for performing these activities.

Brito, Dekker (2003) have pointed out the Reverse logistics triple drivers.
1) Economics (Direct & Indirect).
2) Legislative.
3) Corporate Citizenship.

Economic – these are benefits resulting on account of decrease in material consumption, added recovered value and reduced disposal costs.

Legislative - the several regulations of the government relating to production, utilization, retrieval, and disposition including acts about packing materials and their dumping.

Corporate Citizenship -covering environmental accountability including morals and beliefs been agreed by the firm to be an answerable group. It demonstrates their obligations towards community and the ecosystem. Their empathy of undertaking good for humanity and nature without any lawful compulsion.
The triple drivers shown below:

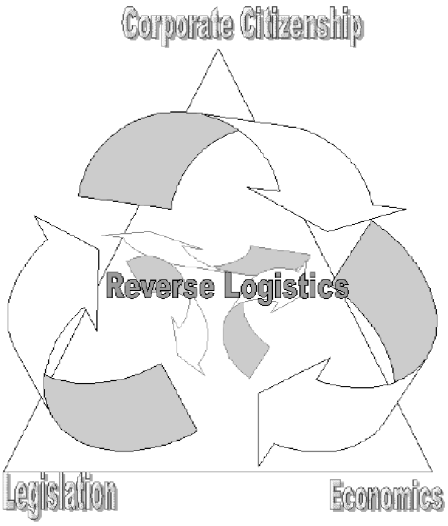

Figure No. 1 Triangle of Reverse Logistics Drivers.
Source:Brito, Dekker (2003:8)

The arrows representing the drivers are not uniform. They are intersecting and extending beyond their tasks. Diverse conditions and materials would have changing forces from them. Various states/nations enact their individual customer and ecological regulations.

The returned materials can be categorized as follows.

A) Production: starting materials, surplus supplies, rejected products, waste, secondary products.
B) Distribution: recalled products, returned inventory, returns for commercial reasons.
C) Consumer: Warranty/Guarantee returns, repairs return, returns due to end of usage / end of lifespan.

Reverse Logistics Recovery Options

The total Reverse logistics can be explained in four phases. The process of recovery in Reverse Logistics is an intermediate one wherein some portion of value is recaptured.

1) Collection: acquiring the products from customers.
2) Checking, Choosing and Segregation: After checking depending on results decision taken to send through suitable channels. If the condition is suitable, product can either be used again /sold back/distributed in other channels. Else an appropriate reclamation alternative accepted.
3) Reclamation: these comprise some trivial/big efforts needed to capture maximum value. One of the reclamation options can be adopted from the distinct stages. At product level it may be repaired, module level refurbished, component level remanufactured, selective part level retrieved, material level recycled, 'energy level burned using incineration'.
4) Redistribution: sending to appropriate intermediaries as need be. If none of the reclamation choices feasible either for technological or financial reasons, then material is sent to landfill.

The distinct levels of Recovery options are indicated in Figure No. 2 of Recovery Options Inverted Pyramid.

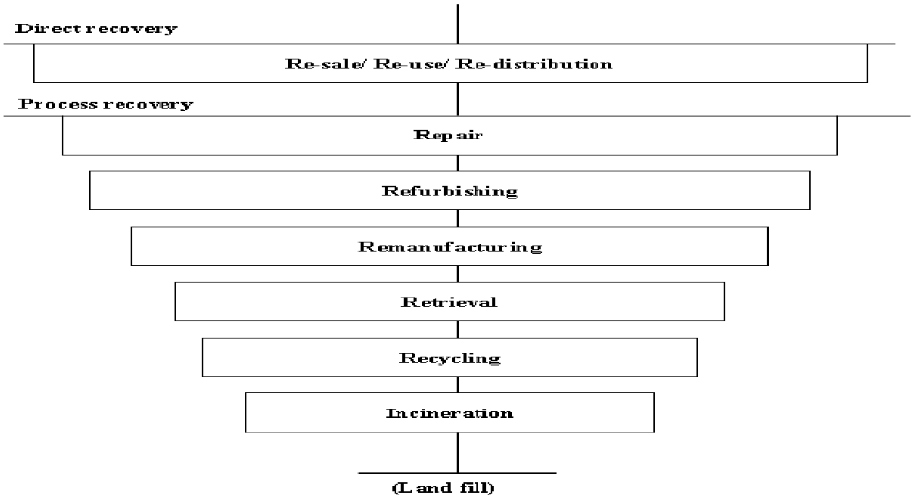

Figure No. 2 Recovery Options Inverted Pyramid
Source: Brito, Dekker (2003)

It is not necessary that the recovery alternatives at the higher end of this pyramid need be of a bigger merit or are much better ecologically friendly in comparison to the lower side alternatives. This will be determined by the total monetary worth extracted from the chosen reclamation possibility, which changes the situation and product wise. The presence of a suitable marketplace furthermore determines the final value.

Incineration / Waste Burning
Brito, Dekker (2003) Organizations can choose from any one of the recoveries stages.

- Manufactured goods
- Unit
- Component
- Particular part
- Material
- Energy

As indicated in Figure No.2 under certain conditions the items are burnt by the process called incineration before been sent to the landfills. The rationales for selecting the alternative of burning waste i.e., incineration could be financial, statutory, or societal.

The stages in the Inverted pyramid are the Hierarchy of Recovery. Reclamation by burning waste is at the energy level. Here energy is generated by burning waste objects which were not reclaimed adequately in the top side of pyramid from Manufactured goods stage level to Material stage. This recovery process is called as Incineration wherein energy is released which can be captured for appropriate use.

Definitions of Incineration
Business Dictionary[2] Incineration is destruction of waste inside a blast furnace employing directed burning at higher temperatures. This eliminates water from harmful slurry, decreasing its weight and volume converting it to ash. This residual ash could be carefully having disposal either in landfills/underground pits or in waters.

Literature Review
Ecoants (2016) There is always a dilemma for what to do with waste. All hate the massive quantity of waste going to landfills. This is unsustainable in the shorter and longer run resulting in land, water, and air pollution. Recycling has improved quantumly but not taking care of the total chunk of unwanted surplus materials. One alternative is to burn the waste at incineration plants by reducing it to ash and releasing heat energy used for heating systems or for generating electricity.

Yuan (2014) Mass burning or Incineration is the common waste disposal method worldwide afterward the landfill option. This is the most costly waste management alternative, specifically when it is having energy recovery using sophisticated technology for discharge control.

ECOCYCLE (2011) While burning waste is considered as an alternative to landfilling, the industry in US received a big kickstart during 2000 when President and Environmental Protection Agency categorized waste burning as a source of renewable energy making incineration plants eligible for tax benefits proposed for solar and wind industries. Incineration, known as mass burning, is the extremely widespread technology for getting energy from waste. This technology generates heat utilized for making steam by boiling water, which then drives a turbine generating electricity.

Zaffar (2008) Energy recovery as a Reverse Logistics alternative is an appealing technological option which is a matter of strong debate around the world. One method of Energy recovery is incineration which is regulated burning of waste with heat recovery. The pretreated waste is fed to boiler for burning and released heat used for producing steam employed for generating power by turbines.

The other two processes are Pyrolysis and Gasification which are called conversion technologies.

Pyrolysis process is used in petrochemical industry wherein natural waste is converted into burnable gasses and residual ashes.

Gasification usually runs at extreme temperatures as compared to pyrolysis in a controlled quantum of atmosphere.

Department for Environment Food Rural Affairs (2014) Energy derived from waste is using waste and converting it into a useful form of power. This is possible using several ways. Incineration/burning is the mainly recognized method. Diverting waste from landfills is the main objective of incineration.
The basic process:

Energy recovery from waste is complicated and exists in several patterns. These mainly have four phases.

i. Area to accept waste and prepare for combustion.
ii. Thermal process releasing usable power from waste.
iii. Converting to a transferable type of energy like other fuel, heat, or electricity.
iv. Discharge cleaning safeguarding that the waste gases are harmless.

Waste to Energy and Incineration are evolving. There are several components of Incineration project: the waste, which is the fuel, sources/volume of waste, availability, pretreatment, plant location, basic technology, scale of operations, by-products, social and environmental impacts, emission levels, regulations, health issues, operational issues, life of plant, Government support, Financing and Commercial viability.

Reasons for Incineration
Greentumble (2015) Use of landfills for waste disposal has aided community to resolve the challenge of where to discard it. Conversely, landfills are accompanied with several problems, like the necessity of using vast regions of land, leachate leakage from landfills contaminating groundwater. Landfills generate enormous amounts of methane, a potent greenhouse gas. To decrease the requirement for landfill spaces, various societies now have adopted burning their waste. However, this waste treatment practice is not a straightforward resolution having both advantages & disadvantages.

Advantages of Incineration
Green Tumble (2015). Two key benefits of burning process are that the volumes of waste are condensed by 80% to 95%, and land requirement for landfills is reduced substantially. This is particularly noteworthy for urban locations as there is a premium price for urban land.

Incineration facilities are generally placed nearby waste producing areas thereby reducing waste transportation costs. Incineration is used to generate heat & electricity which could be utilized for heating and electrifying neighboring houses, the leftover ash can be utilized by the construction sector. This also removes the problem of leachate which is an unwanted produce of landfills.

Partridge (2010 January) Pharmaceutical businesses are also contributing to the green Reverse Logistics movements. GENCO, a Pittsburgh based 3PLRL directs large volumes of pharmaceutical returns to incineration plants processing the waste to energy limiting negative environmental impact. This plant produces two million kilowatt hours of electricity per annum, enough to illuminate 220 homes for one year.

Ecoants (2016) The prime benefit of incineration is the noteworthy reduction in the quantum of waste entering the landfill. It can be up to 85 percent of input. Resulting in lesser air, water, and land pollution due to landfills, reduced landfills space requirements. The higher temperatures extinguish harmful chemicals and pathogens which is the powerful reason for been utilized for clinical waste. Incineration of household and industrial waste can be utilized for generating heat and / electrical energy. Current incineration technology is capable of filtering most of the harmful emissions given out during the process resulting in cleaner and safer emissions.

Pulakkat (2015) Incineration reduces pollution as compared to long term effects of landfills. It provides partly renewable energy. Terminates most of waste securely if sound technology is used. It is a satisfactory method of utilizing surplus waste which has challenges for disposal by other means.

Yuan (2014) compared to landfills the rewards of incineration are less carbon release, less land pollution, higher energy recapture. Remaining ash has a high potential for reuse. Savings in carriage costs are seen as incineration plants located nearer to the city compared to landfill locations. The long-term upkeep cost of incineration plants is lower than landfill maintenance. The energy recovery per ton of waste burnt is higher than landfill gas recovery. Incineration decreases the degradation of city land which is having higher development value. If the forthcoming environmental and economic reimbursements are considered, then the incinerator plant has more paybacks than disadvantages.

Concerns of Incineration

Green Tumble (2015). Incineration plants are expensive to install, operate and maintain, needing expert staff. The smoke and ash produced comprise of gases of acidic nature , nitrogen oxide, particulate matter, heavy metallic residues, and dioxins, which are cancer-causing agents in nature. Even though the effluence control technologies are developing it is seen certain quantum of residual toxins are still entering the environment.
Some opponents of this incineration argue that additional waste is created as plants require enormous quantum of waste for keeping their fires burning. Organizations may choose for burning waste over other recycling / waste decreasing initiatives. Recycling saves 3 to 5 times additional energy than energy from waste generation as the energy requirements for products manufactured using recycled ingredients is substantially lesser as compared to production using virgin materials.

In emerging nations, the waste burning process is not as effective as in developed economies, as a higher fraction of their burning waste is comprising of kitchen leftovers having more moistness (40 to 70%) than the waste from developed nations (20 to 40%).

Zaffar (2008). Incineration also has a certain set of difficulties and has been compelling arguments in environmental, social, and political circles. The three parameters discussed below.

1) Environment Concerns – the burning process creates two forms of residual ash. Ash from furnace bottom & fly ash coming from the exhausts which have more hazardous constituents. Ash from bottom is about 10% by capacity and 20 to 35% by input mass. Fly ash is only a few percent of the input weight. Destructive emissions may be present in the discharged ashes ,water, or gases. The higher calorific value comes from waste plastics and metals. The combustion of plastics results in rising toxic pollutants. These cannot be evaded completely but can be trapped in filters at excessive costs. Even after trapping these , the hazardous wastes need special landfills for further disposal. The leftover ash gets dispersed in the environment subsequently entering the food chain.
2) Human Health Issues -Burning produces various toxins harmful to human beings. The incineration plants, though costly, are not entirely removing poisonous emissions. The process emits harmful toxic metals, dioxins, and acidic gases. The leftover toxic ash requires special landfills which are additionally costly. Some of the pollutants have irreversible health consequences.

The health problems could be due to

- Workforces and neighboring society breathe polluted air.
- Drinking water and consuming locally produced food infected by water / air from incinerators.
- Consuming wildlife/fish affected by air/water pollutants.
  Some of these pollutants may lead to cancer, neurological impairment, disturb reproductive/respiratory systems, and numerous other health issues.

3) Financial Impacts-The incineration plants require high investments mostly for control systems aimed at reducing toxic emissions. Another concern is the availability of waste of adequate calorific value. Otherwise, supplementary fuels required for combustion thereby making the project uneconomical and

more polluting. Also, the volumes of waste required to make these plants economically feasible are remarkably high.

The leftover ash from incineration needs special landfill as this ash contains a lot of toxic ingredients. Particularly unsafe waste landfills are nearly ten times more expensive than a regular public landfill. Incineration distorts effective waste management indirectly promoting waste generation as they need volumes to be economical viable. This hinders waste prevention, reuse, recycling, and composting options.

Zaffar (2008) Due to lack of good controlling systems unsafe discharges may be released into the atmosphere, waterbodies & land having damaging effects on environment and health of human beings. Severe controls required to avert the adverse impacts.

Ecoants (2016) Incineration leads to permanent loss of vital and limited natural resources as they end up in smoke or ash. This results in increased mining to replace the already lost resources and extra energy consumption for processing these added resources. Increased mining leading to land pollution and degradation.

Incinerators destroy materials which could be recycled and hence discourage recycling and composting programs. Incineration plants require high investments and larger volumes to be financially viable. This fact encourages more incineration than recycling. Most residential areas do not prefer incineration plants to be located in their neighborhood for reasons of increased traffic, unpleasant odors, hostile effects on local lands and falling real estate prices.

Emissions from incineration plants worsen the quality of air and are harmful to the people staying in the neighborhood. The pollutants escaping into the environment lead to land, water, and air contamination. These could lead to cancer and other harmful effects on human health. The resulting ash from emissions and the furnace is having noteworthy amount of toxins which are harmful to people and environment. This needs further superior and expensive disposition.

Pulakkat (2015) Incineration leads to removal of hundreds of jobs through elimination of collecting and sorting waste for recycling processes. Issues of smell, pollution and low calorific value of waste going to incineration are major apprehensions in incineration. Higher lockup periods of capital and poor returns on investment are major challenges in incineration.

ECOCYCLE (2011) 25% of the processed waste by weight leaves the facility as ash which means that the incinerator does not eradicate the need for a landfill. Again, this poisonous ash requires further expensive disposition. To make the plants financially feasible they must run at higher capacities making them compete with recycling markets for getting valued paper and plastic materials.

Waste to energy cannot co-exist with zero waste as it takes waste as its input for producing energy. It is not climate friendly and cannot be labelled as renewable energy. Energy from Waste is rather a Waste of Energy. It cannot generate substantial electricity. Incineration facilities create far fewer jobs than reuse, recycling, and composting facilities.

Objectives of the Study

1. To understand Reverse logistics and its drivers.
2. To study Energy as a Recovery and Disposition Opportunity in Reverse Logistics.
3. To understand the benefits and challenges of incineration.

Research Methodology

The findings in this research paper are the conclusions of a study done by the researcher. A study of the secondary data in the domain of recovery management in Reverse Logistics was done. Different research papers and articles related to Reverse logistics and Recovery of Energy were referred. Websites of applicable resources were explored for getting insights into the different waste burning / incineration practices developed and followed. Appropriate keywords were used to get relevant information from search engines. The outcome of the review of these waste burning / incineration practices and their benefits and challenges are given in further sections.

Secondary Data Analysis
After the review of literature, the analysis of secondary data was done and given in this section. The objectives of this paper functioned as the guiding stars during the exploration of secondary data. This section gives the outcomes of the analysis of secondary data.

Reverse Logistics described as opposite movement of the product or materials for the objectives of generating or recapturing value or for appropriate disposition.

Reverse logistics is complex involving several activities with distinct reasons for the reverse movements. Reverse Logistics is serving the objective of recapturing value and its scope is up to final disposition of the product. This is done for reasons of improving profitability along with responsibility towards community and environment. Reverse Logistics driving forces are financial, statutory or community driven. Different definitions of Reverse Logistics been given by authors and researchers covering the several activities undertaken for distinct reasons. Reverse Logistics is having movement from the consumer side heading towards the supplier's direction. All businesses do have some or the other returns of varying quantum resulting either due to forceful legislation or voluntary commitments towards community. One way of classification of returns is as per their point of origin in the reverse supply network. They are either from production, distribution from any of the intermediaries or from end customers. If the quality of the goods is appropriate, then those can be reused or resold or distributed to other probable users. Reclaiming of value can be done by resorting to the appropriate recovery options.

Reverse logistics have three drivers.

Economics (Direct & Indirect) these are benefits the organizations get on account of decrease in material consumption, added recovered value and reduced disposal costs.

Legislative – these are due to the several regulations of the government relating to production, utilization, retrieval, and disposition including acts about packing materials and their dumping.

Corporate Citizenship -these cover the environmental accountability including morals and beliefs been agreed by the firm to be an answerable group. It demonstrates their obligations towards community and the ecosystem. Their empathy of undertaking good for humanity and nature without any lawful compulsion.

Under certain conditions the items are burnt by the process called incineration before been sent to the landfills. The rationales for selecting the alternative of burning waste i.e., incineration could be financial, statutory, or societal.

Recovery can be at product/module/component/selective part / material/energy levels. The alternatives available can be represented by an inverted pyramid. It makes business sense by giving priority for using upper-level alternatives in the inverted pyramid. Recycling is mostly preferred for getting value reclamation at the material level. Still, this does not take care of all unwanted surplus waste. Hence burning waste is also a viable option for waste disposition along with the recovery of energy. In the absence of any alternative of recapturing value then the goods are sent for disposition by burning or dumping in landfills. Landfill is at the bottom of recovery pyramid. Landfills have several limitations and challenges for the environment. They are unsustainable in shorter and longer runs resulting in land / water / air pollution.

Incineration reduces pollution as compared to long term effects of landfills. It provides partly renewable energy. Terminates most of waste securely if sound technology is used. It is a satisfactory method of utilizing surplus waste which has challenges for disposal by other means.

After landfills incineration is the most common wast

e disposal method employed by businesses. Incineration/burning of waste with or without recovery of energy done in case recovery at product to material levels not feasible. The primary driver for incineration is to divert waste from landfills. Incineration covers waste receipts, treatment, energy recovery and disposal of ash and other emissions. The US classified burning waste as a renewable energy source giving benefits to incineration plants.

Incineration has many benefits to businesses. This results in substantial reduction of mass and volume of waste thereby saving valuable land space. It reduces waste transportation costs. It is the best option for clinical and pharma waste. The residual ash may be used for construction purposes cutting down some construction costs. Land/water/air pollution due to landfills avoided. Energy generated by burning waste is used for heating or generating electricity. Also, the energy recovery per ton is greater than that of landfill. Incineration reduces landfill costs. It reduces degradation of valuable city lands. The issues of leachate created due to landfills are taken care of.

This process is good for harmful chemicals and pathogens as these are destroyed by elevated temperatures making them harmless. The long-term upkeep costs of incineration are lower than landfill costs.

As compared to landfills the rewards of incineration are less carbon release, less land pollution, higher energy recapture. Remaining ash has a high potential for reuse. Savings in carriage costs are seen as incineration plants located nearer to the city compared to landfill locations. The long-term upkeep cost of incineration plants is lower than landfill maintenance. The energy recovery per ton of waste burnt is higher than landfill gas recovery. Incineration decreases the degradation of city land which is having higher development value. If the forthcoming environmental and economic reimbursements are considered, then the incinerator plant has more paybacks than disadvantages.

Incineration has certain challenges which cannot be overlooked. The incineration process has certain disadvantages. The initial construction costs of the incineration facilities are high. They are normally located near the waste generation areas of urban neighborhoods. The land costs are quite high, leading to higher costs. The operational and upkeep expenses are higher as they need sophisticated equipment for taking care of the harmful discharges. The basic fuel which is the waste needs to be of proper quality having required calorific values. The facilities need expert staff for regular operations and maintenance. Once decided to go for burning of waste the process discourages recycling which is more energy saving. It leads to encouraging more waste generation for viable running of plants. The plants need a huge quantum of waste for continuous feeding of the plant. The plants, even though create few employment opportunities but reduce overall employment which could be generated for recycling. More people required for the recycling option in Reverse Logistics.

Burning of waste leads to permanent loss of materials and increased mining activity. The waste is burnt with the scare metals been permanently destroyed and ending up in ashes. To get new input metals mining is undertaken with its own unsustainable consequences. The emissions from incineration facilities have certain adverse health and environmental impacts. There is a problem of smell and traffic in the plant vicinity. The leftover ash also needs landfill/water bodies for further disposition. This ash is also unsafe for direct use or disposition and requires special costly measures. There is a concern of contamination of water and air affecting fish and wildlife due to the discharges from incineration plants.

Few other learnings gathered during the review of secondary data. The energy recovery option is strongly debated across the world. The incineration project has strategic and tactical dimensions like selecting appropriate location, deciding the technology to be employed for burning, the scale of operations to be adopted , the requirement of fuel of suitable quality, the energy generation and distribution processes. The emission regulations for the solid and gaseous discharges from the plants. Pyrolysis and Gasification technologies are also used for energy recovery. Both landfills and incineration are having adverse impacts on society and the environment. These need to be understood properly before deciding amongst the available alternatives. Proper alternatives for landfill and incineration needed in the long run. Reuse /repairs/recycle are better alternatives to incineration and landfills.

Conclusions

The area of Reverse logistics is growing in scope and also the number of recovery options available for recovery of materials and energy. The issue of recovery of energy from waste is a complex one needing a sound analysis. Organizations are adopting the path of energy recovery either for economic or environmental reasons. Incineration is one such method resulting in energy recovery.

There are no easy answers to dealing with the huge amount of waste generated from domestic households and commercial businesses. Is energy from waste the right answer? We must adopt the best option in the interest of environment, people, and economy. Even the incineration process has its own environmental burden.

The advantages of incineration are reduced landfill costs, as the weight and volumes of waste are considerably reduced. It releases energy as heat or electricity for further use. Destroys waste effectively as compared to landfills. Reduced transportation costs, less long-term maintenance costs as compared to landfill maintenance. Energy recovery per ton higher than landfill gas recovery. Reduction in degradation of land, reduced emissions than landfills with lesser air and water pollution. Use of residual ash for construction activity. It is the best option for clinical waste as it destroys harmful chemicals and pathogens.

Here are some concerns in adopting incineration as a recovery option. The incineration plants are costly to construct, run and maintain, requiring skilled staff. Emissions are harmful to human beings and nature. It encourages more waste as plants need high volumes for viable running. It discourages recycling which is actually more energy saving. Leads to permanent loss of scarce resources which are burnt up, ending in ash and smoke. Results in additional mining and energy consumption for mining new materials. The problem of smell and traffic in plant vicinity leading to dropping real estate prices. Reduced employment potential as compared to recycling. Process needs more costly equipment to be environmental compliance for emission norms. The process giving harmful gases and toxic ashes which are having separate disposal challenges. Availability of waste of adequate calorific value hampers efficiency of the plant.

The incineration option in Reverse Logistics should be decided after all the other material recovery options from Product recovery till material recovery are not feasible. Once Incineration has been decided we need to find the appropriate technology for doing this process. There are Economical and Environmental benefits of Incineration as compared to landfills. Also, the public image of the organization is enhanced by following a cleaner recovery process.

The ideal waste management solution is to prevent its creation. Otherwise, it is important to push the recovery option to the higher end of Recovery Hierarchy i.e., towards recycling, reuse, and prevention. This hierarchy of Prevention, Reuse, Recycle, Energy Recovery and disposal is flexible and needs to be planned for the long term. While evaluation weightage to be given to long term environmental and social impact.

Government to support for Incineration projects and give other tax benefits to make it more viable with minimum adverse environmental impact. Reduction/reuse/ recycling to be encouraged so that there is no need for incineration and landfill as both these options have their own sets of environmental issues, human health concerns and adverse financial impacts. Recycling rates need to increase to prevent unnecessary waste of natural resources in incineration and landfills. Incineration can never be fully acceptable to society and business due to reasons of costs, health, and environmental factors. It could be a short-term solution but not a long-term answer to the problem of recovery of materials and energy.

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A STUDY OF IMPLEMENTATION OF GREEN MANAGEMENT PRACTICES BY INDIAN IT INDUSTRIES USING MACHINE LEARNING ALGORITHMS

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ABSTRACT
Green Management is the buzzword of the time. Mother Earth is the most precious resource and so it is everybody's responsibility to protect it. Green Management initiatives are the outcomes of growing concern about climate change and carbon emission. The IT industry is a service industry that has its own share of causing environmental degradation. The study of sustainability reports of top ranked Indian IT companies considered as the secondary sources of data for this study reveals that Green IT practices are being followed by IT indigenous IT companies. To cross verify the claim, this research paper focuses on gathering and analyzing data from IT professionals to understand the extent of implementation of green management practices by Indian IT companies. The IT companies selected for this study are Tata Consultancy Services, Infosys, Wipro, HCL Technologies Persistent systems and KPIT.
Keywords: Green Management, Green IT, Green Initiatives, Sustainable Practices.

Introduction

The natural environment encompasses several aspects like water quality, air pollution, endangered wildlife, etc. Civilization, industrialization, and growing interference of humans have created many environmental issues. As rightly quoted by Melville, "Environmental issues concern environmentalists, scientists, and national-international regulators. They have also become the center focus of the business world.", Melville (2010) This has given rise to the idea of green business. The idea of green business practices is not new. Its traces are discovered in Ancient Hindu scriptures and economics. *The Atharva Veda* quotes "What of thee I dig out, let that quickly grow over", notes Mehta (1999). It entered into mainstream business literature in the 1990s, as stated by Hueting (1990), Humphrey (2000), Linton (2007). At the end of the 20th century, in the wake of the ever-increasing public concern about the sustainability of economic development, the notion of green business emerged, quotes Rai (2018)

Information technology (IT) though a service industry has its large share in Carbon Di oxide emission. For running computers and servers for an entire day a large amount of electricity is required, which increases CO_2 emission. Micro components needed inside a computer system also release many harmful chemicals while in making. All this leads to increased environmental pollution. Green IT is conducting industrial activities related to the IT industry in a manner that does not harm or damage the environment.

Literature review

Environmental Legislation

Environmental legislation envelops laws and regulations that deal with controlling water pollution and air pollution, and protecting endangered wildlife, and numerous other environmental aspects. Environmental legislation works to normalize human-nature interactions and improve health and wellbeing of all the living species of the Earth. Environmental legislation has a broader scope because the natural environment encompasses quite a lot of facets. So, effective environmental legislation must include everything: the air, the natural resources like water and fossil fuels, and of course the flora and fauna that share this world with us. Environmental Laws guard the use of natural resources and protect the environment. To curb the destructive practices of unscrupulous people, forest mafia groups, poachers, polluters, and over exploitation of environmental resources, effective legislation is necessary.

Following literature discusses environmental legislation and its importance.

Conservation of the environment for sustainable development has become an agenda of national and international importance. Governments have been spending billions of dollars on conservation programs for pollution control and preservation of natural resources, mentions Lee (2005). This is the main reason for environmental legislation to come into force. People and organizations depend on devices like Public Interest

Litigation (PIL) to register their discontent about environmental issues, and this approach has its supporters and additional critics, states Upadhyay (2005).

Governments of many developed and developing nations have implemented environmental laws for environment protection and offer financial assistance on green/ environment-friendly products, writes Yadav (2013). The apex body, the United Nations (UN) along with its various parts and components is striving hard to make the world a better place to live in. This does not only mean economic or monetary development but all-round development of people living in all parts of the world. While achieving this, present generations must keep in mind the well of their future generations. This can be achieved only through sustainable development.

Organs of the United Nations such as UNESCO and UNICEF have introduced a mixture of measures, reforms on all the levels possible to develop and improve regions of the world. Especially those areas where development is not at the expected pace and as a result, the residents are lagging the others. Such areas need some special laws and regulations to help them match pace with the rest of the world. Initiatives in this direction have been introduced by these specialized UN agencies, with special focus on sustainable development. As a response to the changing global needs as well as needs of all countries eventually at various levels of development, the UN has been organizing the Earth Summit or decennial meetings of the world leaders since 1972. The aim was to bring forward the best individuals and organizations from all categories of life and to identify what humanity's most pressing challenges are and to develop a plan of action to solve them. The 2000-2015 Millennium Development Goals and 2015-2030 Global goals are a result of this Earth Summit. One of the millennium development goals is Environmental Sustainability (UN Documentation, 2000).

The main targets to be achieved are one. Integrate the principles of sustainable development into country policies and programs, and two. Reduce Biodiversity loss. One of the turning points for the global view on Environment Protection was the Rio de Janeiro Earth summit of 1992. The Earth summit of 1992 which took place in Brazil was a notable changing point which changed the viewpoint of the international agencies to address the global level Environment problems. The main aim of this summit was the sustainable development of all the resources so that they will not get depleted, and the future generations should be able to use and enjoy them as well. Its notable feature was the adoption of "Agenda 21." "Agenda 21 is a comprehensive plan of action to be taken globally, nationally, and locally by organizations of the UN System, Government, and Major Groups in every area in which human impacts the environment." (Agenda 21). The main objective of Agenda 21 is sustainable growth and development of the world. Other measures include reducing inequality, improving Human development Index (HDI), population control, etc. A World Summit on Sustainable Development (WSSD) was held at Johannesburg, South Africa in 2002. Complete implementation of Agenda 21 and the commitments to Rio principles, were strongly affirmed at the summit. The 2002 Johannesburg World Summit on Sustainable Development was convened to develop sustainable organizations, 10 years after the first Earth summit at Rio de Janerio. The Johannesburg Declaration was the main outcome of the summit, and several other international agreements were also started after this summit.

Environmental Legislation in India

UNESCO defines sustainable development as, "Sustainable Development is development that meets the needs of present, without compromising the ability of future generations to meet their own needs", The aforementioned commission also adopted 17 Sustainable Development Goals (SDG), covering all the aspects of human life on Earth, which includes as basic human rights as the right to clean and safe drinking water, and right to a healthy and disease-free atmosphere which is every human's fundamental right, to more advanced and privileged rights as quality education, good infrastructure and industries with developed and modern amenities, etc. (UNDP, 2023).

Article 21of Indian Constitution, grants the citizens of India the right to live and breathe in a safe pollution-free environment. Part IV of Indian constitution contains directive principles that state it as the duty of the state to protect the environment {Article 48-A and Article 51-A (g)} quotes Pal (2018). After independence the law-making authorities, through constant efforts, have produced new developmental ideas which would lead to a steady development at the same time which would not have its toll on the environment and natural resources. 5-year plans were introduced by the Indian government to focus on preventing the degrading quality of the environment. The second Five-year plan (1956- 1961) focused on the environment and natural resources. Today, India is in a progressive state of development. Everywhere new industries are coming up. The goods are being manufactured and transported to places within and outside India. This highlights a growing need for controlling and limiting the amount of damage caused to the environment. The Indian government has passed and amended Environmental legislation repeatedly to meet the requirements of changing times.

The Environment (Protection) Act, 1986 passed by the Indian parliament is one of the notable acts for protection and maintenance of the environment. It empowers the Union government to enact laws to give effect to international agreements signed by countries. This act was passed to implement the decisions taken by the United Nations Conference on Human Environment. It covers all the industrial and infrastructure activities hazardous to the Environment.

Article 48A of the Indian Constitution states that the state shall endeavor to protect and improve the environment. It says that it is the primary and most important duty of the state to protect and prevent the damage of the natural environment within its geographical boundary and the government along with the citizens of the state shall make a combined effort for sustainable growth and development of their area. Article 48A specifies: The states shall endeavor to guard, improve the environment, and protect the country's forests and wild animals. With the aim of living in a healthy environment, The Ministry of Environment was established in 1980.It became the Ministry of Environment and Forests in 1985, later. India being a developing country is the third largest producer of GreenHouse Gases. It is hence facing tremendous pressure from the international community to reduce emissions to less than 5.2%, observes Singh (2018). Designing and implementing Green Management Practices thus becomes utmost important for Indian Industries. The Indian Constitution's 42nd Amendment clause (g) of Article 51A states that it is the fundamental duty of every Indian to protect and improve the natural environment. Every Indian citizen shall protect and take efforts to improve the natural environment, including lakes, forests, wildlife, and rivers, and be concerned about the living things.

Green Business

"Green Business is any business that has minimal negative impact on the environment." write Rai (2018) Speedy exhaustion of natural resources and worsening of environmental quality grew concerns over sustainability of economic development. Green business practices are still far away from being universally embraced and applied by business entities, because of perceptible differences of business penetration by the green ideas in many countries. Several reasons affect this. One of them is the fact that the greening of business is still largely perceived as an extra burden (in terms of cost increase or revenue loss), Mention Rai (2018).

Definitions of Green Business

"A business that has adopted the concept of environmentalism across the various functions of the business is a green business.", Zsolnai (2002) "A green business activity is any activity that is performed in a manner that has either limited negative ecological impact or directly benefits the natural environment in some way.", Gilbert (2007). "A green business requires a balanced commitment to profitability, sustainability and humanity Makeover,", Pyke (2009)

"Green Businesses have more sustainable business practices than competitors, benefiting natural systems and helping people live well today and tomorrow while making money and contributing to the economy", Croston (2009). "An establishment that produces green output", Brown, Ratledge (2011). "A "green business" can be defined as an organization that uses renewable resources (environmentally sustainable) and holds itself accountable for the human resource aspect of their activities (socially responsible)", Slovik (2013).
"Green business will also engage in forward-thinking policies for environmental concerns and policies affecting human rights" (Business Dictionary, n.d) The green business definition describes "a company that does not make any negative impact on the environment, the economy, or community." The researchers here propose the definition of green business as,

"A Green Business is a business activity that envisions sustainable development and girt up to use renewable resources and reduce its carbon footprint."
Source Defined by the Researchers

Characteristics of Green Business

The main characteristic of green business practices is.

They utilize the assets to solve current problems without damaging the environment.

They address the issues of the existing without trading off the capacity of future eras to address issues prevalent at their time. (Daly1994)

Another characteristic of green business is it comes under the canopy of sustainable development and gives refuge to a wide variety of corporate, environmental, and social apprehensions aimed at curtailing arms rather than eliminating them altogether (Vachon2008)

Sustainable development commission of the UK gives the definition of sustainable development as follows, “Sustainable development is the development that meets the needs of the present, without compromising the ability of the future generations to meet their needs” (What is sustainable development, 2010)

Need for Green business
The environmental concern is not restricted to developed countries like the USA but developing countries like India are also showing a growing concern about “Going Green.” This is mainly because consumers now-a-days are aware of and concerned about environment related issues and are willing to purchase eco-friendly or green products. (Yadav ,2013) Global warming, shifting seasons, uncertain climatic conditions are all effects of environmental changes. This is affecting human life as well as their co-residents of mother Earth. Endangered wildlife, earthquakes, draughts, floods, desertification are all impacts of ecological imbalance. If timely measures are not taken, future generations will have to pay heavily. Consumers are ready to purchase green products even if they are higher in cost as compared to their non-green counterparts.

Green Business Practices

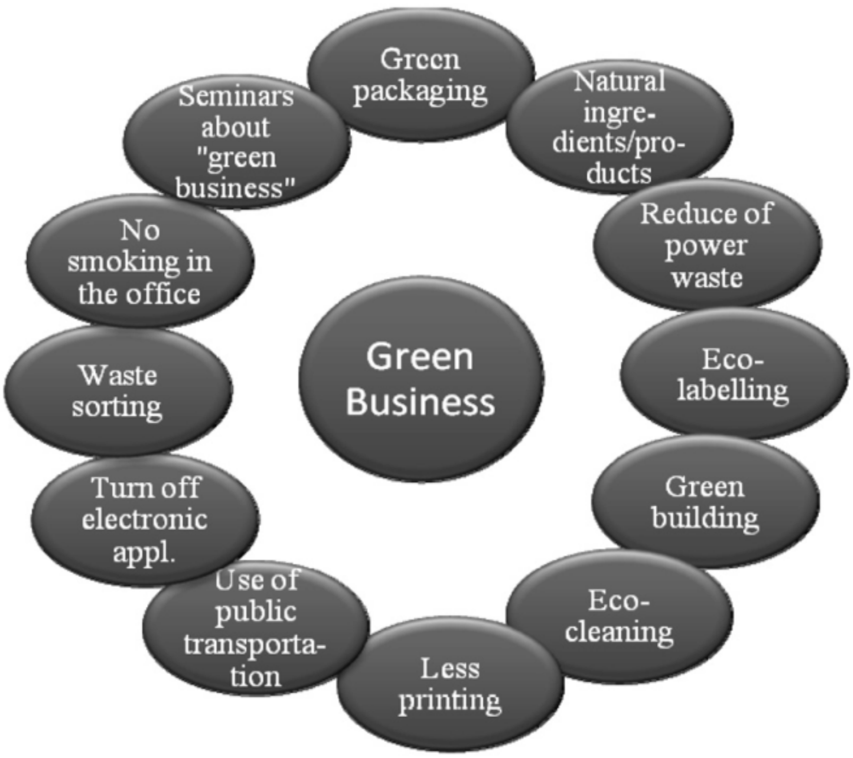

Fig 1 Green Business: Challenges and Practices
Source: Čekanavičius, L., Bazytė, R., & Dičmonaitė, A. (2014). Green business: challenges and practices. Ekonomika. researchgate.net

Businesses Can Adopt The Following Practices To Consider Themselves As A Green Business
1. Use eco-friendly material for packaging.
2. Encouraging employees to use bicycles or public transport to the office once or twice a week, states Jayarani (2019)
3. Managing waste by recycling or reusing methods. Segregating waste into biodegradable and non-biodegradable products and disposing accordingly.
4. Using solar lights and having company wide electricity management policy
5. Going paperless while doing day to day activities
6. Planting as many trees as possible and encouraging CSR activities.
7. Using Green Supply Chain Management Practices, suggests Ramarajan (2018)

Green IT
With the fourth Industrial revolution IT has become a crucial part of our lives today. It has exploded in several areas ranging from wearable smart devices to smart homes to smart cities and has improved our lives and work.

While we take the help of IT & AI to make our lives better, we are little aware that IT has been contributing to environmental problems, notes Murugesan (2008)

According to Murugesan (2008), Computers and IT infrastructure require substantial amounts of electricity, which places a heavy burden on electric grids and increases the emission of GreenHouse Gases. Additionally, the hardware parts cause problems during their disposal. E waste disposal is also a growing concern. Following is the list of Environmental Problems created by the IT industry.

1. Hazardous waste is generated while manufacturing computers and their electric and non-electric components.
2. Computer systems including servers and monitors along with data communication equipment and cooling systems consume electricity to a substantial extent.
3. Toxic materials used in computer components cause land and water pollution.
4. Computers and IT systems generate a lot of heat which increases CO2 emission and causes global warming.
5. Computers and other electronic devices use a large amount of electricity generated using fossil fuel.

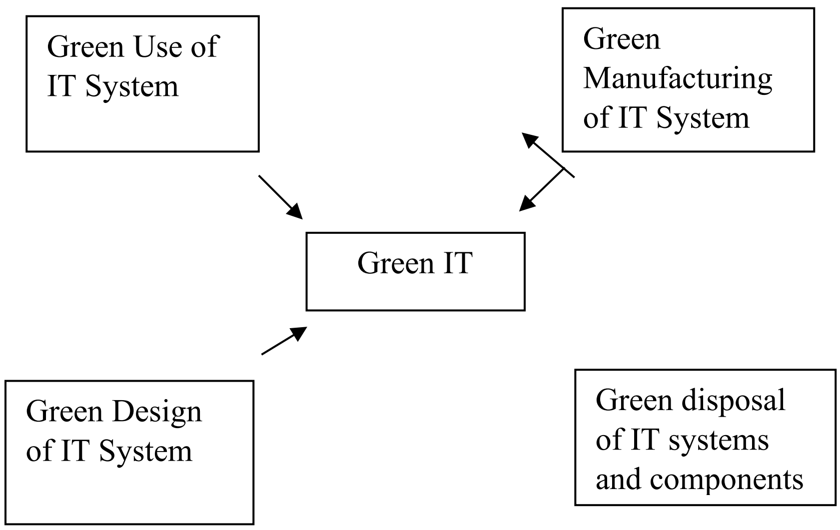

Fig 2:Holistic IT Explained by Murugesan Murugesan, S. (2008). Harnesing Green IT: Principles and Practixces. IT Professional. researchgate.net

- Green Manufacturing is manufacturing IT hardware like computers and other components in a way that causes zero negative impression on the environment.
- Green Design designs computer hardware in an ecofriendly and energy efficient manner.
- Green use refers to the reduction in energy consumption while using servers and computers and using them in eco-friendly ways like virtualization etc.
- Green disposal means responsible disposal of IT hardware and other electronic components.

The Impact of Green Initiatives on Indian IT Industry

Considering these issues IT companies in India have started adapting Green Business practices commonly known as green IT.

The following table shows Green IT Practices followed by Indian IT Organizations

Organization	Green IT Practices
Tata Consultancy Services	TCS uses renewable sources of energy at selected offices. The company also uses star rated energy saving appliances. Preference is given to suppliers who conduct their business in an eco-friendly way. They also strive hard to create awareness among employees & business associates about the environmental issues. The company follows the policy of Reduce, Recycle and Reuse.
Infosys	Every office of the company is certified with EMS (Environmental Management System) certification. They use energy saving appliances which has helped the company reduce its energy consumption by fifty % as compared to last year. The company is now focusing on building energy saving infrastructure.
Wipro	Wipro uses a range of eco-friendly desktops. It has opened various e-waste disposal centers, where the e-waste is collected. Their sustainability report is generated strictly based on GRI framework. They use automated power management systems to achieve power savings.
HCL Technologies	The company ensures disposal of e-waste in an eco-friendly way. The policy of recycling and re-use is followed at the company. The organization has been able to reduce its power consumption in their company owned premises.

Table 1: Ways to Go green.
Source: (Yadav, 2015) researchgate.net

Organization	Green IT Practices
Persistent Systems	The company is resolved to reduce GHG emission by 2030. They are using 100% renewable energy. By 2028 they plan to reduce 80% emission by using green supply chain and reducing business travels. They also have reduced freshwater consumption and focused on wastewater recycling. They are practicing rainwater harvesting in water affected areas.
KPIT Technologies Ltd.	The company focuses on sustainable development by way of reducing air, water, and dust pollution.

Table 2: Ways to go Green
Source: Prepared by the Researcher

Employees' Satisfaction Level about The Implementation of Green Management Practices in Indian IT Sector
The research question attempts to answer the extent to which the IT industry in Pune City has espoused Green IT practices. This paper accepts a qualitative research method to know the level of application of green practices in the IT industry. The research approves a constructivist view (Merriam, 2002), that there can be manifold explanations of green business practices within the IT industry, and the degree to which these practices are followed will appear through the communications with personalities and companies within this industry.

Research Methodology
Objectives of the study:

a. To study the Environmental Legislation in India
b. To study the impact of green initiatives on the functioning of the Indian IT Industry.
c. To find out employees' satisfaction level about the implementation of Green Management Practices in the Indian IT sector

The sampling technique used is Random Sampling.
Sample Size: Top Management professionals 6 & People employed in Indian IT companies 500
For this survey, the researcher surveyed five hundred respondents employed at Indian IT companies like TCS, Wipro, Infosys, HCL Technologies, Persistent systems and KPIT technologies ltd., located in and around Pune city. The publicly available reports of the selected companies were able to provide amusing understanding and detailed knowledge about going green, practicing green business practices, and meeting ISO standards, thereby enabling the researcher to gather first-hand information to comprehend the singularities of Green IT practices.

Data Collection
Secondary data: Through Company reports and websites
Primary Data: Through Interviews and Questionnaires

The survey was conducted in two stages. First, the top management officials of IT companies were contacted and interviewed to understand the green IT practices being followed. The average duration of interviews was 20 minutes. Based on these interviews a survey questionnaire was prepared and circulated among the IT professionals and their responses were recorded.

Data collected through personal interviews and survey questionnaires was analyzed using discourse analysis methodology. The analysis was conducted to identify patterns. No new patterns emerged, so the researcher observed similarities between most and least used green IT practices.

Data Analysis and Interpretation
As mentioned above, the research question attempts to understand the extent to which the Indian IT industry has adapted green IT practices. The researcher tried to get it answered through the questionnaire.
The survey confirms the following things.

- The Indian IT industry has adapted green IT practices standardized by the International IT industry to a significant extent.
- Some are being followed cent percent while others by little less than 70%.
- The practices that are followed are Repurposing, Recycling, Green SCM, Health related, reducing carbon footprint, avoiding water wastage, Air, Water and Dust pollution, E waste management, going paperless, Using E vehicles, Solar lighting, and Conserving energy.

Fig 3 shows the graphical representation of green IT practices adopted by the Indian IT industry.

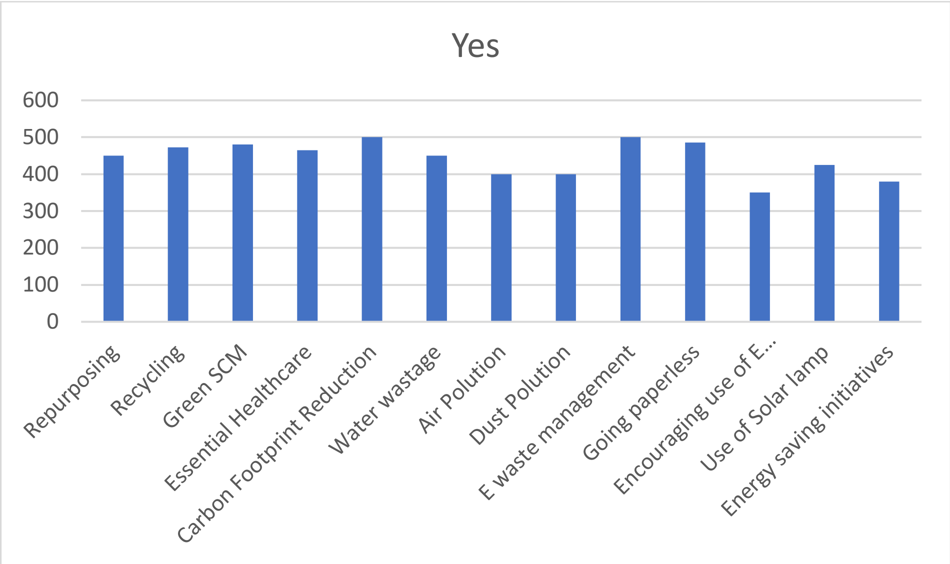

Fig. 3: IT industry and sustainability efforts

From the graph it is confirmed that the Indian IT Industry is conscious of sustainable development and taking efforts for offering healthy living to the co-residents of mother earth and their future generations.

From the graph it is also clear that Indian IT companies are following green IT practices like reducing Carbon Footprint and E waste management. But at the same time the Indian IT companies are not focusing enough on encouraging their employees to use Electric vehicles.

The interviews with the top management professional indicated that the IT industry of India understands the impact the going green initiative has on their business. They know that the customer is becoming aware of the environmental issues caused by the IT industry and is looking for green alternatives. Hence most of them are making going green their mission and are implementing strategies for its achievement.

Top management also understands that if they want to attract more foreign clients, it is mandatory to go green. If they do not adapt to those, it will have a direct impact on their trade profit.

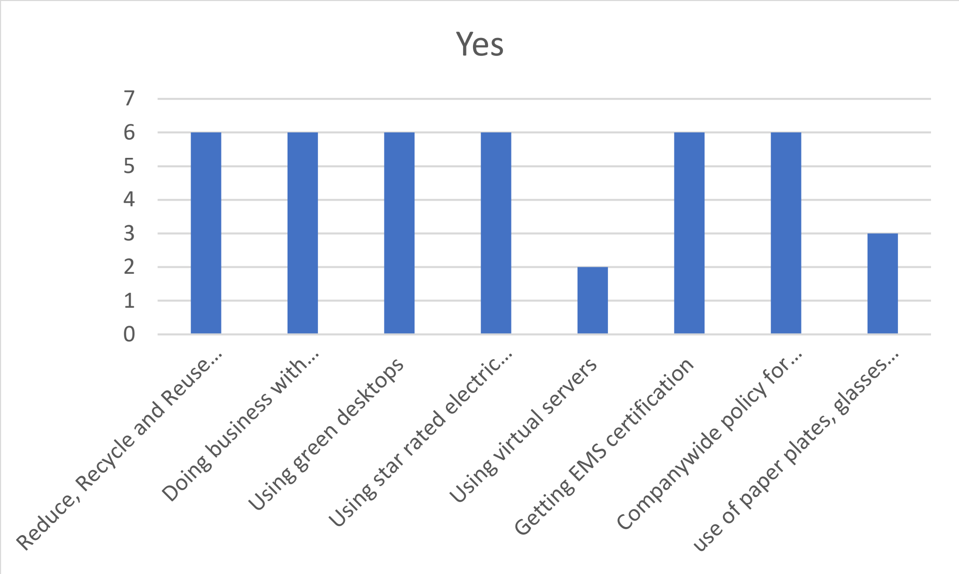

Fig 4: Top management responses

Figure 4 is the Graphical representation of responses recorded after interviewing the top management professionals of Indian IT companies.

From the graph it is clear that policies like reduce-recycle-reuse, buying from eco-friendly businesses, using green desktops, using star rated electric gadgets like a/ds, getting EMS certification and designing a company wide policy for electricity management are being incorporated in the long-term goals of all (100%) Indian IT companies. While 50% have banned use of paper products on campus, little more than 30% are using virtual servers.

Findings

- Sustainable development is the talk of the hour.
- Governments of all the countries agree that today's development shall not hamper the future of coming generations.
- Every developed and developing country has Environmental Legislation in place. Every business started in any corner of the world has to follow the green business practices.
- The Indian IT Industry is making conscious efforts to do business in an environmentally friendly way. It is reflected in their policies.
- The employees of the Indian IT Industry also affirm the efforts taken by them for sustainable development.
- The target of cent percent sustainable development is yet to be achieved.

Suggestions

The researcher suggests that the policymakers of the Indian IT industry must formulate policies that are comprehensive enough to carry businesses in greener ways. There should be a universal code of conduct designed for the entire IT industry over the world taking into consideration the fourth industrial revolution and the changes it is going to make to our day-to-day living.

The Limitations of the Study

The research had time and financial limitations. Collecting data (getting the questionnaires filled in by the IT professionals) was a tedious job as they had to be followed up repetitively. Also, it was difficult to get appointments from the top management officials due to their busy schedule.

Conclusion

Doing business without harming the environment is the new corporate social responsibility of every business and Indian IT industry is no exception to it. With the help of environmental legislation passed by the Indian Government, the IT industry is achieving its objective of sustainable development. The Indian IT industry understands that while exploring new horizons they must be ethically responsible. ISO certifications like 14001 are helping the Indian IT industry to maintain equivalence with international standards. Thence, adoption of Green Business Practices by the Indian IT industry will help them in getting more business from international customers and enhance reputation and goodwill.

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A STUDY OF THE INFLUENCE OF PROJECT MANAGER'S LEADERSHIP STYLES ON EFFECTIVE PROJECT MANAGEMENT IN THE IT INDUSTRY: A BLACK AND MOUTON MANAGERIAL GRID PERSPECTIVE

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ABSTRACT
Using the Black and Mouton Managerial Grid viewpoint, this study investigates the impact of project managers' leadership styles on efficient project management in the IT sector. The project managers and team members in the IT business were the subjects of in-depth interviews and other forms of observation as part of the study's qualitative research technique. The study specifically defines four leadership philosophies, namely, team management, country club management, middle-of-the-road management, and impoverished management, and how these philosophies affect efficient project management. According to the research, project managers that use a team management approach are more likely to provide successful project management results. This leadership style, which is linked to high levels of performance and satisfaction, emphasizes a great concern for the people and the work. Project managers need to comprehend their leadership styles and how they affect the efficiency of project management, according to the study's findings. Project managers can utilize the Black and Mouton Managerial Grid perspective as a valuable framework to assess their leadership styles and make the required changes to improve project management performance.
Keywords: Team Management, Country Club Management, Middle-Of-The-Road Management, Impoverished Management

Introduction

IT organisations are in dire need of cutting-edge concepts and tools to improve project performance in the modern business era. Because of the tight competition and constantly shifting economic climate, it is crucial for IT firms to confirm the client's expectations and respond in the most effective and professional way possible. The IT industry faces a serious difficulty in managing its clients, and to do this, they need effective coordination and employee support. Any project that the organisation undertakes must be managed well to be successful. It requires careful organisation, planning, and resource management. Projects and organisations can reach exact goals and objectives within a set period with the aid of effective project management. Organisations can benefit from well-managed projects since they can be finished with the necessary time, money, and personnel. Proper project management can help decrease risk, boost productivity, and improve quality while satisfying stakeholders. (Kissi, 2009 , Koch , Bendixen, 2005). Project management is an essential component of every organisation and calls for strong leadership and strategic plans. To successfully plan, organise, lead, regulate, communicate, and finish a project, a project manager is essential.

Project managers' responsibilities were constrained in the early days, and technical aptitude was a crucial consideration when hiring. However, project management ideas and practises have changed over time, focusing on behavioural factors with a strong emphasis on the managerial and leadership abilities of the project supervisor or manager.

Today it is expected that the project manager's role has evolved, and the major focus is on the behavioural aspects with technical skills with significant business skills. Kerzner (2000) in his book, Project Management: A Systems Approach to Planning, Scheduling, and Controlling emphasises project planning, scheduling, resource management, risk management, and project control. He validates the key role of technical aspects. Conversely, according to Medley,Larochelle (1995) with the technical aspects they consider the impact of organizational culture, team dynamics, and stakeholder management on project success. The School of Business and Economics at Cambridge University performed study on the value of leadership, strategic thinking, and communication in project management. They determined three key elements needed for the projects' successful execution. They contend that the organisational context, the surrounding environment, and the technical underpinnings are what make initiatives successful. The significance of both task-related actions and the leader's connections with their followers is shown by the various definitions of leadership. It implies that effective leadership involves both the capacity to direct and guide duties as well as the capacity to cultivate wholesome connections with subordinates to inspire them to achieve their objectives. It is the process of influencing and guiding people's conduct towards the accomplishment of a shared objective or vision. A leader is someone who has the capacity to direct, motivate, and inspire others to realise their full potential and contribute to a common goal. Setting goals, effectively communicating with others, making decisions, cultivating relationships, inspiring and motivating others, and adapting to changing circumstances are all part of good leadership. Yukl (2013). Different leadership styles may be effective depending on the specific situation and the needs of the followers or group being led. Northouse, (2019). However, there is a widespread belief that project managers' primary duties are to perform managerial tasks rather than to demonstrate leadership abilities. In times of crisis, the project manager's capacity to exercise leadership and bring out the best in the team working on the project is put to the test. As projects get increasingly complicated in nature, the need for leadership within the profession becomes more urgent. This study report made an effort to determine the impact of leadership style on the efficiency of project management. The Robert Blake and Jane Mouton leadership model, which evaluates the leadership behaviour and style required of project managers, is the one that the researchers use to determine the most effective leadership style.

The managerial grid is expanded upon by the Black and Mouton Leadership Theory, which also incorporates a more relational and collaborative style of leadership.

The managerial grid evaluates leadership based on two dimensions: concern for production and concern for people. The model plots leadership behaviour on a 9-point grid that ranges from a "1,1" style (low concern for production and low concern for people) to a "9,9" style (high concern for production and high concern for people). The model also identifies five primary leadership styles:

Impoverished Management (1,1): Leaders with this style have low concern for both production and people. They typically exert minimal effort and are not interested in developing positive relationships with their followers.

Country Club Management (1,9): Leaders with this style have a high concern for people, but a low concern for production. They focus on developing positive relationships with their followers but may neglect productivity.
Authority-Compliance Management (9,1): Leaders with this style have a high concern for production, but a low concern for people. They prioritize achieving results and meeting goals but may disregard the needs and concerns of their followers.

Middle-of-the-Road Management (5,5): Leaders with this style have moderate concern for both production and people. They aim to balance productivity with building positive relationships with their followers.

Team Management (9,9): Leaders with this style have a high concern for both production and people. They prioritize achieving results while also developing positive relationships with their followers.

The managerial grid is expanded upon by the Black and Mountain Leadership Theory, which emphasises the value of teamwork and relationship-building in unsuccessful leadership. According to the notion, effective leaders must establish solid, respect- and trust-based relationships with their followers since leadership is a collaborative process that involves both leaders and followers.

Literature Review
Leadership
Over time, the idea of leadership changed. The researchers and psychologists investigated many strategies. In several fields, the term "leadership" exposes various interpretations. Every area of our life involves leadership, including businesses, political parties, educational institutions, religious institutions, social networks, volunteer organisations, careers requiring uniforms, and the like Avolio , Yammarino (2013) underline the significance of good leadership development in a world that is complicated and changing quickly. He stated that good outcomes require a multilayer approach to leadership development that takes into account the person, team, organisational, and societal levels of analysis. Additionally, interpersonal skills and the significance of developing ethical

leaders are equally crucial to the success of an organisation as other organisational factors. Many researchers argue that leaders are born / maids. Day , Harrison (2007) explained that leadership competencies can be developed in different stages. He mentioned the five stages: (1) self-awareness (2) leader identity (3) leader competency (4) team and organizational leadership and (5) societal leadership. It is essential to study the different styles and their impact on organizational performance. Goleman, (2000) argues that effective leaders can adapt their leadership style to different situations and the needs of their followers. Goleman identifies six leadership styles: coercive, authoritative, affiliates, democratic, pacesetting, and coaching. He discusses the strengths and limitations of each style. However, each style is unique and may be appropriate in different situations. McCauley Velsor (2010) explained the role of leadership in different organizational settings. Effective leadership depends on the interaction between the characteristics of the leader, the characteristics of the followers, and the situational context Vroom, Jago (2007). Skills and behaviours required for effective leadership, such as communication, motivation, decision-making, and problem-solving skills get the willing support from the followers Yukl (2012).

Over time, the emphasis placed on leadership evolved. It offers many viewpoints. The various perspectives and nuances of leadership styles were addressed by Black and Mouton's Leadership Theory. Higher performance results relate to a balanced leadership style. (Howell Dorfman (1986). The wellbeing of the workforce is impacted by the leadership style used by the boss. Higher levels of employee well-being are correlated with a leadership style, especially when perceived organisational support is high. Huang, Chen, (2019).

Project Management

This is described as "applying the knowledge, skills, tools, and techniques to project activities to meet project requirements" by the top project management institute. The relationship between organisational culture and the type of leadership is crucial to a project's success. The project manager is crucial to the effective conclusion of the project and its long-term viability. In the context of organisations, organisational culture is essentially made up of the values, beliefs, and behaviour of the personnel. The elements that affect project performance or the causes of the large number of problematic projects may be sought after by leaders. They can be connected to the nature of the work or the cooperation of the project participants' workers. Project Orientation and/or People Orientation are the major contributors.

Preferred Leadership Qualities for Project Manager

Project managers speak for the project as a leader. Visionary leaders may help their team realise that they are the true foundation of the project and can give them the freedom to live out the vision on their own. The value of a project's completion is greatly influenced by the project manager's communication abilities. Clear communication on objectives, accountability, performance, expectations, and feedback is essential for project leadership. There is a lot of value there. To ensure the success of the team and the project, the leader must be able to persuasively persuade when necessary and negotiate effectively. The manager needs the team members' unwavering backing if they are to give him or her their entire support. Project managers must comprehend the team members' emotions and empathise with them. When a team member praises their project manager for acknowledging and supporting actions even outside the project setting, the leader has empathy. The ability of the project manager to challenge, inspire, enable, model, and motivate the team members can have an impact on the project's success. It depends on your ability and knowledge. Project managers who are capable can foster a sense of trust and teamwork. Have faith in others. The project manager can check and control the team's work through appropriate delegation and determine how to encourage additional participation.

Research Gap analysis

Lack of empirical data on Black and Mouton's Managerial Grid's efficacy in the context of the IT business may be the research gap in this study. The managerial grid theory has been widely applied in many areas, including project management, but its applicability and efficacy in the context of the IT industry have not received enough attention. Lack of knowledge regarding the connection between the project manager's leadership style and efficient project management is another potential study void. While several studies have looked at this relationship, more research is needed because the IT sector has certain traits that call for a particular leadership style.

Additionally, earlier research has mostly concentrated on how the leadership style of the project manager affects project outcomes including cost, quality, and schedule. The impact of leadership styles on the morale, drive, and job satisfaction of the project team, however, has not been adequately studied. Understanding this connection can help project managers develop a productive workplace that promotes team performance and project success. Finally, there is a lack of research on the moderating impact of project features, such as project complexity, size, and technology, on the relationship between effective project management and leadership style. We can better understand the context-specificity of leadership styles and how they affect project success by examining the moderating function of project factors.

Objectives of the study

1. To identify the impact of project managers' leadership styles on project performance, team motivation, and employee satisfaction in the IT industry.
2. To explore the effectiveness of the Black and Mouton managerial grid in assessing project managers' leadership styles in the IT industry.
3. To propose recommendations for project managers in the IT industry to improve their leadership styles and project performance based on the Black and Mouton managerial grid.
4. To contribute to the existing body of knowledge on project management leadership styles in the IT industry and add value to the literature on Black and Mouton's managerial grid.

Variables of the Research Study

According to the Black and Mouton Managerial Grid approach, the following variables might be considered in the study on the impact of project managers' leadership styles on successful project management in the IT industry:

Independent variable: Project Manager's Leadership Styles

Different leadership philosophies, such as authoritative, affiliative, democratic, coaching, pacesetting, and laissez-faire, are included in this variable. With the help of the Black and Mouton Managerial Grid, these leadership philosophies are recognised.

Dependent variable: Effective Project Management - Project outcomes such as project success, project quality, project cost, project schedule, and project scope are included in this variable.

Moderating variables: Project Characteristics - Project complexity, project scale, project technology, and project environment are all included in this variable. The association between project managers' leadership styles and efficient project management is anticipated to be moderated by these variables.

Control variables: These variables include elements that could affect efficient project management, such as project team abilities, coordination, motivation, and communication. To remove their impact on the link between the independent and dependent variables, these variables must be controlled.

Theoretical model for the research

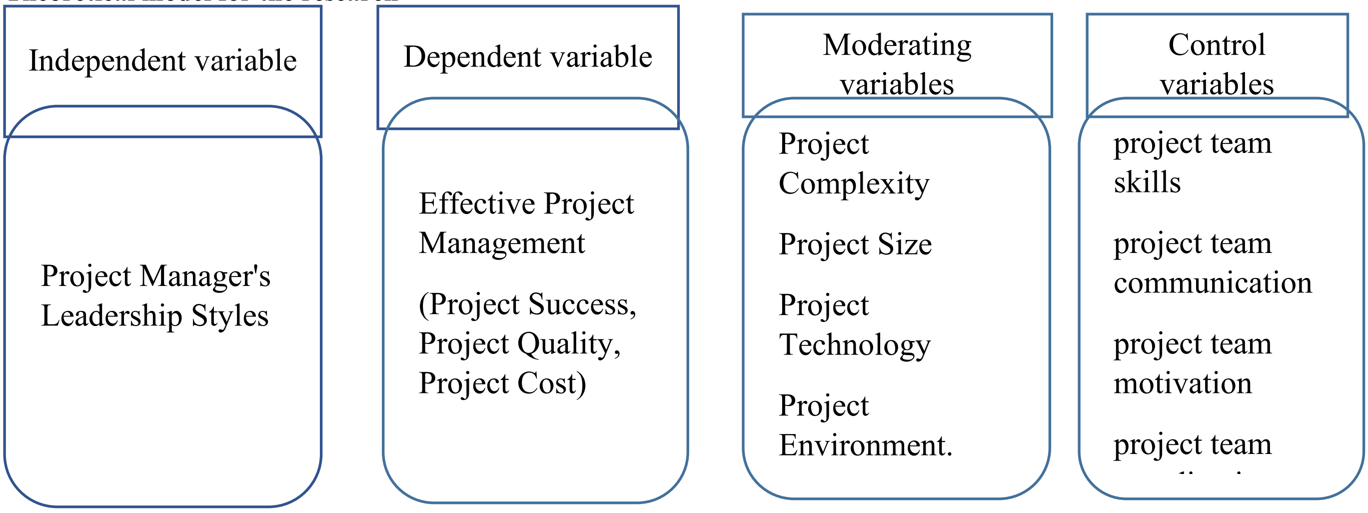

Figure1: **Theoretical model for the research (Developed by the researchers)**

According to this model, the project manager's leadership style will directly impact the success of projects in the IT sector. Cohesion within the team, communication, and motivation will mediate this effect.

Team cohesiveness is a term used to describe how cohesive and cooperative the project team is. To make sure that everyone on the team is informed of their roles, the project's progress, and any changes to its requirements or scope, effective communication is crucial. The level of zeal and dedication shown by the team members to the project's success is referred to as motivation.
The research model also implies that the association between the project manager's leadership style and efficient project management will be moderated by the project complexity and timetable. Project timetable refers to how long the project will take, whereas project complexity refers to how tough it will be to complete the project.

Considering the mediating and moderating variables, the overall goal of this study model is to analyse the impact of the project manager's leadership style on efficient project management in the IT business. The results of this study can help organisations improve their project management procedures and increase project success.

Methodology of Research
The following steps could be included in the research study's methodology on the impact of project managers' leadership styles on successful project management in the IT industry from the standpoint of the Black and Mouton Managerial Grid:

Literature Review- Perform a thorough review of the theories, research, and studies that have been done on project management, leadership, and the Black and Mouton Managerial Grid. The factors for the research were identified based on the literature review. The researchers think that it is crucial to pinpoint the research's decisive variables. This will assist the researchers in developing their research questions, developing their methodology, selecting their sample size and sampling strategy, and identifying their techniques for data collecting and analysis. The factors defining independent, dependent, moderating, and regulating factors for the study were determined by the researchers. For the investigation, a theoretical framework was developed.

Research Design- Use a qualitative research approach to gather and examine data.
A qualitative research design is advised for the examination of the impact of project managers' leadership styles on efficient project management in the IT industry from a Black and Mouton Managerial Grid perspective. This decision was made by the researchers.

Research questions - According to the Black and Mouton Managerial Grid, how do project managers' leadership styles affect efficient project management in the IT sector?

Finding and choosing IT companies with offices in Pune presented the researcher with his or her biggest obstacle. In Pune, a sizable number of businesses have been located. However, because of their differences in a few ways, they cannot be taken into account or represented in the research sample. To choose the sample, the researchers considered the following criteria.

Industry Focus- For the research, IT firms that prioritise software development, project management, or technology services were taken into consideration. This standard was established to make sure the research is pertinent to the IT sector and offers insights that are beneficial to IT businesses.

Size - The efficiency of project management may be impacted by the size of the IT organisation. Different leadership philosophies are needed for large IT organisations' potentially more complicated initiatives than for smaller ones. On the other hand, small businesses could need a more adaptable and flexible approach to project management. For the research, mid-sized IT firms were taken into consideration.

Geographic Location - Because cultural variations might have an impact on leadership styles and project management efficiency, considered where the IT organisation is located. To make sure that the research is representative of many cultural settings and connected to Pune city, IT companies that operate in various regions but are based in Pune were taken into consideration.

Organizational Structure - It has been noted that matrix-structured IT firms need a different approach to project management than more hierarchically structured firms. For this study, matrix-structured IT organisations were taken into consideration. Employees are assigned to both functional and project teams at the same time under a matrix organisational structure. This means that employees are accountable to both a functional manager—who oversees their professional growth, performance management, and workload distribution within their functional area of expertise—and a project manager— in charge of overseeing the project and making sure it achieves its goals. Companies may more efficiently distribute resources and react rapidly to shifting project requirements thanks to the matrix framework. Employees may be pushed in different directions by their functional and project supervisors, which can result in conflicts between functional and project teams. Therefore, having strong interpersonal, teamwork, and conflict resolution abilities is essential for success in a matrix structure. The leaders (project managers) are extremely important in the entire project execution.

Project Complexity - The scientists analysed the IT company's management of the projects' complexity. The size of the project team, the project's scope, its technical complexity, and the project's level of risk can all be considered in this. The analysis considered IT organisations that oversee projects of varied degrees of complexity. To guarantee that the research offers insights into various project contexts, this was done.

Project Success - The researchers considered the accomplishments of earlier initiatives that the IT firm managed. Due to the possibility that they have more efficient project management procedures in place, businesses with a history of successful projects were given consideration for the research.

Sampling Technique: The researchers chose a sample population of project managers and project team members from the IT industry using a purposive sampling technique. The researchers located the list of authorised IT businesses. To select the sample for the study, the researcher uses the precise criteria (given above). The researchers created the final sample list as well as the final list of companies.

Purposive sampling of project managers with at least experience of 15 big and complex projects and completed the same with superior quality deliverables and minimum cost in the IT industry.

Stratified sampling of IT companies based on their size, project complexity, Geographic Location, Industry Focus, organisational Structure, and leadership styles.

Data Collection: The researchers collected the data through, In-depth interviews with project managers who have experience working in the IT industry. Observation of project management practices adopted by the IT companies. Analysis of project management reports and documentation. The interview's focus areas were control variables, effective project management techniques, and leadership styles. The project managers and their teams provided the information for the data collection. The researchers created two distinct questionnaires to gather the data. The team members confirmed the project managers' leadership philosophies as described in the initial interview questionnaire. For this study, a total of 50 senior project managers who successfully managed more than 15 large, complex projects while keeping costs to a minimum were considered. Based on team skills, team communication, team motivation, and team coordination, the team members evaluate the performance of their respective project managers. Based on the results, the leadership style of the project manager was determined, and a link between that style and successful project management was attempted.

Data Analysis: In-depth interviews with project managers who have experience working in the IT industry. Observation of project management practices in IT companies. Analysis of project management reports and documentation.

Ethical Considerations: Informed consent was obtained from all participants before conducting interviews or observations. Confidentiality and anonymity of participants are maintained. Data is stored securely and accessed only by the research team.

Limitations: The research design is based on qualitative methods, which may limit the generalizability of the findings. The study is focused on the IT industry, and the results may not be applicable to other industries.
From a Black and Mouton Managerial Grid perspective, this qualitative study design will offer insightful information about the impact of project managers' leadership styles on efficient project management in the IT industry.

Reporting: presented the study's findings in a thorough and comprehensible manner, with an executive summary, a literature review in the introduction, a methodology section, results, a discussion section, a conclusion, and suggestions.

Limitations: outlined the study's shortcomings, including sample size, sample selection, and the applicability of the results to a wider population.

Future Research: Determine the areas that require further study to solve the study's limitations and advance our understanding of project management and leadership.

Assumptions by the researchers: The researchers tried to get the answers by asking various questions of project managers and members of their teams, as well as by observing the project management practises used by IT organisations.
The questions were as follows.

- How effective project management in the IT industry relates to the leadership styles of project managers.
- Whether project variables, like project complexity, project size, and project technology, mitigate the association between effective project management in the IT industry and project manager leadership styles.
- Compared to other leadership styles, what effect would project managers with an impoverished management leadership style have on project outcomes?
- Compared to other leadership styles, the task management leadership style may have a favourable or negative impact on project outcomes.
- In complicated projects, project managers with a Country Club Management leadership style will affect project outcomes in a positive or bad way.
- How team-oriented project managers can influence the success of their projects.
- Project managers with a Middle of the road style can have a positive/ negative impact on project outcomes in projects

Data Analysis
The output of the data is as follows:

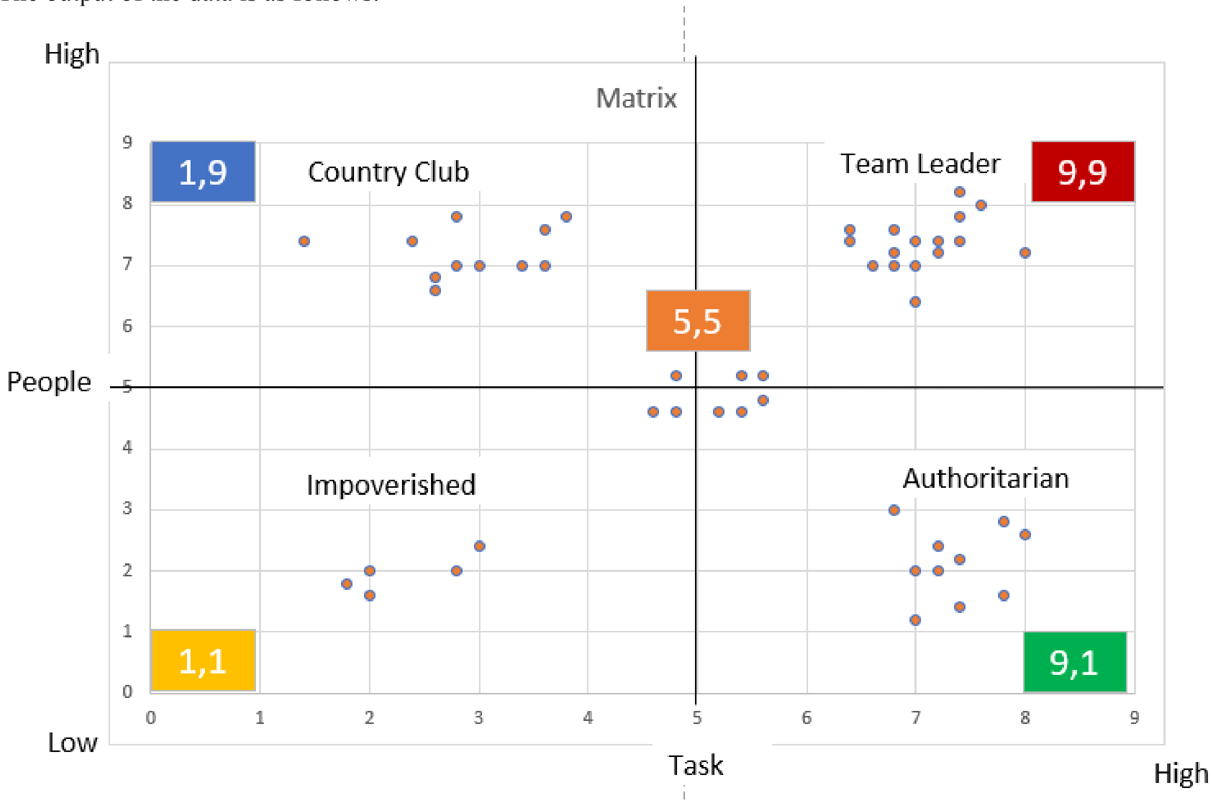

Figure2: Managerial Grid identified by the researcher using Black and Mouton

Findings were identified by the researchers.
After the in-depth interaction and discussions with the project managers and their team managers seven (7) project managers were categorised in to the first quadrant of the A Black and Mouton Managerial Grid. Low concern for both people and output characterise the impoverished management style. These project managers were found to have a detrimental effect on project outcomes. The team members reported that they were disinterested in the projects, indifferent to the requirements of their teammates, and unwilling to take actions that would jeopardise the success of the project. These characteristics were identified in these type of project managers and their team members.

Low team morale: It has been noticed that teams have very low morale and lack motivation when the project managers are disengaged and don't care about their team members. They feel undervalued and ignored by the organisation. Team members anticipate clear instructions and appreciation for their efforts. Less motivation, however, results in lower commitment and a higher rate of staff turnover. Team members were encouraged to look for different professions when they become burned out due to an unfavourable work atmosphere.

Poor communication: When project managers use the impoverished management style, they frequently avoid talking to team members, which can cause uncertainty and misconceptions. It is possible to create team synergy with effective communication. Organisations may benefit from team members' knowledge and expertise sharing. However, divided departments result from poor communication. Due to their lack of interest in the task and team performance, poor leaders do not promote group effort or collaboration. The importance of the team members' work in achieving the goals and objectives of the company was found to be neglected.

Missed deadlines: It was found that the project managers' lack of enthusiasm and direction resulted in missed deadlines and a delayed project delivery. It was discovered that because of the circumstances, team members started to exhibit the same disinterested tendencies as their leader. They become less devoted to the organisation as a result, which enables them to be unaffected by its demise. This organisational style caused the team to miss project deadlines, which increased costs. The organisation is unable to keep project costs under control. projects that exceeded their budget were handed in.

Low quality output: Lack of production-related concern on the part of project managers can result in a lack of attention to detail and lower-quality output. By arriving late, missing deadlines, and giving the team members little guidance, the project managers demonstrate a lack of concern for their colleagues' performance. The project managers' busy behaviour during monthly departmental reviews and adoption of the team's accomplishments as his own were observed by the team. He is insecure about them because they put in little effort, therefore they criticise other team members to keep them from getting promoted. Even when other managers believe he is exceeding corporate objectives, some project managers engage in recreational activities, and their ability to do so suggests that they are unwilling to participate in actual production and job processes. His team gets discouraged because of this.

In general, the impoverished management style is ineffective when applied to project management. Project managers should try to develop a leadership style that strikes a balance between meeting the needs of their team and completing the project's goals. This may result in increased team spirit, more efficient communication, and better project results.

The Authority-Compliance Management Style, which is characterised by a strong concern for productivity and a low concern for people, was used by (10) project managers, according to the researchers. It was discovered that this leadership style has both beneficial and bad effects. Depending on the situation, it has a distinct effect on the project outcomes. Most project managers finished the projects on schedule and within budget, it was found. Additionally, it was noted that these managers are adept at assigning duties to their team members and have a strong understanding of the project's objectives. Additionally, they possess the capacity to act promptly and appropriately when necessary. The morale and motivation of the project team, however, are negatively impacted by this style. Project managers are viewed as being dictatorial and indifferent to the needs and opinions of their team members. The researchers noted that there is a lack of respect and trust among the team members, which eventually affects their output and performance. The researchers' finding that these executives are more inventive and creative, involved in new projects, services development, and process innovation is encouraging. Since they are more self-assured and dictatorial, they stifle the creativity of their team and forbid them from contributing fresh ideas.

In a project management context, the Authority-Compliance Management Style can lead to:

Clear direction: Project managers who employ the Authority-Compliance Management Style are extremely directive and set clear expectations for their team members, which can enhance the team's concentration and clarity. They do not, however, let the team members take the initiative in their inventiveness.

High productivity: These project managers put production first and are intensely focused on meeting project objectives and delivering results, which boosts productivity and expedites project completion with high quality and little delay.

Inflexibility: These team members feel suffocated and unable to adapt to the situations since this management style follows inflexibility and project managers are less inclined to consider alternate ideas or revise plans in response to changing circumstances and team member suggestions.

Low team morale: Team members that were subjected to the Authority-Compliance Management Style reported feeling micromanaged or disengaged at work. Despite being successful in attaining project goals, it could have a negative influence on the creativity, motivation, and team spirit.

In some project environments, especially when there is a need for clear direction and a focus on productivity, the Authority-Compliance Management Style can be beneficial. Project managers who use this approach should be mindful of potential drawbacks including rigidity and low team morale. Additionally, they should be willing to modify their leadership style to meet the project setting and team dynamics, as a one-size-fits-all strategy is unlikely to be successful in every circumstance.

The Country Club Management Style, which is characterised by a high care for people and a low concern for output, is used by eleven (11) project managers in this study. Depending on the environment, this management style might have a mixed effect on project outcomes. These project managers prioritised cultivating positive working connections with their team members over meeting project goals and objectives, frequently at the price of those relationships. They put the health of their team members first, which can result in high levels of motivation and job satisfaction. This may then lead to more productivity and higher-calibre work. However, the effectiveness and success of the project could be negatively impacted by this leadership approach. They are excessively forgiving and refrain from addressing team members who are performing poorly or missing project deadlines. This may result in a lack of accountability and a complacent culture where team members are not inspired to give their best effort.

In a project management context, the Country Club Management Style led to:
Positive team morale: Project managers who put their team members' needs and wellbeing first foster a supportive workplace where everyone feels appreciated.

Low productivity: The lack of production concentration brought on by the Country Club Management Style might result in decreased productivity and postponed project delivery.

Reduced accountability: Lack of urgency and a lack of results-focused focus might emerge from team members feeling little accountability for achieving project objectives or deadlines.

Missed deadlines: Missed deadlines and project delays brought on by a lack of production concentration can occasionally result in overbudget initiatives.

The Country Club Management Style can be beneficial in fostering a supportive and encouraging work atmosphere. Project managers who use this approach should be aware of any potential drawbacks, such as decreased accountability and productivity. The project managers work hard to strike a balance between meeting the needs of their team and accomplishing project goals. They also modify their leadership approach to fit the particular project setting and team dynamics. Project managers that adopt this method might not be successful in circumstances where quick choices or actions are needed. Many initiatives in the IT business are time-sensitive and call for swift decision-making and problem-solving abilities. Project managers that use a Country Club Management Style may find it difficult to make difficult choices or make the necessary corrections.

There are eight (8) project managers after. Depending on the situation, the Middle-of-the-Road Management Style, which is characterised by a moderate concern for both people and production, can have a varied effect on project outcomes. These project managers try to strike a balance between finishing the job and keeping their team members happy. It is apparent that these project managers place a high priority on meeting project objectives while also preserving good ties with their team members. High levels of motivation, job happiness, and productivity among the team members can result from this. scenarios that call for quick decisions or actions. Many initiatives in the IT business are time-sensitive and call for swift decision-making and problem-solving abilities. A middle-of-the-road management style may make it difficult for project managers to make quick decisions or take immediate actions to address urgent issues.
In a project management context, the Middle-of-the-Road Management Style can lead to:
Balance: This type of project management aims to strike a balance between team member needs and project goals to foster a good and effective work environment.

Average performance: When using this management approach, projects may occasionally perform about averagely, fulfilling the bare minimum of needs but falling short of objectives.

Mediocre results: Lack of attention to either people or productivity can occasionally result in mediocre outcomes and missed chances for improvement.

Lack of innovation: A middle-of-the-road strategy can occasionally result in a dearth of originality or innovation in issue solving and decision-making.

Although the Middle-of-the-Road Management Style can be successful in fostering a harmonious and productive work environment, it cannot provide remarkable project results. The requirements of their team members should always come first, but project managers who take this approach should also be open to fresh ideas and methods that might spur creativity and boost project performance.

The Team Management Style, which is characterised by a strong concern for both people and production, can have a good impact on project outcomes in a variety of circumstances, according to the researchers' observations of sixteen (16) project managers who used this leadership style. They were seen to be successful in leading projects. They place a high value on maintaining a great work atmosphere, developing strong bonds with their team members, and making sure that everyone is working together to achieve the project's objectives. They also provide team members the freedom to decide for themselves and take responsibility for their work, which can result in high levels of motivation, fulfilment at work, and productivity.

In a project management context, the Team Management Style can lead to:
High team morale: The demands of their team members and the accomplishment of project goals are given top priority by project managers. This results in a productive and enthusiastic workplace.

High productivity: A high level of productivity and a sense of urgency among team members to accomplish project goals and deadlines resulted from the production-focused approach.

Collaborative problem-solving: A team-focused strategy can promote cooperation and teamwork while tackling problems, resulting in more creative and useful solutions.

Continuous improvement: Project results may continue to improve because of project managers who use a team management style since they are more likely to actively seek out feedback and chances for improvement.
The Team Management Style is successful in fostering a supportive work atmosphere where team members feel encouraged and motivated to complete project goals. Project managers who use this approach should keep putting the needs of their team members and the accomplishment of project goals first while remaining receptive to criticism and suggestions for improvement.

Conclusion
The Black and Mouton Managerial Grid approach provides a useful framework for analysing leadership styles and their impact on project management in the IT industry. Through this model, organisations can judge and segregate their project managers based on the five different leadership styles, ranging from a low concern for people and a low concern for tasks (impoverished management) to a high concern for both people and tasks (team management).

This research indicates the most effective leadership style required for efficient project management in the IT industry is team management. It means the project managers must involve in their task as well as they must be concerned with the team members. This leadership style adopts a collaborative and inclusive working environment, which encourages open communication and the sharing of ideas. This can lead to increased productivity, higher quality output, and improved team morale.

On the other hand, leadership styles that prioritize either people or tasks at the expense of the other can lead to inefficiencies in project management. For example, a leader who is focused solely on achieving project objectives (authority-compliance management) may not provide adequate support to team members or consider their individual needs. This could lead to burnout, high turnover rates, and ultimately, lower productivity.

In conclusion, the Black and Mouton Managerial Grid approach highlights the importance of balancing concern for both people and tasks in effective project management in the IT industry. Project managers who adopt a team management style and prioritize collaboration and communication among team members are more likely to achieve efficient project management outcomes.

Future Scope of the Research

Future research has a lot of potential in relation to this study on the impact of project managers' leadership styles on efficient project management in the IT industry utilising the Black and Mouton Managerial Grid approach. Here are some areas that could be studied in the future:

1. The effect of project managers' leadership philosophies on certain project results: Future research can concentrate on the effects of various leadership philosophies on certain project outcomes like project cost, project quality, and project completion time.
2. The efficiency of various leadership styles in various project contexts, such as software development projects, hardware projects, and system integration projects, can be examined in future research.
3. Future research can investigate the influence of team composition (such as team size, team diversity, and team experience) on the impact of project managers' leadership styles on efficient project management.
4. Future research might examine how leadership styles affect employee engagement and retention in the IT sector. By doing this, businesses may be able to keep their best employees and boost productivity.
5. The impact of leadership styles and the role of the project manager's emotional intelligence: Future research can look at how the emotional intelligence of the project manager affects how well different leadership styles are applied to projects.
6. Impact of project managers' leadership philosophies on efficient project management: a cross-cultural comparison Future research might compare how project managers' leadership philosophies affect efficient project management in various cultural situations.

In conclusion, there are a few potential directions for future research that might expand on the results of the current study and advance our knowledge of the influence of project managers' leadership philosophies on successful project management in the IT sector.

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A STUDY OF THE NEW TREND TOWARDS ONLINE BUS TICKET BOOKING

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ABSTRACT
Today passenger bus transport has come to a new age where passengers are preferring online platforms for bus ticket booking. After, covid 19 pandemic trend toward online bus ticket booking has increased drastically. This paper reviews literature available on bus ticket booking and the changing scenario towards people moving more towards the online bus booking platforms or websites. Researcher explains that the factors like age, gender and occupation are influencer factors for showcasing increasing trend towards online bus booking frequency. Bus ticket booking has witnessed an impressive growth towards online bus booking in the 20th century and post the pandemic the trend of online booking is upward moving too. Customers nowadays would not visit an operator shop or even an agent but directly search their requirement on an online platform for deciding which time, which service to choose from as options are many on the online portals. Gone are the days of making phone calls or travelling across the city to book a ticket. Also there were days where there used to be no seats available and passengers used to travel standing for an overnight journey. Now as almost all operators use an online medium for communication to get their seats across to the customer the available inventory of seats can be easily viewed and booking can be carried out most efficiently.
Keyword: E-ticket, passenger, Transport, e enabled, customer satisfaction, bus booking frequency

Introduction:
The advent of new technology and social media has seen an ever-rising trend for the Transport sector overall. People want to go to new places for religious reasons, Touring aspects and sometimes for Business purposes. But initially, say half a century back such was not the trend. Most of the people then had a major income which was enough to fulfil the needs only of a big joint family. The only money saved was spent once a year over a visit to the native place with hardly any consideration to the luxury aspects in travel.

But as we say change is inevitable, this trend had to change too. More and more people started shifting from the poor/lower middle class to Middle Class and Higher Middle Class eventually which puts the figure to approximately 60% of the total population. This class has an ever-increasing demand for seeing new places, travelling for work or even visiting places for religious aspects.

Today, the Passenger Transport industry is on the rise again and has changed dramatically with the overwhelming appearance of social media platforms creating new opportunities to progress and attract the customer through facilitated communication and empowered guest engagement. It can only be seen as something positive for the passenger transport industry as it has so much to offer. It is still on a rise and provides a way to increase profits.

In today's era of e-commerce, passenger bus booking has become an ease for passengers. Most of the bus operators have developed their apps for bus booking. Also there are many online portals which have various offers and discounts to attract customers 365 days for bus bookings. Passengers visit these websites of the operator directly or through the online portals and get information on their travel thus completing the booking process and leading towards the journey planned. E enabled bus ticket management provides for bus seat reservation, seat selection and cancellations (Nikhil Pal,2020)

Transport Industry in India
A crucial foundational element for a nation's development is the transport and logistics industry. India's transportation system has seen a substantial transformation during the 1990s. The demand for transportation increased at an annual rate of 10% in the 1990s, but during the past ten years it has increased in tandem with the rising Indian GDP. This expansion raised demand for almost all transportation services. As a percentage of the overall value of commodities, the cost of logistics services is projected to be 14% of the GDP annually. In

emerging economies, these expenses often account for 6% to 8% of GDP. Indian logistics costs are thought to be the highest in the world with this number.

Therefore, in order to lower operating expenses, enhance customer satisfaction levels, and boost the sector's competitiveness in international markets, it is vital to manage it more professionally. Another reality is that India's transport and logistics sectors use a significant amount of energy, particularly petroleum products. With the expansion of the economy and population, this share rises even further in India. Due to a growth in the need for freight and passenger transportation, urbanisation and rapid industrialisation also result in higher consumption. The urban population of India has grown dramatically during the past 50 years, from 62 million in 1951 to 285 million in 2001, growing at an average rate of 3% annually. In addition, increased income and government liberalisation initiatives speed up there are more cars, two- and three-wheelers, buses (both public and private), urban rail networks, and there is more demand for leisure travel. However, the transport and logistics sector in India still confronts issues due to its infrastructure, environmental pollution, rising traffic density, laws, and other systemic inefficiencies. This is true even though the country's population and economy are both growing.

Passenger Transport
Out of the various modes of transport namely Airways, Seaways, Railways and Roadways, maximum people in India travel by Roadways. Roads include all modes i.e. Two-wheeler, Cars and Buses. Out of these Buses have the lowest per kilometre cost per passenger. Also, space required for 3 passengers in a auto rickshaw or 4 passengers in a car is more compared to 40 passengers travelling in a bus. Moreover, the cost aspects also promote the Bus Industry for transporting passengers from one place to another. It can be called the most viable means available for passenger transport in India. Nevertheless, we find not much being done for uplifting this field of Bus transport in India. With ever increasing fuel pricing and taxes, this sector sees a slow death for small private operators.

Literature Review
Mathew (1964) government regulations manage transportation in many different ways, some of which directly affect the development of size. The effectiveness of the transport sector is reliant on these government regulations in general and the public utilities sector in particular.

Bhatnagar (1971) transportation would be an important factory both domestically and internationally. The expansion and development of different means of transportation in India in the years to come would be a different game play and state run transport would have to buckle up for a greater customer base. This in turn would be a boost to the nation's economy.

Sharma (1975) Rajasthan transportation had a lot of future prospects which needed to be culminated into a good Transport system. Lot of issues were coming to the fore which could be further analysed based on the situation, and dealt with to make Transportation in Rajasthan favourable.

Patankar (1978) urban transportation deals with travelling of people within the city.. Special attention also needs to be given to the operational productivity and efficiency of STUs. The road transportation industry in India would only prosper with planning that prioritises productivity and provides all-encompassing answers to the difficulties associated with urban mobility in emerging nations.

Khan (1980) a kaleidoscope of India's transportation infrastructure and management system also hinting the ever changing scenario of transport in India. Keeping with the systems approach, a model for an extensive transport system and transport planning was developed. Along with the benchmark data for transport management, offered was an analytical analysis of various important areas.

El-Mezawie (1982) the business form of organisation performs better on practically all significant metrics. The exchequer immediately should reduce taxes by at least 60% and make provisions for periodical ticket revisions every two years, failing which, subsidies to me were made as a routine activity.

Natrajan (2020) various factors influence e-ticketing when it comes to finding the service quality. Factors such as ease of use, web composition, refund policy, customer care and satisfaction play an important role when it comes to delivering good quality service to the customers. Factors that might have been neglected earlier find importance in today’s business of transportation.

Satyanarayana (1985) costs and revenues of transportation are linked in some way or the other. The Andhra Pradesh State Road Transport Corporation's (APSRTC) organisational structure is vast. The capital structure, financial and personnel policies, and management information systems (MIS) of APSRTC are also in place which may be a form of cost. The cost of service for road transportation solely depends on the size of the fleet, the condition of the vehicles, and the length and condition of the road. The size of the motor transport unit is the key variable affecting the cost of operations of the motor transport business in Andhra Pradesh.

Jain (1986) the macro level transportation operations in India before and after independence are very different. The challenges and future of road transportation in addition to its socio-economic relevance play an important role in boosting efficiency of the transport system across all areas.

Mantri (1985) the transportation infrastructure needs to be improved and that transportation planning has to be adjusted as a crucial component of national planning. Planning must be done well since, as the population grows, so will the requirement for transportation.

Gawli (2013) the various services offered by MSRTC namely ordinary, Parivartan, Asiad, Shivneri, Sheetal and city bus services are operational. Two levels of economic reforms was the duration of this study.

Barkavi (2013) passengers rely on parameters like avoid overcrowding, improve the maintenance and good behaviour of the crew members. While booking a service a customer would look out for these factors as they go a long way in customer bookings.

Kraft (1971) the capacity of the transport system has been put into focus. Economic development of a region will be influenced by the capacity of the transport system it has. Insufficient capacity of transport systems will create bottlenecks and may eventually retard the region's growth.

Research Methodology

The methodology adopted is a mixture of literature review through articles, research papers, books and also by questionnaire method. Customers who book tickets online provide the primary data, which is collected via a well-designed inquiry schedule. Out of the people who responded to the survey, 407 insightful responses were gathered. Customers were given the opportunity to evaluate the service providers in that particular field by answering questions about how different users responded to bookings on an online platform. The study's goal was to identify responses that satisfied this need for purchasing bus tickets online. By conducting a descriptive study using a simple random sampling technique, it is possible to analyse the factors that support and influence people's decisions, confirm their ideas for service improvement, and uncover the motivations behind their desires. The information gathered is then used to develop suitable tools and possible recommendations.

Objectives

1. To find association between gender, age, education and income of online bus booking services with the booking frequency.
2. To find the importance of e-enabled bus booking platforms.

Data Analysis

This section deals with association between various aspects like gender, age, education and income to find its relation with online bus booking frequency. The frequency distribution is given in the table below.

Association between Gender and Online bus booking frequency

The following table shows data collected on males and females those book through an online portal

	Booking Frequency			
	5 to 10 times	More than 10 times	Rarely	Total
Male	65	68	84	217
Female	44	45	101	190
Total	109	113	185	407

Table 1: Booking Frequency as observed for Males and Females

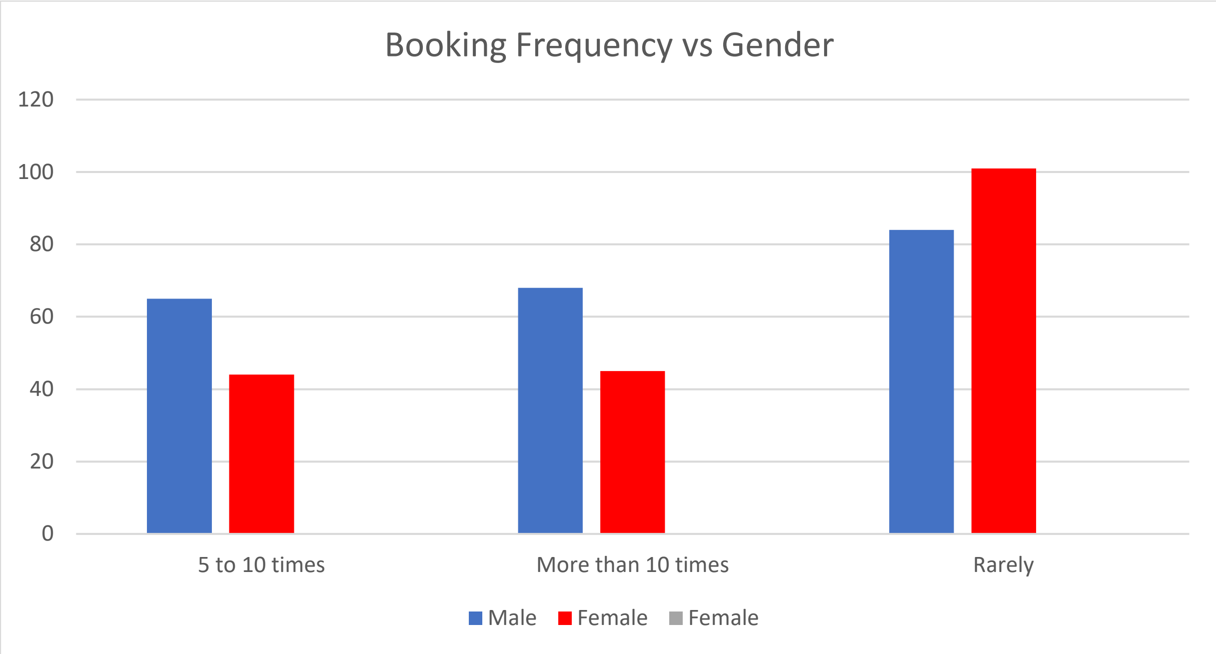

Chart 1: Booking Frequency vs Gender

Interpretation: The association between gender and online bus booking frequency of a respondent was found to be significant. Males were more prone to book tickets online as per the study which was a trend observed from the study. Also women were rarely seen booking tickets online which also suggested a low frequency of women booking tickets through an online portal.

Association between age and online bus booking frequency

The following table shows the age of people booking through an online portal

		Booking Frequency			
		5 to 10 times	More than 10 times	Rarely	Total
Age	18 to 22	19	47	56	122
	23 to 27	42	29	61	132
	28 to 35	32	33	41	106
	35 and above	15	4	28	47
Total		108	113	186	407

Table 2: Booking Frequency as observed for different Age groups

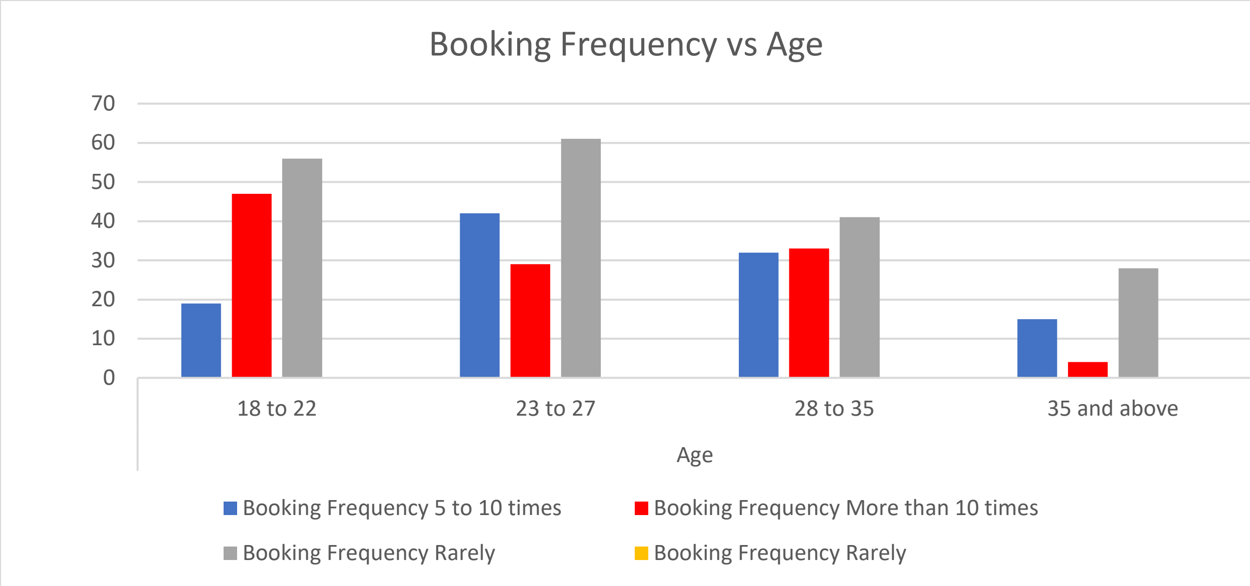

Chart 2: Booking Frequency vs Age

Interpretation: The association between age and online bus booking frequency of a respondent was found to be significant. Age group 23 to 27 and 28 to 35, that is two sub groups number 2 and number 3 are more prone to book their bus online then the age group 18 to 22 and likewise 35 and above. Also can be noticed that the age group 18 to 22 as may be they have become tech savvy are showing a growing trend towards booking online bus tickets through an online portal.

Association between occupation and online bus booking frequency
The following table depicts the trend of occupation with online bus bookings

	Booking Frequency			
	5 to 10 times	More than 10 times	Rarely	total
Student	42	51	84	177
Working professional	58	54	84	196
Self employed	5	8	16	29
Housewife	3	0	2	5
Total	108	113	184	407

Table 3: Booking frequency for different occupations

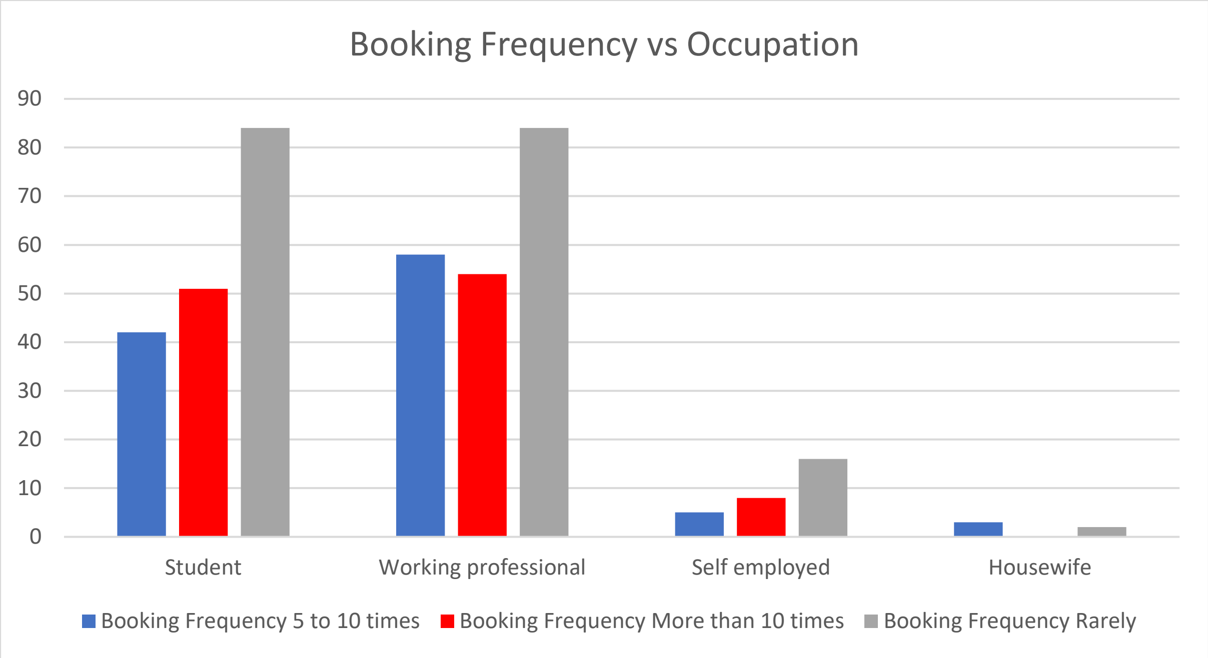

Chart 3: Booking Frequency vs Occupation

Interpretation: The association between occupation and online bus booking frequency of a respondent was found to be significant. Students and Working professionals are more prone to book their seats on a bus online than the self employed category. In contrast, a housewife was found to have the least frequency when it comes to booking tickets online.

Findings

From the study it is found that out of the total male sample 61.29% male book tickets online which is higher than females booking online tickets considering only 46.8% females book tickets online.

Also the age group of 28 to 35 having a total percentage 61% were more likely to book their tickets online followed by the age groups 23 to 27 and 18 to 22. This age group is more tech savvy so they want their tickets booked online may be one of the reasons.

If seen occupation wise, the student sample with 47% followed by working professional 43% were more prone to book online. The need to travel due to education to different places or due to work for this section of society may be students or working professions are alike. On the other hand the self employed and housewife category are rarely seen booking online tickets.

Conclusion

As road transport is the most sought after means of transport and with the increasing travel need, bus travel is the most accessible of all the different modes. Also, today most of the customers are preferring online bus ticket booking as the cash based system is rarely used. Passenger transport has changed in the past few years. Especially, after Covid 19 pandemic, online bus booking has increased a lot as the customers get to check and book tickets online at the easy of their home avoiding large queues at booking centres and also the entire inventory of seats can be seen and booked thanks to online bus portals like redbus, makemytrip, abhibus, paytm etc. Through literature review and analysis, it is found that Gender, Age and Occupation emerge as significant factors for usage of online bus book platforms. Bus booking frequency for all these factors has a significant impact on gender, age and occupation.

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A STUDY OF THE PERCEPTION OF STUDENTS TOWARD PURSUING ONLINE AND OFFLINE HIGHER MANAGEMENT EDUCATION

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ABSTRACT
The advanced education area is going through a transformation concerning information evaluations and moves. However online contributions have not found their direction into standard training in India, there has been a remarkable change in how colleges and schools embrace online stages and assets. Changes will proceed, and the utilization of online innovation is digging in for the long haul, as per P. Kalyanasundaram (2020). Most instructive establishments have radically moved to online classes supplanting conventional eye-to-eye learning. Nonetheless, many advances were made to change to online mode disregarding the readiness, plan, and viability of online training for a nation like India Specifically. While teaching in an ordinary set-up has its repressions, and a standard teacher can never give 24 x 7 directions to students, an e-learning set-up can offer help nonstop consistently. On the other hand, offline education is significant in traditional learning processes, such as many institutions in offline mode adopting different teaching tools, such as presentations, laboratory workshops, field trips, etc. The purpose of the study is to look at the two types of teaching patterns i.e, Online and Offline way. The main reason for this paper is that there is a need to identify and determine the offline and online higher management courses and also their satisfaction level among students. It also affects employability when it comes to online courses as compared with offline courses. The type of research is primary and secondary. Data has been collected from 200 Management Students enrolled in online and offline higher management programs from various management schools in Mumbai city. The paper is focusing on measuring the overall Student satisfaction enrolled for their further studies by opting for online or offline management programs. There has been a demand for students when it comes to the course structure and other facilities since post-pandemic and when it comes to online education. Employability is also compared between online and offline courses.
Keywords: Management Students, Online program, Offline program, Higher Education, Hybrid Education

Introduction

The advanced education area is transforming concerning information evaluations and moves. However online contributions have not found their direction into formal training in India, there has been a marvelous change in the manner Colleges and Schools are taking on web-based stages and assets. Changes will go on into the future and the utilization of online innovation is setting down deep roots according to P. Kalyanasundaram, (2020). Most instructive establishments have definitely moved to online classes supplanting conventional eye-to-eye learning. Be that as it may, there were a ton of steps taken to change to online mode without the prospect of readiness, planning, and viability of online schooling for a nation like India Specifically. While teaching in an ordinary set-up has its own controls and a standard teacher can never give 24 x 7 directions to students, an e-learning set-up can offer help nonstop consistently. On other hand, disconnected training has its own meaning of customary educational experiences, for example, numerous foundations in disconnected mode take on various devices of instruction, for example, introductions, research center studios, field trips, and so on.

The Covid pandemic has produced changes in the educating growing experience in advanced education establishments and has affected the cooperation among educators and understudies. As a result of the pandemic, colleges were obliged to do their movement with understudies solely on the web. In such a manner, numerous legislatures went to lengths to try not to spread the infection and to guarantee the congruity of the instructive cycle, and colleges overall embraced web-based learning.

While by and large, web based learning is viewed as a choice, an option in contrast to conventional picking up, during the Covid pandemic it turned into a fundamental component for keeping up with the action of schools and colleges. This change in outlook could produce changes in understudies' view of this approach to educating and their discernment may be not the same as the one found in examinations past to the pandemic. Consequently, through this paper, we attempted to catch the presence of such changes.

In today's world technology is advancing at an alarming rate, and difficult challenges in politics, economics, and our environment continue to put our civilization to the test. Higher education helps students by honing their skills. Higher education gives them the power and capability to get prepared for challenges with utmost confidence, resilience, discipline , and desire. It fosters the abilities needed to maintain a business effectively. It enhances management and leadership abilities. It helps maintain the company's financial stability.

networking and collaboration abilities. It fosters the ability to adjust to a shifting business environment. Different students have different perceptions regarding online, offline, and hybrid learning platforms. There are numerous categories that students consider while choosing a platform. The learning environment in all three platforms caters to different needs respectively. This research on students' perception has reflected the importance of considering the comfort as well as convenience of the students because with a comfortable learning environment comes a quality learning experience.

Statement of Problems and Need for Study

There is a need to study the different course names in higher education for which learning pattern should be good enough with a decent pay package and perception of students towards PGDM, MMS and MBA courses. Further, the level of satisfaction also needs to be measured in accordance with the learning pattern of course. Expected Placements and expected pay package is also of concern specifically for offline courses as compared to online courses.

This paper centers around the assessments of understudies with respect to the effect of online courses, their ease of use, and the help received from educators in web-based classes alongside educators' perspectives on viability, showing practice followed and preparing for an internet-based class.

Literature Review

Allen (2022), online education More individuals than ever are drawn to modern technology and online education. Online learning can be appealing as a method to do our studies from the convenience of our homes, whether we are working professionals with various deadlines or students with several assignments due. Using an online service like Google Classroom to take language courses from a lecturer can result in less expensive one-on-one instruction.

Palvia (2018), this editorial discusses the state, difficulties, and trends in online education in North America, Europe, South America, Asia, Asia-Pacific, and Africa. Technology since telegraphy has shaped online education. American institutions are struggling with dwindling enrollments. India, a growing Asian nation, began online education in 2008. Middle Eastern nations adopted internet schooling late. Research shows that poor internet penetration, low public respect for online learning, and a lack of Arabic-language online educational archives are the biggest barriers to online education in Middle Eastern countries. . Ghana, South Africa, and Malawi lead the African online education movement with government policies supporting it.

Joshi Muddu (2020), COVID-19 has made schooling tech-savvy. The examination underscores institutional help advancements in web based educating and assessment. . Instructing educators in LMSs and requiring it for all instructive purposes will set the foundation, educators, and understudies separated. The paper features the huge divergence between open-source and institutional-upheld innovations and their consequences for web based instructing and appraisals. India should get ready for an innovation driven future. The Indian Service of HR and Advancement's draft Public Training Strategy (NEP)- 2020 stresses internet learning. HEIs should plan spending for online EdTechs in NEP-2020, (for example, LMS, Moodle, Microsoft groups, Google Suite, etc). The arrangement advances instruction with refined innovations like computerized reasoning, huge information, augmented reality, 3D printing, and robots, creates specialized frameworks, and supports imaginative educating and learning components (MHRD, 2020c). HEIs can change the instructive biological system by executing web based learning while the NEP-2020 draft is going through endorsement.

Dhawan (2020), studied at a New Zealand earthquake-damaged college.Technology helped them overcome those challenges. They suggest 16 Journal of Educational Technology Systems 49 (1) Online learning requires strong Technology infrastructure. Infrastructure must be strong enough to offer services through and after the crisis. The World Economic Forum reports that the COVID-19 pandemic has also affected schooling. We may need to innovate to solve our challenges. . In this crisis, we have no choice but to adapt and accept change. It will help education and deliver unexpected ideas. We cannot disregard students without online technology. Online lessons may disadvantage these less affluent pupils from fewer tech-savvy families with limited financial means.

Digital gadget and internet data plan expenses may cost them. Digital inequality may widen.

Kaur (2020), e-learning, e-teaching, and e-research have revolutionized medical sciences thanks to biotechnology and internet technologies. This helps students and teachers adjust and collaborate. Expanding knowledge and research will support the old system. If supported by modern infrastructure and integrated learning technologies, it will be successful communication. Hence, blended learning should begin as soon as the situation normalizes to build professional skills and career.

Pei , Wu (2019), in a traditional classroom, a teacher instructs students using a set curriculum. This is conveyed by the teachers to the students physically in a classroom. To evaluate students' comprehension, standardized examinations are given often. In this traditional model the student has to physically attend the class and the learning happens at a particular time and a fixed place. The instructor, who exclusively teaches face-to-face, is a source on which students rely a lot. The traditional educational system, often known as offline education. This method of lecture-based learning the students are taught by the teaching faculties in the classroom settings.

Angelino (2010), the popularity of online learning is rising. higher education during the past two decades and the majority of institutions of higher learning think that this teaching strategy will be essential for the future of higher education (Allen & Seaman, 2014). Due to the availability and flexibility, online education plays a very crucial role in higher education. According to certain research, online instruction is an effective way to deliver high-quality training at a lower cost in many institutions (Garbett, 2011) superior to conventional instruction (Angiello, 2010). Additionally, the demands of students and the financial difficulties that many higher education institutions are experiencing cause these institutions to place a greater emphasis on employing online education

Long (2016), students like flexible and convenient online learning, including how one can access the classes at any time and from any location and work through the units at their own pace. Students also cited the systems' simplicity, the units' organization and prompt feedback, and the chance to develop experience with online learning as additional system strengths. The utilization of the online lessons, according to one participant, provided "another learning perspective," and according to another, "It gives you another approach to learn instead of reading from a book." The pre-class videos utilized in the course were generally well-received by the students.

Objectives
Objective 1: To determine the different course names for which learning pattern is good.
Objective 2: To determine which learning pattern has a more expected package in the campus placement.
Objective 3: To study the level of satisfaction in accordance with the learning pattern of course.

Hypotheses
Null Hypothesis H01: There is no significant difference in the learning pattern of the different courses.
Alternate Hypothesis H11: There is a significant difference in the learning pattern of the different courses.
Null Hypothesis H02: There is no significant difference between the learning pattern of the different courses and the expected package in campus placement.
Alternate Hypothesis H12: There is a significant difference between the learning pattern of the different courses and the expected package in campus placement.
Null hypothesis H03: There is no significant difference between the satisfaction score and the learning pattern of the course.
Alternate hypothesis H13: There is a significant difference between the satisfaction score and the learning pattern of the course.

Research Methodology
Research study was done through two types of data i.e primary data and secondary data. Primary data was conducted by framing questionnaires and it was collected through online mode. Total 127 respondents filled the survey and these respondents are students pursuing higher studies i.e MBA, PGDM and MMS from various institutions either online or offline. Cronbach's alpha test was conducted to test the reliability of the data and Descriptive and T test, Chi-Square test was conducted to test the Hypotheses, by using SPSS software.

Sample Design
Information was collected through a structured Questionnaire and a total 127 respondents are considered for this study. Variables considered were respondent's satisfaction level, expected package in campus placement and learning pattern of course. Data related to the Demographics is rated, classified and presented in the following table:

Demographic data: In the process of analysis of primary data, respondents are classified according to socio-economic profile. We have considered gender, name of the course, nature of the course and learning pattern of the course in the socio-economic profile.

Demography	**Category**	**Number of Respondents**
Gender	Female	58
	Male	69
Name of Course	PGDM	10
	MBA	111
	MMS	6
Nature of Course	Full Time	53
	Part-Time	74
Course Learning	Classroom Learning	49
	Online	78

Table 1: Demographic Data

The information on the classification of data is presented in the following bar diagram.

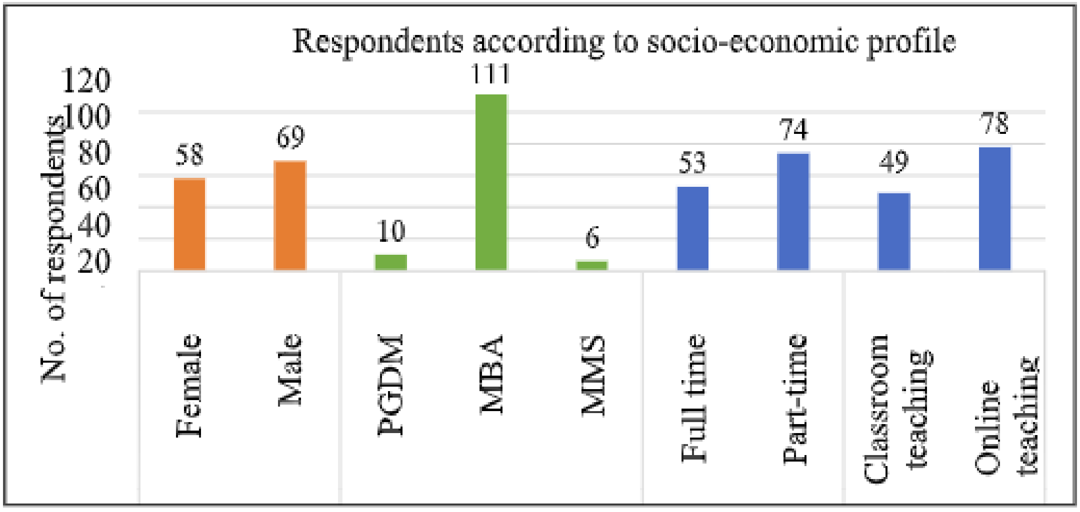

Table 2. Respondents according to socio-economic profile

The above graph indicates that there are a total of 127 respondents from which for gender there are 58 female respondents and 69 male respondents. For different courses provided 10 students are from the PGDM course, 111 students are from the MBA course and 6 students are from the MMS course. For the nature of the course, 53 students are pursuing full-time and 74 are pursuing part-time. There are 49 students whose learning pattern is classroom teaching and 78 students have an online teaching learning pattern.

Results
Null Hypothesis H01: There is no significant difference in the learning pattern of the different courses.
Alternate Hypothesis H11: There is a significant difference in the learning pattern of the different courses.
To test the above hypothesis, the Chi-square test is used. The results are as follows.

	Value	**df**	**p-value**
Pearson Chi-Square	7.892	2	.019
N of Valid Cases	127		

Table 3: Chi-square Test

The above results indicate that the calculated p-value is 0.019. It is less than the standard p- value of 0.05. Therefore, there is a significant difference between the learning pattern and the different course names.

		Name of course			Total
		PGDM	MBA	MMS	
Learning Pattern of Course	Classroom teaching	6	38	5	49
	Online teaching	4	73	1	78
Total		10	111	6	127

Table 4: Learning Pattern of course * Name of course Crosstabulation

The above table indicates that the proportion of the respondents of MBA who agree to online teaching is significantly higher than the classroom teaching learning pattern. For PGDM and MMS proportion of respondents agreeing to classroom teaching is significantly higher than for online teaching learning pattern.

Null Hypothesis H02: There is no significant difference between the learning pattern of the different courses and the expected package in campus placement.

Alternate Hypothesis H12: There is a significant difference between the learning pattern of the different courses and the expected package in campus placement.

To test the above hypothesis, the Chi-square test is used. The results are as follows.

	Value	df	p-value
Pearson Chi-Square	8.842	3	.031
N of Valid Cases	127		

Table 5: Chi-Square Tests

The above results indicate that the calculated p-value is 0.031. It is less than the standard p- value of 0.05. Therefore, there is a significant difference between the learning pattern of the course and the expected package in campus placement.

Learning Pattern of course * What is expected package (yearly) that you expect In campus placement? Cross Tabulation						
Count						
		What is expected package (yearly) that you except for campus placement?				Total
		Up to 50,000/-	50,000/- to 75,000/-	75,000/- to 1 lac	More than 1 lac.	
Learning Pattern of course	Classroom teaching	2	2	2	43	49
	Online teaching	6	12	10	50	78
Total		8	14	12	93	127

Table 6: Learning Pattern of course * What is expected package (yearly) that you expect in campus placement?

The above table indicates that the respondents of the classroom teaching learning pattern who expect a package of more than 1 lac are significantly higher than the online teaching learning pattern. For the expected package of up to 1 lac, online teaching is significantly higher than the classroom teaching learning pattern.

Qs. No.	Statement	HD	DS	S	HS
9	What is the level of satisfaction with the quality of teaching of faculties?	21	19	72	15
10	What is the level of satisfaction with the study material provided by the institution?	21	21	71	14
11	What is the level of satisfaction with the evaluation pattern of the institute?	12	25	78	12
12	What is the level of satisfaction with the library facility available by the institution?	12	31	60	24
13	What is the level of satisfaction with the knowledge gain in the course?	16	21	67	23
14	What is the overall satisfaction for the course you selected?	21	11	69	26

Table 7. Level of Satisfaction

Level of Satisfaction

To study the level of satisfaction, information is collected from 6 different questions. The responses given to these questions are classified and presented in the following table.

HD - Highly Dissatisfied, DS - Dissatisfied, S - Satisfied, HS - Highly Satisfied. The above responses are rated as follows.

Highly Dissatisfied	=	1
Dissatisfied	=	2
Satisfied	=	3
Highly Satisfied	=	4

The above responses are used to calculate the mean scores of the level of satisfaction using the formula as given below.

Mean score of level of satisfaction = (sum of rating of 6 questions / Maximum questions rating 24) *100

Using the above formula, the mean score of level of satisfaction is calculated for each respondent and subsequently for all 127 respondents. The descriptive statistics are obtained and presented in the following table.

	N	Minimum	Maximum	Mean	Std. Deviation
Satisfaction Score	127	33.33	100.00	67.7824	16.15860

Table 8. Descriptive Statistics

Null hypothesis H03: There is no significant difference between the satisfaction score and the learning pattern of the course.

Alternate hypothesis H13: There is a significant difference between the satisfaction score and the learning pattern of the course.

To test the above null hypothesis, the independent sample t-test is used. The results are as follows.

	t-test for Equality of Means			
	t	**Df**	**p-value**	**Mean Difference**
Satisfaction Score	6.935	125	.000	17.42858

Table 9: Independent Samples Test

The above results indicate that the p-value is 0.000. It is less than the standard p-value of 0.05. Therefore, the independent sample t-test is rejected. Hence, the null hypothesis is rejected and the alternate hypothesis is accepted. The conclusion is there is a significant difference between the satisfaction score and the learning pattern of the course. To understand the findings of the hypothesis, mean scores of the level of satisfaction are obtained according to the learning pattern of the course.

Group Statistics					
	Learning Pattern of course	N	Mean	Std. Deviation	Std. Error Mean
Satisfaction Score	Classroom teaching	49	78.48	9.93154	1.41879
	Online teaching	78	61.05	15.71779	1.77969

Table 10: **M**ean score of satisfaction level for classroom teaching and online teaching

The above table indicates that the mean score of satisfaction level for classroom teaching is 78.48% while for online teaching the mean score for satisfaction level is 61.05%. The difference in mean scores of the level of satisfaction is significant where classroom teaching learning pattern is significantly higher than online teaching.

Findings

The respondents of PGDM and MMS courses prefer the classroom teaching learning pattern. This indicates practical sessions and interactive classes are important for the students as compared to the MBA course online teaching learning pattern. This is because there are many MBA online courses and programs which are conducted by many institutes and universities as compared to PGDM and MMS courses.

Discussion

The assessment highlights institutional assistance progressions in electronic teaching and appraisal. Teaching instructors in LMSs and requiring it for all enlightening purposes will set the establishment, instructors, and students isolated. The paper includes the colossal difference between open-source and institutional-maintained developments and their ramifications for electronic teaching and evaluations. India ought to prepare for a development-driven future. The Indian Help of HR and Progression draft Public Preparation Technique (NEP)-2020 burdens web learning. HEIs should plan for online EdTechs in NEP-2020, (for instance, LMS, Moodle, Microsoft gatherings, Google Suite, and so on). The game plan progresses teaching with refined advancements like automated thinking, gigantic data, expanded reality, 3D printing, and robots, makes the specific system, and supports inventive instructing and learning parts (MHRD, 2020c). HEIs can change the informational natural framework by executing electronic learning while the NEP-2020 draft is going through support.

Limitation

Responses were collected and restricted to only Mumbai city. Focus can be given specifically to IIM and other institutions who are offering offline MBA throughout the world. Hybrid can be covered when it is fully developed in a country. Acceptance of online education has increased due to covid-19 and due to other online programs students are motivated to pursue online Master degree.

Conclusion and Suggestions

It is indicated that practical sessions and interactive classes are important for the students as compared to the MBA course online teaching learning pattern. This is because there are many MBA online courses and programs which are conducted by many institutes and universities as compared to PGDM and MMS courses.

Also, people from different regions have the flexibility to attend online classes of MBA courses. Hence, it is preferred in online teaching learning pattern than classroom teaching learning pattern. The respondents from classroom teaching expect a salary of more than 1 lac rupees whereas the respondents from online teaching expect a salary of less than or up to 1 lac rupees. This is because online teaching is an observation-based study method, unlike classroom teaching, where the students get practical exposure and hands-on training in different aspects which ultimately makes them more fit for any job role than students from online teaching learning pattern. The overall satisfaction from the classroom teaching learning pattern is higher than the online teaching learning pattern because the gain of knowledge from classroom teaching is more. Also, as compared to online teaching learning pattern students also get library and other facilities in classroom online teaching learning pattern.

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A STUDY ON CORPORATE SOCIAL RESPONSIBILITY PRACTICES ADOPTED BY EDUCATION SECTOR IN INDIA

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ABSTRACT
Corporate social responsibility is an important concept which has been discussed academically and applied to businesses. However, in terms of its application to the education sector, little research has been conducted. The purpose of this study was to examine how corporate social responsibility practices are perceived by the management as well as teachers in a higher education institution in Pune city. The objective of the papers is to identify the factors that influence the adoption of CSR practices in the education sector in India. Primary data was collected from 100 teachers and 30 members of the top management who administer the activities of their educational institution. The results of the study indicate that corporate social responsibility practices are perceived to improve employee satisfaction and commitment towards their work. The results also show that
Keywords: Corporate Social Responsibility, education sector, higher education institutions, stakeholders, trust, employee satisfaction, commitment, inclusive society.

Introduction
Corporate social responsibility (CSR) has become a widely discussed topic in both academic and business circles. It is the idea that companies have a responsibility to consider not only their economic performance but also their impact on society and the environment. The concept of CSR has been applied to various sectors, including education. However, there is a lack of research on how CSR practices are perceived and adopted in the education sector in India. The education sector plays a crucial role in the development of individuals and society. It is responsible for providing the knowledge and skills required to create a skilled and capable workforce. In India, education has been considered a priority sector, and the government has implemented various initiatives to improve access and quality of education. However, with the increasing demand for education and the limited resources available, the education sector faces several challenges, including inadequate infrastructure, insufficient funding, and a shortage of trained teachers. These challenges have resulted in unequal access to education, especially for underprivileged sections of society. Hence, it is crucial for the education sector to adopt CSR practices to promote equitable access to education and contribute towards sustainable development.

The aim of this paper is to examine the CSR practices adopted by the education sector in India, particularly in higher education institutions in Pune city. The study focuses on understanding how CSR practices are perceived by the management and teachers in these institutions and how they contribute towards creating a more inclusive society. The paper uses primary data collected from 100 teachers and 30 members of the top management who administer the activities of their educational institution. The data is analysed using statistical techniques to identify the factors that influence the adoption of CSR practices in the education sector and the impact of such practices on various stakeholders.

Review of Literature
Corporate Social Responsibility (CSR) has become an increasingly important concept for businesses and organizations worldwide. It is defined as "the responsibility of enterprises for their impacts on society" (Carroll, 1979). CSR involves voluntarily taking into account the interests of all stakeholders, including shareholders, customers, employees, suppliers, and the wider community.

In India, the education sector is a crucial area for promoting social development and improving the standard of living of the country's citizens. Lopes and Merino (2015) mention that CSR practices in the education sector can be seen as a way of contributing towards sustainable development by promoting social inclusion, reducing inequalities, and enhancing access to education. Higher education institutions play a key role in this process, as they are expected to produce a skilled workforce and contribute towards the overall development of the country.

Sreejesh et al. (2014) examined the perception of CSR practices among management and faculty members in higher education institutions in India. The study found that CSR was seen as an important responsibility by both management and faculty members, with the primary objective being to create a positive impact on society. The study also found that CSR practices were perceived as a way of enhancing the reputation of the institution and attracting more students.

However, the adoption of CSR practices in the education sector in India is influenced by a number of factors, including institutional culture, government policies, and financial resources. Nayak , Prusty (2016) found that the adoption of CSR practices in higher education institutions in India was hindered by a lack of clarity on the concept of CSR, limited resources, and a lack of incentives. The study also found that there was a need for greater awareness and understanding of CSR practices among stakeholders in the education sector.

The impact of CSR practices on various stakeholders, including students, parents, and local communities, has been widely studied in the literature. Lopes , Merino (2015) mention that CSR practices can have a positive impact on students by enhancing the quality of education and providing greater access to educational resources. In addition, CSR practices can contribute towards creating a more inclusive society by promoting social inclusion and reducing inequalities.

Kulkarni , Thakur (2018) examined the impact of CSR practices on local communities in Pune city, where a number of higher education institutions have adopted CSR practices. The study found that CSR practices had a positive impact on the local community by contributing towards the development of infrastructure, promoting healthcare and sanitation, and enhancing access to education. The study also found that CSR practices had a positive impact on the reputation of the institution, which in turn contributed towards attracting more students.
CSR has been widely discussed and applied in various industries, including the education sector. The education sector plays a crucial role in society by providing knowledge and skills to create a skilled and capable workforce. However, due to limited resources and increasing demand for education, the education sector faces several challenges, including inadequate infrastructure, insufficient funding, and a shortage of trained teachers. Hence, there is a need to adopt CSR practices in the education sector to promote equitable access to education and contribute towards sustainable development.

Several studies have explored the relationship between CSR and the education sector. Du, Bhattacharya, and Sen (2010) examined the CSR practices of higher education institutions in the United States. The study found that CSR practices were positively related to reputation and financial performance. Additionally, CSR practices were found to be positively related to student satisfaction and loyalty.

In India, the government has implemented various initiatives to improve access and quality of education. However, there is limited research on how CSR practices are perceived and adopted in the education sector. Jhunjhunwala and Bhatnagar (2017) examined the relationship between CSR and the education sector in India. The study found that CSR practices could help in improving the quality of education and contribute towards creating a more inclusive society. Additionally, CSR practices were found to be positively related to employee satisfaction and commitment towards their work.

Vadera, Budhwar, and Kulkarni (2019) examined the impact of CSR practices on employee engagement in higher education institutions in India. The study found that CSR practices positively influenced employee engagement and organizational commitment. Additionally, the study found that CSR practices were positively related to employee well-being and job satisfaction.

Singh , Hussain (2019) conducted a literature review on CSR practices in Indian higher education institutions and found that CSR initiatives can contribute towards the sustainable development of society. The study highlighted the importance of promoting environmental sustainability, social justice, and ethical practices through CSR initiatives in higher education institutions.

Sharma , Gupta (2020) conducted a literature review on the role of CSR in Indian education and found that CSR initiatives can enhance the quality of education, improve access to education, and contribute towards the overall development of society. The study also highlighted the need for collaboration between educational institutions, industry, and government to promote CSR practices in the education sector.

Rai et al. (2019) conducted a literature review on the impact of CSR practices in Indian higher education institutions and found that CSR initiatives can enhance the reputation of the institution, contribute towards employee engagement, and improve the quality of education. The study highlighted the importance of promoting sustainable development through CSR initiatives and recommended the development of a framework for CSR practices in higher education institutions. Anute , Ingale (2019) CSR is the process where organization plans and works with various stakeholders for the purpose of good society.

Patra et al. (2020) examined the current state of CSR practices in higher education institutions in India. The study identified various factors that influence the adoption of CSR practices in Indian higher education institutions, including government regulations, social and environmental concerns, and institutional reputation. The review also highlighted the impact of CSR practices on various stakeholders, such as students, employees, and the wider community, and their contribution towards creating a more sustainable and inclusive society.

Malik , Kalia (2018) conducted a literature review on the role of CSR in Indian education and found that CSR initiatives can enhance the quality of education, promote social justice and inclusion, and contribute towards sustainable development. The study emphasized the need for a collaborative approach between educational institutions, government, and industry to promote CSR practices in the education sector.

De Silva et al. (2019) conducted a literature review on the impact of CSR practices in Sri Lankan higher education institutions and found that CSR initiatives can improve the reputation of the institution, contribute towards employee engagement and retention, and enhance the learning experience for students. The study recommended the development of a CSR policy framework for higher education institutions in Sri Lanka to promote the adoption of CSR practices.

Ramachandran, Jayaraman (2018) conducted a literature review on the role of CSR in Indian higher education institutions and found that CSR initiatives can promote sustainable development, social justice, and ethical practices. The study highlighted the need for a strategic approach to CSR in higher education institutions and recommended the development of a CSR policy framework to support the adoption of CSR practices.

Overall, these literature reviews highlight the potential benefits of CSR practices in the education sector, including enhancing the quality of education, promoting social justice and inclusion, and contributing towards sustainable development. The reviews also emphasize the need for collaboration between educational institutions, government, and industry to promote and support CSR practices, and the importance of policies and regulations to encourage their adoption.

Objectives of the study

1. To examine the corporate social responsibility practices adopted by the education sector in India, particularly in higher education institutions in Pune city.
2. To understand how CSR practices are perceived by the management and teachers in these institutions.
3. To identify the factors that influence the adoption of CSR practices in the education sector in India.

Hypotheses of the study

H1: The adoption of CSR practices in higher education institutions in Pune city is influenced by factors such as institutional reputation, government regulations, social and environmental concerns, and resource availability.

Research Methodology

Research methodology refers to the process and techniques used to conduct research and collect data to answer research questions or test hypotheses. Based on the hypotheses identified, the following research methodology was used to study the adoption and impact of CSR practices in higher education institutions in Pune city:

Sampling: A random sample of higher education institutions in Pune city was selected for the study, based on factors such as institutional size and type (e.g., public vs. private), to ensure a diverse sample. 100 teachers and 30 respondents from the top-level management who administer the affairs of the educational institution were considered in the sample.

Data Collection: Data was collected through surveys, interviews, and observations. Surveys were administered to the management and faculty of higher education institutions to collect data on their awareness, understanding, and implementation of CSR practices. Observations were conducted to assess the implementation of CSR practices in higher education institutions.

Data Analysis: The data collected can be analysed using statistical methods, such as regression analysis, to test the hypotheses identified.

Ethical Considerations: Research ethics were considered throughout the research process, including obtaining informed consent from participants, ensuring confidentiality, and protecting the rights and welfare of participants.

Limitations: Limitations of the research included the generalizability of the findings to other regions of India or other countries, as well as the potential for response bias or social desirability bias in self-reported data.

Data Analysis

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
The institution engages in community service activities to improve the local community's quality of life.	10	7.7%	5	3.8%	6	4.6%	34	26.2 %	75	57.7 %
The institution has implemented environmentally sustainable practices to reduce its carbon footprint.	5	3.8%	5	3.8%	9	6.9%	43	33.1 %	68	52.3 %
The institution promotes ethical practices and values among its students and employees.	10	7.7%	10	7.7%	6	4.6%	39	30.0 %	65	50.0 %
The institution provides equal opportunities for all students regardless of their socio-economic background.	7	5.4%	5	3.8%	12	9.2%	35	26.9 %	71	54.6 %
The institution supports social causes through philanthropic donations and partnerships with non-profit organizations.	12	9.2%	11	8.5%	9	6.9%	45	34.6 %	53	40.8 %
The institution ensures transparency and accountability in its financial and administrative operations.	9	6.9%	8	6.2%	11	8.5%	39	30.0 %	63	48.5 %
The institution provides training and professional development opportunities to its employees to enhance their skills and knowledge.	11	8.5%	5	3.8%	10	7.7%	39	30.0 %	65	50.0 %
The institution engages in research and development activities to address social and environmental challenges.	10	7.7%	10	7.7%	11	8.5%	40	30.8 %	59	45.4 %
The institution promotes cultural diversity and inclusivity among its student body and employees.	7	5.4%	10	7.7%	11	8.5%	36	27.7 %	66	50.8 %
The institution collaborates with local businesses and industries to address social and environmental challenges in the region.	8	6.2%	11	8.5%	11	8.5%	42	32.3 %	58	44.6 %

Table 1. Range of CSR activities

This table represents the responses of the participants to the statement "The institution engages in community service activities to improve the local community's quality of life." using a 5-point Likert scale. The table shows the count and percentage of respondents for each option, including "Strongly Disagree", "Disagree", "Neutral", "Agree", and "Strongly Agree". Out of the total of 130 respondents, 75 (57.7%) strongly agree that the institution engages in community service activities to improve the local community's quality of life, and 34 (26.2%) agree with the statement. On the other hand, 10 (7.7%) respondents strongly disagree, 5 (3.8%) disagree, and 6 (4.6%) remain neutral on the statement. Out of 130 respondents, 5 (3.8%) strongly disagreed, 5 (3.8%) disagreed, 9 (6.9%) were neutral, 43 (33.1%) agreed, and 68 (52.3%) strongly agreed with the statement. Overall, the majority of respondents (85.4%) either agreed or strongly agreed that the institution has implemented environmentally sustainable practices to reduce its carbon footprint. Based on the survey results, it seems that a majority of respondents (80%) agree or strongly agree that the institution promotes ethical practices and values among its students and employees. However, there are still some who disagree or remain neutral, which suggests that there may be room for improvement in this area. It would be helpful to gather more specific feedback or examples from respondents to better understand their perceptions and identify areas for improvement.

According to the table, 54.6% of respondents agreed that the institution provides equal opportunities for all students regardless of their socio-economic background. 26.9% of respondents were neutral, 9.2% disagreed, and 5.4% strongly disagreed. This data indicates that the institution provides support for social causes through philanthropic donations and partnerships with non-profit organizations. The response distribution shows that 34.6% of respondents agreed and 40.8% strongly agreed with this statement, indicating that a majority of respondents believe that the institution supports social causes through philanthropic donations and partnerships with non-profit organizations. Based on the data, the majority of respondents (48.5%) agreed that the institution ensures transparency and accountability in its financial and administrative operations. Meanwhile, 30% of respondents chose the option indicating moderate agreement, and 8.5% of respondents were either neutral or disagreed with the statement. According to the survey results, 50% of respondents strongly agree that the institution provides training and professional development opportunities to its employees to enhance their skills and knowledge. Additionally, 30% of respondents agree, 8.5% of respondents strongly disagree, 3.8% of respondents disagree, and 7.7% of respondents are neutral on this statement. Overall, the majority of respondents agree or strongly agree that the institution offers training and professional development opportunities to its employees. Regarding the remainder of the statements, it can be seen that more respondents have agreed rather than disagreed with the statements. This shows that the educational institutions are engaged in a broad range of CSR activities.

	No influence at all		Less influence		Average Influence		Fair influence		Strong influence	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Institutional culture	7	5.4%	12	9.2%	9	6.9%	45	34.6%	57	43.8%
Government policies	8	6.2%	5	3.8%	7	5.4%	35	26.9%	75	57.7%
Financial resources	11	8.5%	7	5.4%	12	9.2%	32	24.6%	68	52.3%
Social and environmental concerns	9	6.9%	10	7.7%	12	9.2%	32	24.6%	67	51.5%
Institutional reputation	6	4.6%	9	6.9%	6	4.6%	44	33.8%	65	50.0%

Table 2. Influence of various factors on CSR initiatives

The table shows the responses of the survey participants on the influence of various factors on the institution's ability to address social and environmental challenges. The factors and their corresponding influence ratings are as follows:

1. Institutional culture: 43.8% of respondents believe that the institution's culture has a strong influence on its ability to address social and environmental challenges, while 34.6% think it has a fair influence.
2. Government policies: 57.7% of respondents think that government policies have a strong influence on the institution's ability to address social and environmental challenges.
3. Financial resources: 52.3% of respondents believe that financial resources have a strong influence on the institution's ability to address social and environmental challenges.
4. Social and environmental concerns: 51.5% of respondents think that social and environmental concerns have a strong influence on the institution's ability to address social and environmental challenges.
5. Institutional reputation: 50.0% of respondents think that institutional reputation has a strong influence on the institution's ability to address social and environmental challenges.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The CSR practices implemented by the institution have a positive impact on the local community.	Count	5	10	6	38	71
	Row N %	3.8%	7.7%	4.6%	29.2%	54.6%
The institution's CSR practices enhance the institution's reputation and attract more students and employees.	Count	11	9	5	44	61
	Row N %	8.5%	6.9%	3.8%	33.8%	46.9%
The institution's CSR practices create a sense of pride and motivation among faculty and staff.	Count	11	10	5	44	60
	Row N %	8.5%	7.7%	3.8%	33.8%	46.2%
The institution's CSR practices create a sense of community among faculty and staff.	Count	10	8	9	45	58
	Row N %	7.7%	6.2%	6.9%	34.6%	44.6%
The institution's CSR practices positively impact the professional development of faculty and staff.	Count	8	8	11	37	66
	Row N %	6.2%	6.2%	8.5%	28.5%	50.8%

Table 3. Perception about CSR activities.

The table represents the results of a survey conducted to evaluate the impact of CSR (Corporate Social Responsibility) practices implemented by an institution on the local community, faculty, and staff. The survey was conducted using a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". The first statement, "The CSR practices implemented by the institution have a positive impact on the local community," received a total of 128 responses. Of these, 38 (29.2%) respondents agreed that the CSR practices implemented by the institution have a positive impact on the local community, while 71 (54.6%) respondents strongly agreed with the statement. The second statement, "The institution's CSR practices enhance the institution's reputation and attract more students and employees," received a total of 130 responses. Of these, 44 (33.8%) respondents agreed that the institution's CSR practices enhance the institution's reputation and attract more students and employees, while 61 (46.9%) respondents strongly agreed with the statement. The third statement, "The institution's CSR practices create a sense of pride and motivation among faculty and staff," received a total of 130 responses. Of these, 44 (33.8%) respondents agreed that the institution's CSR practices create a sense of pride and motivation among faculty and staff, while 60 (46.2%) respondents strongly agreed with the statement. The fourth statement, "The institution's CSR practices create a sense of community among faculty and staff," received a total of 130 responses. Of these, 45 (34.6%) respondents agreed that the institution's CSR practices create a sense of community among faculty and staff, while 58 (44.6%) respondents strongly agreed with the statement. The fifth statement, "The institution's CSR practices positively impact the professional development of faculty and staff," received a total of 130 responses. Of these, 37 (28.5%) respondents agreed that the institution's CSR practices positively impact the professional development of faculty and staff, while 66 (50.8%) respondents strongly agreed with the statement. Overall, the survey results indicate that the majority of respondents believe that the institution's CSR practices have a positive impact on the local community, enhance the institution's reputation, create a sense of pride, motivation, and community among faculty and staff, and positively impact their professional development.

Testing of Hypotheses

H1: The adoption of CSR practices in higher education institutions in Pune city is influenced by factors such as institutional reputation, government regulations, social and environmental concerns, and resource availability.

	N	Mean	Std. Deviation	Std. Error Mean
Institutional culture	130	4.0231	1.17113	.10272
Government policies	130	4.2615	1.13133	.09922
Financial resources	130	4.0692	1.26484	.11093
Social and environmental concerns	130	4.0615	1.24361	.10907
Institutional reputation	130	4.1769	1.10296	.09674

Table 4. One sample statistic.

The mean was calculated for the various factors. A likert scale was used to measure each of the factors (1 was for "No influence at all" and 5 was for "Maximum influence".)

Based on these statistics, it appears that government policies received the highest average score (4.2615), followed closely by institutional reputation (4.1769) and social and environmental concerns (4.0615). Financial resources received the lowest average score (4.0692), and institutional culture fell in the middle of the range (4.0231). The standard deviation values suggest that there is some variability in scores for each factor, although the standard error means that the estimates of the means are relatively precise. Overall, these statistics provide a quantitative summary of the responses to the survey, allowing for comparisons between the different factors measured.

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Institutional culture	9.960	129	.000	1.02308	.8199	1.2263
Government policies	12.714	129	.000	1.26154	1.0652	1.4579
Financial resources	9.638	129	.000	1.06923	.8497	1.2887
Social and environmental concerns	9.732	129	.000	1.06154	.8457	1.2773
Institutional reputation	12.166	129	.000	1.17692	.9855	1.3683

Table 5. One Sample Test

These results indicate that for each of the five factors (institutional culture, government policies, financial resources, social and environmental concerns, and institutional reputation), the mean score is significantly higher than the test value of 3. This suggests that, on average, the participants in this survey agreed or strongly agreed that these factors have an influence on the implementation of CSR practices at their institution. The mean difference for each factor is also significantly greater than zero, which further supports this finding. The confidence intervals for the mean differences also do not overlap with zero, indicating a high level of confidence in these results. In all five cases (Institutional culture, Government policies, Financial resources, Social and environmental concerns, Institutional reputation), the P value is less than 0.05, which is the conventional threshold for statistical significance. This means that we can reject the null hypothesis and conclude that the mean rating for each construct is significantly different from 3 at a 95% confidence level. In other words, the respondents' ratings are significantly above average for all constructs, indicating a high influence of each of the factors.

Findings

1. The majority of respondents (71%) agree that the CSR practices implemented by the institution have a positive impact on the local community.
2. Respondents generally agree (46.9%) that the institution's CSR practices enhance the institution's reputation and attract more students and employees.
3. A similar percentage of respondents (46.2%) agree that the institution's CSR practices create a sense of pride and motivation among faculty and staff.
4. Respondents are divided on whether the institution's CSR practices create a sense of community among faculty and staff, with 45% agreeing and 44.6% disagreeing or being neutral.
5. More than half of the respondents (50.8%) agree that the institution's CSR practices positively impact the professional development of faculty and staff.
6. The mean scores for institutional culture, government policies, financial resources, social and environmental concerns, and institutional reputation are all above 4 on a 5-point scale, indicating that respondents generally perceive the institution positively in these areas.

Conclusion

1. The institution's CSR practices have a positive impact on the local community, which is reflected in the perception of both faculty and staff.
2. The institution's CSR practices are effective in enhancing its reputation and attracting more students and employees.
3. The institution's CSR practices create a sense of pride and motivation among faculty and staff.
4. The institution's CSR practices create a sense of community among faculty and staff, which is reflected in their perception.
5. The institution's CSR practices positively impact the professional development of faculty and staff.
6. The institutional culture, government policies, financial resources, social and environmental concerns, and institutional reputation are positively perceived by faculty and staff.
7. Faculty and staff perceive that the institution has a strong commitment to social and environmental concerns.
8. Faculty and staff perceive that the institution's financial resources are sufficient to support its operations.
9. Faculty and staff perceive that the institution has a positive reputation.
10. Faculty and staff perceive that the government policies that affect the institution are favourable.

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A STUDY ON CUSTOMER PERCEPTION TOWARDS SOCIAL MEDIA IN DEVELOPING A BRAND IMAGE POST-COVID-19 IN MAHARASHTRA (INDIA)

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ABSTRACT
An exploratory study has been made to understand customer perception towards social media in developing a brand image post covid-19 pandemic in the state of Maharashtra in India. The previous studies on this title focused on how to prevent this deadly disease from spreading over; and very little focus was given on how Covid-19 pandemic has been affecting the customer behavior post covid-19 scenario. In order to bridge this gap, the Customer Decision Making Model has been used to understand the influence on customers due to social media, which influence their purchase decisions. Assessments of variance have been made and influence of social media on purchasers. The findings of the research work confirmed that customers have been influenced by social media for understanding, comparing and analyzing products with regard to its quality and price. Thus the findings focus on increased influence of social media advertising post Covid-19 pandemic period. Since this pandemic is of international concern, the findings may be beneficial internationally. We have also given some suggestions to support organizations for changing customers' social media behavior, as it has direct relation with the decision making process of customers.
Keywords: Customer behavior, Covid-19, Brand image, Social media, Pandemic, Purchasing, Maharashtra

Introduction

Covid-19 is derived from its full form CoronaVirus Disease and 19 stands for 2019, the year when the pandemic has started. Since the disease started spreading internationally, it was named as Covid-19 pandemic. In the year 2020, many people showed signs of the pandemic in Maharashtra state in India, During this period focus was given as to how to prevent this pandemic to affect common people and hardly any focus was given on its impact on consumer behavior. Hence the Consumer Decision Making Model was used to build this gap. This model was used to study the changes in the behavior pattern on consumers and the influence of social media on them. It was observed that the pandemic has a structural impact on the purchase behavior and decision-making processes of consumers. As far as Maharashtra State is concerned Covid-19, pandemic changed the product needs of consumers, their shopping and purchasing behaviors and post-purchase satisfaction level. Due to intervention of the government to prevent this pandemic to all possible extent and since mostly people were indoors, social media became very vital especially when social distancing was a common norm everywhere. Hence the role of social media and its impact on people are very significant; and people could interact with each other without physical contact. As such, businesses found new opportunities to gain competitive advantage through the effective use of social media marketing strategies.

It was observed that marketing research is required to understand the healthcare and macro-economic of Covid-19 pandemic, to examine the relationship between Covid-19 pandemic situations on the behavior of consumers. To cite an example, due to social distancing rules, consumers may change their decision-making processes in shopping and product acquisitions. Consumers' post purchase behavior also needs to be studied. Since Coved-19 pandemic is a new disease, many publications are not available as to its impacts on social media marketing behavior in Maharashtra. This research paper focuses on the role of social media in the decision making processes of consumers. The hypothesis of the research work is that social media marketing behavior shifted due to Covid-19 pandemic. This research focuses on the economy of Maharashtra because it is the largest spending economy in the world and the pandemic has largely influenced the healthcare in Maharashtra.

Problems

The new trend of today is online marketing, which is one of the easiest ways to market the products and reach consumers. The problems observed in this research work are as under:

1) What are the brand image factors that enhance the online marketing among students?
2) What is the relationship between factors of brand image and individual purchasing in online marketing?

Literature Review

Fianto (2014): Market place or value opposition has association with brand image for its users especially with regard to the service industry. Brand image and purchase behavior are interrelated. Challa, Anute (2021) Brands are using Instagram to drive engagement and connect with the targeted markets and audience. Each and Every company is coming up with unique content, by using quality images, Videos. Though some companies are unable to create post quality content, having a strong fan base in their social media platforms.

Zhang (2015): Brand image has changed the recommendation, as it has a prominent role in advertising and marketing activities. Brand image has a direct relationship between brand assets and brand performance; and some researchers also feel that brand image and customer equity are interrelated. Padival (2019): the increase in the use of social media has influenced the people of Maharashtra. However there are some challenges. The lower reputation of commercials is a major challenge faced by marketers. Hence, it is essential to understand the mindset of customers. This mindset is influenced by popularity of the product, emotional attachment, creativity and characteristics. Sharma (2020): In this virtual generation, the net, and Social Media(SM) have had an intensive effect on the purchasing behavior of "customers". The SM gives a platform in which "customers" are exposed to the quality product with the quality price along with critiques and opinions about the products. So, we are able to turn our heads and study a brand in a way as if the brand is talking to us. Brands sincerely support the connection with customers and inspire buy intention. Furthermore, SMMA has a robust application in growing an advertising and marketing strategy for businesses. It has to turn out to be a significant device that collaborates with agencies and people. It is concluded that the "customer"-brand dating does have a superb and statistically massive effect on consumers' purchase intention through SM. Vijaya (2019): Understanding consumer's perceptions of social media marketing has constantly been one of the goals of advertisers. Advertisements that are successful in delivering their messages to their audiences can assist to promote and construct attention to the corporation's services. With the speedy improvement of information technology worldwide within the past decade, social media advertising and marketing are increasingly counting on various modes of interactive technology to market and promote their products and services. The effective characteristic can be visible as a destiny of advertising and can become extra figurative in consumers' minds than television advertising. Hoque (2020): Internet has played a pivotal role and played a dominant role for online purchasing and selling their products. Therefore, companies are in contact with social media, which includes Facebook, Instagram, Myspace and others for reaching out to customers to cater to their needs. It has been observed that in social media the age group of customers are between 21-30 and 31-40 years. Choudhary (2019): In the recent past researchers and advertising agencies are trying hard to influence the consumers through effective advertisements, for the brand loyalty of customers. The factors which affect brand loyalty are: (1)Accessibility; (2) Informative; (3) Brandimage; (4) Customer-care services; (5) Advertisements; (6) Relationship constructing; (7) Convenience; (8) Feedback. The belief of consumers toward exclusive social media practices used by entrepreneurs. Extra-ordinary strategies can be designed through social media for brand image and brand loyalty.

Research Methodology

The scope of this research study is limited to Maharashtra state in India.

Independent variables – Various social media platforms, social media communications through brand ambassadors

Dependable variables – Consumer satisfaction

Objectives of the Study

1) To understand the variations in consumer satisfaction, in the course of influencing through social media.
2) To understand the effect of multiple social media platforms while developing brand image
3) To understand brand ambassadors' role for influencing brand products through social media.

Hypothesis of the Study

H0: No major changes are seen in satisfaction of consumers due to social media platforms

H01: Major changes are seen in satisfaction of consumers due to brand advocates

H02: No major changes are seen in satisfaction of consumers due to brand advocates

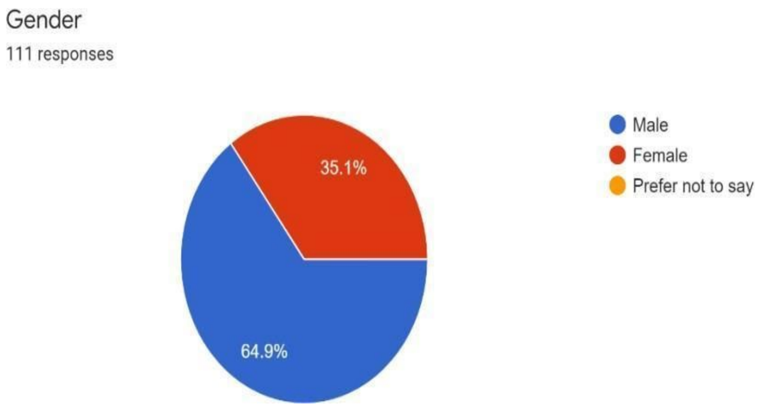
H03: Major changes are seen in satisfaction of consumers due to brand advocates

Sample size: For this research work 115 samples were selected.
Sample method: Simple random sampling

Statistical test used:
Correlation test is used as there are grouping variables.
One-way ANOVA is used to determine the difference between the Means.

Data collection
Primary data is used for this study.
Questionnaires were designed according to different variables.

Data Analysis



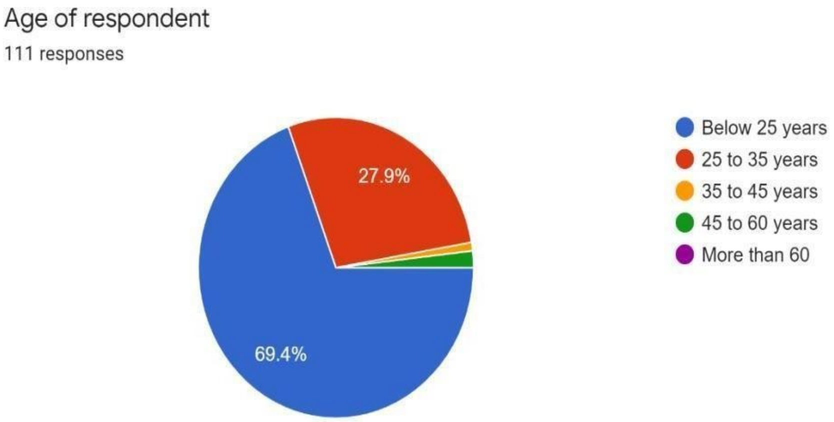
Graph No: 1- Gender

Gender	Frequency
Male	65
Female	32
Other	14

Table No: 1- Gender

Based on the above, we can understand that out of 111 respondents, 65 respondents are in the male group 32 respondents are in the female group 14 respondents are in the other group.

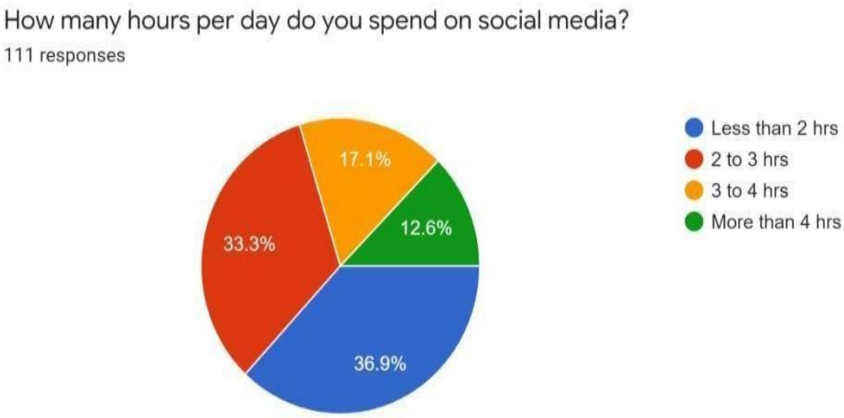
Graph No: 2- Age



Age Group	Frequenc Y
Less than 25 Years	69%
25-35	28%
35-45	2%
50 & Above	2%

Table No: 2- Age

Based on the above, we can understand that out of the respondents numbering 111, 69% ages less than fall 25, 28% ages between 25-35, 2% ages between 35-45, and 2% ages 50 & above.

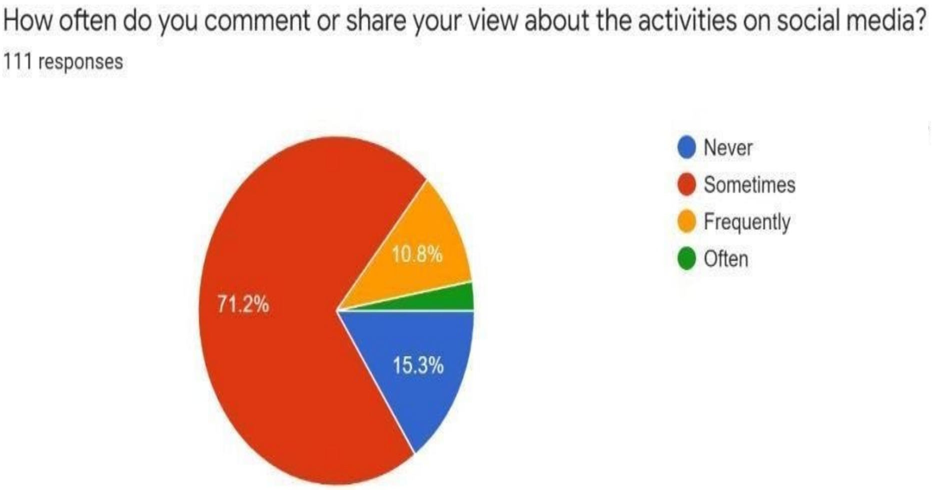


Graph No: 3- Time spent on Social media

Hours	Frequency
<2	37%
2 to 3	33%
3 to 4	17%
>4	13%

Table No: 3- Time spent on Social media

Based on the above, we can understand that out of the respondents numbering 111, 37% fall below 2 hours, 33% fall between 2 to 3, 17% fall between 3 to 4,and 13% are in the age group of more than 4

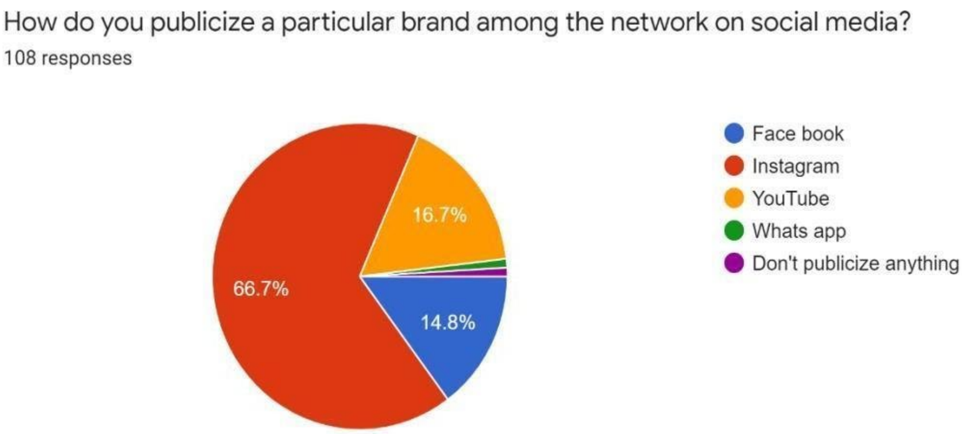


Graph No: 4-Social Media Analysis

Variance	Frequency Y
Never	15 %
Sometimes	71 %
Frequently	11 %
Often	4%

Table No: 4-Social Media Analysis

Based on the above, we can understand that out of the respondents numbering 111, 15% mentioned never, 71% mentioned sometimes, 11% mentioned frequently, and 4% mentioned often.

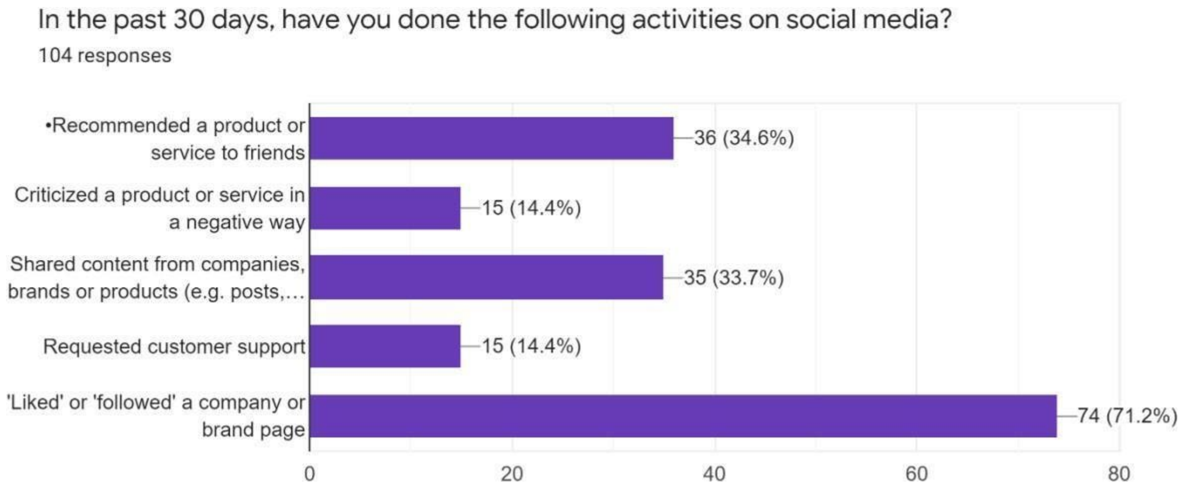


Graph No:5- Platforms of Social Media Used

Social media	Frequency
Facebook	15%
Instagram	67%
YouTube	17%
WhatsApp	1%
Nothing	0%

Table No: 5- Platforms of Social Media Used

Based on the above, we can understand that out of the respondents numbering 111, 15% mentioned Facebook, 67% Instagram,17% YouTube, and 1% WhatsApp, rest 0%.



Graph No:5- Survey of 30 days

Based on the above, we can understand that out of the respondents numbering 111, 34.6% mentioned product recommendation from people, 14.4% mentioned in a negative way, 33.7% mentioned shared content from companies, and 14.4% mentioned customers support and finally 71.2% mentioned followed a company or brand.

Hypothesis Testing

Independent Variable				Dependent variable
Parameters For Analysis	Social Media Platforms	Brand Ambassadors	Brand advocate (I.e., Brand Recommendations Through Social Media)	Consumer Satisfaction
Sum	484	463	454	492
Count	114	114	114	114
Minimum	1	1	1	1
Maximum	5	5	5	5
Range	4	4	4	4
Mean	4.245614035	4.061403509	3.98245614	4.315789474
Median	4	4	4	4
Mode	5	5	4	5
Standard Deviation	0.822505836	0.975894441	0.917495219	0.787131027
Sample Variance	0.682502717	0.960798013	0.849247011	0.625058221

Table No. 6 Hypothesis Testing

The mean value of different Social Media Platforms is 4.24 and that of Brand Ambassadors is 4.06 and that of Brand advocate is (I.e., Brand Recommendations Through Social Media) Through Social Media is 3.98 and the mean of Dependent variable Consumer Satisfaction is 4.31. The standard deviation in Social Media Platforms is

0.82, Brand Ambassadors is 0.97, Brand advocate is 0.91 and Dependent variable Consumer Satisfaction is 0.78. Similarly sample variance for various social media are: for Social Media Platforms is 0.68, Brand Ambassadors is 0.96, brand advocate is 0.84 and Dependent variable Consumer satisfaction is 0.62.

Correlations

		platforms	Ambassadors	Recommondaction	Satisfaction
platforms	Pearson Correlation	1.000	.616	.604	.459
	Sig. (2-tailed)		.000	.000	.000
	N	115	115	115	115
Ambassadors	Pearson Correlation	.616	1.000	.489	.515
	Sig. (2-tailed)	.000		.000	.000
	N	115	115	115	115
Recommondaction	Pearson Correlation	.604	.489	1.000	.432
	Sig. (2-tailed)	.000	.000		.000
	N	115	115	115	115
Satisfaction	Pearson Correlation	.459	.515	.432	1.000
	Sig. (2-tailed)	.000	.000	.000	
	N	115	115	115	115

Table No. 7 Hypothesis Testing, Correlation Analysis

The correlation between Platforms (Social media platforms) and Ambassadors (Brand ambassadors) remains 0.616, which implies that there is a positive relationship between the set of variables and concludes that strong correlation. The correlation between Platforms (Social media platforms) and brand recommendation (i.e. Brand advocate through social media) is 0.604 this is a strong positive relationship between these variables. The correlation of Platforms (Social media platforms) and satisfaction (consumer satisfaction) is 0.459 this is a moderate relationship but less positive than other variables the correlation between Ambassadors (Brand ambassadors) and brand recommendation (i.e., Brand advocate through social media) is positive 0.489. Between Ambassadors (Brand ambassadors) and satisfaction (consumer satisfaction) is 0.515 which implies there is a positive relationship but less positive than the other variables brand recommendation (i.e., Brand advocate through social media) and (satisfaction) consumer satisfaction is Positively correlated and the value is 0.432. Correlation between Platforms (Social media platforms) and Platforms (Social media platforms) is equal 1 same for Ambassadors (Brand ambassadors) brand recommendation (i.e., Brand advocate through social media), and (satisfaction) consumer satisfaction correlation among themselves.

Satisfaction by platforms

ANOVA					
Satisfaction towards Different Social Media Platforms					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	12.26	4	12.491	7.52	.0004
Within Groups	55.84	110	189.264		
Total	71.10	114			

Table No. 8 - Hypothesis Testing, ANOVA

Interpretation: Based on the above, it is seen that customers' satisfaction changes with the use of various social media platforms as per gender.

Based on the customers' perception due to the use of social media platforms according to Qualification, the p-value (sig value) of the F-test is 0.0004. It is less than standard p-value 0.05 (5% level of significance). So, we accepted the F-test. Hence, we rejected the null hypothesis and accepted an alternate hypothesis.
Conclusion: As far as customers' satisfaction is concerned, there is significant difference due to the use of different social media platforms based on gender.

Satisfaction by Brand ambassadors

ANOVA					
Satisfaction toward Brand ambassadors					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	25.96	4	6.49	15.82	.0056
Within Groups	45.13	110	0.41		
Total	71.10	114			

Table No. 9 - Hypothesis Testing, ANOVA

Interpretation: Based on the above, it is seen that due to the use of Brand Ambassadors there are changes in the views of customers.

The calculated p-value (sig value) of the F-test is 0.0056. It is less than the standard p – value 0.05(5%level of significance). So we accepted Ftest. Hence, we rejected the null hypothesis and accepted an alternate hypothesis.

Conclusion: Due to the use of Brand Ambassadors there are significant changes in the views of customers, as per gender.

Satisfaction by Brand Advocate

ANOVA					
Satisfaction towards Brand advocate					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	16.91.	4	4.49	8.58	.036
Within Groups	54.13	110	0.49		
Total	71.10	114			

Table No. 9 - Hypothesis Testing, ANOVA

Interpretation: Based on the above, it is seen that due to the use of Brand Ambassadors there are changes in the views of customers as per gender.
Hence, the calculated p-value (sigvalue) of the F-test is 0.036. It is less than the standard p-value 0.05 (5% level of significance). Hence, we accepted the F test and rejected null hypothesis; and accepted alternate hypothesis.
Conclusion: Due to the use of Brand Ambassadors there are significant changes in the views of customers, as per gender.

Conclusion

There isn't any doubt that the social media community is influencing the customers' satisfaction, which shifted the clients from buying at the marketplace or shopping center toe-buying to a few extents. These e-buying choices are decided by way of means of the employer elements, demographic elements of the clients and technological environment. Social media have opened a brand new possibility for entrepreneurs to recognize the actual want of the clients and supply the goods or offerings to assemble up the expectancy at the most excellent level. On the other hand, clients declare that they may be exploited via means of presenting a replica of the well-known brand, charging an exceptionally better fee than the marketplace going fee and they may now no longer be refunded in case of dishonesty via means of entrepreneurs. Sometimes it isn't always feasible to discover the markers who behave in commercial enterprise seasonally or occasionally. Since the clients opt for buying via social media networks, the policy makers must install a few guidelines and rules for making sure the betterment of the clients and affordable income for the businessmen.

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A STUDY ON IMPACT OF GREEN FINANCING ON CORPORATE GOVERNANCE

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ABSTRACT
The purpose of this study was to investigate the impact of green financing on corporate governance. In particular, it sought to explore the extent to which different green financing practices influence firm performance, board composition and ownership structure. A survey of 116 employees was conducted. The employees were chosen from leading IT companies who have offices in Pune City, Maharashtra, India. The findings suggest that there is a positive relationship between green financing and corporate governance. Green finance may be beneficial for improving the quality of corporate governance by increasing the transparency and disclosure requirements for firms who engage in such activities. Furthermore, green finance can also help foster better decision-making within companies through increased engagement with stakeholders around environmental issues. The findings of this survey clearly show that green finance has the potential to positively shape corporate governance, engage stakeholders more meaningfully, motivate managerial incentives towards sustainability goals, and guide strategic management decisions with greater consideration for environmental issues.
Keywords: Green Financing, Corporate Governance, Firm Performance, Board Composition. Ownership Structure.

Introduction

The current world is facing a rapidly increasing environmental crisis with an urgent need to reduce greenhouse gas emissions and mitigate climate change. To address these challenges, businesses are increasingly turning to green financing as an effective way of generating capital for cleaner energy and eco-friendly business models (Kruger et al., 2016). Green financing represents investments made in renewable energy and environmentally responsible projects such as waste reduction, reforestation or the adoption of sustainable practices. It has become an important tool for companies all over the world to reduce their carbon footprint while also improving their financial performance.

The world is currently facing a number of environmental challenges, such as climate change and resource depletion. In order to address them, organizations are increasingly engaging in green financing practices (e.g., investing in renewable energy projects or transitioning to sustainable practices). Green financing has the potential to provide both social and economic benefits by reducing environmental impact while simultaneously creating new business opportunities.

At the same time, there is growing interest in how green financing might influence corporate governance. Corporate governance can be defined as a system of rules, processes and customs used to ensure that firms adhere to internal policies and external regulations (Hodgson, 2015). It involves various stakeholders (e.g., shareholders, executives, directors, employees and creditors) who must work together to achieve a company's objectives. Thus, it is important to understand how green financing might affect the corporate governance of an organization and the performance of its stakeholders.

This study aims to explore the impact of green financing on corporate governance. Specifically, it seeks to examine how different green finance practices influence firm performance, board composition and ownership structure. A survey of 116 employees was conducted in order to assess their views on this topic. The results suggest that there is a positive relationship between green financing and good corporate governance practices. Furthermore, green finance can also help foster better decision-making within companies through increased stakeholder engagement around environmental issues.

The findings of this study will be useful for policymakers and businesses alike as they attempt to create a more environmentally responsible economy. It suggests that green financing can help organizations improve their corporate governance while simultaneously reducing their environmental impact.

Review of Literature

Rajwade (2018) issued a research paper on Green financing and Corporate Governance. The paper offers a detailed review on green financing and corporate governance and attempts to examine the relationship between these two concepts. The study reveals that while there is an increasing number of financial institutions who have started to offer green finance products, there is limited knowledge about the linkages between these two concepts.

The author of this research paper has sought to examine the impact of green financing on the corporate governance of firms, particularly with regards to issues such as transparency, stakeholder engagement and responsibility for sustainable development. In addition, the author has also explored how green financing may impact firm performance and ownership structure through its effect on corporate governance.

Nihal (2020) published a research paper on Green finance and Corporate Governance. This research paper aims to examine the impact of green finance on corporate governance and to compare the papers with the reviews of various studies that have been conducted. The author has used surveys, interviews and primary data to explore the impact of green finance in terms of its positive effects on corporate governance, stakeholder engagement and sustainable development. The paper also examines whether green financing can result in improved firm performance through goals that include improving transparency and disclosure, engaging with stakeholders, increasing shareholder value and making strategic decisions. The author also examines the relationship between green financing and ownership structure in a bid to explore how such a practice might affect firms.

Saha (2019) published a research paper on Environmental Corporate Governance (ECG). The paper discusses the principles of ECG and demonstrates how such principles can be used to manage environmental uncertainties and complexities. The study reveals how corporate governance can be applied to environmental issues. It argues that this form of governance relies heavily on stakeholder engagement and collaboration in order to effectively tackle environmental challenges. In addition, the paper discusses the various ways in which stakeholders should engage with companies in order for them to be able to successfully address environmental issues.

Anute, Ingale (2018) all foreign banks are giving their best performance in India. All banks differ in size and come from different foreign areas. Banks are using corporate governance methods to make big and small decisions for them. Corporate governance and practices are very important in Banks. Therefore, corporate governance has a different place and importance in companies. Corporate governance is a way to bring investors and managers in line and create interest in them.

Singh (2019) published a research paper on Sustainability and Corporate Governance: A narrative approach. This study aims to discuss why and how sustainability should be incorporated into corporate governance through the use of a narrative lens. The paper examines the various ways in which sustainability may influence corporate governance and how this might impact firms. The study identifies a number of issues that are likely to arise as companies become increasingly engaged in sustainable practices. The paper also identifies a number of factors that should be considered when addressing these issues.

Saurabh , Veena (2019) published a research paper on Corporate Governance and the role of the board in it. The paper describes the role that the board plays in effective corporate governance. It also explores how directors can ensure that corporate governance is effective by making sure that they fulfill their duties to serve as stewards, protectors and promoters of stakeholders' interests through active involvement.

The article suggests that corporate governance can improve firm performance as well as create value for all stakeholders. In addition, it explains how environmental issues may shape corporate governance due to their direct impact on firms and their ability to operate effectively within society.

Sterlings (2019) in his paper suggests that corporate governance deals with the rules, processes and codes of conduct that define the behavior of corporate management. It also deals with the structure of management and how it is used to facilitate the creation of value for firm stakeholders. In addition, corporate governance also determines how companies are structured, in terms of their ownership structure, as well as how directors make decisions about strategic direction, risk management, stakeholder engagement and transparency.

The paper suggests that firms can improve their corporate governance by increasing participation from all stakeholders. The author argues that sustainability-focused strategies are likely to foster innovation which will in turn result in improved financial performance and a better ability to create value for all stakeholders.

Srivastava (2017) argues that green finance is accepted as a viable approach to financing environmental projects. He further argues that there is a significant portion of the society which is in favor of incorporating this concept into the finance industry. Singh and Rai (2019) show that not all green finance initiatives might be sustainable. In this context, Srivastava et al. makes a case for the development of more credible and responsible financial institutions as well as measures to build more sustainable financial markets.

Yadav (2018) argues that an increase in the supply of green bonds has led to higher demand and hence resulting in an increased volume of issuance despite higher yields and volatility. The paper also shows that green bonds also exhibit positive serial correlation.

The results of the study suggest that green bonds are a good instrument to be used in financing green projects. They also point out that more research should be conducted on this topic to improve their effectiveness and growth.

The United Nations Conference on Trade and Development (UNCTAD) noted in 2015 that “the sustainable development and green finance agenda has gained momentum over the past few years” with a move for the adoption of environmental, social and governance (ESG) issues in the Financial Stability Board’s reform agenda, including under capital market reform.

Nazi Burqui et al., suggest that corporate governance practices are fundamental to ensure long term value. There is evidence to support that firms with a strong corporate governance practice have a better long-term stock performance due to better risk management and monitoring over performance.

Garner (2017) suggests that the sustainability-oriented finance (SOF) practices are positively correlated with improved performance of the firms. In this context, they examine whether sustainability-oriented finance (SOF) practices have a significant effect on firm performance. The study also shows that firms that engage in SOV practices have a substantial positive relationship with their stock prices. The research aims to determine how green finance may decrease the financial risk faced by companies and whether such reduction is sustainable over time. The paper suggests that green finance may result in lower risk faced by firms as it reduces their exposure to externalities. It further argues that externalities arise from issues such as climate change, resource scarcity and pollution and highlights several issues faced by a firm when managing their risks.

Murray (2018) suggests that green financing has the potential to create a positive effect on companies’ stock price. The paper provides a brief overview of green finance and its potential application. It then goes on to show that Sustainability-focused strategies are likely to foster innovation which will in turn result in improved financial performance and a better ability to create value for all stakeholders. The paper concludes with an examination of Green Bonds and how they can be used as an instrument for sustainability-oriented financing.

The study examines the relationship between green bonds issuance (the amount of green bonds issued per country) and environmental, social, governance (ESG) risk factors in Europe (EU28 countries).

Thus, the previous studies highlighted that there is a positive relationship between green finance and corporate governance. Green finance can be of benefit to improving the quality of corporate governance by ensuring that information on the environment is transparent and accessible for all stakeholders. There are some limitations in their research as well; however, their findings will nevertheless provide valuable insights into how green financing might improve corporate governance within organizations.

In an attempt to address this gap in the literature, this study aims to explore the impact of green finance on corporate governance by assessing its direct and indirect effects on firm performance, board composition and ownership structure.

Objectives of the study

1. To investigate the relationship between green financing and corporate governance in leading IT companies in Pune City.
2. To study the influence of green financing on the quality of corporate governance.

Hypothesis
H1: There is a positive relationship between green financing and corporate governance.
H2: Green finance is beneficial for improving the quality of corporate governance by increasing the transparency and disclosure requirements for firms who engage in such activities.

Research Methodology
1. The survey questionnaire was developed and pilot tested.
2. A total of 116 employees from leading IT companies in Pune City in Maharashtra, India were chosen and administered the questionnaire.
3. Data analysis was conducted using descriptive statistics and further confirmation was done through Pearson correlation test to identify predictors as well as causality between green financing and corporate governance.
4. Sources of data: Primary data were collected through a survey questionnaire administered to the IT companies' employees in Pune city, Maharashtra, India. Secondary data were collected from the internet using various search engines such as Google Scholar, Google Books etc.
5. Sampling Method: Convenience sampling was used in the present study.

Data Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30 years	11	9.5	9.5	9.5
	31-40 years	51	44.0	44.0	53.4
	41-50 years	43	37.1	37.1	90.5
	51-60 years	11	9.5	9.5	100.0
	Total	116	100.0	100.0	

Table 1. Age

According to the above table, 44% of the respondents were from the age group of 31-40 years. 37.1% of the respondents were from the age group of 41-50 years, 9.5% of respondents were from the age group of 18-30 and 51-60 years respectively. This shows that the sample has respondents from all walks of life. This also leads to a higher level of reliability of the results.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	58	50.0	50.0	50.0
	Female	58	50.0	50.0	100.0
	Total	116	100.0	100.0	

Table 2. Gender

The results of gender reveal that the sample was equally distributed between males and females. This leads to a higher level of reliability since both genders were represented in equal proportions. This also suggests that the sample is representative of the general population in terms of gender demographic.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	10	8.6	8.6	8.6
	6-10 years	66	56.9	56.9	65.5
	11-15 years	33	28.4	28.4	94.0
	Above 15 years	7	6.0	6.0	100.0
	Total	116	100.0	100.0	

Table 3. Experience

The results of experience show that 56.9% of the respondents had 6-10 years of experience in their respective fields, 28.4% had 11-15 years of experience and 8.6%, 6% had 0 - 5 years and above 15 years respectively. This indicates that most of the sample had a considerable amount of experience in their field which contributes to higher reliability. This also implies that the findings are likely to be more accurate since they are based on the responses from experienced individuals. Thus, this sample can be considered as representative of the population at large with regards to their expertise level in the subject matter under study.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.4	3.4	3.4
	Disagree	4	3.4	3.4	6.9
	Neutral	6	5.2	5.2	12.1
	Agree	65	56.0	56.0	68.1
	Strongly Agree	37	31.9	31.9	100.0
	Total	116	100.0	100.0	

Table 4. Green finance has positively influenced the performance of our firm

56% of the respondents agreed and 31.9% of the respondents strongly agreed that green finance has positively influenced the performance of their firm. This indicates a positive perception of green finance among the sample and suggests that it is increasingly becoming a popular form of financing for businesses. This also implies that green finance may be useful in driving economic growth in different sectors. Additionally, this shows that green financing is an effective tool for helping businesses boost their sustainability efforts and achieve their environmental goals. Thus, it can be said that green financing is gaining traction among many firms and could potentially have very positive implications for our economy.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	5.2	5.2	5.2
	Disagree	6	5.2	5.2	10.3
	Neutral	9	7.8	7.8	18.1
	Agree	62	53.4	53.4	71.6
	Strongly Agree	33	28.4	28.4	100.0
	Total	116	100.0	100.0	

Table 5. Our board composition has been improved due to green financing practices

53.4% of the respondents agreed and 28.4% strongly agreed that their board composition has been improved due to green financing practices. This indicates an increased awareness among firms of the importance of having a diverse and inclusive board for better management decisions. Additionally, this suggests that green financing is helping companies achieve more effective governance which could potentially lead to improvements in operational performance and financial results. Thus, it can be concluded that green financing has the potential to positively impact corporate governance by promoting diversity on boards. In addition, this further demonstrates the value added by green finance in driving sustainability efforts at firms as well as leading to improved economic outcomes.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	8	6.9	6.9	6.9
	Agree	62	53.4	53.4	60.3
	Strongly Agree	46	39.7	39.7	100.0
	Total	116	100.0	100.0	

Table 6. We have seen an increase in stakeholder engagement around environmental issues since implementing green finance initiatives

53.4% of the respondents agreed and 39.7% strongly agreed that they have seen an increase in stakeholder engagement around environmental issues since implementing green finance initiatives. This suggests that green finance is having a positive effect on stakeholders' involvement in corporate sustainability efforts and hence, contributing to improved outcomes. Additionally, this indicates that green financing can help companies effectively engage their stakeholders which could lead to increased understanding and collaboration around environmental goals. Thus, it can be concluded that green finance has the potential to drive more meaningful conversations between firms and their stakeholders as well as helping to motivate greater awareness and action around sustainability issues. Consequently, this could ultimately lead to better results for all parties involved in the process.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	8.6	8.6	8.6
	Disagree	10	8.6	8.6	17.2
	Neutral	15	12.9	12.9	30.2
	Agree	60	51.7	51.7	81.9
	Strongly Agree	21	18.1	18.1	100.0
	Total	116	100.0	100.0	

Table 7. The managerial incentives within our firm have been impacted by the adoption of green financing

51.7% of the respondents agreed and 18.1% strongly agreed that the managerial incentives within their firm have been impacted by the adoption of green financing. This implies that green finance is being seen as a way to improve internal management practices and motivate employees to pursue sustainability goals. Additionally, this suggests that businesses are increasingly recognizing the importance of aligning managerial incentives with environmental objectives in order to ensure long-term success and drive positive economic outcomes. Thus, it can be argued that green financing has the potential to create an environment where managers are motivated towards sustainable behavior thereby helping companies achieve better performance results. Ultimately, this could lead to a more sustainable business landscape which would be beneficial for both firms and society at large.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	7	6.0	6.0	6.0
	Agree	63	54.3	54.3	60.3
	Strongly Agree	46	39.7	39.7	100.0
	Total	116	100.0	100.0	

Table 8. Strategic management decisions at our firm have been enhanced through green financing

54.3% of the respondents agreed and 39.7% strongly agreed that strategic management decisions at their firm have been enhanced through green financing. This implies that businesses are increasingly recognizing the importance of taking into account environmental considerations when making decisions in order to ensure long-term success and drive positive economic outcomes. Additionally, this suggests that green finance is being seen as a way to improve internal management practices and guide companies towards more sustainable behavior. Thus, it can be concluded that green finance has the potential to create an environment where firms are encouraged to make decisions with sustainability in mind which could ultimately lead to better performance results for all parties involved.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	6.9	6.9	6.9
	Disagree	8	6.9	6.9	13.8
	Neutral	11	9.5	9.5	23.3
	Agree	65	56.0	56.0	79.3
	Strongly Agree	24	20.7	20.7	100.0
	Total	116	100.0	100.0	

Table 9. Our ownership structure has been impacted by our engagement in green finance

56.0% of the respondents agreed and 20.7% strongly agreed that their ownership structure has been impacted by their engagement in green finance. This implies that businesses are increasingly recognizing the importance of investing in sustainable practices which can often have a positive effect on company performance. Additionally, this suggests that green financing is being seen as a way to create value for shareholders and motivate greater involvement from stakeholders around environmental goals. Thus, it can be argued that green finance has the potential to drive more meaningful conversations between firms and their shareholders as well as helping to motivate greater awareness and action around sustainability issues.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.4	3.4	3.4
	Disagree	4	3.4	3.4	6.9
	Neutral	9	7.8	7.8	14.7
	Agree	62	53.4	53.4	68.1
	Strongly Agree	37	31.9	31.9	100.0
	Total	116	100.0	100.0	

Table 10. The transparency and disclosure requirements within our firm have increased due to green financing practice and it has increased the quality of corporate governance.

53.4% of the respondents agreed and 31.9% strongly agreed that the transparency and disclosure requirements within their firm have increased due to green financing practice and it has increased the quality of corporate governance. 7.8% of the respondents were neutral regarding the same. This implies that businesses are increasingly recognizing the importance of taking into account environmental considerations in order to ensure better corporate governance and greater transparency. Additionally, this suggests that green finance is being seen as a way to improve internal practices and guide companies towards more sustainable behaviour which could ultimately help firms achieve better performance outcomes over time. Thus, it can be concluded that green finance has the potential to create an environment where managers are motivated towards sustainable behaviour which could lead to a more sustainable business landscape which would be beneficial for both firms and society at large.

Testing of Hypothesis

	N	Mean	Std. Deviation	Std. Error Mean
a. Green finance has positively influenced the performance of our firm	116	4.0948	.90389	.08392
b. Our board composition has been improved due to green financing practices	116	3.9483	1.02019	.09472
c. We have seen an increase in stakeholder engagement around environmental issues since implementing green finance initiatives	116	4.3276	.60110	.05581
d. The managerial incentives within our firm have been impacted by the adoption of green financing	116	3.6207	1.13945	.10580
e. Strategic management decisions at our firm have been enhanced through green financing	116	4.3362	.58894	.05468
f. Our ownership structure has been impacted by our engagement in green finance	116	3.7672	1.07427	.09974
g. The transparency and disclosure requirements within our firm have increased due to green financing practice and it has increased the quality of corporate governance.	116	4.0690	.92053	.08547

Table 11. One-Sample Statistics

The averages of the Likert scale questions were calculated. A verage above 3 indicates that there is a level of agreement to the statements mentioned above. The above table shows that all the mean values are above 3.5. This means that the respondents have agreed to the above statements. However, a one sample T-test was used to find out if the differences were statistically significant. The following are the results of the one sample T-test.

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
a. Green finance has positively influenced the performance of our firm	13.045	115	.000	1.09483	.9286	1.2611
b. Our board composition has been improved due to green financing practices	10.011	115	.000	.94828	.7607	1.1359
c. We have seen an increase in stakeholder engagement around environmental issues since implementing green finance initiatives	23.787	115	.000	1.32759	1.2170	1.4381
d. The managerial incentives within our firm have been impacted by the adoption of green financing	5.867	115	.000	.62069	.4111	.8303
e. Strategic management decisions at our firm have been enhanced through green financing	24.436	115	.000	1.33621	1.2279	1.4445
f. Our ownership structure has been impacted by our engagement in green finance	7.692	115	.000	.76724	.5697	.9648
g. The transparency and disclosure requirements within our firm have increased due to green financing practice and it has increased the quality of corporate governance.	12.507	115	.000	1.06897	.8997	1.2383

Table 12. One-Sample Test

The above table shows that the mean differences are positive. In all the statements we can safely reject the null hypothesis (as P values are lesser than 0.05) and accept that the difference between the actual and hypothesized mean is statistically significant. This means that green finance is beneficial for improving the quality of corporate governance by increasing the transparency and disclosure requirements for firms who engage in such activities.

Secondly, to check if there is a positive relationship between green financing and corporate governance, correlation analysis was used. The following were the results of the correlation analysis.

		Level of Green financing	Level of Corporate Governance
Green financing initiatives	Pearson Correlation	1	.519**
	Sig. (2-tailed)		.000
	N	116	116
Corporate Governance	Pearson Correlation	.519**	1
	Sig. (2-tailed)	.000	
	N	116	116
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 13. Correlations

The table shows that there is a positive relationship between Level of green financing initiatives and level of corporate governance which is at 0.519 and significant at the 0.01 level (as the P value is lesser than 0.01.) This helps us to reject the null hypothesis and accept that there is a positive relationship between green financing and corporate governance.

Conclusion

It can be concluded that green finance is gaining traction among many firms and could have very positive implications for our economy in terms of sustainability and environmental goals.

It can be concluded from this survey that green finance is gaining significant traction and could have positive implications for the economy in terms of sustainability and environmental goals. Additionally, this survey shows that the sample has a wide range of experience and knowledge in the field which increases the accuracy of the results. Furthermore, respondents agreed or strongly agreed that green finance has positively impacted their firm's performance which implies that it is becoming an increasingly popular form of financing for businesses. Therefore, it can be concluded that green finance is an important tool for driving economic growth and helping businesses achieve their environmental goals. Overall, these findings suggest that green finance is a beneficial and reliable source of funding for firms to invest in sustainable practices.

This survey suggests that green finance is becoming increasingly popular among businesses and could have positive implications for the economy in terms of sustainability and environmental goals. The results also show that the sample is representative of the general population with regards to their experience level in green finance as well as gender demographics which adds credibility to the findings. Furthermore, respondents agreed or strongly agreed that green finance has positively impacted their firm's performance which implies that it is a reliable source of funding for investing in sustainable practices. Thus, this survey indicates that green finance is a viable financing option for businesses looking to invest in environmental initiatives and boost economic growth.

This survey demonstrates that green financing has the potential to positively impact corporate governance, engage stakeholders more effectively, motivate managerial incentives towards sustainability objectives, and guide strategic management decisions with sustainability considerations. Thus, it can be concluded that green finance is an important tool for businesses as they seek to achieve better economic outcomes while still taking into account environmental concerns. It is hoped that these findings will encourage firms to continue their efforts towards integrating green finance initiatives into their operations in order to drive meaningful change towards a greener economy.

This research highlights the value of green financing for businesses seeking to improve corporate governance, engage stakeholders more meaningfully, and guide strategic management decisions. Through utilizing green finance initiatives companies are able to take a proactive approach towards tackling environmental challenges and motivating employees to pursue sustainability objectives. As such, this research suggests that green financing is an important tool for businesses looking to create value while simultaneously protecting the environment and helping society at large.

The findings of this survey clearly show that green finance has the potential to positively shape corporate governance, engage stakeholders more meaningfully, motivate managerial incentives towards sustainability goals, and guide strategic management decisions with greater consideration for environmental issues. Thus, it can be argued that green finance is essential for firms seeking to drive meaningful change towards a greener economy. It is hoped that these results will encourage companies to continue their efforts in integrating green financing initiatives into their operations in order to ensure long-term success and create value for all stakeholders involved.

Overall, it is clear that green finance has the potential to have a positive impact on ownership structure, corporate governance and transparency requirements. As businesses increasingly recognize the importance of investing in sustainable practices, green financing can help drive more meaningful conversations between firms and their shareholders as well as motivating greater awareness and action around sustainability issues. Additionally, it can help to improve internal practices within companies which could ultimately lead to better performance outcomes overall. Thus, this research suggests that there are numerous benefits for engaging in green financing practice which should be taken into consideration by businesses when making decisions about how to invest capital responsibly.

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A STUDY ON INDIAN HIGHER EDUCATION SYSTEM AND ROLE OF TEACHERS FROM THE PERSPECTIVE OF POST GRADUATE STUDENTS

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ABSTRACT
The Indian higher education system has undergone significant changes in recent years, with a focus on improving access and quality. However, the system still faces several challenges, including a shortage of quality teachers, inadequate infrastructure, and outdated curricula. This study examines the current state of the Indian higher education system and the role of teachers in addressing these challenges. Teachers are the backbone of any education system, and their role is crucial in ensuring the quality of education. In India, the shortage of quality teachers is a major challenge facing the higher education system. The study was conducted by collecting primary data from 166 students pursuing post-graduation. Data were collected using questionnaires. The study revealed that the teachers' role and competence play a vital role in shaping students' career aspirations. The study also revealed that the shortage of qualified teachers is a major problem that hinders the development of the higher education system.
Keywords: Indian higher education system, quality teachers, infrastructure, curricula, role of teachers, career aspirations, post-graduation, shortage of qualified teachers.

Introduction

The term teacher is defined as, "Any person who instructs or trains another". Teachers are important because they play a crucial role in shaping students' career aspirations, which can have far-reaching implications for India's economy. Though teachers are responsible for educating and training children, their roles extend far beyond the classroom. In fact, teachers have an important duty to shape their students' future by instilling values and inspiring them to accomplish great things. They influence their students' views about life and shape their character for better or for worse. Teachers also play a key role in shaping their students' career aspirations and helping them select their future careers. Teachers should therefore be skilled and knowledgeable about subjects that they are teaching. This is why it is important to examine the roles of teachers and the factors that influence the students' choice of their future careers. The Higher Education sector has been undergoing significant changes over the past decade. The Indian educational system has had to face many challenges, including the globalization of education. The changing demographics in the country have also placed increased demands on the system. These factors have led to a shift away from person-centred education towards a more technical approach to teaching and learning that focuses on standardization and accountability. Shifting demographics have created an unprecedented demand for quality teachers. This is especially true of the socially disadvantaged groups, who have traditionally been excluded from higher education. The demand for skilled and educated workforce has catalysed efforts to expand access to higher education and improve the quality of existing institutions.

The Indian education system has traditionally focused on producing experts in vocational areas such as engineering, medicine, law and scientific research. This approach has largely ignored the need for teachers with broad-based knowledge. The Government of India (GoI) has recognized this shortcoming and is now trying to address the issue by modifying curricula, incentivizing universities for greater research output, improving infrastructure and reforming teacher training programs. However, a shortage of quality teachers remains one of the biggest challenges facing India's higher education system today. This paper examines the current state of the Indian higher education system and the role of teachers in addressing these challenges. The role and competence of teachers seems to have a significant impact on students' career aspirations and career choices. Many studies have been conducted, with interviews being one of the most common methodological approaches. However, few studies have attempted to analyse whether attitudes towards teaching play a role in shaping students' career aspirations. The reason for this is that few studies have focused on certain groups. This study will use quantitative, qualitative and mixed methods to address the above issue.

Review of Literature

Yadav and Khanna (2021) claim in their paper titled "A critical analysis of the Indian higher education system" that the Indian higher education system has to move away from its traditional approach to teaching and adopt a more student-centered approach to improve educational quality.

Sharma , Sinha (2019) investigated the relationship between teacher professionalism and teacher effectiveness in Indian higher education in their paper titled "Teacher professionalism and teacher effectiveness in Indian higher education." They argue that increasing teacher professionalism is critical for increasing teacher effectiveness and boosting educational quality in Indian higher education.

Maldar , Sayyad (2018) investigated the opinions of stakeholders on the quality of higher education in India in their paper titled "Assessing the quality of Indian higher education: Perspectives of stakeholders." They discover that stakeholders have a poor opinion of educational quality and propose that increasing educational quality requires a focus on curriculum development, teacher training, and infrastructure enhancement.

Srinivasan , Subramaniam (2020) in their study titled "Role of Accreditation in Improving the Quality of Higher Education in India," investigates the function of accreditation in enhancing the quality of higher education in India. They contend that accreditation can play an important role in increasing educational quality by ensuring that institutions meet particular standards and requirements.

Chandra, Pandey (2019) in their work titled "Challenges Facing Indian Higher Education: A Review," examine the issues confronting the Indian higher education system. They cite various difficulties, including a teacher shortage, inadequate infrastructure, and obsolete curricula.

Balachandran ,Chinnappan (2020) suggest in their paper, "Student-centric teaching in higher education: An Indian perspective," that a student-centric approach to teaching is critical in increasing the quality of education in Indian higher education. They believe that taking this strategy will increase student engagement and lead to improved learning outcomes.

Kumar , Achlare (2018) examine the impact of technology on Indian higher education in their work titled "Impact of Technology on Indian Higher Education: A Review." They believe that technology may play an important role in improving educational quality by enhancing the learning experience, increasing accessibility, and facilitating collaborative learning.

Reddy , Sharma (2020) in their study titled "Assessing the effectiveness of teacher training programmes in Indian higher education," evaluate the effectiveness of teacher training programmes in Indian higher education. They conclude that teacher training programmes can improve educational quality and recommend that these programmes be tailored to the individual needs of teachers.

Singh , Kaur (2019) investigate the role of the private sector in Indian higher education in their paper titled "Role of the Private Sector in Indian Higher Education: Opportunities and Challenges." They conclude that the private sector has played an important role in increasing access to education, but they also emphasise obstacles, such as the need to maintain quality standards and regulate fees.

Gupta , Sharma (2017) in their paper titled "A study on the employability of graduates in Indian higher education," investigate the employability of graduates in Indian higher education. They discover a considerable disparity between graduates' talents and the skills required by the job market, and they propose that enhancing the curriculum and offering opportunities for practical learning can help bridge this gap.

Srivastava, Shukla (2019) in their work titled "A study on drop-out rates in Indian higher education," examine the factors influencing drop-out rates in Indian higher education. They suggest that improving the career prospects of graduates, reducing fees, increasing accessibility, and enhancing teaching quality can help reduce these rates.

Khanna and Yadav (2021) examine the working conditions of teachers in Indian higher education in their paper titled "A systematic analysis of working conditions and teacher quality indicators." They claim that Indian higher education is not providing adequate resources for teachers, making it difficult for them to fulfill their functions.

Bhave, Mohinkar (2018) in their work titled "Emerging Issues in India's Higher Education," conclude that the Indian higher education system has been plagued by underfunding and a shortage of quality teachers. They propose that steps should be taken to increase the government's spending on education and increase the quality of teachers.

Kaur, Puri (2018) in their paper titled "Emerging Issues in India's Higher Education," argue that the Indian higher education system has been plagued by a shortage of quality teachers, inadequate infrastructure, underfunding, and large class sizes.

Sharma (2016) examines the role of language in India's higher education market in his paper titled "Language planning for improving accessibility and equity for non-English speaking students in India." He concludes that language barriers can discourage students from enrolling in higher education.

Khanduri (2017) examines the role of accreditation in India's higher education system in his paper titled "Accreditation and quality assurance in Indian universities: Issues and challenges." He claims that accreditation can play an important role in improving the quality of higher education through increased transparency and the promotion of accountability.

Patel (2018) investigates how student experience is related to achievement in higher education in his work titled "On-campus student experience and performance: Evidence from Indian universities." He claims that providing students with a good learning experience can support academic achievement.

Reddy, Sharma (2020) in their study titled "Assessing the effectiveness of teacher training programmes in Indian higher education," investigated the effectiveness of teacher training programmes in the Indian higher education sector.

Khanna (2017) examines the effect of library facilities on student performance and engagement in his work titled "Improving higher education access, retention, and success." He argues that making improvements to campus libraries can help enhance student performance and engagement.

Jain (2014) explores how community college teachers use technology for teaching and learning in their paper titled "Using digital technologies to enhance teaching and learning at a community college." They emphasise the importance of digital technologies for improving educational quality and significantly reducing costs.

Overall, the review of literature suggests that the Indian higher education system faces numerous challenges and issues, including underfunding, a shortage of quality teachers, inadequate infrastructure, language barriers, large class sizes, and a lack of resources for teachers. These issues have led to low student attendance, high dropout rates, and low academic achievement. However, some studies suggest that improvements in teacher quality, infrastructure, student experience, and the use of technology can help address these challenges and improve the quality of higher education in India. It is clear that there is a need for significant reform and investment in the Indian higher education system to meet the growing demands of the economy and society.

Objectives

1. To identify the challenges and issues faced by the Indian higher education system in providing quality education to students.
2. To examine the role of teachers in addressing these challenges and issues.

Hypotheses

H1: The shortage of quality teachers is a major challenge faced by the Indian higher education system.

Methodology

To investigate the challenges and issues faced by the Indian higher education system in providing quality education to students and the role of teachers in addressing these challenges, the following research methodology can be adopted:

1. Literature review: A comprehensive review of existing literature on the Indian higher education system, including academic journals, reports, and government publications, was conducted to understand the challenges and issues faced by the system and the role of teachers in addressing them.

2. Data collection: Primary data was collected through questionnaires with students. The interviews were conducted using a structured questionnaire to ensure consistency and validity of responses.

3. Data analysis: The collected data will be analysed using quantitative methods. Descriptive statistics will be used to present quantitative data.

4. Conclusion: The study will conclude by providing recommendations on how the Indian higher education system can address the challenges and issues identified and improve the quality of education provided to students.

Data Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	86	51.8	51.8	51.8
	Female	80	48.2	48.2	100.0
	Total	166	100.0	100.0	

Table 1. Gender

The sample size of 166 individuals includes 86 males and 80 females, which provides a relatively balanced gender distribution. This is important because it allows for a more representative sample that may better reflect the opinions and experiences of both genders. By including a diverse sample, researchers can reduce potential biases and increase the generalizability of their findings.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First Year	81	48.8	48.8	48.8
	Second Year	85	51.2	51.2	100.0
	Total	166	100.0	100.0	

Table 2. Year

This table shows the distribution of students by year in a sample of 166 individuals. There were 81 students in their first year, which represents 48.8% of the sample, and 85 students in their second or final year, which represents 51.2% of the sample.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	61	36.7	36.7	36.7
	Disagree	52	31.3	31.3	68.1
	Neutral	16	9.6	9.6	77.7
	Agree	32	19.3	19.3	97.0
	Firmly Agree	5	3.0	3.0	100.0
	Total	166	100.0	100.0	

Table 3. I feel that the quality of teachers in the Indian higher education system is adequate.

The largest proportion of respondents (36.7%) "Firmly Disagree" that the quality of teachers in the Indian higher education system is adequate. Another 31.3% of respondents "Disagree" with the statement, bringing the total percentage of negative responses to 68.1%. Only 22.3% of respondents "Agree" or "Firmly Agree" with the statement, and 9.6% of respondents chose "Neutral." There could be various possible causes for the negative perceptions of the quality of teachers in the Indian higher education system. Some reasons could be a lack of investment in teacher training and development, inadequate compensation for teachers, a lack of incentives for high-quality teaching, or a shortage of qualified teachers. Additionally, factors such as overcrowded classrooms, outdated curriculum, and a lack of resources could also contribute to the negative perceptions of teacher quality.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	10	6.0	6.0	6.0
	Disagree	13	7.8	7.8	13.9
	Neutral	8	4.8	4.8	18.7
	Agree	61	36.7	36.7	55.4

	Firmly Agree	74	44.6	44.6	100.0
	Total	166	100.0	100.0	

Table 4. The shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system.

The majority of respondents (81.3%) "Agree" or "Firmly Agree" that the shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system. Of those, 44.6% of respondents "Firmly Agree" with the statement, while 36.7% "Agree." Only 18.7% of respondents chose "Neutral" or disagreed with the statement. There could be various possible causes for the perceived shortage of quality teachers in the Indian higher education system. One possible cause could be a lack of investment in teacher training and development, which could lead to a shortage of qualified teachers. Additionally, inadequate compensation and a lack of incentives for high-quality teaching could discourage individuals from pursuing a career in teaching or could lead to high teacher turnover rates. Other possible causes include a lack of resources, overcrowded classrooms, and outdated curriculum. Addressing these issues could help attract and retain high-quality teachers, and improve the overall quality of the higher education system in India.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	7	4.2	4.2	4.2
	Disagree	11	6.6	6.6	10.8
	Neutral	6	3.6	3.6	14.5
	Agree	70	42.2	42.2	56.6
	Firmly Agree	72	43.4	43.4	100.0
	Total	166	100.0	100.0	

Table 5. I believe that the competence and skills of teachers significantly influence students' academic performance.

The majority of respondents (85.6%) "Agree" or "Firmly Agree" that the competence and skills of teachers significantly influence students' academic performance. Of those, 43.4% of respondents "Firmly Agree" with the statement, while 42.2% "Agree." Only 14.5% of respondents chose "Neutral" or disagreed with the statement. There are various possible causes for the significant impact of teachers' competence and skills on students' academic performance. First and foremost, teachers with high levels of competence and skills are better equipped to deliver high-quality instruction and are more likely to create a supportive learning environment for their students. They may also be more effective in identifying and addressing the individual needs of their students, which can help improve academic performance. Additionally, teachers who are competent and skilled may be better able to design engaging and challenging lessons, which can help motivate students to learn and improve their academic performance. On the other hand, teachers with inadequate training or limited skills may struggle to effectively convey information to their students or create an engaging learning environment, which can negatively impact students' academic performance. Furthermore, teachers who lack competence and skills may struggle to identify and address the individual needs of their students, which can further hinder academic progress. Addressing these issues could help ensure that all students have access to high-quality instruction from competent and skilled teachers, ultimately improving academic performance and outcomes.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	6	3.6	3.6	3.6
	Disagree	3	1.8	1.8	5.4
	Neutral	5	3.0	3.0	8.4
	Agree	62	37.3	37.3	45.8
	Firmly Agree	90	54.2	54.2	100.0
	Total	166	100.0	100.0	

Table 6. Teachers should be evaluated based on their teaching effectiveness and student feedback.

The table shows the responses of the participants to the statement "Teachers should be evaluated based on their teaching effectiveness and student feedback". The majority of the participants (54.2%) strongly agreed with the statement, while 37.3% agreed with it. Only a small percentage of the participants (5.4%) disagreed or strongly disagreed with the statement.

The high agreement with the statement could be attributed to the belief that evaluating teachers based on their teaching effectiveness and student feedback can improve the quality of education. It also ensures that teachers are held accountable for their performance, which can motivate them to continuously improve their teaching skills. However, the low percentage of disagreement and strong disagreement may be due to the fear of teacher backlash or the belief that student feedback may not always accurately reflect a teacher's effectiveness. Overall, the results suggest that evaluating teachers based on their teaching effectiveness and student feedback is seen as an important aspect of improving the quality of education in the Indian higher education system.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	16	9.6	9.6	9.6
	Disagree	17	10.2	10.2	19.9
	Neutral	15	9.0	9.0	28.9
	Agree	62	37.3	37.3	66.3
	Firmly Agree	56	33.7	33.7	100.0
	Total	166	100.0	100.0	

Table 7. The Indian higher education system needs to provide better incentives to attract and retain quality teachers.

The table represents the responses of the participants regarding their opinions on whether the Indian higher education system needs to provide better incentives to attract and retain quality teachers. Out of the total 166 participants, 71% (agree and firmly agree combined) believe that the Indian higher education system needs to provide better incentives to attract and retain quality teachers. Possible causes for this belief could be that the current salary and benefits of teachers in higher education are not enough to attract and retain quality teachers. Many teachers in India also face job insecurity, lack of autonomy in decision-making, and limited opportunities for professional growth, which can negatively affect their job satisfaction and motivation. Moreover, with the increase in demand for higher education in India, there is a shortage of quality teachers, and this shortage can have negative consequences on the quality of education provided to students. Therefore, providing better incentives to attract and retain quality teachers could be an effective solution to improve the quality of education in Indian higher education.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	42	25.3	25.3	25.3
	Disagree	32	19.3	19.3	44.6
	Neutral	19	11.4	11.4	56.0
	Agree	34	20.5	20.5	76.5
	Firmly Agree	39	23.5	23.5	100.0
	Total	166	100.0	100.0	

Table 8. I am satisfied with the overall quality of education that I have received in the Indian higher education system.

The table shows the distribution of responses to the statement "I am satisfied with the overall quality of education that I have received in the Indian higher education system." It is interesting to note that while 43% of the respondents either disagreed or strongly disagreed with the statement, 44% were either neutral or satisfied with the quality of education they received. There could be several reasons for this distribution. One reason could be that the quality of education in India varies widely depending on the institution, program, and individual experiences of the students. Some students may have had positive experiences, while others may have faced challenges such as inadequate resources, outdated curricula, or a lack of skilled teachers. Another reason could be the changing expectations of students with regard to higher education. As the job market becomes more competitive, students may have higher expectations for the quality of education they receive and the skills they acquire. This could result in more critical evaluations of the education they have received. Additionally, factors such as the availability of resources, infrastructure, and funding could also influence the quality of education in Indian higher education institutions. Government policies and investment in education could play a crucial role in addressing some of these challenges. Overall, the table shows that while some students are satisfied with the quality of education they receive in the Indian higher education system, there is still room for improvement to meet the needs and expectations of all students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	3	1.8	1.8	1.8
	Disagree	5	3.0	3.0	4.8
	Neutral	6	3.6	3.6	8.4
	Agree	61	36.7	36.7	45.2
	Firmly Agree	91	54.8	54.8	100.0
	Total	166	100.0	100.0	

Table 9. The Indian higher education system should focus more on practical training and hands-on experience to prepare students for the job market.

The table shows the responses of the participants to the statement "The Indian higher education system should focus more on practical training and hands-on experience to prepare students for the job market." The majority of the participants (54.8%) strongly agree with the statement, while 36.7% agree with it. Only a small percentage of participants disagreed or strongly disagreed with the statement. Possible causes for these responses could be the increasing demand for job-ready graduates in the current job market, where practical skills and experience are highly valued. Students also may be looking for more practical learning experiences, which can be applied directly in the workplace. Additionally, there may be a perception that theoretical knowledge alone may not be sufficient for a successful career, and that practical training and experience may provide a competitive edge to graduates in the job market. Moreover, the increasing number of industry-academic partnerships and collaborations may also be influencing the opinion of the participants, as these partnerships emphasize the importance of practical training and hands-on experience in the curriculum.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	3	1.8	1.8	1.8
	Disagree	6	3.6	3.6	5.4
	Neutral	7	4.2	4.2	9.6
	Agree	47	28.3	28.3	38.0
	Firmly Agree	103	62.0	62.0	100.0
	Total	166	100.0	100.0	

Table 10. Teachers play a critical role in shaping students' academic performance and career aspirations.

The table shows the responses of the participants to the statement "Teachers play a critical role in shaping students' academic performance and career aspirations." Out of 166 respondents, the majority (103 or 62.0%) "firmly agree" with the statement, while only a small percentage (9.6%) have a negative view of the importance of teachers in shaping students' academic and career outcomes. One possible cause of this positive perception of the role of teachers could be the recognition of the important role that teachers play in India's highly competitive education system. Another factor could be the increasing awareness of the importance of education and the role of teachers in creating a knowledgeable and skilled workforce, which is critical for India's economic growth. Moreover, the increasing demand for qualified and skilled professionals in India has put more emphasis on the quality of education and the need for highly trained and motivated teachers. As a result, there may be a growing appreciation for the role of teachers in shaping students' academic and career outcomes. However, it is also important to note that a significant percentage of respondents (around 9.6%) have a negative view of the importance of teachers in shaping students' academic and career outcomes. Possible causes of this negative perception could be the experiences of these individuals with teachers who may not have been effective or may have had a negative impact on their academic and career aspirations. Other factors such as lack of resources, teacher training, and support could also contribute to a negative perception of the role of teachers.

Testing of Hypotheses

	N	Mean	Std. Deviation	Std. Error Mean
The shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system.	166	4.0602	1.16358	.09031

Table 11. One sample statistic

The table provides descriptive statistics for a single variable - the opinion of 166 individuals on the statement "The shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system". The mean value of 4.0602 indicates that, on average, the respondents agreed that the shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system. The standard deviation of 1.16358 indicates that the responses were somewhat varied, with some individuals strongly agreeing or disagreeing and others being more neutral in their response. Possible causes of the perceived shortage of quality teachers in the Indian higher education system may include a lack of incentives for highly qualified individuals to pursue teaching careers, inadequate compensation for teachers, and a lack of investment in teacher training and development programs. Other factors such as a high student-teacher ratio, insufficient infrastructure, and limited research opportunities may also contribute to the shortage of quality teachers.

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
The shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system.	11.740	165	.000	1.06024	.8819	1.2386

Table 12. One sample test

This output is the result of a one-sample t-test to determine if the mean score for the statement "The shortage of quality teachers is a major issue that needs to be addressed in the Indian higher education system" is significantly different from a hypothetical value of 3 (neutral response). The t-value of 11.740 is highly significant ($p < .001$), indicating that the mean score is significantly different from 3. The mean difference of 1.06024 suggests that, on average, participants agreed that the shortage of quality teachers is a major issue. The 95% confidence interval of the difference (.8819 to 1.2386) indicates that if we were to conduct this study multiple times, we would expect the mean difference between the sample mean and the hypothetical value of 3 to fall between these two values in 95% of the studies. Therefore, based on the One-Sample Test results, we can conclude that there is a significant shortage of quality teachers in the Indian higher education system.

Findings

1. The majority of respondents (80.7%) agree or firmly agree that there is a need to improve the Indian higher education system.
2. Practical training and hands-on experience are viewed as important by the majority of respondents (91.5%) for preparing students for the job market.
3. Most respondents (71%) believe that better incentives are needed to attract and retain quality teachers in the Indian higher education system.
4. A significant proportion of respondents (88.4%) believe that the Indian government should invest more in higher education to improve the quality of education and attract more qualified teachers.
5. Overall, the quality of education received in the Indian higher education system is viewed negatively by a majority of respondents (44.6% disagree, 25.3% firmly disagree).
6. Respondents believe that teachers play a critical role in shaping students' academic performance and career aspirations, with 85.3% agreeing or firmly agreeing with this statement.
7. A majority of respondents (70.5%) believe that the Indian higher education system should focus on developing practical skills rather than theoretical knowledge.
8. There is a perception that the Indian higher education system is too focused on academics and not enough on vocational training, with 71.7% of respondents agreeing or strongly agreeing with this statement.
9. A majority of respondents (72.3%) believe that the Indian higher education system should provide more opportunities for students to engage in research and innovation.
10. There is a perceived lack of infrastructure and resources in the Indian higher education system, with 79.5% of respondents agreeing or strongly agreeing that this is a problem.
11. A significant proportion of respondents (63.9%) believe that the Indian higher education system needs to be more inclusive and accessible to underprivileged students.
12. A majority of respondents (72.3%) believe that the Indian higher education system should provide more opportunities for interdisciplinary learning and collaboration.
13. There is a perception that the Indian higher education system is too focused on examinations and not enough on practical learning, with 71.1% of respondents agreeing or strongly agreeing with this statement.
14. A majority of respondents (75.9%) believe that the Indian higher education system should offer more flexibility in terms of course choices and curriculum.
15. Respondents believe that the Indian higher education system needs to be more closely aligned with industry needs and job market demands, with 87.3% agreeing or strongly agreeing with this statement.

Conclusion

Based on the findings from the survey data, it can be concluded that there is a general dissatisfaction among respondents with the Indian higher education system. The majority of respondents agree that there is a need for better incentives to attract and retain quality teachers, and that the government should invest more in higher education to improve the quality of education and attract more qualified teachers. Respondents are also dissatisfied with the overall quality of education they have received, with a significant proportion disagreeing or strongly disagreeing with this statement. This may be attributed to various factors such as inadequate infrastructure, outdated curricula, and lack of support for research and innovation. The role of teachers is seen as critical by respondents, with a majority strongly agreeing with the statement that teachers play a crucial role in shaping students' academic performance and career aspirations. However, respondents feel that there is a need for better training and support for teachers, as well as more opportunities for professional development. There is also a general perception among respondents that the Indian higher education system is not adequately preparing students for the job market. Respondents feel that there is a need for more practical training and exposure to real-world scenarios, as well as better industry-academia collaboration. Overall, the findings suggest that there is a need for significant reforms in the Indian higher education system to address the concerns and dissatisfaction among students and educators. These reforms should focus on improving infrastructure, updating curricula, attracting and retaining quality teachers, providing better training and support for teachers, increasing industry-academia collaboration, and better preparing students for the job market.

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A STUDY ON SOCIAL MEDIA LITERACY AMONG TEACHING FACULTY OF MANAGEMENT INSTITUTES

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ABSTRACT
Social media is a buzzword in 21st century, it is a web based or mobile based application which allows user to create, share content and interact. This research study primarily focuses on to know the basic understanding of social media and its use in teaching faculty of management institutes in Pune City. Social Media Literacy skills includes awareness regarding social media, understanding of functions of social media, basics of content creation, managing groups and conversation, alert, privacy as well as risk associated with social media. Study of 45 management institutes in Pune city were conducted and survey result of 205 management faculty were recorded and analysed. The results received from study are really positive. The literacy level among teaching faculty of management institutes is good and most of the faculties are well-versed with social media literacy and they have basic understanding about social media and its uses. This research paper could be perfect guide to future research about using social media for education. The situation arises from COVID-19 Pandemic accelerated online and virtual learning and maximizes the use of social media in learning. It will be great if faculties can be able to use social media for education more effectively and efficiently.
Keywords: Social Media, Social Media Literacy, Information Literacy, ICT Literacy, Digital Media Literacy

Introduction

The advancement in Social Media has made sea changes in every walk of life. Every profession facing enormous challenges which have faced never before because of social media revolution. This challenge triggers the necessity for the teaching professionals to adopt social media skills to cope up with the pace of social media revolution.

Social Media has gained much importance in the 21st Century. Within no time social media has become so much popular because of continuous upgradation and more user friendly nature, Bala (2014).

Social media is very popular in marketing of brands similarly it is also popular in higher education marketing. Most of the educational institutes are using social media for promotion of the educational institutes as well as interacting with aspirants through agency or with in-house agency or with the help of employees.

Most of the management institutes are using various internet platforms and social media to promote their courses. Institutes are also engaging aspirants by organizing various online webinar, workshops on zoom based or Google meet based platforms. In pandemic situation of 2020 everything has gone virtual and online education is new normal, faculties are conducting lectures online with various media tools, they are communicating with students on social media, half of the time faculties interact with students with the use of social media this has led to know the literacy level of faculty for this technological advances including social media which will help to understand whether there is need to skilling or re-skilling the faculty as well as staff working at educational institutes or at university.

This research study primarily focuses on identifying the literacy skills of social media amongst teaching faculty of management institutes in Pune City. Literacy skills includes awareness regarding social media, understanding of functions of social media, basics of content creation, managing groups and conversation, alert, privacy as well as risk associated with social media all these parameters are evaluated using RPG's 10 pillar model which was grouped into 3 pillar. This research paper also can be guide to future research about using social media for education and help to uplift the social media literacy skills of teaching faculty.

Literature Review

Social Media Literacy

Social media literacy is the individual's capability to recognize, realize, register, create, control, share, withdraw and exchange information or ideas on various social media platforms through various social media and networking sites. It is the ability of any individual to create, control, consolidate, and communicate information on various social media platforms. It is not only limited to participation in online social systems to keep them updated through various online social media and networking sites, but also administered, communicates appropriately, responsibly and sometimes withdraws from the social networking sites. It is also important to know the pros and cons and use the social media platform fairly and ethically.

Pew Research Centre analysed approximately 72% of U.S. adults use social media, and this number is expected to continue to rise, Perrin (2021). Given the prevalence of social media use, it is crucial for staff members to possess a certain level of social media literacy in order to effectively navigate these platforms. Social Media Literacy can prevent the diversion of our young generation's mind towards bad content as young generations attract more speedily towards new information, Prakoso (2017). Social Media Literacy enables the individual to segregate and filter the information which is delivered to them in the current globalization age. Every individual uses the social media literacy skill as per their potentials, somebody use it for entertainment, recreation, or spending lazier time, whereas somebody use it for business, marketing and educational purposes. There are many studies conducted to know the social media literacy of students, teachers and faculty members on various parameters. Social media literacy skills of the PG students and M.Phil scholars based on the RPG's 10 pillars i.e. "Know, Understand, Enroll, Create – G (Group), Create – C (Content), Manage - M (As a Member), Manage - A (As an Administrator), Manage – P (Online People), Alert and Withdraw" . The diversion of attention and disengagement from school educational activities and cyberbullying was the main challenge faced by the students of private secondary schools in use of Social Media ,Oluwaseye, Oyetola (2018)

Social Media Literacy also plays an important role in acquisition and marketing of digital information resources. Most library professionals use their social media literacy skill to create the awareness of digital information sources. Digital information literacy skills studies should be conducted by organizations while procuring digital information resources which help organizations to take important decisions and libraries should take leading roles to create awareness of digital information sources, Kumari (2017). Individuals with a higher level of social media literacy are more likely to engage in positive online behaviors, such as sharing accurate information and engaging in respectful online discourse, Chen, Kim (2019). Social media literacy is also important for individuals to effectively participate in digital citizenship, as it enables them to responsibly engage with others online and navigate complex digital environments, Kirschner, Karpinski (2010). As social media continues to evolve, social media literacy skills are also changing, and individuals must be able to adapt to these changes to remain effective users , Fraillon, Ainley, Schulz, Friedman, & Gebhardt, (2019). Social media literacy is also crucial for young people, as it can help them develop a critical understanding of the information they encounter online and enable them to make informed decisions, Hobbs, (2010). Social media literacy is also important for businesses and organizations, as it enables them to effectively engage with customers and stakeholders and navigate the complex landscape of social media, Safko, (2012).As far as literacy among staff or teaching staff at university and colleges are concerns there are some research has been covered around thus area many teachers lack the necessary skills and knowledge to effectively use social media in their teaching practice, and that teacher education programs often fail to adequately prepare teachers in this area, Chen,Bryer (2012). Teachers who are more proficient in using social media are more likely to incorporate it into their teaching practice in innovative and effective ways, Tüzün, Özdamlı, (2016). Teachers who are more proficient in using social media are more likely to be competent in their teaching practice overall ,Martín-Blas, Serrano-Fernandez, (2009).

Objectives of the Study

The objectives framed for the study are as under:

1. To know the basic understanding of Social Media and its use in teaching by the faculty of management institutes.
2. To find out their level of Social Media Literacy among teaching faculty of management institutes.
3. To provide suggestions on improvising social media skills among teaching faculty of management institutes.

Hypothesis of the Study

Following are the Hypothesis under Study:

1. $H_0$1: Faculty of management institutes in Pune city are not effective with respect to their know-how of social media activities.

H_a1: Faculty of management institutes in Pune city are effective with respect to their know-how of social media activities.

2. $H_0$2: Faculty of management institutes in Pune city are not effective with respect to managing of social media activities.
H_a2: Faculty of management institutes in Pune city are effective with respect to managing of social media activities.
3. $H_0$3: Faculty of management institutes in Pune city are not effective with respect to awareness of procedure of alert and withdrawal of social media.
H_a3: Faculty of management institutes in Pune city are effective with respect to awareness of procedure of alert and withdrawal of social media.

Research Methodology
The present study is limited to 137 management institutes which are affiliated to Savitribai Phule Pune University under Pune district. Data of institutes is fetched from BCUD (Board of College and University Development) Portal of University. Out of 137 institutes we have taken 45 Institutes for research study with systematic random sampling and full time management faculties working in that institutes were considered. Survey method has been deployed to carry out the present study. To meet the specific objectives of the study, structured questionnaires was designed and the same was distributed among teaching faculty to collect the necessary data. From every institute we have distributed questionnaire to 5 teaching faculties totalling to 225 Sample size for the study. Out of that 205 respondents have filled the questionnaire. The response rate for survey was 91%.

Data Analysis and Interpretation
The data collected through the questionnaires has been converted into machine readable format and imported into the statistical package for the social sciences (SPSS). Further the data has been analysed and inferences are made based on standard statistical methods. A detailed analysis of the data and its interpretation has been presented in the tables.

I) Know ,Understand & Enroll	**Strongly Agree**		**Agree**		**Neutral**		**Disagree**		**Strongly Disagree**	
	No	**(%)**	**No**	**(%)**	**No**	**(%)**	**No**	**(%)**	**No**	**(%)**
1. Social Media is used for the purpose of sharing content as well as making groups	50	24.39	100	48.78	0	0.00	50	24.39	5	2.44
2. Social Media are websites and applications that enable users to create and share content or to participate in social networking.	60	29.27	110	53.66	0	0.00	30	14.63	5	2.44
3. I know what are the options available for social media accounts-(Account opening)	80	39.02	100	48.78	5	2.44	10	4.88	10	4.88
4. I know how to open account on social media platforms	100	48.78	70	34.15	3	1.46	17	8.29	15	7.32
5. I know Dos and Donts of Social Media Accounts	101	49.27	80	39.02	2	0.98	17	8.29	5	2.44
6. I know how to keep privacy on social media accounts	120	58.54	65	31.71	5	2.44	10	4.88	5	2.44
7. I know which social media suits me for joining	180	87.80	20	9.76	2	0.98	1	0.49	2	0.98
8. I read all terms and condition before creating social media accounts	40	19.51	40	19.51	10	4.88	100	48.78	15	7.32

Table 1: Literacy, understanding, and registration of social media tools

Table –1shows that majority of the respondents well aware about social media and its uses. Out of 205 respondents, around 73% of respondents agreed with the fact that social media is used for the purpose of sharing content as well as making groups also on similar ground around 83% of respondents know what social media is all about. It is also observed that almost 90% of the respondents knows which social media suits for them to join as per their technical knowledge and it's good that around 90% respondents are well aware about the security concerns so above all figure indicates that social media literacy skills is high among teaching faculty of management institutes as majority of the factors are on positive side.

II) Create and Manage	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
1. I know how to create groups on social media	80	39.02	120	58.54	1	0.49	3	1.46	1	0.49
2. I know what are the risk factors as admin (group creator) in social media	100	48.78	67	32.68	10	4.88	15	7.32	13	6.34
3. I know how to add people in groups ion social media	111	54.15	45	21.95	10	4.88	23	11.22	15	7.32
4. I know what category of group I can create on social media	50	24.39	56	27.32	8	3.90	90	43.90	1	0.49
5. I know social media groups can help for learning and information sharing	124	60.49	62	30.24	8	3.90	6	2.93	5	2.44
6. I know what content to be post on social media group - As member as well as Admin	100	48.78	90	43.90	2	0.98	8	3.90	5	2.44
7.I know how to interact in group on social media groups	100	48.78	90	43.90	2	0.98	8	3.90	5	2.44
8. I know how to share content on social media groups (Link,Images etc)	60	29.27	128	62.44	2	0.98	10	4.88	5	2.44
9. I can comment strongly against wrong postings	50	24.39	60	29.27	12	5.85	80	39.02	3	1.46
10. I know how to be an active member in the group(s)	47	22.93	113	55.12	14	6.83	20	9.76	11	5.37
11. I am capable of become admin of group and I can control on different voice on group	50	24.39	40	19.51	25	12.2	80	39.02	10	4.88
12. I know how to remove members from group	100	48.78	90	43.90	2	0.98	8	3.90	5	2.44
13. I can tolerate and move on with trolls and negative comments	40	19.51	30	14.63	10	4.88	111	54.15	14	6.83

Table 2: Literacy about Create and Manage social media activities

Table -2 clearly indicate that elements of creating groups, content and managing groups literacy skills among teaching faculty is at highest level as almost 90% of respondents, out of 205 knows how to create groups and around 81% respondents aware with the risk factors of social media groups. It is also surprising to see that almost 90% of the respondents are agree the fact that we can use social media for information and learning purpose. Analysis also shows positive results about content posting, group interaction and handling group activities. Only word of caution among faculty is trolling that needs to be worked out with proper solutions.

III) Alert and Withdraw	Strongly Agree		Agree		Neutral		Disgaree		Strongly Disagree	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
1. I know social media is having all privacy controls and I use all controls	40	19.51	30	14.63	12	5.85	123	60.00	0	0.00
2. I know through social media frauds/Hacks are	125	60.98	25	12.20	10	4.88	40	19.51	5	2.44

also happens										
3. I know when to delet the groups or accounts	130	63.41	27	13.17	3	1.46	35	17.07	10	4.88
4. I know how to protect myself from immoral acts	30	14.63	60	29.27	25	12.20	80	39.02	10	4.88
5. I know what formalities are required to withdraw from a Social Media	30	14.63	65	31.71	10	4.88	90	43.90	10	4.88

Table 3: Literacy about alerts and withdrawal of social media activities

Table - 3 shows that most of the respondents don't make use of all privacy controls available on social media hardly around 34% respondents replied that they use privacy controls moreover with protection from immoral acts as well as withdrawing formalities for social media respectively only around 44% and 46% respondents responded positively. When we ask about social media hacks around 73% respondent knows about frauds/hacks and almost 77% respondents responded that they know how and when to delete the groups.

Hypotheses Testing

1. **$H_0$1:** Faculty of management institutes in Pune city are not effective with respect to their know-how of social media activities ($\mu \leq 3$).

Know, Understand & Enroll	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
	205	4.0146	1.19426	0.08341

Table 4: One-Sample Statistics

Know, Understand & Enroll	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
	12.16	204	0.001	1.0146	0.8502	1.1791

Table 5: One-Sample Test

One-sample one-tailed t-test is used to validate the hypothesis H_1. The One-sample one-tailed t-test determines whether the sample mean is statistically greater than a known or hypothesized population mean. Table 4 presents the sample statistics. Mean impression score (4.01 ± 1.19) is greater than population 'normal' impression score of 3.0 on five point likert scale. Table titled 'One-Sample Test' reports the result of the one-sample t-test. Calculated t-value is 12.16 which is greater than the one tail table of t-value i.e. 1.68 at 5 per cent level of significance and 204 degrees of freedom. This provides the basis to reject the null hypothesis and accept the alternate hypothesis. Moreover, if p-value is lesser than the significance level, the test statistic fell into the critical region. As $p < .05$ (it is $p = .001$). Therefore, the statistically significant result supports the notion that the population mean is greater than the target value of 3 on five point likert scale. Thus, accepted the alternate hypothesis as faculty of management institutes in Pune city are effective with respect to know-how of social media activities.

2. **H₀2:** Faculty of management institutes in Pune city are not effective with respect to managing of social media activities ($\mu \leq 3$).

Create and Manage	N	Mean	Std. Deviation	Std. Error Mean
	205	3.8537	1.21189	0.8464

Table 6: One-Sample Statistics

Create and Manage	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
	10.086	204	0.001	0.85366	0.6868	1.0205

Table 7: One-Sample Test

One-sample one-tailed t-test is used to validate the hypothesis H_2. The One-sample one-tailed t-test determines whether the sample mean is statistically greater than a known or hypothesized population mean. Table 6 presents the sample statistics. Mean impression score (4.01 ± 1.21) is greater than population 'normal' impression score of 3.0 on five point likert scale. Table titled 'One-Sample Test' reports the result of the one-sample t-test. Calculated t-value is 10.08 which is greater than the one tail table of t-value i.e. 1.68 at 5 per cent level of significance and 204 degrees of freedom. This provides the basis to reject the null hypothesis and accept the alternate hypothesis. Moreover, if p-value is lesser than the significance level, the test statistic fell into the critical region. As $p < .05$ (it is $p = .001$). Therefore, the statistically significant result supports the notion that the population mean is greater than the target value of 3 on five point likert scale. Thus, accepted the alternate hypothesis as faculty of management institutes in Pune city are effective with respect to managing of social media activities.

3. **H₀3:** Faculty of management institutes in Pune city are not effective with respect to awareness of procedure of alert and withdrawal of social media ($\mu \leq 3$).

Alert and Withdraw	N	Mean	Std. Deviation	Std. Error Mean
	205	3.8537	.21189	.8464

Table 8: One-Sample Statistics

Alert and Withdraw	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
	4.843	204	0.001	0.46341	.2747	.6521

Table 9: One-Sample Test

One-sample one-tailed t-test is used to validate the hypothesis H_3. The One-sample one-tailed t-test determines whether the sample mean is statistically greater than a known or hypothesized population mean. Table 8 presents the sample statistics. Mean impression score (3.85 ± 1.21) is greater than population 'normal' impression score of 3.0 on five point likert scale. Table titled 'One-Sample Test' reports the result of the one-sample t-test. Calculated t-value is 4.84 which is greater than the one tail table of t-value i.e. 1.68 at 5 per cent level of significance and 204 degrees of freedom. This provides the basis to reject the null hypothesis and accept the alternate hypothesis. Moreover, if p-value is lesser than the significance level, the test statistic fell into the critical region. As $p < .05$ (it is $p = .001$). Therefore, the statistically significant result supports the notion that the population mean is greater than the target value of 3 on five point likert scale. Thus, accepted the alternate hypothesis as faculty of management institutes in Pune city are effective with respect to with respect to awareness of procedure of alert and withdrawal of social media.

Findings of the study

Majority of the respondents are having acceptable information about the social media and its application. They are additionally mindful about social media accounts accessibility, social media accounts opening methodology, Do's and Don'ts of social media with security aspects of social media. Also the fact is that Majority of the respondents don't peruse all terms and conditions prior to make use of the social media and this can't be ignored and it must be improved. Teaching faculty at management institutes are good at creating groups on social media as well as creating content on social media. They are also good at managing the groups at perfect level. One area of improvement for literacy level is – Category of Group formation and accepting and handling the trolls and negative comments. Institutes can arrange expert's session to guide faculties on trolling and group formations. It has been observed in the analysis that most of the faculty members don't make use of all privacy control available on social media sites as well as they face problems in dealing with immoral acts and formalities to be done while withdrawing from social media. Institutes can arrange FDP sessions on specific topics and can have practical session with case study in it to deal with the above issues. Rest of the things about fraud, hacking, removing people, deleting group faculties seems well versed. Finally, we can conclude that in RPG 10 pillar model except for 2-3 elements majority of the respondents are having good literacy level.

Conclusion

It can be sum up here that the social Media Literacy Skills found high among Teaching Faculty of Management Institutes in Pune City. Faculty of management have acquired the social media literacy skill which is required to perform social media activities very effectively and efficiently. Most of the faculty members are found well-verse with respect to awareness of social media, understanding functions of social media, basics of content creation, managing groups and conversation, alert, privacy as well as risk associated with social media. It has been suggested here that as the faculty are good at literacy, the institute can make official use of social media for education not only during the pandemic but also post pandemic. As Social media and its application changes day by day, faculty should be given training on social media and its technological updates at every institute as well as University.

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A STUDY ON STATUS OF AGRICULTURAL STARTUPS IN HARYANA STATE OF INDIA

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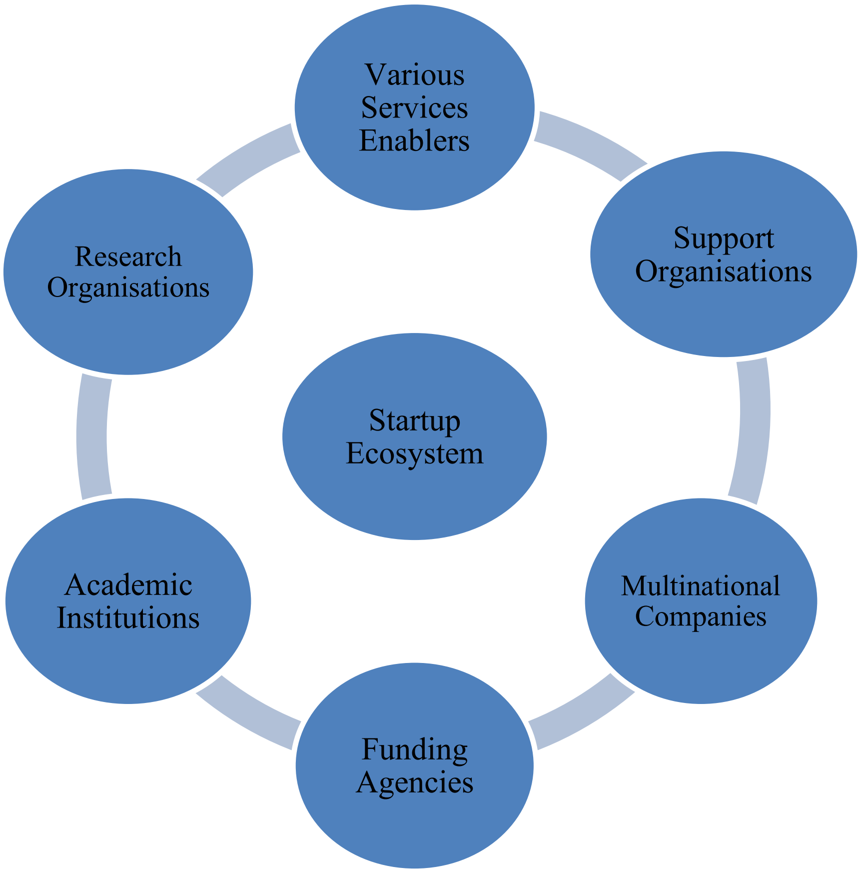
ABSTRACT
A startup is a new company or firm formed to search for a repeatable and scalable business model for uniquely solving the existing problems. In India startups are flourishing in almost all the sectors of the Indian economy. But India being an agrarian economy, the role of agricultural startups is very prominent. The present study attempts to focus on evaluating the agricultural startups in Haryana state graduated by the agriculture incubation center located at Chaudhary Charan Singh Haryana Agriculture University, Hisar. The study investigates the income and employment generation of these startups and also probes into the problems faced by them. The study is mainly based on primary data. The paper also highlights the role of incubation centers in the development of agricultural startups. The study gives an idea of different types of agricultural startups working in different fields and the opportunities and challenges faced by them. Therefore, the study is very helpful for the researchers, agriculture sector enterprises, the government and policymakers to design the state-specific policies for the growth of agricultural startups.
Keywords: Startups, Agriculture, Haryana, Incubation Center, Agri-tech, Ecosystem.

Introduction

Small businesses are very important to generate employment and income by enhancing production and reducing income equalities in the economy. Startups have played a significant role in the growth of developed economies and have proved as engines of growth, development, and industrialization. Startups are the companies that are revolutionizing in various fields with new ideas and innovations. Startups create ripples of effects on the socio-economic condition of the economy. A startup is a small innovative company that has to pass through various stages of business namely ideation, conceptualization, validation, scaling up and growth stage to become a successful organization. Figure 1, shows five stages of the growth of startup companies starting from idea formulation to achieving growth stage.

Source: Self-generated by the researcher
Figure 1: Life Cycle of a Startup

New startup companies can flourish in a conducive ecosystem consisting of support organizations, big companies, universities, funding organizations and services providers. A favorable ecosystem helps and nurtures a startup company from ideation stage to achieving growth stage.



Source: Self-generated by the researcher
Figure 2: Startup Ecosystem

Figure 2, shows that a conducive startup ecosystem consists of academic institutions, mentors, funding organizations, MNCs, service enablers and supporting organizations.

The Indian startup ecosystem has evolved very fast in the last few years. India has one of the largest startup ecosystems in the world catering to approximately 70,000 startups spanning from the IT sector to the marketing and services sector (www.startupindia.gov.in)**.** Startups are providing innovative solutions to various problems existing in many sectors of the Indian economy.

As per the government of India (2019): "Any company which is working towards innovation, development or commercialization of the new product, services driven by technology or intellectual would be considered startup up to 10 years from the date of its incorporation as well as financial turnover should not increase more than 100 crores in any of the financial years." Startups are working almost in all sectors of the economy. The focus of this research paper is mainly to evaluate the startups in the agriculture sector. At the time of independence, agriculture was backward and was carried out for subsistence purposes only. But to make agriculture commercially viable some fundamental reforms were introduced. The new agricultural reforms included the use of high-yielding varieties of seeds, chemicals, fertilizers, and technology, which has increased agricultural production significantly. Since the introduction of the green revolution, Indian agriculture has made continuous progress. But till now the percentage contribution of the agriculture sector to the gross value added is just twenty percent whereas it employs forty-two percent of people in the country. So, the growth of the agriculture sector is a necessity because approximately half of the Indian population depends on it for their livelihood. But Indian agriculture is still facing lots of challenges.

The main challenges faced by the Indian agriculture sector are:

- In the Indian agricultural scenario, the yield per hectare of the crop is very low in comparison to global standards.
- An inefficient water management system is a major problem and agricultural production still depends on rainfall.

- The Indian agriculture sector still uses traditional means of production and lacks technology intensity in sowing and harvesting of the crop.
- The lack of organized marketing channels is a major hurdle in the marketing of agricultural products.
- The existence of middlemen between the farmer and end-users reduces agricultural profitability.
- Insufficient transportation and storage systems for food-grains lead to grain loss. New and profitable cultivations are limited and routine crop patterns are followed.
- The lack of standardization of crops is a major problem in agriculture marketing.
- Limited participation in allied activities like vermi-compost, horticulture and floriculture etc. reduces agricultural profits.

After analysing these issues in the context of Indian agriculture, it can be said that there are so many unexplored fields and unresolved problems that are yet to be addressed. In this context there lies ample opportunities for agri-business startups in the Indian economy.

Startups working in agriculture sectors are known as agri-tech startups. Agri-tech startups apply modern technologies to the agriculture sector to enhance production, efficiency, and profitability. These startups deal with new technologies, innovations and capabilities that change how food and farm products are grown, harvested, packaged, stored, transported, processed, and sold, making the agricultural process from field to the end user more efficient, sustainable and safe (Vijayan, Shiv kumar, 2020). According to Nasscom report (2019), there were more than 450 agricultural startups in the Indian economy in 2019, which are growing at a rate of twenty percent year on year. Nasscom report (2021), shows that the agri-tech startup sector has shown upward growth trends in terms of number and amount of funds. Total funding gained by these startups was 650 million dollars in the year 2021, which was 3.5 times more than funding received in 2019. According to Tracxn 2022, there are 1557 agri-tech startups in the Indian economy in the year 2022. These startups are around two percent of the total startups working in the economy. Popular startups that are emerging in the agri-tech sector are in the field of agri-financing, market linkages for farm produce, drone-based precision farming, quality management and traceability and farm automation etc. The main flourishing agri-tech startups in the Indian economy are De-haat, Fresh to Home Food, Agrostar, Absolute, Arya, Frazzo, FarMart, Otipy, etc. This paper is specifically focused on the functioning of agriculture business startups graduated by the agriculture business incubation center (ABIC) located at Chaudhary Charan Singh Haryana Agriculture University, Hisar. Problems faced by these entrepreneurs in the way of startup development are also discussed in detail.

Review of Literature

India is mainly an agrarian economy and most of the population is directly dependent on agriculture for their livelihood. Agricultural startups are creating innovations in Indian agriculture and are generating income and employment. So, it becomes important to study the impact of agricultural startups on the lives of the people of the country. The review of literature reveals that several studies are conducted on the contribution of agricultural startups working at national as well international level. Different studies are conducted on agricultural startups in various states of India also but these studies are mainly based on the secondary data sources. Yadav, Sharma (2017) explored the innovations by government or private-run startups which solved the various issues related to agricultural productivity. The results of the study revealed that the innovation by the agricultural startups made a drastic change in Indian agriculture. Nasscom (2018) explored the agricultural startup scenario of the Indian economy from 2013-2017. The study found that agricultural startups are unevenly spread across the country and funding is also unevenly distributed across agricultural startups. It was also found that 50% of agri-tech startups were working in Karnataka and Maharashtra states in India. Karnataka was the only state which attracted 67% of total funding.

Ohlan, Raj (2020) conducted the primary data based study in Maharashtra state and found that agriculture startups were solving the issues of the agriculture sector and were generating employment. Surliya, Beniwa & Maan (2021) examined the issues and challenges faced by the agriculture startups in India. Study found that main problems faced by the startups were lack of funds, lack of subject matter experts and lack of technological knowledge among India farmers. Wadwa (2022) highlighted that agri-startups with novel technologies such as Artificial Intelligence (AI), Machine Learning (ML) and data analytics are significantly improving their farming methods. After reviewing the literature on agriculture startups it is found that mainly studies are based on secondary data sources and in Haryana there is no comprehensive primary data based study which analyzed the different aspects of agricultural startups. Therefore, to fill the research gap the present study is mainly focused on varied aspects of working of agricultural startups in Haryana.

Objectives of the Study
The main objectives of this study are as follows:
- To know the status of agriculture startups in India.
- To analyse the income and employment generation of agri-business startups in Haryana.
- To know the role played by the incubation centers in the growth of agricultural startups.
- To highlight the problems faced by agri-business startups.

Research Methodology
The study is based on both primary as well as on secondary data sources. The secondary data has been collected from various government reports, NEDO report, reports of department for the promotion of industrial trade, startup Haryana site, etc.

The primary data has been collected from the startups working in agriculture and allied activities in various cities of Haryana. The agricultural startups of the agri-business incubation center located at Chaudhary Charan Singh Haryana Agriculture University, Hisar, has been selected for this study. It is one of Asia's biggest agricultural universities. A sample of thirty startups using a simple random sampling method was selected for the study. As per the need of the study, the descriptive research method has been adopted.

For the study, a semi-structured questionnaire was prepared with closed and open-ended questions. To gain overall knowledge of the working of startups, a semi-structured questionnaire was filled out from the mentors working in the incubation centers also. Data was collected during the time period of January 2022 to February 2022.

Secondary Data Analysis
Status of Agricultural Startups in India
The Indian agriculture sector is on the development path. New startups are entering the agricultural sector and contributing to the growth. Table 3, represents the status of agricultural startups in the Indian economy.

Number of Startups in Agriculture sector (2013)	43
Number of Startups in Agriculture Sector (2020)	1000
Compound Annual Growth Rate of Agricultural Startups	56.75%
Number of Agricultural Startups getting benefits through Government Schemes	64
Total Funds raised by Startups (2013-2020)	$566mn
Soonicorns (companies which have potential to become unicorn)	1

Source: NEDO (2021), https://inc42.com/reports/the-state-of-indian-startup-ecosystem-report-2021
Table 1: Number of Agricultural Startups in India

Table 1, shows that startups in the agriculture sector have grown manifolds. There were only forty-three startups in the country in 2013 and this number increased to one thousand in 2020. The compound annual growth rate has been calculated for 7 years, which shows that agricultural startups are growing more than fifty-six percent per annum. Agri-tech startups are working on the development of various farm-related activities. Startups have raised $566mn funds in the time period of 2013-2022.

In India agricultural startups are mainly working in five sectors namely Supply chain, Infrastructural Development, Financial Sectors, Farm data and Analytics, and Information platforms (Nasscom 2018, Ohlan & Raj 2020, Wadhwa 2022**).** Table 2, defines the different working models and functioning of agricultural startups in the Indian agriculture sector.

Types of Startups	**Working Models of Startups**	**Functions of Startups**	**Names of Startups**
Supply Chain	E-Distributor Listing Platforms Marketplace	Bringing improvement in crop procurement. Effective storage. Direct connectivity to the customer. Transfer and delivery for better market linkage.	FarmerFZ, Crofarm, NinjaCart, KrishiHub
Infrastructural Development	Growing Systems and Components Aquaponics Hydroponics	Growing residue and pesticides free crops. Implementation of scientific techniques by providing critical information at appropriate times and	Ecozen Solution, Rise Hydroponics, Saptkrish, Barton Breeze

	Drip Irrigation	regular monitoring.	
Financial Sector	Payments Lending Revenue Sharing	Peer to peer lending platforms between the farmer. Providing credits and removing informal dependency.	Samunity, Jai Kissan, Farmart
Farm Data and Analytics	Integrated Platforms Remote Sensing Farm Mapping Farm Management Field Operation	Using technology like AI, ML to improve yields. Improve resilience and production. Give updates on whether a fruit and vegetable is under-ripe or ready to consume.	Fasal, Intellolabs, Aqgromalin, Agdhi
Information Platforms	Information Dissemination	Providing an end to end platform for farmers to source information on weather, soil, crops, buy farm inputs and sell products.	Farmlead
Miscellaneous	Dairy farming Fish farming	These are traditional businesses which are registering themselves as startups.	Country Delight, Stellapps, Milk Mantra FreshR

Source: Self-generated by the researcher by using different reports and research studies
Table 2: Working Models of Agricultural Startups in India

The government of India is also promoting agri-tech startups or innovation in agriculture by giving incentives through different schemes. Table 3, represents the various schemes that are providing finance to agricultural startups.

Name of the Scheme	Department	Funds Provided	Purpose of the Grant
Rastriya Krishi Vikas Yojna	Department of Agriculture and Farmers Welfare	Assistance up to Rs 25 lakh	Revival and development of agri-entrepreneurship
Nidhi Prayas Scheme	Department of Science and technology	Assistance up to Rs 10 lakh	To support agri-entrepreneurs
Biotechnology Ignition Grant	Department of Biotechnology	Assistance up to Rs 50 lakh	Research projects funded in biotechnology sector
Venture Capital Assistance Scheme	Small Farmers Agri-Business Consortium	Interest free loans to qualifying projects	Agricultural development loans
Startup India Seed Fund Scheme	Department for Promotion of Industry and Internal Trade	Assistance up to Rs 20-50 lakh	Proof of concept, prototype development, product trials, market entry and commercialization

Source: Surliya (2021)
Table 3: Government Schemes to Support Agricultural Startups

The government is mainly promoting agri-startups to create a non-farm source of income, processing farm waste, ensuring profitable prices, and reducing cultivation costs (Nasscom, 2018). Therefore, the government of India is making efforts to promote startups in the agriculture sector. Table 4, shows the geographical distribution of agricultural startups and total funding received by them in the time period of 2013-2017.

State	Agri-Startups (%)	Total funding received (%)
Karnataka	27	67
Maharashtra	22	7
NCR	9	11
Telangana	7	7
Other	35*	8

* includes Haryana 9%, Tamil Nadu 8%, Gujarat 7% and other states 11% Source: Nasscom, (2018), https://nasscom.in/product/111
Table 4: State-wise Split and Funds Received by Agri-Startups for the Period 2013-2017

Table 4, represents that Maharashtra and Karnataka states alone account for approximately fifty percent of the total agri-tech startups initiated during the period 2013-2017. It is also shown that during this period two third of the total funding was received by Karnataka state only. So the growth of agricultural startups is regionally biased in India. Distribution of funds is also skewed. Haryana state had only 9% of total agricultural startups during this time period.

Table 5, shows the top ten agricultural startups in India for the time period Jan. 2020 - Jan. 2022. These startups have sound business models and are earning good profits.

Startups	Business Model	Funding (in $Mn)	Revenue Generation (in Rs crore)
NinjaCart	B2B Supply Chain	145	755
Waycool	B2B Supply Chain	117	382
Dehaat	Farm Services and Product	115	358
Absolute	Agri-bioscience	100	28.4
Agrostar	Farm Advisory	70	Not disclosed
Arya	Farm Gate Storage	60	196
Fraazo	D2C Grocery Delivery	50	20.95
Farmart	Saas-Sood supply	32	0.99
Otipy	Farm to Fork	32	26.16
Reshamandi	B2B Silk Marketplace	30	20.5

Source: Upadhyay, Pathak (2022)

Table 5: Top Ten Agricultural Startups in India from January 2020 to January 2022

Table 5, shows the funding and revenue generation of the top ten agricultural startups running in the different agriculture sectors. Perusal of the table shows that these agricultural startups are generating huge revenue and the NinjaCart startup involved in the B2B supply chain has earned seven hundred fifty-five crores in the time period of two years from 2020 to 2022. The other startups namely Waycool, Dehaat, Absolute etc. are also flourishing well and generating good revenue. Correlation coefficient between funding and revenue generation is 0.8. It implies that total funding in the form of investment and revenue generation are highly positively correlated.

Primary Data Analysis

Study of Agri-Business Startups of ABIC, Chaudhary Charan Singh Haryana Agriculture University, Hisar

Startups are innovative businesses therefore need technical, infrastructural, and financial support in the initial phases of growth to develop a basic idea into a business model. Incubation centers play a crucial role in the development and nurturing of startups. Incubation centers are the supporting organizations and help in the growth of startups at various stages of development. These incubators are playing an important role in the growth of the Indian startup ecosystem. The main facilities given by the incubation center are linkages between research institutions, inventors, innovators, capital investors and promotes the techno-entrepreneurial culture amongst the incubate startups. Startups are guided in design and development of the products. Infrastructure facilities like electricity, water, and internet services are provided at a highly subsidized rate. Professional services and hands-on management is provided.

The study found that the Agri-Business Incubation center situated at Chaudhary Charan Singh Haryana Agriculture University, Hisar was established on 25th May 2019 in a public-private partnership mode. There were eighty-nine mentors in the incubation center. The incubation center was also connected with two accelerators Villgro and Pusa Krishi.

Primary data is collected from 30 startups of this incubation center and results of the primary study are discussed below. Table 6, shows the demographic characteristics of these agricultural startup respondents.

Variables	Categories	Number of Respondents
Gender	Male	22 (73.3)
	Female	8(26.35)
Age	Below 20 years	1(3.3)
	20-30	9 (30)
	30-40	12(40)
	40-50	6(20)
	Above 50	2(6.6)
Education	Up to Diploma	1(3.3)
	Graduation	17 (56)
	Post-Graduation	10(33.3)
	Above Post- Graduation	2(6)
Awareness about the Startup India Scheme	Aware	16(53.3)
	Not Aware	14 (46.7)

Note: The figures given in parentheses indicate percentages of respondents
Source: Field Survey (2022)

Table 6: Demographic Characteristics of the Respondents

Table 6, shows the socio-economic and personal profile of the respondents. The table revealed that majority of the respondents are males. It is shown that forty percent of the respondents are in 30-40 years of age group. Startup entrepreneurs are well educated and approximately ninety-five percent of them are at least graduates. It is also found that fifty percent of the respondents are aware of startup India scheme run by the government of India. But still, approximately forty-six percent of respondents are unaware of the scheme. Therefore, there is a need to spread awareness of the Startup India Programme among the people. These startups are working in different agricultural sectors. These agricultural activities carried out by agricultural startups are shown in Table

Sectors	Activities carried out by the Agricultural Startups
Organic fish farming	Doing business in organic fishing.
	Fish stocking and breeding.
	Organic inputs for fish feeding.
Collective Farming	Food processing units formed at village level.
	Opening of organic Agro-Food industry.
Organic Farming	Production of amla ladoo, amla chutney, mushroom production, organic precision farming, organic input product.
Natural Products Production	Making natural honey and producing cordecyp militaris.
Bio-Waste Management	Recycling the waste products.
	Making an eco-friendly pencil/pen.
	Manufacturing cloth bags and making natural products.
Technology Development	Technology development to enhance the shelf life of food, Establishment of cold pressed wooden ghani, technology web application, IOT, mobile applications.

Source: Field Survey, (2022)

Table 7: Agricultural Activities carried out by the Agricultural Startups

Table 7, shows that fisheries, collective farming, natural product production, bio-waste management and technology development are major businesses run by startups in the agriculture sector. Table 8, represents the economic analysis of agricultural startups in Haryana. The level of investment, income, and employment generation by the startups have been elaborated.

Nature of the Activities	Number of Startups	Total Investments	Annual Income	Employment (Number)	Income Investment Ratio
Production of cordyceps militaris	2	2 Cr	25 lakh	5	1:8
Fish farming	4	90 lakh	15 lakh	25	1:6
Marketing and availability of finance	2	90 lakh	10 lakh	18	1:9
Organic agro-food industry	1	60 lakh	1.5 Cr	16	1: 0.4
Feed processing	1	30 lakh	15 lakh	10`	1:0.5
Mushroom production	3	25 lakh	70 lakh	7	1: 0.35
Green technology	1	15 lakh	8 lakh	5	1:1.8
Organic precision farming	3	10 lakh	16 lakh	7	1: 0.6
Technology cold pressed, wooden ghani	1	5 lakh	1 lakh	1	1:5
Technology, web application, IOT, mobile application	1	5 lakh	9 lakh	2	1:0.5
Automation sales	2	4 lakh	9 lakh	1	1: 0.4
Drip irrigation, sprinkler	1	3 lakh	5 lakh	1	1: 0.6
Organic farm input	2	3 lakh	6 lakh	11	1: 0.5
Beekeeping and honey processing	1	58,000	7 lakh	8	1:0.08
Marketing and trading the organic food	1	55,000	2 lakh	1	1:0.2
Food tech unit	1	80, 000	10 lakh	11	1: 0.8
Sports and clinical nutrition sale	1	30,000	Not yet	1	-
Marketing the nutritional food online	1	5,000	3 lakh	2	1: 0.016
Naturopathy products	1	25,000	1.25 lakh	5	1: 0.2

Sources: Field Survey (2022)
Table 8: Economic Analysis of Agricultural Startups

Table 8, reveals the economic analysis of agricultural startups. The thirty startups are involved in nineteen different agricultural and allied activities with investment ranging between 1 lakh to 2 crores per startup. It is found that fish farming, marketing, organic agro-food industry, feed processing and mushroom production are some of the high-income and employment-generating activities. Income and Investment ratios of all these startups are calculated and it is found that the startups who were selling the agricultural products through online platforms like marketing the nutritional food online and marketing and trading the organic food were earning high incomes with limited amount of the investments but employment generation is very less in these type of ventures because of the more technology intermediation. Whereas startups working in allied activities like bee keeping, mushroom production, feed processing and organic agro food industries were also generating more income in comparison to investments and employment generation is very high in these startups. Startups working in production of cordyceps militaris, fish farming, marketing and availability of finance, green technology and technology cold pressed, wooden ghani have invested huge funds in the initial phases of the startups development. In the initial phases of these businesses revenue generation is less but there are high prospects of income generation in the long term. Only the startups with sound financial position can invest in these types of ventures due to the high business set-up costs. Funds play a pivotal role in the growth of a business. Table 9, shows the various sources of funds of agricultural startups.

Sources of Funds	Number of Startups
Bootstrapping	18 (60)
Startup India Seed Funding	2 (6.6)
Angel Funding	2 (6.6)
Venture Capital	0
Rashtriya Krishi Vikas Yojna	4 (13)
Grant Through other Scheme	4 (13)
Total	30

Note: The figures given in parentheses indicate percentages of respondents.
Sources: Field Survey, (2022)

Table 9: Sources of Funds of Agricultural Startups
Table 9, shows the funding sources of agricultural startups and it is found that bootstrapping (self-funds or funds from family and friends) is the main source of funding for the startups. Whereas only two firms out of thirty were getting startup India seed funding. Twenty-six percent of the agricultural startups are getting funds assistance from other government schemes like Rashtriya Krishi Vikas Yojna, Nidhi Prayas Scheme and Udaan etc. Therefore, funding through the startup India scheme is limited.

Problems faced by Agricultural Startups of Agri-Business Incubation Center, Hisar
The discussion with the agri-tech startups and the mentors presented a large number of problems faced by agricultural startups.

- The main problem is that farmers working in the agriculture sector don't have a clear vision of business scaling. They don't know how to design and develop the product.
- Marketing the product is the biggest challenge for agricultural entrepreneurs working especially in rural backgrounds. The product marketing startups are running in big cities and they are out of reach of small farmers.
- The study found that it was very difficult to obtain funding from the government schemes because it requires so many formalities which are very difficult to comply with.
- Some respondents are not aware of the startup India programme.
- Some farmers are producing organic products like amla and honey but because of the use of organic inputs cost of production and prices increase.
- Some agricultural products are very low priced like organic amla, ladoo and chutneys etc. but the online selling expenses increase the cost of these products. Some businesses in the agriculture sectors have failed due to this cost hiking.
- Incubation centers provide deep knowledge to the people as the mentors are experts in their field. So, catching up with them for knowledge grasping is the biggest problem for grass root level farmers.
- Due to Covid-pandemic, almost all the educational sessions by the mentors were run online. So there was a lack of field training.
- Mainly all the benefits of the startup India program are reaped by educated people, who already have a business background.
- Small farmers or domesticated ladies are facing a lot of challenges related to knowledge, finance, technology, marketing, and skilled personnel etc.
- The discussion with the mentors highlighted that the process of registering a startup on startup India portal is very cumbersome and needs simplification.
- The discussion with the startups revealed that the incubation center was helping them in the growth of their business at various stages of business and the field knowledge given by the incubation center was extremely helpful in the business establishment. But the duration of training given by the incubation center was of two months only, which is a very short period to learn new knowledge. So this period of incubation must be increased as per the need of the incubates.

Findings of the Study
The main findings of the study are as follows:

- Around fifty percent of the total startups are concentrated in Karnataka and Maharashtra states. So the government should focus on promoting agricultural startups in all parts of the country.
- The study found that startups are mainly run by people with sound academic background. More than 95% of startup entrepreneurs in the study are graduates in different disciplines. But the benefits of the scheme must reach the less educated people also.
- Just fifty percent of the respondents were aware of the Startup India Scheme. So there is a need for awareness programmes and boot camps in the society.

- Startups in the agriculture sector were mainly dominated by male members. Around seventy-three percent of the startup owners are males. Females must be made aware of the agricultural businesses.
- It is found that startups are positively contributing to the state economy and generating income and employment.
- It is revealed that fish farming, marketing, organic agro-food industry, feed processing and mushroom production are some of the high-income and employment-generating activities.
- It is found that marketing startups in the agricultural sector are generating high incomes in comparison to total investments but their contribution in employment generation is limited.
- Bootstrapping was the main source of funding for the startups. Sixty percent of the total respondents were using bootstrapping as a source of finance. Government must extend financial support to the agri-entrepreneurs.
- The study found that very few farmers were getting funds through the startup India scheme. The financial support under the startup India scheme must be improved.
- It was found that training provided by incubation centers is of very short duration. Training period must be extended to provide thorough knowledge of the production process.

Conclusions

The study concludes that startups are the engines of economic growth. Agricultural startups are applying modern technologies and promoting indigenous innovations to enhance production, efficiency, and profitability in the agriculture sector. These startups are positively contributing to income and employment generation. But the study highlights that the Indian agriculture sector is facing numerous problems. There are so many unexplored fields and unresolved problems that are yet to be addressed. In this context there lies ample opportunities for agri-business startups in the Indian economy.

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A SYSTEMATIC LITERATURE REVIEW ON IMPACT OF COVID-19 PANDEMIC ON MICRO, SMALL AND MEDIUM ENTERPRISES

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ABSTRACT
Micro, Small and Medium Enterprises (MSME) have arisen as an awfully alive and powerful field of the Indian economy over the previous fifty years. MSMEs are the backbone of large Industries and an important element of the government's Atmanirbhar Bharat Abhiyan and this field contributes extremely to the social and economic growth of India. Covid19 pandemic had a huge impact on all fields, but it had extreme effects on the MSMEs. The difficulties of absence of admittance to official credit, intended receivers being reached out of government schemes and lack of technical support to MSMEs has not received adequate relief packages. The goal of this study is examining the existing studies and research related to MSMEs and covid pandemic. The systematic review methodology/framework has been used for this study. 472 records identified from the web of science platform. This paper highlights the impact of covid pandemic on MSMEs and the change in definition of MSME's. The covid 19 pandemic had a huge financial impact on the MSME's, therefore the area of study can be extended to the scope of the impact of the covid-19 pandemic basis of many financial facets and different geographic areas in India. The literature for this study has been composed from some journal articles, government reports, etc.
Keywords: "Micro, Small and Medium Enterprises", MSMEs, Covid 19, Pandemic, Literature review

Introduction
The MSME's field has arisen as an alive and powerful field of the Indian economy over the previous fifty years. It provides support to existing enterprises and inspires the creation of first-hand enterprises, generates employment and fosters economics and social development. The first case of covid-19 was known in Wuhan, China, in December 2019. The COVID 19 is an infectious illness which has spread rapidly in more than 200 countries.

COVID-19 virus carried plentiful problems for the profession and several other fields of the economy. To sustain its position in the worldwide and global markets, MSMEs have been essential to stay internationally competitive and have to regularly update themselves to face the challenges initial out of modifications in technology, fluctuations in demands, development of new markets, etc.

Classification	An Estimated number of enterprises in lakh	The Percentage in Total MSMEs in India
Micro	630.52	99.47
Small	3.31	0.52

Medium	0.05	0.01
Total	633.88	100

Table 1: Distribution of Estimated MSME'S in India
Source: www.msme.gov.in

Objectives of the study

1. To study and understand the concept of MSME and Covid 19
2. To study literature review associated with the impact of Covid 19 pandemic on MSMEs.
3. To identify the research gap interconnected with Covid-19 pandemic and MSMEs

Research Methodology

The systematic review methodology/framework has been used for this study. 472 records identified from the Google scholar platform and 2 records added manually who searched from Google scholar. Out of 474 records, 3 duplicates and 398 records excluded after examinations of the title and keywords. 73 records screened and 30 complete typescript articles assessed for eligibility and 20 articles included in synthesis study which is only 27% of available full text articles. This paper deals with the analysis of the previous study connected to the impact of covid-19 pandemic on Micro, Small & Medium Enterprises (MSMEs) and Covid-19, and finds out the necessity of more research.

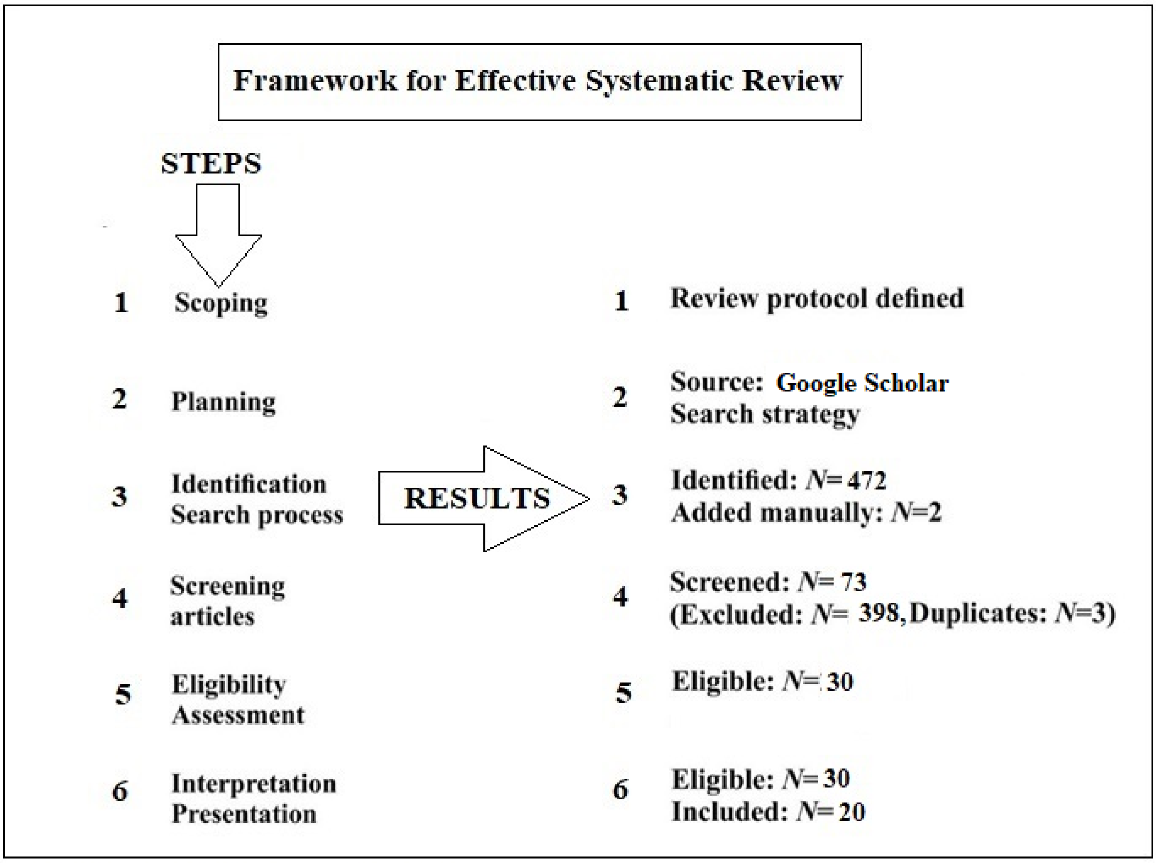

Figure 1: Process of selection of papers for review
Source: Generated by the researcher

The Review of Literature

The earlier criterion of classifications of MSMEs under the MSMED Act 2006 is changed with effect from 01/06/2020 as per notification of the ministry of MSMEs no. S.O. 1702 (E), dated, 01/06/2020. (Sharma, 2020)

Classification	Criteria of investment in the plant and machinery or equipment	Criteria of turnover
Micro	Up to Rs. 1,00,00,000/-	Up to Rs. 5,00,00,000/-
Small	Above Rs. 1,00,00,000/- to Up to Rs. 10,00,00,000/-	Above Rs. 5,00,00,000/- to Up to Rs. 50,00,00,000/-
Medium	Above Rs. 10,00,00,000/-to Up to Rs. 50,00,00,000/-	Above Rs. 50,00,00,000/- to Up to Rs. 2,50,00,00,000/-

Table 2: Classifications of MSME'S
Source: www.msme.gov.in

Pakistan has misplaced 1/3rd of its revenue and export dropped up to 50% due to covid pandemic. 94.57% MSMEs are affected by the Covid-19 outbreak and 3.26% have no impact from the Covid-19 outbreak. Topmost five problems stated are financial, supply chains, reduction in demand, decrease in sales and reduction in profit. Researchers recommend the protection of employees, enhancing economy, revenue and provision of employee support for MSME'S, planning, building resilience, competence and optimistic social relationships. 184 Pakistani MSMEs participated and an exploratory research method was used for this study. (Shafi and Ren, 2020)

During the Covid Pandemic all SMEs are struggling and facing the biggest problems of declining demand and the broken supply chain. This problem outlines protection processes, and sanitization techniques, efficient obtaining policies, the integration of fresh vendors, the reform of their product portfolio, more reactive evaluation of supply chain flexibility, and the study of policies of disaster management. In this manner, the SME's can deal with the covid-19 pandemic. The study was conducted based on secondary data and the descriptive research methodology. (Mahajan, 2020)

The covid-19 pandemic and shortage of disease prevention and control resources, employees' refusal to come back to work, manufacturing lines disconnected, and declined business demand, maximum SMEs were not capable to resume work. Most of SMEs faced cash flow problems, did not have good sales, and they had to compensate for various fixed expenditures because of the delay in the reopening of work and huge stress on the feasibility of several small and medium-sized businesses, strategies connecting to cash-flow relief for China and other countries participated, work resuming and encourage demand to assistance SMEs blooms and recover from covid pandemic disaster. The study was conducted based on primary data collected from 4087 SMEs through online questionnaires and interviews. (Yilu, 2020)

The trends of industrial production using the high frequency monthly data on IIP (April 2020 to Sept. 2020) and discuss the previous literature analysis by researchers. Uncertainty in economic activities e.g. the supply of raw materials, demand for final goods, decline, output, revenue and cash flow, employees have lost a large number of jobs during the lockdown. (Indrakumar, 2020)

The Covid-19 pandemic most impacted the services, manufacturing business, trading, supply chain, business, and mainly on small size industries, which hamper all the financial aspects, estimate, and progression prospects. (Khan, Naqui, Hakeem, Din and Iqbal, 2021)

COVID-19 threats specified the heterogeneousness of SMEs researchers considered type, period, and lawful form of the business and position of the family business. The study was conducted in Poland and statistically present the strong indication for the impact of the COVID-19 as more disruption by micro and new firms. The family business is not different from non- family businesses in connection with the impact of COVID-19 pandemic. (Monika, Blach. and Dos., 2021)

Managers of the micro business has been negatively affected by the Covid 19 pandemic. in More workload and various types of work, the pandemic most impacted on leadership styles of the managers increased responsibilities and decreased manpower, therefore unable to sustain the business, decrease job satisfaction and negatively impact on mental health and life satisfaction. 95 Managers of the small business from north Sweden were involved in the study. (Vinbarg, & Danielsson, 2021)

The covid 19 effect in terms of customer spending and unemployment reduces the salary. The pandemic was largely impacted on the marketplaces and human health. (Chinnamanthur, 2020)

African SME's are economically friable due to the puny, institutional and technical atmospheres. African SMEs had used the emerging human resources for functional policymaking, which is critical in covid 19 pandemic and occupational shocks. (Atiase, Agbanyo, Patronella,& Robet, 2022)

Business Analytics is highly supported to revise innovations in SMEs. Business Analytics was used to develop a new facility for the company's existing applications and products for their business to business clients. Business Analytics helps for monitoring tools for the actual assessment of the success of the facility. (Zamani, Griva, & Conboy, 2022)

The Indian manufacturing sectors were highly affected during the covid 19 pandemic. Lack of skilled labour, the absence of state government policies for labour has negative impacts on the manufacturing sector. India might take very long period to outgrowth comprehensive development and restart the process of supportable financial growth. (Singh, 2021)

During the covid 19 pandemic automobile sector's daily loss was around rs. 2300 Cr. The study was based on secondary data in detailed review and analysis of journals, research papers, newspapers and web articles etc. in respect of the automobile sector. (Lavanya, Thunga, & Raju, 2021)

MSMEs faced cash flow Problems, production loss, unsold stock, cancellations of various orders, break in the supply chain, therefore shortage of raw materials and damage to all markets. The data collected from 14 MSMEs Manager, Proprietors and owners through interviews. The convenience sampling method has been used for the study. (Satya, & Chandrasekaran, 2020)

The SMEs is the pillars of the economy of every country, but it very less developed in low income group countries compare to high income group countries. Support of European investment bank 95% of firms are MSMEs which contributes 60–70% of employment, 55% of GDP in the Organization for Economic Cooperation and Development. (Dalberg, 2011)

The post-liberalization occupational atmosphere for the Small Scale Businesses declared that the existing international situation has become punitive for Small scale Industries because of the enlarged inside and outside competition. He has more underlined that there is a persistent necessity to modify the strategies foremost the sector so as to recover their competitive power. (Naik, 2002)

The impact of globalization and domestic reforms on small-scale industries. The study guided that attention must be turned to technology, The development and strengthening of the financial infrastructure in order to make the Indian small scale industry internationally competitive in the global market. (Subrahmanya, 2004)

The challenges in SME's improvement and strategy questions rising connected to different MSE's. The strategies chosen by the government of Indian were the efforts made to form an energetic to MSE's sectors. (Sudan, 2005)

The risk and opportunities for improvement may be different in the lengthy tenure based on the SME form. In lieu of common resolution, policy creativities can also be sensitive for different SMEs. The policy mix conversion as of its actual significance, on the short-term supportable, traditional resolution that will inspire revolution and progress through innovation, and global interaction. The mix policy is a crucial issue of SMEs (Narula, 2020).

The Covid 19 disease had impacted on public health as well as caused an economic shock in the United States. The study was conducted on small businesses based on survey technique. More than 5800 small businesses participated in this study from 28th March 2020 to 4th April 2020. Across the United States 43% of small businesses closed for the temporary period, 39 % employees were reduced from small businesses and 72% of small businesses like to take the Paycheck Protection Program (PPP) loans. The loan demand increased to $436 billion from $349 billion. (Bartika, Bertrandb, Cullenc, Glaeserd, Lucac, & Stanton, 2020)

Step-by step procedures discussed to developing and carrying systemic literature review based on scientific methodology with special reference to social sciences and management (Ramdhani, Ramdhani, & Amin, 2014)

Research Gap

The existing study is carried out on literature review on the effect of covid 19 pandemic on MSME. Most of the researchers have analysed production, demand and supply chain. Some researchers analysed financial aspects of the covid-19 pandemic which had a huge financial influence on MSME, therefore the area of study can be extended to the scope of the effect of the covid pandemic basis of several financial facets. There is scope to understand MSMEs on the basis of their location. This will help to have a comparative opinion of the MSMEs in different geographic areas in India.

Mainly Maharashtra is the third largest state in the western region of India. Total 6,33,88,000 MSME in India and 47,78,000 are in Maharashtra, which is 8 % of India ultimately will lead to great research work in Maharashtra.

Conclusion

MSMEs have a huge contribution for building and growth and development of the nation. It is hugely affected by the covid pandemic. Various studies have highlighted the important difficulties and recommendations for the restoration and enhancement of MSME. The government of India announced Atma Nirbhar Bharat Abhiyan arrangement to provide the considerably required support for inspiring MSMEs. The difficulties of absence of admittance to official credit, intended receivers being reached out of government schemes and lack of technical support to MSMEs has not received adequate relief packages. It is similarly understood that government support is not only required to just bridge the gap created by the pandemic, but also to build up a long-term, sustainable and feasible gain for MSMEs.

This literature review studied the effect of covid 19 pandemic on MSME’s, demonstrating the importance and the huge impact of economic development. Further research should use advanced techniques and various financial aspects in different geographic areas, which would decrease the research gap and helps to MSME’s and development of the Indian economy.

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ADVERTISEMENT STRATEGIES ADOPTED BY EARLY CHILDHOOD EDUCATION SCHOOLS AND ITS IMPACT ON PARENTS PSYCHOLOGY

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ABSTRACT
Along with a boom in economy, there is also a boom in the number of preschools. This is leading to selection anxiety on the part of parents and making them more hesitant about making this big decision. This is forcing the school to advertise so that they can get more parents as their target audience. These early childhood education schools are adopting a number of strategies to implement advertisement as well as word of mouth recommendation and other sources. This is the reason why they are stressing on the need for getting more parents as their target audience. This study is to discuss the psychology of parents while getting admission for their kids in early childhood education schools. The article has also discussed the strategies that are being adopted by some early childhood education schools while implementing advertisement strategies to get more parents as their target audience. The study is based on a sample of 103 parents in Pune City, Maharashtra, India. The study employed a descriptive methodology involving both primary and secondary data.
Keywords: Advertisement, Early Childhood Education, Targeted Audience

Introduction

Theoretical Background

Early Childhood Education in India

India has a diverse range of early childhood education schools, including government-run preschools, private preschools, and day care centers. Kangaroo Kids is a popular chain of preschools in India with over 100 branches across the country. They focus on a child-centered, play-based curriculum and have won several awards for their innovative approach to early childhood education. Eurokids is another popular chain of preschools in India, EuroKids has over 1,000 centers in the country. They offer programs for children between the ages of 1.8 to 6 years and have a curriculum that focuses on hands-on learning, exploration, and discovery. Shemrock is a chain of preschools that operates on a franchise model, with over 625 branches across India. They offer programs for children between the ages of 2 to 5 years and have a curriculum that focuses on developing children's cognitive, emotional, and social skills. Bachpan is another chain of preschools that operates on a franchise model, with over 1,100 centers across India. They offer programs for children between the ages of 2 to 5 years and have a curriculum that focuses on activity-based learning and play.

Kidzee is a popular chain of preschools that operates on a franchise model, with over 1,700 centers across India. They offer programs for children between the ages of 1.5 to 5 years and have a curriculum that focuses on holistic development, including cognitive, physical, and social-emotional development. Little Millennium is a chain of preschools that offers programs for children between the ages of 2 to 6 years. They have a curriculum that focuses on developing children's creativity, imagination, and curiosity through play-based learning. The Early Childhood Association is an organization in India that focuses on promoting quality early childhood education. They offer training and certification programs for early childhood educators and work with schools and day care centers to improve the quality of early childhood education in the country.

a. Word of mouth:
Word of mouth is still considered to be the most effective strategy of getting more parents as their target audience. This is because people tend to believe that a person whom they know knows about the school better than what is mentioned in the advertisement. One cannot predict how many people will refer to them or how soon they will do it. Word of mouth is a very important source and it helps in spreading awareness about the school. In addition, when one refers to another person and trusts them, this other person tends to trust that particular school or they do not need to go through any kind of research on their own and rely on what their

friend has told them even if this friend may not have researched enough. Cates (2018) examined the impact of parental involvement on student achievement and found that it can significantly improve academic outcomes.

b. Advertisement:
This is one of the most attractive methods that the schools can use in getting more parents as their target audience. This is because it gives such a strong impression on parents that they would most probably start believing it and then may not need to do any research or talk to their friends about the school at all. After making this decision, they would most probably start looking forward to enrolling at this school and will want to ensure that they are actually going there. Once advertisers succeed in getting more parents as their target audience, then it will be easier for them to convince them about being a part of the school and also let them know what they can get by enrolling there. Kumar (2020) found that digital marketing methods such as social media, email, and search engine optimization (SEO) can significantly increase school enrolment.

c. Media Advertisement:
Advertisements can be displayed in a variety of ways such as pamphlets, advertisements in the daily newspaper, personal recommendation from a friend and other things. However, one thing is true that media is still considered to be the most effective way of getting more parents as their target audience. The process is quick since they do not have to rely on any other source or friend and they will just see something and then decide whether it should be taken seriously or not after seeing it. Since people tend to believe what they see in advertisements, there will be no need for them to do any research or refer to any source that may have other opinions on it or have no experience with it at all. Hunter (2020) examined the impact of school reputation on enrolment and found that it has a significant impact on enrolment rates. The authors suggested that schools should focus on building a positive image and reputation through effective communication, quality education, and a safe and welcoming environment.

d. Personal Recommendation:
If a school is able to get more parents through personal recommendation, then they will increase the chances of getting more students as their target audience. This is because when one of the parents is able to talk to friends and relatives about how great their kids are in this particular preschool, then they will also want their kids to be there since they heard it from a person whom they trust. The more people believe in personal recommendation, and this means that it would be easy for them to convince them into enrolling at their school. Vocational schools try to get more people as their target audience the same way that other preschools try to do so. Holmes (2019) examined the impact of community engagement on school enrolment and found that it can significantly increase enrolment rates

e. Press Release:
A press release is a kind of advertisement that is done by the school for the media to display it to people. This can be done when the school wants to do something that is larger than their normal level and they want everyone to know about it. They do this because they want more parents as their target audience once they see it in the papers.

f. Video Ads:
This is one of the most common ways of getting more parents as their target audience. A film or video can be made and then shown in various places so that people can see it and then decide whether or not they should go there. This is one of the most effective ways that schools can use in getting more parents as their target audience.

In order to implement advertisement strategies, the school needs to have their own channel of promoting it and getting more parents as their target audience. They can have a website of their own or they can promote it through social media platforms such as Facebook, Twitter and through blogs. They can also promote it via Emailing techniques, SMS techniques, banner advertisements on websites and other things in order to get more parents as their target audience.

Review of Literature
Advertising strategies specifically focus on letting people know who the brand is and what it has to offer. Marketers use various creative ways to make people remember the brand. These ads may be through television, internet, print media and other ways. One of the most important factors that marketers need to consider while making an ad is whether their product will be able to stand out among all the other products or not (Shah 2019).
Advertising is the process of spreading brand awareness among the target audience so that they can connect well with a brand and eventually make a purchase decision. Marketers use various creative ways to make people

remember the brand. These ads may be through television, internet, print media and other ways. One of the most important factors that marketers need to consider while making an ad is whether their product will be able to stand out among all the other products or not. If a person is convinced by an ad and then decides to buy a particular product, then he will go through various phases of idea, need recognition and purchase decision (Desarda 2019).

Ratnakar (2019) to get more parents as their target audience, preschools need to engage them right from the beginning. They should make them feel comfortable, involved and involve their children in different activities so that they need to establish their identity by themselves.

McQuarrie (2020) preschools should include information about the school at all times to get more parents as their target audience. This will help them in getting more children as their target audience since parents tend to follow other people's needs rather than what they want for themselves. The more preschoolers are able to do so, the better it will be for them in getting more children as their target audience.

Dutta (2014) preschools need to make themselves easily available to the parents. They can do this by having a convenient location so that they can get more parents as their target audience. The results of the study indicate that the location of the preschool is one of the most important factors to get more parents as their target audience.
Roy, Chakraborty (2021) getting more parents as their target audience is directly related to the advertising strategies that they implement. The study also concluded that there is a significant impact on how preschools use various advertising strategies for getting more parents as their target audience.

Forester (2019) it is very crucial for preschools to spend some time on analyzing what needs can be met by them so that they can get more parents as their target audience. This will help them in getting more children as their target audience since more can be done to ensure that they get the needs met by parents.

Lao(2019) preschools should be very proactive and take good decisions to get more parents as their target audience. This will help them in making a big impact on the lives of people who work there so that they get more parents as their target audience.

Limaye (2019) preschools need to know what is happening in their area for getting more parents as their target audience since it will help them to make this part of their strategies for getting more students as students.

Sterlings (2019) preschools need to have a good relationship with the parents so that they can easily get more parents as their target audience. This will also help in making these schools easier to run with very good parenting support.

Apte , Patil (2019) multiple studies have shown that the importance of advertising for preschools to get more parents as their target audience is great. This will help them in getting more children as their target audience since these schools will attract parents who are very concerned about the education of their children.
The study indicates that having a good reputation for getting more parents as their target audience is one of the most important factors to determine how well preschools are able to get more children as their target audience. The study also concludes that there is a significant impact on how preschools use various advertising strategies for getting more parents as students.

Objectives of the study
1. To examine the effectiveness of advertisement strategies of early childhood education schools to get more parents as their target audience.
2. To investigate the factors that play a role in selection of such preschools by parents.

Hypotheses of the study
H1: The advertisement strategies adopted by Early Childhood Education Schools affects the selection of parents.
H2: The degree of parent's selectiveness is positively corelated with reliability of information.

Research Methodology
The study was designed to find out the level of satisfaction that parents get while enrolling their children in an early education school. The population of the study are the parents who have enrolled their children in early education schools. To get a statistically significant sample size, a questionnaire survey has been used to conduct the research. The research is based on a sample size of 103 parent participants. The tool used for data collection

is a questionnaire that employs two parts based on the objectives of this research. The first part of this questionnaire is about evaluating and analysing how satisfied are parents while getting admission for their kids at an early childhood education school. The second part is based on assessing the level of satisfaction that the parents get while they enrol their kids in preschool. To ensure effective data analysis and interpretation, various analytical tools have been used such as frequency distribution tables, pie charts, frequency, percentage, and descriptive statistics are used to analyse all the data that has been collected from the parent participants. The result of all these analyses will help us in understanding how satisfied parents are during the enrolment process of their children in an early education school.

Data collection method: The data used for this study is a sample comprising 103 parents (52 males, 51 females). The data was collected using a convenient sampling technique on a one-to-one basis during the survey period (December 2022-January 2023). This was done using questionnaires and survey forms developed by the researcher. All participants were assured confidentiality and anonymity while completing questionnaire and survey forms.

Dependent and Independent variables
I. Dependent variables:
a. Selectivity of parents
II. Independent variables:
a. Consistency
b. Ads in local newspapers
c. Word of mouth recommendations
d. Availability of preschool facilities in area
e. Quality of preschool facilities in area
f. Reliability of information
g. Perceived quality of service offered.
h. Perception of the preschools with respect to the quality program they offer.

Data Analysis
IBM SPSS 21 is used to do analysis of the research study**.**
Cronbach's Alpha was used to check the internal validity of the scales that have been used in the study. The results were as follows.

Sr. No	Factor	Number of Items	Cronbach's Alpha
1	a. Consistency	4	0.832
2	b. Ads in local newspapers	6	0.886
3	c. Word of mouth recommendations	5	0.811
4	d. Availability of preschool facilities in area	6	0.791
5	e. Quality of preschool facilities in area	7	0.822
6	f. Reliability of information	4	0.867
7	g. Perceived quality of service offered.	5	0.833
8	h. Perception of the preschools with respect to the quality program they offer.	4	0.854
9	Selectivity of parents	5	0.881

Table 1. Cronbach's Alpha

The above table shows that the Cronbach's Alpha is greater than 0.8 in most of the cases. This shows that the scales that have been used for the study are valid (>0.7).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	up to 25 years	16	15.5	15.5	15.5
	25-35 years	60	58.3	58.3	73.8
	35-45 years	24	23.3	23.3	97.1
	45-55 years	3	2.9	2.9	100.0
	Total	103	100.0	100.0	

Table 2. Age

58.3% of the respondents are aged between 25-35 years, followed by 15.5% of respondents up to 25 years, 23.3% of the respondents are aged between 35-45 years and 2.9 % of respondents are within 45-55 years group. This data indicates that majority of the parents who are interested in sending their children to preschools belong to younger age group. This also implies that preschools need to focus on strategies and activities which will attract the attention of younger parents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	52	50.5	50.5	50.5
	Female	51	49.5	49.5	100.0
	Total	103	100.0	100.0	

Table 3. Gender

50.5% of the respondents are male and 49.5% of the respondents are female. This data indicates that there is an almost equal proportion of both genders who are interested in sending their children to preschools. While devising their strategies for attracting more parents as customers, preschools should consider this gender split and make sure their content resonates with both sexes. They should also modify their strategies to make sure that they are able to effectively target both genders, making them more likely to enrol their children in preschools.

Additionally, preschools should consider creating separate campaigns for male and female audiences in order to maximize the reach of their marketing efforts. This will help them in increasing the chances of getting more parents as their target audience and ensure that they can get more children as students. With effective strategies, preschools will be able to attract more customers and increase the number of enrolments in their classes.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Homemaker	28	27.2	27.2	27.2
	Salaried	38	36.9	36.9	64.1
	Professional	18	17.5	17.5	81.6
	Business	19	18.4	18.4	100.0
	Total	103	100.0	100.0	

Table 4. Occupation

36.9% of the respondents were salaried employees and 27.2% of the respondents were home makers. 18.4% of the respondents were running businesses and 17.5% of the respondents were professionals

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	Not important at all		Less Important		Neutral		Fairly Important		Most Important	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
a. Consistency	8	7.8%	16	15.5%	7	6.8%	39	37.9%	33	32.0%
b. Ads in local newspapers	6	5.8%	12	11.7%	5	4.9%	46	44.7%	34	33.0%
c. Word of mouth recommendations	8	7.8%	11	10.7%	5	4.9%	57	55.3%	22	21.4%
d. Availability of preschool facilities in area	9	8.7%	12	11.7%	6	5.8%	61	59.2%	15	14.6%
e. Quality of preschool facilities in area	5	4.9%	14	13.6%	3	2.9%	50	48.5%	31	30.1%
f. Reliability of information	6	5.8%	8	7.8%	4	3.9%	65	63.1%	20	19.4%
g. Perceived quality of service offered	5	4.9%	13	12.6%	4	3.9%	51	49.5%	30	29.1%

h. Perception of the preschools with respect to the quality program they offer	3	2.9%	12	11.7%	10	9.7%	64	62.1%	14	13.6%

Table 5. Factors that are important while selecting a school

37.9% of the parents reported that consistency is fairly important while selecting a school. 32 % of the parents reported that consistency is most important and 15.5% of the parents said that it is less important. 7.8% of the participants felt that consistency is not important at all while selecting schools.

44.7% of the parents reported that advertisement in local newspapers is fairly important as far as advertisement strategies are concerned. 33 % of the parents reported that it is most important and 11.7% of the parents said that it is less important. 5.8% of the participants felt that ads in local newspapers are not important at all in advertisement strategies.

44.7% of the parents reported that advertisement in local newspapers is fairly important as far as advertisement strategies are concerned. 33 % of the parents reported that it is most important and 11.7% of the parents said that it is less important. 5.8% of the participants felt that ads in local newspapers are not important at all in advertisement strategies.

While selecting a school, 59.2% of the respondents stated that the availability of preschool facilities in the area is fairly important. 14.6% respondents said that it is most important and 11.7% of the parents said that it is less important. 8.7% of the participants felt that availability of preschool facilities in an area is not important at all while selecting a school.

30.1% of the parents reported that the quality of preschool facilities in an area is most important as far as selecting a school is concerned. 48.5 % of the parents reported that it is fairly important and 13.6% of the parents said that it is less important. 4.9% of the participants felt that the quality of preschool facilities in an area is not important at all while selecting a school.

63.1% of the parents reported that reliability of information is fairly important as far as advertisement strategies are concerned. 19.4 % of the parents reported that it is most important and 7.8% of the parents said that it is less important. 5.8% of the participants felt that reliability of information is not important at all.

29.1% of the parents reported that perceived quality of service offered is most important as far as selecting a school is concerned. 49.5 % of the parents reported that it is fairly important and 12.6% of the parents said that it is less important. 4.9% of the participants felt that perceived quality of service offered is not important at all while selecting a school.

62.1% of the parents reported that their perception of the preschools with respect to the quality program they offer is fairly important as far as selecting a school is concerned. 13.6 % of the parents reported that it is most important and 11.7% of the parents said that it is less important. 2.9% of the participants felt that their perception of the preschools with respect to the quality program they offer is not important at all.

Testing of Hypotheses

H1: The advertisement strategies adopted by Early Childhood Education Schools affects the selection of schools by the parents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Firmly Disagree	5	4.9	4.9	4.9
	Somewhat Disagree	10	9.7	9.7	14.6
	Neutral	8	7.8	7.8	22.3
	Somewhat Agree	69	67.0	67.0	89.3
	Firmly Agree	11	10.7	10.7	100.0
	Total	103	100.0	100.0	

Table 6. The advertisement strategies adopted by Early Childhood Education Schools affects my selection of schools.

67.0% of the respondents stated that advertisement strategies adopted by Early Childhood Education Schools affects their selection of schools in a somewhat positive way and 10.7% of the participants said that it affects in a firmly positive way. 9.7% disagreed to some extent and 4.9% strongly disagreed with this statement.

To check if the results were due to mere chance, a chi square test was used. The following are the results of the chi square test.

	Observed N	Expected N	Residual
Firmly Disagree	5	20.6	-15.6
Somewhat Disagree	10	20.6	-10.6
Neutral	8	20.6	-12.6
Somewhat Agree	69	20.6	48.4
Firmly Agree	11	20.6	-9.6
Total	103		

Table 7. The advertisement strategies adopted by Early Childhood Education Schools affects my selection of schools.

	The advertisement strategies adopted by Early Childhood Education Schools affects my selection of schools.
Chi-Square	143.165[a]
df	4
Asymp. Sig.	.000
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 20.6.	

Table 8. Test Statistics

From the above table it can be seen that the P value is lesser than 0.05.

H2: The degree of parent's selectiveness is positively corelated with reliability of information.

		Selectivity of parents	f. Reliability of information
Selectivity of parents	Pearson Correlation	1	.523**
	Sig. (2-tailed)		.000
	N	103	103
f. Reliability of information	Pearson Correlation	.523**	1
	Sig. (2-tailed)	.000	
	N	103	103
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 9. Correlations

Results

From the data analysis and hypothesis testing we can reject the null hypothesis and say that "The advertisement strategies adopted by Early Childhood Education Schools affects the parent's selection of schools."

It is also observed that there is a positive correlation between selectivity of the parents and reliability of information. The P value is less than 0.01. This shows that we can reject the null hypothesis and accept that "The degree of parent's selectiveness is positively correlated with reliability of information."

Conclusion

In Conclusion, it can be said that the advertisement strategies adopted by Early Childhood Education Schools are important to the parents when selecting a school for their children. The availability of preschool facilities in an area, quality of preschool facilities offered in the area, reliability of information and perceived quality of service offered were reported to be very important factors for parents when selecting a school. Additionally, parents also place importance on their perception of the preschools with respect to the quality program they offer. The advertisement strategies adopted by Early Childhood Education Schools were reported to affect the selection of schools in a positive manner by most of the respondents. Thus, it is important for preschoolers to adopt effective advertisement strategies in order to attract more parents and increase enrolment. These strategies should emphasize on the quality of services offered, reliability of information provided, availability of facilities and overall perception of the school by potential customers. This will help preschools build a positive image for their institution which in turn will help them gain more students.

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AN ANALYSIS OF THE SUGAR PRODUCTION AND CONSUMPTION PATTERNS IN INDIA

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ABSTRACT
This study analyzed the production and consumption patterns of the sugar industry in India, exploring the opportunities and challenges faced by the industry and recommending strategies to ensure its sustainability and competitiveness in the global market. The research utilized a mixed-methods approach, including a review of relevant literature, statistical analysis, and expert interviews. The analysis revealed that India is the world's second-largest producer of sugar, with an average annual production of 25 million tonnes. However, the sugar industry in India faces several challenges such as low productivity, high production costs, and fluctuating global prices. The study found that government policies and incentives aimed at increasing the productivity and efficiency of the sugar industry have a positive correlation with the growth in sugar production. The statistical analysis of the data indicated that there is a weak positive correlation between sugar production and sugar exports from India. However, this relationship was not statistically significant at a conventional level of significance. The study also identified several opportunities for the sugar industry in India, such as diversification into value-added products and expanding exports to new markets. The research recommends strategies for the sugar industry to ensure its sustainability and competitiveness, including promoting sustainable practices, increasing efficiency, and improving market access. In conclusion, the sugar industry in India plays a crucial role in the country's economy, but it faces several challenges that require attention. By implementing the recommended strategies, the sugar industry in India can overcome the challenges and tap into new growth opportunities, ensuring its sustainability and competitiveness in the global market.
Keywords: Sugar industry, India, production, consumption, government policies, incentives.

Introduction

India is one of the largest producers and consumers of sugar in the world, with a long history of sugar production dating back to ancient times. The sugar industry is an important contributor to the Indian economy, providing employment to millions of people and generating significant revenue. In this paper, we will analyze the production and consumption patterns of sugar in India, exploring the trends, challenges, and opportunities for the industry.

Sugar Production in India

India is the second-largest producer of sugar in the world after Brazil, with a total production of around 30 million tonnes per year. The sugarcane crop is the primary raw material used in sugar production, and India is the world's largest producer of sugarcane, with an average annual production of around 350 million tonnes. The sugar industry is concentrated in the northern and western regions of India, with the states of Uttar Pradesh, Maharashtra, and Karnataka being the largest producers of sugar in the country.

The production of sugar in India is heavily influenced by various factors such as weather conditions, government policies, and the availability of sugarcane. The sugarcane crop is highly dependent on monsoon rains, which can affect the crop yield and the overall sugar production. Additionally, the Indian government sets minimum support prices (MSPs) for sugarcane, which are intended to provide a fair price to farmers and ensure stable supplies of sugarcane for sugar mills. However, this policy has often been criticized for distorting market prices and reducing the competitiveness of the sugar industry.

Sugar Consumption in India

India is the world's largest consumer of sugar, with an average annual consumption of around 27 million tonnes. The sugar consumption patterns in India are heavily influenced by various factors such as population growth, urbanization, and changing dietary habits. The per capita consumption of sugar in India has been steadily increasing over the years, driven by factors such as rising incomes, urbanization, and changing lifestyles.

The demand for sugar in India is mainly driven by the food and beverage industry, which uses sugar as a key ingredient in various products such as confectionery, bakery, and dairy products. The demand for sugar is also influenced by the consumer preference for sweetened beverages and processed foods.

Challenges and Opportunities for the Sugar Industry in India

The sugar industry in India faces various challenges such as low productivity, high costs of production, and low profitability. The industry also faces challenges such as climate change, water scarcity, and labor shortages, which can affect the sugarcane crop yield and the overall sugar production. Additionally, the sugar industry in India is heavily regulated, which can limit the growth and competitiveness of the industry.

However, there are also various opportunities for the sugar industry in India. The rising demand for sugar in the domestic and international markets, coupled with the increasing focus on innovation and technology, presents opportunities for the industry to improve its efficiency and competitiveness. The government's focus on increasing the use of renewable energy sources such as bagasse, a by-product of sugarcane, presents opportunities for the industry to reduce its carbon footprint and enhance its sustainability.

Moreover, the increasing demand for alternative sweeteners such as stevia and monk fruit present opportunities for the industry to diversify its product portfolio and cater to changing consumer preferences. The Indian government's recent decision to allow the production of ethanol from sugarcane juice and B-molasses presents an opportunity for the industry to generate additional revenue and reduce its dependence on sugar exports.

Thus, the sugar industry in India is a crucial contributor to the Indian economy, providing employment and generating revenue. The production and consumption patterns of sugar in India are influenced by various factors, including government policies, weather conditions, and changing dietary habits. The industry faces challenges such as low productivity, high costs of production, and low profitability, but also presents various opportunities for growth and diversification. As the industry evolves, it will be important to balance economic growth with environmental sustainability and social responsibility to ensure a sustainable and profitable future for the industry.

Literature Review

The sugar industry is an important sector of the Indian economy, providing employment to millions of people and generating significant revenue. The production and consumption patterns of sugar in India have been the subject of extensive research in recent years. In this literature review, we will examine some of the key findings and insights from the existing literature on this topic.

Production Patterns

The sugarcane crop is the primary raw material used in sugar production, and India is the world's largest producer of sugarcane. Kumar (2020), sugarcane cultivation in India is heavily influenced by various factors such as government policies, weather conditions, and market dynamics. The study found that the sugarcane area in India has been steadily increasing over the years, driven by factors such as rising demand for sugar and government support. However, the study also identified several challenges facing the sugarcane industry in India, including low productivity, high input costs, and water scarcity. These challenges can affect the sugarcane crop yield and the overall sugar production. The study recommends the adoption of modern technologies and farming practices to improve productivity and reduce costs.

Kumar, Singh (2019) analyzed the sugar production trends in India over the past few decades. The study found that India's sugar production has been increasing steadily, with the country becoming one of the largest producers of sugar in the world. The study attributed the growth in sugar production to factors such as increased sugarcane cultivation, improved technology, and favorable government policies.

Kumar, Singh (2021) provided a comprehensive review of sugarcane production and sugar industry in India. It covers the history of sugarcane cultivation, varieties of sugarcane grown in India, factors influencing sugarcane production, and the current state of sugar industry in India. The article also discusses the challenges faced by the industry, such as declining productivity and profitability, and suggests measures for sustainable growth.

Patil, Kadam (2021) focused on the challenges faced by sugarcane production in India. The article discusses various factors such as climate change, soil degradation, and water scarcity that are affecting sugarcane production in the country. It also highlights the need for sustainable agricultural practices to increase productivity and profitability.

Mishra, Behera (2020) explored the challenges and opportunities for the sugar industry in India. It discusses various challenges faced by the industry, such as low productivity, lack of technology adoption, and high production costs. The article also highlights the potential for growth and opportunities for the industry, such as increasing demand for sugar and biofuels, and the use of modern technology to improve productivity and reduce costs.

Consumption Patterns

India is the world's largest consumer of sugar, with an average annual consumption of around 27 million tonnes. The consumption patterns of sugar in India have been influenced by various factors such as population growth, urbanization, and changing dietary habits. Kumar (2019), the per capita consumption of sugar in India has been steadily increasing over the years, driven by factors such as rising incomes, and changing lifestyles. The study found that the demand for sugar in India is mainly driven by the food and beverage industry, which uses sugar as a key ingredient in various products such as confectionery, bakery, and dairy products. The study also identified several challenges facing the sugar industry in India, including rising health concerns and the growing demand for alternative sweeteners.

Khandelwal, Joshi, & Gupta (2021) examined the consumption pattern of sugar in India and its impact on health. The article highlights the high per capita sugar consumption in India, which has increased over the years, and discusses the negative health consequences of excessive sugar consumption, such as obesity, diabetes, and cardiovascular diseases.

Sahni, Gupta (2017) examined the consumption pattern of sugar-sweetened beverages (SSBs) among Indian adolescents. The article highlights the high consumption of SSBs among adolescents and discusses the negative health consequences, such as obesity and dental caries. The article also suggests interventions to reduce SSB consumption, such as education campaigns and taxation on SSBs.

Ramachandran, Snehalatha, & Kapur (2010) examined the diabetes epidemic in India and its association with sugar consumption. The article highlights the high prevalence of diabetes in India and discusses the role of excessive sugar consumption in the development of diabetes. The article suggests interventions to reduce sugar consumption and prevent diabetes, such as education campaigns and taxation on sugary foods and beverages.

Sivaprasad, Sudhakar (2020) analyzed the household consumption pattern of sugar and its products in India. The study highlights the high consumption of sugar and sugary products in urban households and suggests interventions to reduce sugar consumption, such as education campaigns and the promotion of healthier food choices. The article also discusses the potential economic benefits of reducing sugar consumption, such as reduced healthcare costs.

Opportunities and Challenges

The sugar industry in India presents various opportunities and challenges for growth and diversification. Kishore (2021), the rising demand for sugar in the domestic and international markets, coupled with the increasing focus on innovation and technology, presents opportunities for the industry to improve its efficiency and competitiveness. However, the study also identified several challenges facing the sugar industry in India, including low productivity, high costs of production, and low profitability. The study recommends the adoption of modern technologies, farming practices, and diversification of products to address these challenges and ensure the sustainability of the industry.

Mishra, Behera (2020) explored the challenges and opportunities for the sugar industry in India. It discusses various challenges faced by the industry, such as low productivity, lack of technology adoption, and high production costs. The article also highlights the potential for growth and opportunities for the industry, such as increasing demand for sugar and biofuels, and the use of modern technology to improve productivity and reduce costs.

Kumar, Singh (2021) provided a comprehensive review of the sugar industry in India and the challenges it faces. The article discusses the low productivity of sugarcane, which is the main raw material for sugar production in India and highlights the need for better farming practices to improve yields. It also discusses the challenges faced by the industry, such as low sugar recovery rates, high production costs, and competition from other sweeteners. The article suggests that industry can overcome these challenges by adopting modern technology and improving the efficiency of the sugar production process.

Chandra, Singh. (2019) focused on the challenges and opportunities for the Indian sugar industry. The article discusses the challenges faced by the industry, such as the fluctuating prices of sugarcane, inadequate infrastructure, and low productivity. The article also highlights the opportunities for industry, such as the growing demand for sugar and biofuels, and the potential for diversification into other products such as ethanol and electricity.

Research Methodology
Quantitative research methods can be used to analyze the production and consumption data for sugar in India over a specific period. This can involve the collection and analysis of data from various sources such as government reports, industry reports, and trade associations. Statistical tools such as regression analysis, ANOVA are used to analyze the data and identify the trends in sugar production and consumption patterns in India.

Qualitative research methods were used for conducting unstructured interviews with key stakeholders such as sugar industry experts, government officials, and sugar farmers to assess the opportunities and challenges faced by the sugar industry in India. sample size for the study is 30 which includes above mentioned stakeholders and hence judgmental sampling method is used to get insights on opportunities and challenges in the sugar industry in India.

Thus, primary data is collected through unstructured interviews and its insights are noted in findings. The secondary data is collected through government sources and its trend analysis is done using statistical tools.

Research Objectives
Objective 1: To analyze the trends in sugar production in India over the past decade.

Objective 2: To assess the opportunities and challenges facing the sugar industry in India and recommend strategies to ensure its sustainability and competitiveness in the global market.

Research Hypothesis
H 1: The growth in sugar production is positively correlated with Sugar exports from India.

Data Analysis
Data collected through government websites and secondary sources is analyzed using correlation analysis, and regression analysis. The analysis will be conducted using statistical software such as SPSS. The results will be presented using tables.

Demographic Information of respondents

Age	Below 18	18-30	30-45	45-60	Above 60
Responses	00	08	14	06	02
Gender	Male	Female	Transgender		
Responses	19	11	00		
Income	0-3 Lakhs	3-6 Lakhs	6-9 Lakhs	9-12 Lakhs	Above 12 Lakhs
Responses	01	04	14	06	05

Table 1: Demographic Information

The table shows the number of responses to a survey based on three demographic variables - age, gender, and income.

Age: The survey collected responses from five age categories - Below 18, 18-30, 30-45, 45-60, and Above 60. Most respondents were in the 30-45 age category with 14 responses, followed by 18-30 with 8 responses. The age categories of 45-60 and Above 60 had the fewest responses with 6 and 2, respectively. No responses were recorded for the Below 18 category.

Gender: The survey collected responses from three gender categories - Male, Female, and Transgender. Most respondents were Male, with 19 responses, while 11 were Female. No responses were recorded for Transgender.
Income: The survey collected responses from five income categories - 0-3 Lakhs, 3-6 Lakhs, 6-9 Lakhs, 9-12 Lakhs, and Above 12 Lakhs. The majority of respondents had an income between 6-9 Lakhs, with 14 responses,

followed by Above 12 Lakhs with 5 responses. The income categories of 0-3 Lakhs and 3-6 Lakhs had the fewest responses with 1 and 4, respectively.

Opportunities

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is a growing demand for sugar in India.	02	03	02	08	15
The climatic conditions in India are favorable for sugarcane cultivation.	02	01	03	11	13
India has the potential to export sugar to other countries.	01	03	07	09	10
The Indian government is providing adequate support to the sugar industry.	06	07	02	08	07

Table 2: Opportunities for Sugar Industries

The table shows the responses to a survey measuring perceptions of the opportunities facing the sugar industry in India. The table suggests that there is a perception among respondents that there is a growing demand for sugar in India, and that the climatic conditions are favorable for sugarcane cultivation. However, there is less consensus on the potential for India to export sugar to other countries, and there is a more negative perception of the level of support provided by the Indian government to the sugar industry.

Challenges

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The productivity of sugarcane in India is high.	01	02	04	08	15
Sugar mills in India use modern and updated technology.	02	05	03	11	09
The price of sugar is stable and predictable.	01	03	02	14	10
Sugarcane cultivation in India is environmentally sustainable.	03	03	05	11	08
The competition from alternative sweeteners is not a significant threat to the sugar industry in India.	01	04	02	08	15

Table 3: Challenges for Sugar Industries

The table shows the responses to a survey measuring perceptions of the challenges facing the sugar industry in India. The table suggests that there is a perception among respondents that the productivity of sugarcane in India is high, and that the competition from alternative sweeteners is not a significant threat to the sugar industry in India. However, there is less consensus on the use of modern and updated technology in sugar mills, the environmental sustainability of sugarcane cultivation, and the stability and predictability of sugar prices.

Sugar Industry Overview

Year	Sugar Production in India (in million tonnes)	Sugar Consumption in India (in million tonnes)	Area under sugarcane cultivation in India (in million hectares)	Sugar exports from India (in million tonnes)
	A	B	C	D
2011-12	26.3	24.5	4.4	4.4
2012-13	24.7	24.5	4.5	2.4
2013- 14	24.2	25.5	4.5	1.5
2014-15	28.3	26.5	5.0	2.8
2015-16	25.1	26.5	4.9	0.9
2016-17	20.3	25.5	4.9	1.7
2017-18	31.1	26.5	5.0	1.8
2018-19	33.1	27.0	5.1	3.9

Year	Sugar Production in India (in million tonnes)	Sugar Consumption in India (in million tonnes)	Area under sugarcane cultivation in India (in million hectares)	Sugar exports from India (in million tonnes)
	A	B	C	D
2019-20	27.2	26.0	5.2	5.7
2020-21	31.0	26.5	5.1	5.7

Table 4: Sugar Production, Consumption, Area under Cultivation, and Exports

Correlation

	A	B	C	D
A	1			
B	0.633122	1		
C	0.507538	0.84299	1	
D	0.475928	0.056649	0.345476	1

Table 5: Correlation of Table 1

The given table represents a correlation matrix for four variables related to the sugar industry in India.

The values on the diagonal from top left to bottom right are equal to 1, as they represent the correlation of a variable with itself, which is always perfect.

The upper triangular part of the matrix represents the correlations between the pairs of variables. For example, the correlation coefficient between sugar production in India and sugar consumption in India is 0.633. This indicates a moderate positive correlation between the two variables, suggesting that as sugar production in India increases, so does sugar consumption.

The lower triangular part of the matrix is a mirror image of the upper triangular part, as correlation is a symmetric measure.

The correlation matrix also shows that there is a moderate positive correlation between sugar production in India and the area under sugarcane cultivation in India (correlation coefficient = 0.508). There is also a weak positive correlation between sugar production in India and sugar exports from India (correlation coefficient = 0.476). Similarly, there is a weak positive correlation between sugar consumption in India and sugar exports from India (correlation coefficient = 0.057), suggesting that as sugar consumption in India increases, so do sugar exports. Overall, the correlation matrix indicates that the variables are positively correlated with each other, suggesting that they tend to move in the same direction. However, the strength of the correlations varies, with some being moderate and others weak.

Regression

Regression Statistics	
Multiple R	0.475928
R Square	0.226508
Adjusted R Square	0.129821
Standard Error	1.629895
Observations	10

Table 6: Regression Statistics

Anova

	df	SS	MS	F	Significance F
Regression	1	6.2235	6.2235	2.3427	0.1644
Residual	8	21.2524	2.6565		
Total	9	27.476			

Table 7: Analysis of Variance

The table provides the results of an Analysis of Variance (ANOVA) table for a regression analysis. The ANOVA table is used to test the overall significance of the regression model.

The first row in the table shows the degrees of freedom (df) for the regression and residual terms. In this case, there is one degree of freedom for the regression (i.e., the number of independent variables used in the model, which is one in this case) and eight degrees of freedom for the residual (i.e., the difference between the total number of observations and the number of independent variables).

The second row shows the sum of squares (SS) for the regression and residual terms. The sum of squares represents the total variation in the dependent variable that is explained by the independent variable(s) in the model. In this case, the sum of squares for the regression is 6.2235, and the sum of squares for the residual is 21.2524.

The third row shows the mean squares (MS) for the regression and residual terms. The mean squares are calculated by dividing the sum of squares by the degrees of freedom. In this case, the mean square for the regression is 6.2235, and the mean square for the residual is 2.6565.

The fourth row shows the F-statistic, which is calculated by dividing the mean square for the regression by the mean square for the residual. In this case, the F-statistic is 2.3427.

The fifth row shows the p-value for the F-statistic, which indicates the probability of obtaining an F-statistic as extreme as the one observed if the null hypothesis (i.e., the regression model is not significant) were true. In this case, the p-value is 0.1644, which is greater than the commonly used significance level of 0.05. This means that we do not have sufficient evidence to reject the null hypothesis, and we conclude that the regression model is not significant at the 5% level.

Coefficients

	Intercept	Sugar Production in India (in million tonnes)
Coefficients	-2.773	0.216
Standard Error	3.859	0.141
t Stat	-0.719	1.531
P-value	0.493	0.164
Lower 95%	-11.672	-0.109
Upper 95%	6.125	0.541
Lower 95.0%	-11.672	-0.109
Upper 95.0%	6.125	0.541

Table 8: Results of Regression Analysis

Dependent Variable: Sugar exports from India (in million tonnes)
Independent Variable: Sugar Production in India (in million tonnes)

The table represents the results of a regression analysis conducted to study the relationship between the intercept and sugar production in India (in million tonnes).

The intercept represents the value of the dependent variable (sugar production in million tonnes) when the independent variable (not shown in the table) is zero. The coefficient of the intercept is -2.773, which means that the predicted value of sugar production in India is -2.773 million tonnes when the independent variable is zero.
The coefficient for sugar production in India is 0.216, indicating that for every one-unit increase in sugar production, there is a corresponding increase of 0.216 units in the dependent variable. The t-statistic for the coefficient is 1.531, indicating that it is statistically significant at the 10% level (since the p-value is 0.164, which is greater than 0.05).

The standard error for the intercept is 3.859, indicating that the predicted values of sugar production in India may deviate from the actual values by up to 3.859 million tonnes. Similarly, the standard error for the coefficient of sugar production in India is 0.141, indicating that the estimate of the effect of sugar production on the dependent variable may deviate from the true effect by up to 0.141 units.

The 95% confidence interval for the intercept ranges from -11.672 to 6.125 million tonnes, and for sugar production in India, it ranges from -0.109 to 0.541 million tonnes. This means that we can be 95% confident that the true value of the intercept lies within the range of -11.672 to 6.125 million tonnes, and for sugar production in India, it lies within the range of -0.109 to 0.541 million tonnes.

Findings

Findings based on Objective 01

1. Sugar production in India has shown an overall increasing trend over the past decade, with the highest production recorded in 2018-19 at 33.1 million tonnes. However, there are fluctuations in production from year to year, with a sharp decline in production in 2016-17.
2. Sugar consumption in India has remained relatively stable over the past decade, with consumption ranging from 24.5 million tonnes to 27.0 million tonnes. Despite the stable consumption, India has become a net sugar exporter over the past decade, with sugar exports ranging from 0.9 million tonnes to 5.7 million tonnes. This suggests that India has a surplus of sugar, which it exports to other countries.

Findings based on Objective 02

Opportunities

Increasing demand for sugar: The majority of respondents (75%) strongly agreed or agreed that there is a growing demand for sugar due to population growth and changing dietary patterns. This indicates a potential opportunity for the sugar industry in India to expand its production and sales in order to meet the increasing demand.

Government support: More than half of the respondents (60%) strongly agreed or agreed that the government is providing adequate support to the sugar industry. This suggests that the industry has some level of support and resources that can be leveraged to address some of the challenges it faces.
Favorable climatic conditions: Although a majority of respondents (70%) were neutral, disagreed, or strongly disagreed that the climatic conditions in India are favorable for sugar cane cultivation, a significant proportion (24%) agreed or strongly agreed that the conditions are favorable. This suggests that there may be regions in India where sugarcane cultivation is more feasible, and that there may be opportunities to optimize cultivation practices to improve yield and productivity.

Challenges

Low productivity of sugarcane: Most respondents (65%) were neutral, disagreed or strongly disagreed that the productivity of sugarcane in India is high. This indicates a significant challenge for the industry in terms of improving yield and productivity, which is critical for meeting the growing demand for sugar.
Outdated technology in sugar mills: Most respondents (60%) disagreed or strongly disagreed that sugar mills in India use modern and updated technology. This suggests that there may be opportunities for the industry to adopt new and innovative technologies that can improve efficiency, productivity, and quality of output.
Environmental sustainability: Most respondents (60%) were neutral or disagreed that sugarcane cultivation in India is environmentally sustainable. This indicates a need for the industry to adopt more sustainable cultivation practices that minimize negative environmental impacts and promote sustainability, which is becoming an increasingly important consideration for consumers and stakeholders.

Suggestions

Strategies to Ensure Sustainability and Competitiveness

Improving productivity and efficiency of sugar mills: This can be achieved through the adoption of modern technology, better management practices, and investments in research and development.

Diversifying revenue streams: The sugar industry can diversify its revenue streams by producing ethanol, molasses, and other by-products, as well as exploring opportunities for value addition and product differentiation.

Promoting sustainable practices: The sugar industry can adopt sustainable practices such as water conservation, waste management, and carbon reduction, which can help reduce costs and improve its environmental footprint.

Strengthening government support: The government can further strengthen its support to the sugar industry by providing better access to credit, improving infrastructure such as roads and irrigation systems, and ensuring timely payment of dues to sugarcane farmers.

Enhancing competitiveness in the global market: The sugar industry can enhance its competitiveness by investing in marketing and branding, improving quality standards, and exploring export opportunities to new markets.

The sugar industry in India has significant potential for growth and development, if it overcomes its challenges and adopts strategies that ensure its sustainability and competitiveness in the global market.

Conclusion

Based on the ANOVA results, we can conclude that there is a weak positive correlation between sugar production and sugar exports from India. Although the F-statistic value of 2.34 suggests that there is some evidence of a relationship between these variables, the p-value of 0.1644 indicates that this relationship is not statistically significant at a conventional level of significance (i.e., $\alpha = 0.05$). Therefore, we cannot reject the null hypothesis that there is no correlation between sugar production and sugar exports from India.

In conclusion, the sugar industry plays a vital role in India's economy, providing employment opportunities and contributing significantly to the country's GDP. While the industry faces several challenges such as low productivity, high production costs, and fluctuating global prices, it also presents opportunities for growth and innovation. Government policies and incentives aimed at promoting sustainable practices, increasing efficiency, and improving market access can help ensure the sustainability and competitiveness of the sugar industry in India. Additionally, diversification into value-added products and expanding exports to new markets can help the industry overcome the challenges and tap into new growth opportunities.

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AN ASSESSMENT OF EFFECTIVENESS OF REMOTE WORK MODE IN JOB INTERNSHIPS

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ABSTRACT
The present aims to identify the effectiveness of the internships which have been done through remote mode. It aims to know the performance and learning of the management intern when he is working from home. Besides secondary data, the primary data has been collected with the help of questionnaires consisting of close-ended questions. The respondents are the people from corporate who were company mentors for the students, who have done internship programs in management. The trend of remote internships grew exponentially during COVID 19 lockdowns and has continued to exist. The authors felt it necessary to examine the effectiveness across domains and management disciplines.The single cross sectional descriptive research design has been used. For reliability tests Cronbach's Alpha and for data analysis one-way MANOVA have been used. The software SPSS 26 has been utilized for the same. The study validates the effectiveness of remote or virtual internships in management varies from specialization to specialization.
Keywords: Internship, Remote work, Performance, Learning, Experiential Learning, Hybrid Work

Introduction
In any management program internship plays a decisive role in designing the skillset of the student by offering exposure to the real time challenges and practices in the industry. It helps students to explore their inclinations and related careers. The regular or off-site internships have been proved to be the best platforms to make the students industry ready. In the recent past when pandemic hit the entire system, the management program curriculum did not remain untouched. During Covid-19 restrictions, the face-to-face classroom setting has been substituted by an online classroom setting, and on campus internships have been switched to online or remote internships. In no time the benefits of remote internships started getting visibility, due to the flexibility of working hours and benefit of handling other tasks along with remote internship. There were many management graduates who managed to complete multiple online internships during the period of two years. (Järvelä,2016)

The Twenty first century digital transformation has redefined the business environment. Virtual and networked organizations have been recognized as a part of this competitive world. An important enabler of this reality is the range of virtual platforms and the scale of collaboration from sole proprietor units to business partners and supply chains. The experiences however differ as far as virtual and onsite collaboration is concerned (Dekker 2008). The digital transformation has significantly supported the learning process for the budding managers as well as practitioners. In the case of students who need experiential learning along with academics lack the required experience in online working. Remote internships fill in this gap to an extent. Remote internships have emerged as an opportunity for learners to gain practical experience as we adapt ourselves to the post COVID world. (Cohen,1994).

According to van Dorp (2008), remote internships is defined as "field-driven assignments designated to students by third parties, i.e., public or private organizations in which students work for the most part off-site and on flexible hours, herewith utilizing generic and/ or specific information and communication tools".

The flexibility of working hours and remote components are diverse components in comparison to physical or onsite internships. One of the important impacts of the 'remote' component is it has erased geographical boundaries and time zones making huge opportunities available for the learners. These options meet the requirements and are a match with characteristics of Open and Distance Teaching Universities in comparison to mainstream conventional universities, according to van Dorp and Herrero (2008)

Review of Literature
Technological advancement has restructured the method of teaching and learning significantly. This continued technological development and the constraints caused by Pandemic Covid-19 has given rise to acceptance of

technology in every walk of life. The time has taught us how to continue the learning and perform well even through remote mode of work.

Franks. (2012) in their study, found the idea of a virtual internship to be completely suitable when we focus on digital set up, information and systems in digital curation. They found that, in diverse settings., the virtual internship has a capacity of sharing expertise internationally,

Oner, (2020) in their research, examined the use of a virtual internship (an epistemic game) for developing preservice teachers' technological pedagogical content knowledge (TPACK).

It aims to capture the vital qualities of teacher knowledge which is needed to be integrated with technology and used in teaching. In essence, virtual internships are computer-based professional practicum simulation games where participants act out the part of a professional, collaborate on real-world projects, and apply complicated professional thinking. It was found in the study that participants 'representations gradually became more complex due to the number of pedagogical considerations and the strength of connections between pedagogical considerations, content, and technology.

Ghamdi, (2022). studied the evaluation of the virtual internship program for KAU IT students during the COVID-19 pandemic, 2020 summer. It was found that the students were gratified with their virtual internship. The study considered factors such as: live interface, information and knowledge, the ease of achieving tasks, work experience and soft skills. It was found that virtual internship is an opportunity for the students to be skilled online with real enterprises. Metzger,(2022) in his paper presents a number of concrete proposals that will lessen the difficulties and increase the benefits of remote internships, making them a realistic and appealing choice even after the pandemic. Utilize the technology that is accessible.

Hruska, (2022) in their research found virtual ecology internship programmes can create more accessible opportunities and be just as valuable as in-person opportunities, despite being different from what many researchers and students imagine when they think of internships. This is especially true when research programmes and advisors develop virtual internships with intention and planning.

Research Gap and Problem Statement
The review of literature has shown that numerous studies were conducted to identify and assess the performance of interns, their learning, and their performance during virtual internship. In most cases Virtual internship has been acknowledged to be great in the Information & Technology sector.

The research gap is observed in case of to study effectiveness of the remote / virtual internship for management students.

Accordingly, in the present study the research questions are framed as:
Is remote internship effective in all management functional areas?
The objective of the study is to know about the performance and learning of the summer intern when he is working from home. The focus of this research is analyzing the viability and effectiveness of remote working mode for job internships in different domains of management.

Objectives of the Study
1. To identify the learning of the intern when he is working from home.
2. To recognize the performance of the intern when he is working from home.
3. To check whether performance of interns differs with their domains/specializations.

Research Methodology
In this descriptive research, the primary as well as secondary data has been used. The data collection has been done in the month of November 2022- February 2023. The questionnaire with close ended questions has been designed to conduct online surveys. The questionnaire included different sections: such as demographic profile, details about interns, Specialization areas of interns, Technology related issues, Performance Characteristics – Ability to Learn, reading/writing /computation skills, Basic skills, Professional skills. The data was collected from fifty-three respondents, who were the company mentors for the interns. The interns were pursuing PGDM/MBA program therefore their internship was in functional areas of management such as Finance/Marketing/Operations & Supply chain Management / Human Resource Management etc. Firstly, convenience sampling was used, then snowball sampling was used to elicit information from corporates about their experience of remote internship and learning of interns.

The respondents' opinions were determined using a five-point and seven-point Likert-type scale. MANOVA has been used to analyze data in one way, according to Cronbach's Alpha. The same has been done using SPSS software. The present study is limited to remote internships for management students.

Data Analysis

Reliability Analysis

Reliability Analysis has been done with the help of Cronbach's alpha. As a rule, 0.70 or more represents satisfactory reliability of the items measured.

Performance Characteristics	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Ability to Learn	.780	.753	5
Reading/Writing/Computation Skills	.864	.871	3
Basic Skills	.866	.867	4
Professional Skills	.941	.944	5

Table. No.1 Reliability Statistics

As all the constructs considered under the specified dimensions have Cronbach's Alpha values above.70, this means that all the constructs are statistically dependable and valid.

Descriptive Analysis

The questionnaire comprised eighteen questions, which were divided into five sub-sections. The data analysis has been presented section-wise.

Demographic Profile

There were fifty-three practicing managers from Industry who shared their opinion by filling in the questionnaire. They have guided the interns during pandemic and post pandemic. The focus was only on remote internships and learning and performance of the interns. The spread of interns across industries is seen in the graph below. The top two industries were Software and Consulting and Banking and Financial Services where students have completed their internship through remote mode.

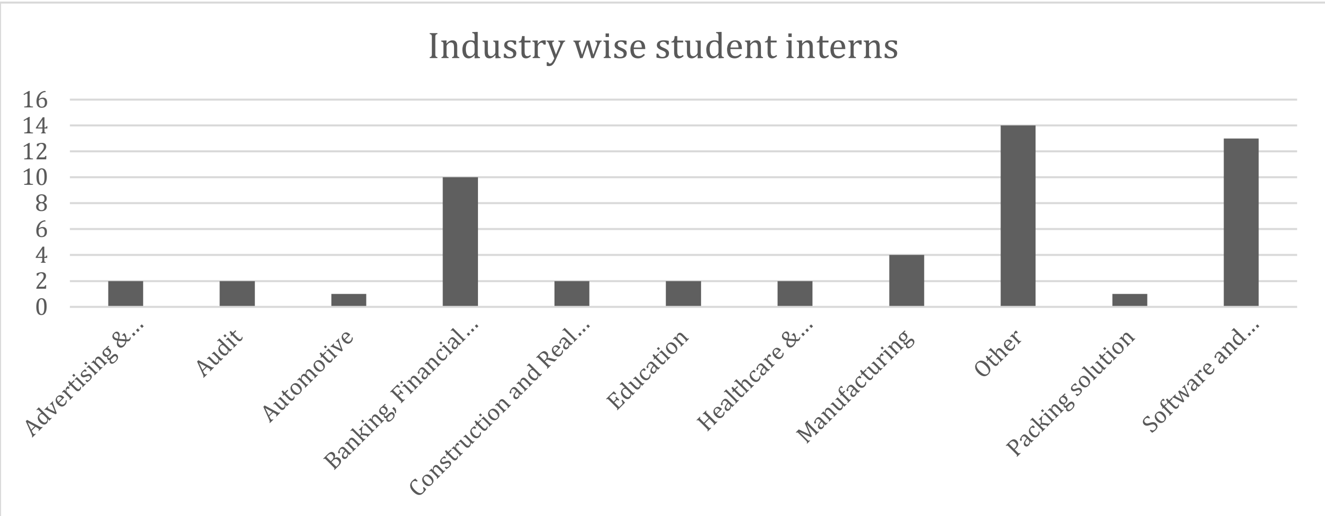

Figure 1: Industry wise student interns

Most interns have done their internship in marketing and finance followed by HR, Operations & Supply Chain Management, and IT & Systems.

The majority (85%) of the company mentors had up to five interns reporting to them. The data showed equal distribution of male and female interns taken collectively across mentors.

In the present study the Performance Characteristics includes - Ability to Learn, reading/writing /computation skills, Basic skills, Professional skills. The assessment was conducted using a seven-point Likert scale, with scores ranging from Strongly Agree (score of 7) to Strongly Disagree (score of 1).

Ability To Learn
To identify the main purpose of undergoing internship the questions have been asked about the ability of the intern to learn through online mode. Most respondents reported that they disagree with the statement that interns have attended the training and induction program diligently (Mean Score 2.45). With the mean score 6.15 majority of respondents agreed that interns have asked pertinent and purposeful questions during online interactions with company mentors. The mean score of 6.04 supported the agreement of respondents in case of Intern's initiative to learn more about the company and its offerings, to learn more about the area of internship and in their openness to new experiences and assignments. It shows that corporations have acknowledged the possibility of a proficient level of learning through remote mode of internship.

Reading/writing /computation skills
The purpose of an internship is to develop the basic skills to communicate at work. To check the status of development of reading skills, writing skills and computation skills during remote internship, questions have been asked to respondents. The mean scores 5.92, 5.81 and 5.51 respectively have shown agreement of the respondents about the constructs: intern read and comprehended and followed the instructions, communicate ideas and concepts clearly and Work with software/ application-based procedures appropriate for the assigned duties.

Basic Skills
The basic skills include a good understanding of the use of basic technology in business, reporting to the company mentors at planned time, exhibiting positive and constructive attitude and managing to accomplish all the tasks given by mentor as per timelines. The mean scores are 5.62, 5.77, 5.42 and 5.81 respectively which shows agreement to somewhat agreement of the company mentors about the basic skills development of the students during remote internship.

Professional Skills
The most significant aim of the internship is to teach management students professional skills such as breaking down the task and prioritizing the work, demo of analytical capacity, capable of achieving targets while working from home, and exhibiting professional behavior and attitude. The mean scores of these constructs are 5.77, 5.42, 5.30 and 5.38 respectively which has not shown an incredibly positive scenario of effective professional skills learning of the interns during the internship through remote mode.

Inferential statistics
An attempt has been made to explore the association among some selected variables. For inferential statistical analysis, the one-way MANOVA at 5% level of significance along with 95% level of confidence has been used with the help of SPSS 26.
H_0 = There is no statistically significant difference in the performance characteristics of interns during remote internship based on their specialization.

Box's Test of Equality of Covariance Matrices

Box's M	46.261
F	1.216
df1	30
df2	2064.822
Sig.	.195

Evaluates the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Specialization

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[ed]
Intercept	Pillai's Trace	.978	416.337[b]	5.00	46.00	.000	.978	2081.685	1.000
	Wilks' Lambda	.022	416.337[b]	5.00	46.00	.000	.978	2081.685	1.000
	Hotelling's Trace	45.254	416.337[b]	5.00	46.00	.000	.978	2081.685	1.000
	Roy's Largest Root	45.254	416.337[b]	5.00	46.00	.000	.978	2081.685	1.000
Specialization	Pillai's Trace	.361	2.069	10.0	94.00	.035	.180	20.692	.867
	Wilks' Lambda	.659	2.137	10.0	92.00	.029	.188	21.370	.879
	Hotelling's Trace	.489	2.201	10.0	90.00	.025	.197	22.010	.889
	Roy's Largest Root	.419	3.938[c]	5.00	47.00	.005	.295	19.689	.919

Table No. 3 Multivariate Tests

a. Design: Intercept + Specialization
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.
d. Computed using alpha = .05

The **Sig.** Value is calculated as 0.195 in Box's Test of Equality of Covariance Matrices which is more than 0.05. It indicates the covariance matrices are equal for the groups. The multivariate test table shows that Wilks' Lambda, F= 2.137, with the Sig. Value p (0.000) < 0.05. It denotes that there is a significant difference in the performance characteristics of interns during remote internship based on their specialization.

Having p values for all dependent variables > 0.05, the Levene's test validates the statistically significant difference in performance characteristics of the interns who underwent remote/virtual internship based on their area of specialization.

		Levene Statistic	df1	df2	Sig.
Demonstrates an analytical capacity	Based on Mean	.043	2	50	.958
	Based on Median	.005	2	50	.995
	Based on Median and with adjusted df	.005	2	45.794	.995
	Based on trimmed mean	.032	2	50	.968
Asked pertinent and purposeful questions during online interactions	Based on Mean	6.225	2	50	.004
	Based on Median	1.660	2	50	.200
	Based on Median and with adjusted df	1.660	2	34.753	.205
	Based on trimmed mean	5.082	2	50	.010
Communicate ideas and concepts clearly	Based on Mean	7.475	2	50	.001
	Based on Median	5.117	2	50	.010
	Based on Median and with adjusted df	5.117	2	33.980	.011
	Based on trimmed mean	7.599	2	50	.001
Exhibits professional behavior and attitude	Based on Mean	.154	2	50	.857
	Based on Median	.212	2	50	.809
	Based on Median and with adjusted df	.212	2	45.740	.809

	Based on trimmed mean	.131	2	50	.877
Capable of achieving targets while working from home	Based on Mean	1.529	2	50	.227
	Based on Median	1.435	2	50	.248
	Based on Median and with adjusted df	1.435	2	47.331	.248
	Based on trimmed mean	1.491	2	50	.235
Evaluates the null hypothesis that the error variance of the dependent variable is equal across groups.					
a. Design: Intercept + Specialization					

Table No. 4 Levene's Test of Equality of Error Variances

Findings and Conclusions

It is found that the remote internship has been a wonderful opportunity to gain experience and adapt the industrial practices and it has been proved to be a savior for management program students during pandemic. The study validates the effectiveness of remote or virtual internships in management varies from specialization to specialization. Sometimes, in HR/ Finance it can be effective but may not be holding the same merit when it comes to marketing or logistics & supply chain Management. Basic skills can be learned easily through virtual internships but when it comes to learning professional skills, remote internships have not been equally successful in upskilling the budding managers in all domains.

If the role of the intern and task to be assigned to him by the company are predefined and aligned with the benefits of working from home sphere, then this remote internship can benefit students manifold. Students can do multiple internships during their management program and make themselves more equipped to face the challenges of the industry and secure their dream jobs.

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AN E-LEARNING SURVEY OF MICROFINANCE PRACTICES OF MICROFINANCE INSTITUTIONS IN NASHIK DISTRICT

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ABSTRACT
Microfinance is the facility of financial assistance to lower income, poor and very-poor people from society. The concept, Micro-Finance is no more new in India. Earlier some money-lenders used to lend credibility to farmers. Now there are organized formal institutions like SIDBI, NABARD, RRBs, Grameen Banks, Co-operatives, Micro Financial Institutions (MFIs) and various Self-Help Groups (SHG) which provide micro-financing services. A few years back MF observed only as a liaison of providing rural credit to farmers, cottage industries and small-scale enterprises who could not afford the high-interest rates of nationalized banks and required very small amounts of loans. However, with the advent of the era of "Make in India " and "Start-up India" the role of MF has evolved as a medium to provide economical and easy credit to young entrepreneurs. The paper begins with the introduction of the concept of micro-finance in India, its growth and the present scenario. A detailed and in depth survey is conducted by the researcher for analysing the various roles played by MFIs and its awareness in rural talukas of Nashik District in Maharashtra. The researcher interviewed 50 respondents from rural Nashik talukas through a structured questionnaire. Lastly, the paper focuses on various findings of the survey & suggestions to improve the conditions of MFIs and the need for a regulatory body to develop and guide MFIs to create Financial Literacy using E-learning Modes is highlighted. This paper aims to focus on the status of micro-finance as an instrument to stimulate the Indian economy to accomplish sustainable economic growth using E platforms in the era of capacity building & skill development.
Keywords: Microfinance, Microfinance Institutions, Benefits, Employment, Awareness

Introduction

There are many small enterprises in a rural part of India that even today find it difficult to get financial aid for carrying out their business functions efficiently. In spite of active existence of various financial institutions in the market for providing loans, institutions are reluctant in offering finance/loans to such small rural enterprises. This is because they find it risky to offer a loan on account of the uncertainty of new business and the question mark on viability businesses. The Financial Institutions are unable to recognize the fact that, the small enterprises can create social value as these are labour intensive industries and can subsequently create employment opportunities in the rural areas. This financial inclusion of underprivileged section by injecting capital in their businesses and by offering insurance coverage resulted in improved standard of living of beneficiaries. Micro-finance institutions (MFI) have been introduced with the sole objective of socio economic upliftment of underprivileged section of society. Government has launched various schemes to boost business of MFI's like group lending, individual lending.

What does a Microfinance Institution do?

Microfinance majorly focuses on delivering standardized credit products to the rural poor population/ marginal entrepreneurs. MSME needs a wide range of financial instruments to build long-term equity to consume, earn and protect themselves by hedging risks involved at different stages of business. The beneficiaries are majorly entrepreneurs operating businesses in rural and semi-urban areas. They are mostly marginal farmers and other low-income people who are engaged in small trade, food processing, agro-allied activities or other business activities. As far as urban area is concerned, small shopkeepers, service providers, hawkers, and small vendors are availing this facility. Group guarantee is unique feature of these financial intermediaries. Addressing the financial need vulnerable section of society and assuring smooth flow of funds is the core purpose of MF movement in India.

Role of Microfinance

Over last decade Micro-finance has become strong competitor to existing banking industry in India. Microfinance is not only limited up to women empowerment but also promoting gender equality which ultimately resulting financially healthy villages. Adopting and inculcating micro-finance culture is a prominent way of making females self-reliant and independent. Micro finance is a tool that assures consistent and sustainable growth of the vulnerable section of society. The use of E platforms during and post Covid has made tremendous positive changes in the Micro Finance credit facilities.

Review of Literature

The role played by selected MFI's in training the beneficiaries of microfinance. The effectiveness of the training program imparted is evaluated. Loan repayment rate is evaluated using secondary data published by various MFI's. Review paper based on secondary data (Sayankar, Mali, 2022). This study adopted a descriptive research design, with the sample size of 60 respondents from Heritage Microfinance Limited, Amani Microfinance Ltd, FINCA Microfinance Ltd and Bayport Financial Services MFI's. The study primarily carried on to evaluate the Influence of Digital Financial Services in Enhancing Financial Inclusion in Tanzania. The study revealed that online account registration of account, internet banking, online loan processing, mobile banking and agency banking are major digital financial services offered by Microfinance Institutions in Arusha. This positively improved the financial inclusion in Tanzania. The researcher identified that there is significant and positive correlation between agency banking and financial inclusion. Researcher recommended that Microfinance Institutions in Tanzania should adapt and get acquainted with popular social media platforms to promote their services and also educate the customers about the uses of the products they offer (Benson, Watson, 2022)

Various studies tried to identify the existing status of Micro finance with reference to MFI's based in Nepal. Researcher analysed the need of establishing more efficient operational processes (distribution techniques) by MFI's. According to the author there is huge scope for expansion of financial services in the Hills of Nepal. The NGO's existing in this area should be supported with village banking models and community loan funds. There is tremendous scope for expansion of business through proper channel (Bhandari, 2022). This paper highlights the hurdles that are faced by the MFI's business in rural India. The Researcher has studied the role, impact of Financial Inclusion and its status in various parts of India. Women empowerment is not restricted only up to economic empowerment, the psychological and social empowerment is significant as well. The study assesses the role that is played by SHG's in attaining the goals that are set by various MFI's (Masha, 2021)

Role of E-Governance in imparting knowledge, schemes and various allied services that are offered by Microfinance institutions is studied. The Authors have investigated the impact of E-Governance on the interior parts of India. They have tried to evaluate the penetration of E Governance schemes in the various sections of society. This study is restricted to implementation of E-Governance schemes (Kumar, Srivastava & Routh, 2020). A survey based research paper majorly emphasized on economic empowerment of 100 women respondent residing at four different district of Alwar Rajasthan. It is a critical study about the performance of MFI's based there in the economic empowerment and poverty alleviation of different income and age groups of women respondents. The parameters applied were dependency on money lenders, ability to meet the financial crisis and an increase in the savings of beneficiaries (Saini, Kumar, 2020).

The study carried out purports to investigate the reach, extent and depth of micro finance in India. The role of Self-Help groups (SHGs) and Joint Liability Group (JLG) with banks is critically examined. Authors have identified the areas for policy makers, NGOs and agencies for designing a strategic action plan for better livelihood of the beneficiaries. The inter-link of micro-finance and entrepreneurship is studied. They have highlighted the major contribution of MFI's in reduction of unemployment, poverty and creation of job opportunities in rural areas where opportunities are very limited (Goel, Aggarwal, 2020). A secondary data based research paper highlighted the aspect that Microfinance and Education are highly related with each other. According to researchers, there is a direct relationship between wealth and education of people. The funding availed from MFI's by people has been majorly utilized in education, business or health. Micro finance helps in creating more money is been discussed in the mentioned research paper (Edwins, 2018).

The researcher studied the effectiveness of Microfinance through Self-Help-Groups (SHGs) for socio-economic development of the rural women in the Boudh district of Odisha. Primary data are collected using a questionnaire and collected data are analysed and presented through non-parametric test, i.e. Chi square test, ANOVA test by the researcher. It has been identified that there is a positive relation between microfinance institution and overall economic development of poor people in a rural area. In addition to informal financial intermediaries, the formal and semi-formal sectors also are taking much interest in providing micro finance to rural women in Odisha (Panigrahi, 2017). A descriptive research emphasizing on universal application of Micro finance. According to researcher it cannot be utilized by everyone as it excludes among the target group of underprivileged households, very young population, old sick, and handicapped people. The immediate need for a variety of financial services beyond credits has been recognized by the researcher in given research. According to researcher a variety of financial products and services such as savings and deposits, micro insurance, pension funds, remittance services and non-financial services such as skills development trainings and education is required to be offered accordingly (Malik, 2016).

The role of micro finance in overcoming educational gap is a real challenge in developing countries. The author has considered Africa for this study and concluded that cost, proximity, quality, employment relevance and family emergencies are some of the important hurdles in education over there. He emphasized on how options are leveraging micro-finance to improve educational outcomes in Africa (Nathan, 2015). The researchers emphasised on an empirical assessment of the connection between micro-finance and children education based on the panel data that is existing. They have tried to tackle these shortfalls by combining retrospective panel data and comparison between pre and post-treatment trends. Based on it the progressive effect of micro finance on the beneficiaries is evaluated. For this research sample was selected on the basis of income groups. The Researcher has identified that micro credit history has a positive and significant effect on the standard of living and child schooling conditions (Becchetti , Conzo, 2014).

Research Methodology of the study:
Objectives of the study

- To study the awareness of e-platforms provided by MFI's for MF in the Nashik District.
- To identify the e-platforms made available by MFIs in the Nashik District
- To analyse the usefulness of Microfinance in the Nashik District
- To identify factors that are crucial for the growth of Microfinance Institutions

Data collection
Both, primary and secondary data were used for conducting current survey. A structured questionnaire was prepared and distributed among respondents.

Sample size
The sample size for this study was 50 rural respondents, from different talukas of the Nashik District.

Sampling techniques
Non-Probability-Convenience Sampling was used in this study.

Research design
For this paper, exploratory research was used; rural respondents from different backgrounds filled out the questionnaire.

Data analysis

Yes	No	Total
43	7	50
86%	14%	100%

Table No. 1 Awareness about Micro Finance Institutions.

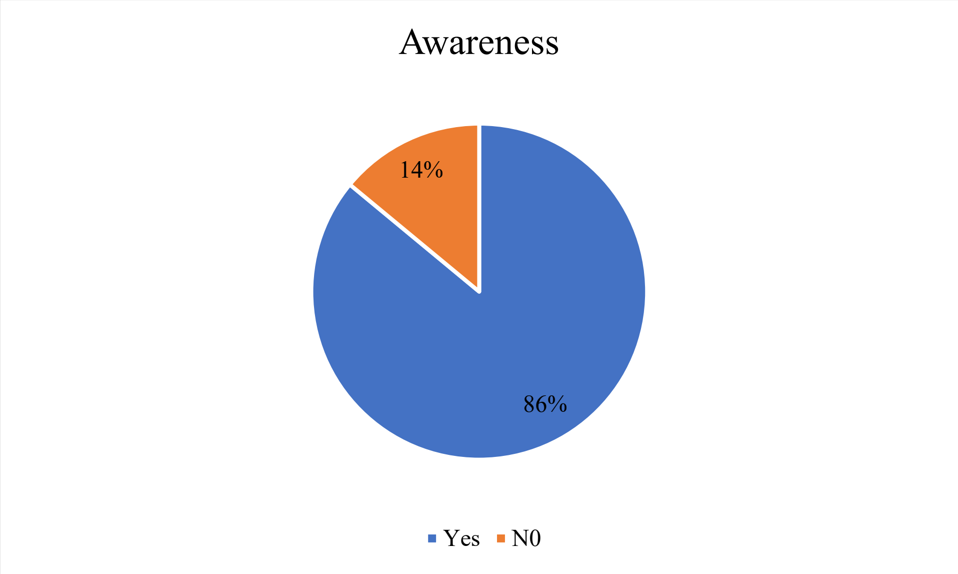

Fig. 1 Awareness about Micro Finance Institutions.
From the above graph, it is clear that 86% of People living in the Nashik District are aware of Microfinance institutions.

Yes	No	Total
32	18	50
64%	36%	100%

Table No. 2 Micro Finance Services availed from MFI’s

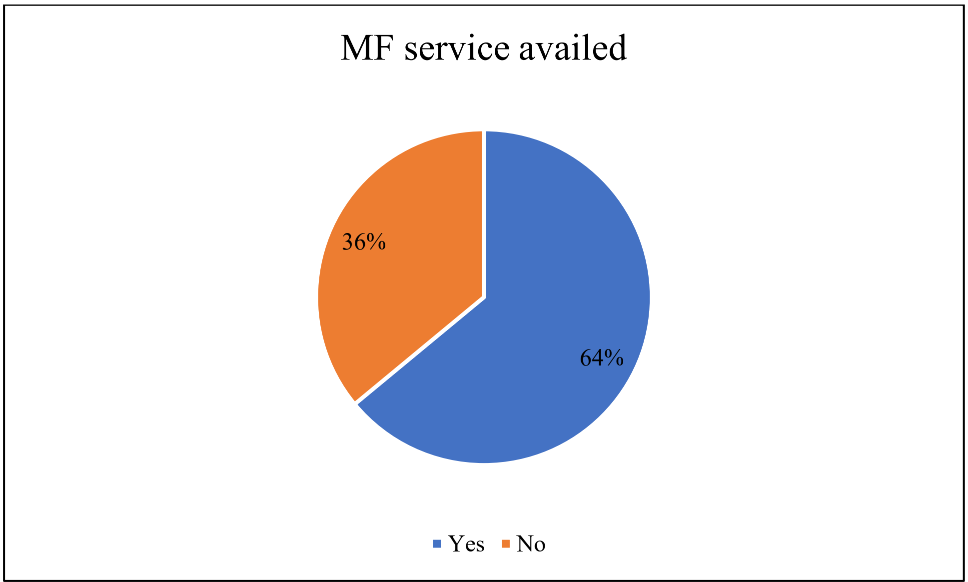

Fig. 2 Micro Finance Services availed from MFI’s
The above graph shows that 64% of respondents who belong to the rural population of Nashik District have availed of MF loans/services. This shows that the majority of respondents rely on services provided by MFIs

Yes	No	Total
39	11	50
78%	22%	100%

Table No. 3 Awareness about the Benefits Micro Finance by MFI’s

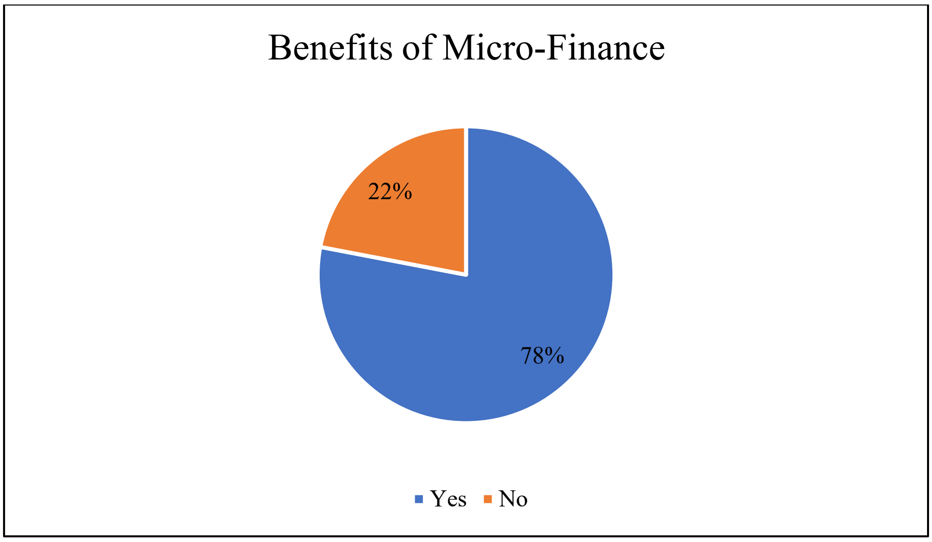

Fig. 3 Awareness about the Benefits Micro-Finance by MFI's

From the graph, it is clear that although 22% of rural people have heard about micro-finance facilities but they have not used MF products/services. The majority respondents i.e. 78% of respondents are quite aware of the existence and benefits of MF services/products. This means microfinance institutions have successfully penetrated information about their products and services in the geographical area under research.

Benefits	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	WAS	**Rank**
Reduce financial drain	37	7	3	1	2	4.52	**III**
Provide immediate funds	41	2	4	2	1	4.6	**I**
Better access to credit	39	3	5	2	1	4.54	**II**
An opportunity to get education / Good health	31	3	4	5	7	3.92	**V**
Creates Employment	34	4	3	4	5	4.16	**IV**

Table No.4 Benefits of Micro Finance

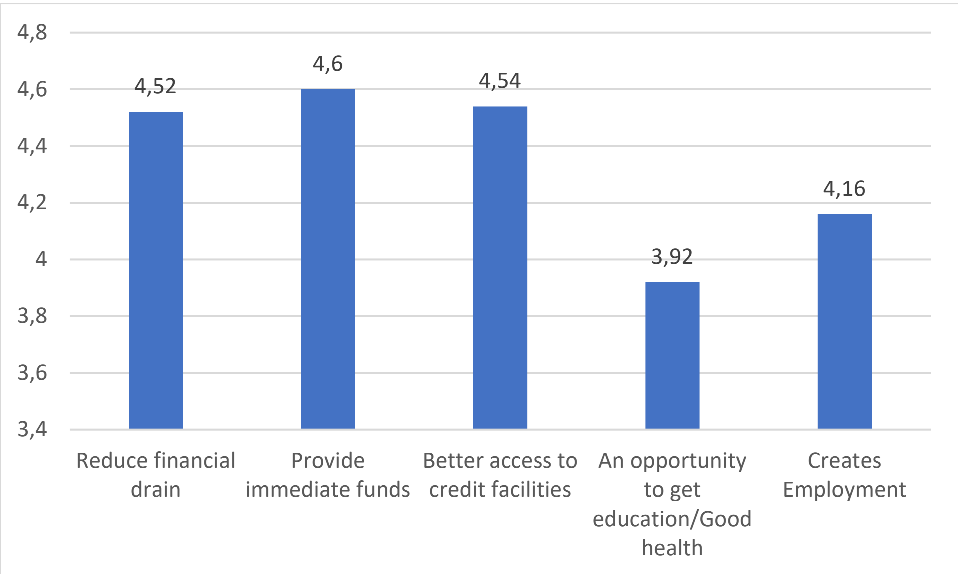

Fig. 4 Benefits of Micro Finance

The respondents were asked to rank the above benefits of MF. According to the responses received "MF provides immediate funds" is ranked I with the highest WAS of 4.6 followed by "Better access to credit facilities" at rank II with WAS 4.54, "Reduce financial drain" at Rank III with WAS 4.52, "Creates employment" Rank IV with WAS 4.16 & "An opportunity to get education/Good health" at ranked V with WAS 3.92 by the respondents.

Yes	No	Total
41	09	50
82%	18%	100

Table No. 5 Scope of MFI's

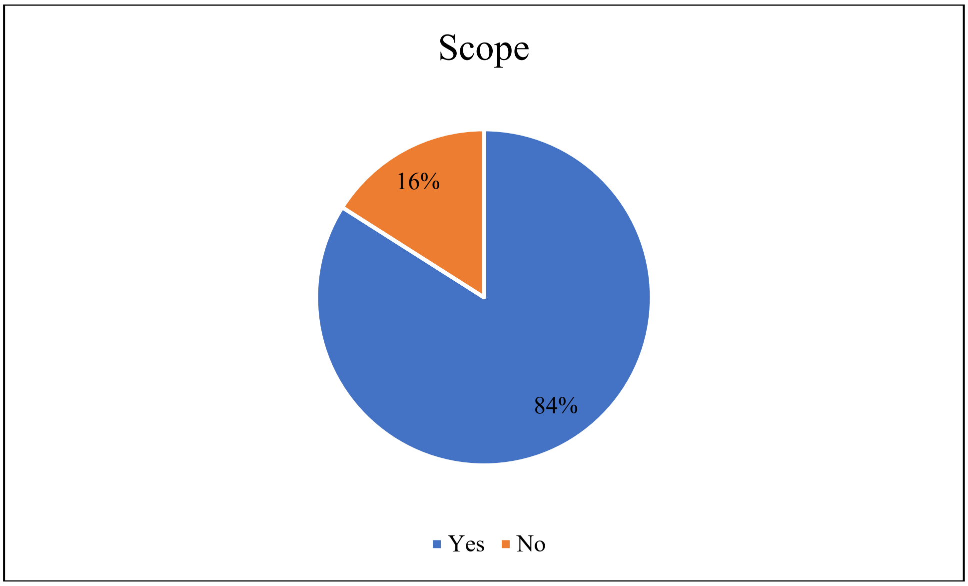

Fig. 5 Scope for MFI's

From the above pie chart, it is clear that 82% of rural respondents feels that MF has good scope than Banks. If managed properly MF has large scope to reach the rural population.

Yes	No	Total
42	08	50
84%	16%	100

Table No. 6 Role in Women Empowerment

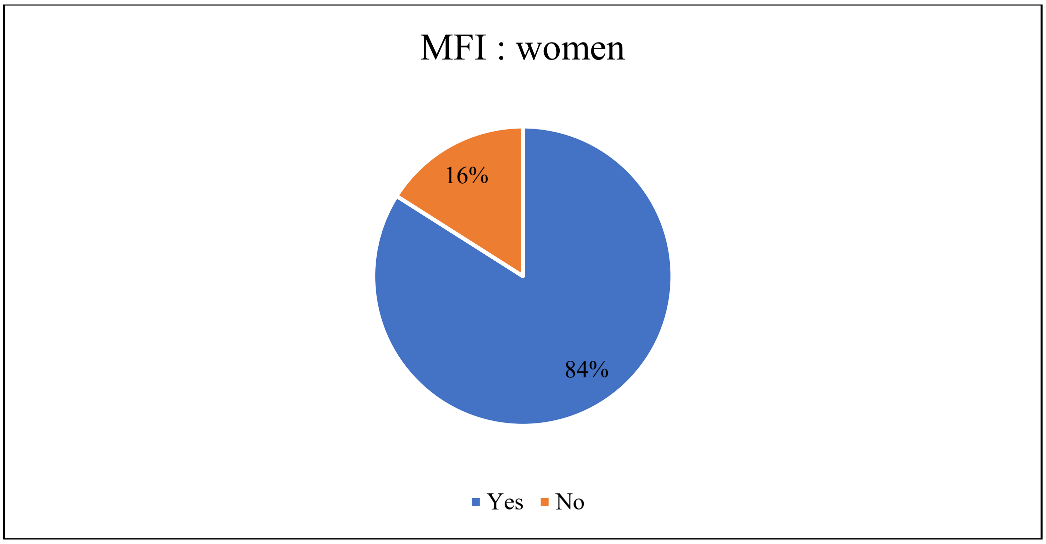

Fig. 6 Women Empowerment

The above graph depicts, the respondents are well aware that micro-finance institutions have a key role in alleviating unemployment, especially amongst women by providing them with an opportunity to earn their livelihood and support their families.

Factors	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	WAS
Low-Interest Rate	21	16	7	3	2	4.06
Availability	31	11	2	3	3	4.28
Processing & Sanctioning of Loan	38	5	1	2	4	4.42
Instalment Factor	39	7	2	1	1	4.64

Table No. 7 Determinants of growth of MFI

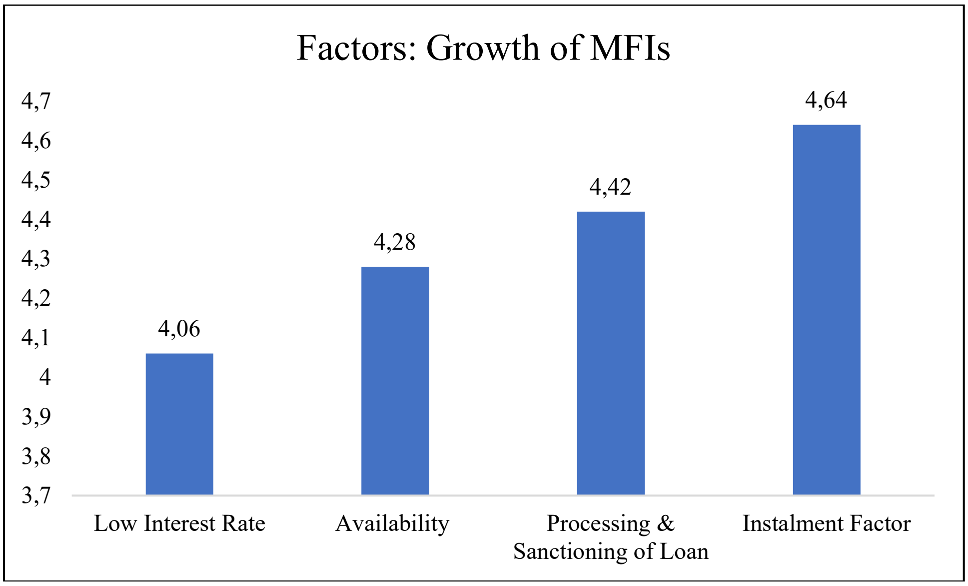

Fig. 7 Determinants of growth of MFIs

According above graph, the most crucial factor for the growth of MFI is the Instalment factor with WAS 4.64 followed by the Processing & Sanctioning of the loan with WAS 4.42 and so on.

Yes	No	Total
44	06	50
88%	12%	100

Table No. 8 Role of Micro-Finance in Poverty alleviation

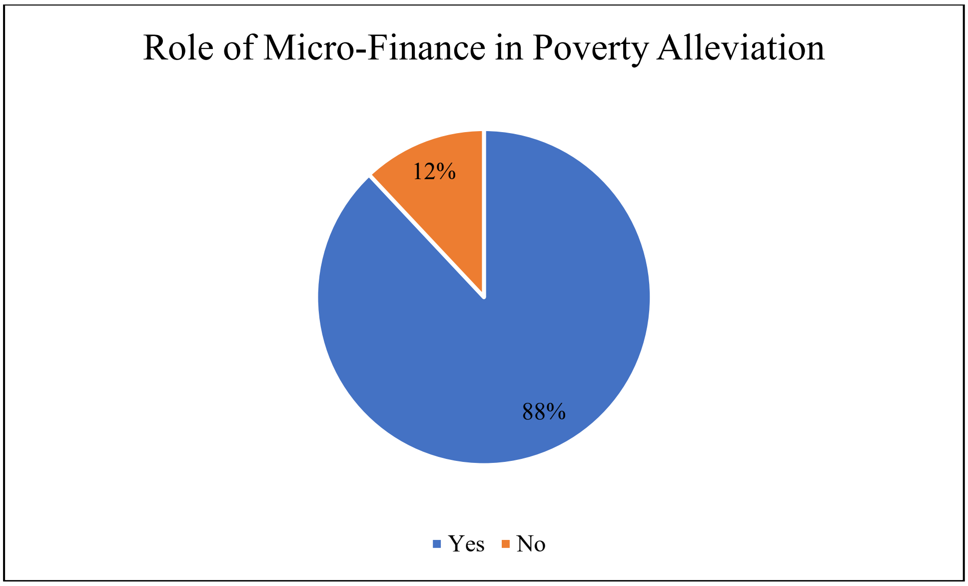

Fig. 8 Role of Micro-Finance in Poverty Alleviation

According to the responses, 88% of respondents feel that MF helps in reducing the poverty whereas only 12% of respondents do not agree with it.

Response	Number	%
Poor	5	10%
Average	2	4%
Good	11	22%
Very Good	22	44%
Excellent	10	20%
Total	50	100%

Table No. 9 Future of Micro-Finance.

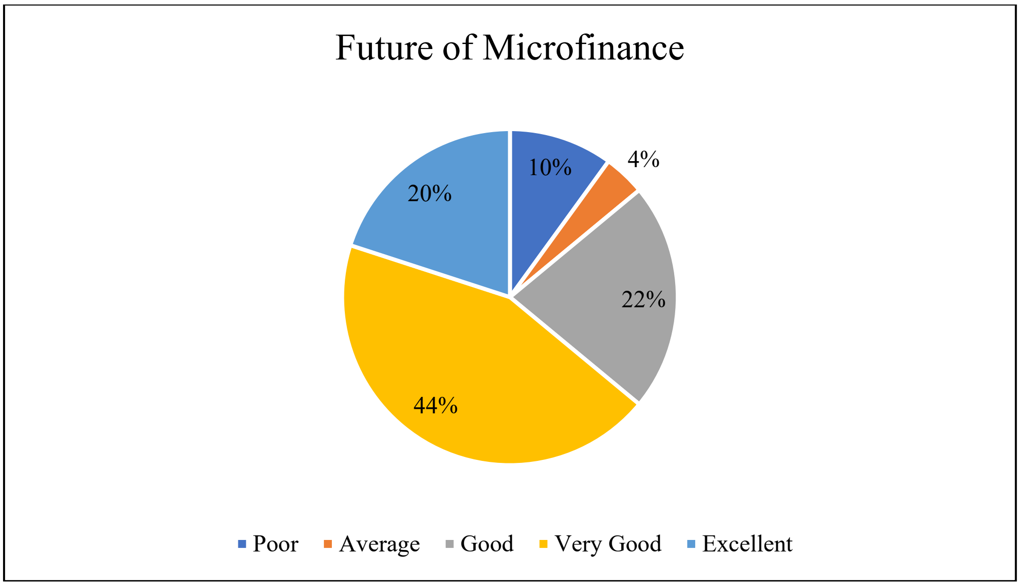

Fig. 9 Future of Micro Finance

Above graph proves that the future of MF is glorious in India as the majority i.e. 88% of respondents have rated the above question above the range of good.

	Tools/Strategies	Fully Aware	Aware	Neutral	Not aware	WAS
1	Online Advertisement/SMS etc.	42	8	0	0	3.84
2	Promotional Campaigns (social media / Posters / Banners)	41	9	0	0	3.82
3	Training / Workshops / Lectures / Webinars	37	13	0	0	3.74
4	Mobile Apps	21	25	0	4	3.26
5	Partnerships with NGOs/Influencers	19	21	6	4	3.1

Table No. 10 Level of Awareness

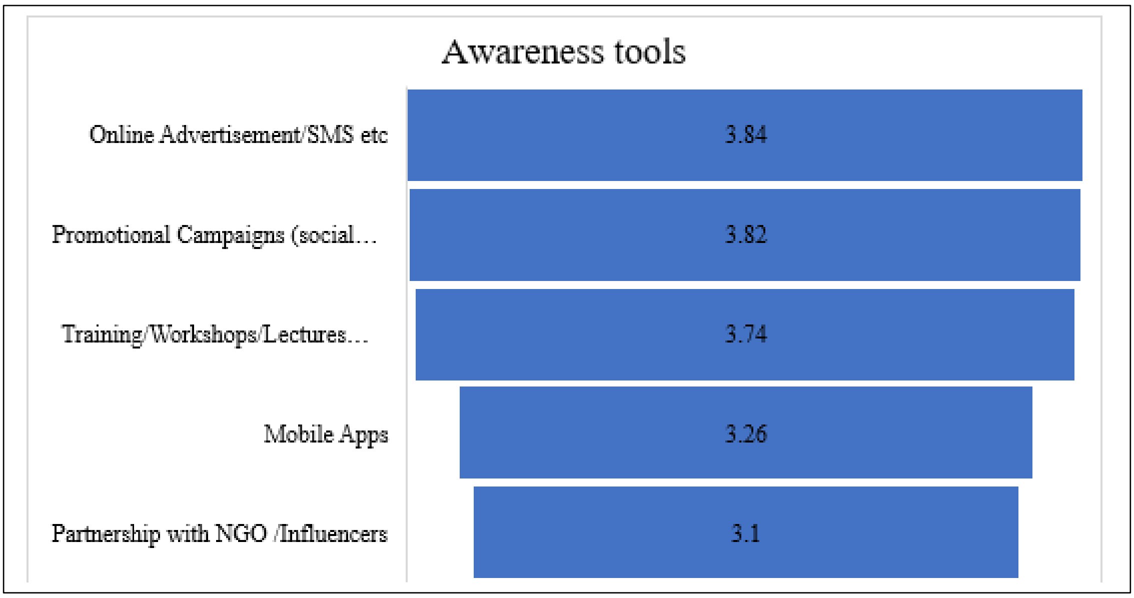

Fig. 10 Level of awareness of strategies deployed by MFI’s

According to the above graph the highest level of e-platform awareness among the respondents is about 'Online Advertisement/SMS etc.' with WAS 3.84 followed by 'Promotional Campaigns (social media / Posters / Banners)' with WAS 3.82 followed by 'Training / Workshops / Lectures / Webinars' with WAS 3.74, 'Mobile Apps' with WAS 3.26 and lastly 'Partnership with NGO /Influencers' with WAS 3.1.

This shows that respondents are well aware of e-platform tools and it has been observed while interacting with the respondents that, they have also availed of these above tools while transacting with their MFI. This enables MFIs to build trust with potential customers and also promote financial literacy in the communities they operate.

	Tools/Strategies	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	WAS	Rank
1	Digital Loans	37	5	3	4	1	0	5.46	II
2	KYC	47	3	0	0	0	0	5.94	I
3	Digital Payments & Remittance	2	2	41	1	3	1	3.92	V
4	Mobile Banking	3	4	2	32	5	4	3.12	VI
5	Financial Literacy	5	3	39	0	1	2	4.1	IV
6	Credit Rating	36	7	2	2	3	0	5.42	III

Table No. 11 Availability of E-Platforms for MF
Fig. 11 Availability of E-Platforms for MF

MFI offer different types of e-platforms to serve their customers, streamline operations and also improve overall efficiency. The author here has shortlisted a few common e-platforms that MFIs make available for their customers. The respondents were asked to rank the e-platforms based on their experience while transacting with MFIs. Based on the results, 'KYC' is ranked I with the highest WAS of 5.94 followed by 'Digital Loans' at rank II with WAS of 5.46, at rank III is 'Credit rating' with WAS of 5.42 followed by 'Financial Literacy' at rank IV with WAS 4.1, at rank V is 'Digital Payments & Remittance' with WAS 3.92 and 'Mobile Banking' at rank VI with WAS 3.12

It is important to note that the e-platforms offered may vary depending on the size, operational model and also target audience. It is suggested that MFI's should carefully assess the needs, customer preferences and available resources while choosing and implementing e-platforms so that the alignment with the overall goals & strategies can be attained.

Key findings
The formal sources of micro-finance are no more new in India. Many people are aware of the microfinance industry in Nashik District. The key findings are as follows

- MFIs are playing an important role in alleviating poverty.
- Besides poverty alleviation MFIs are positively contributing in generating employment opportunities for rural and urban population.
- All MFI provide funding to women borrowers on priority which resulted in increase in women entrepreneur in geographical area under research.
- Minimal Documentation is required to avail loan from MFI's and the technology adoption converted this borrowing process more user friendly.
- E-Platforms adopted by MFI's has turned the conventional lending procedure to a very easy E-Learning Platforms have strengthen business of MFI's in Nashik.
- MFI has a very glorious future in India as it is strengthening the backbone of Indian economy.

Limitations
The current research was conducted by convenience sampling technique which might have biases.

Since the survey was conducted in rural areas of Nashik District, the results of this survey were not generalized
It is difficult to say that the secondary data collected from different sources are up to date.
Conclusion of the study

The entire analysis indicates the following facts about MFI in Nashik District

- The level of awareness among the people of Nashik District is High
- If we intend to remove social disparities the Government (State/Central) need to support these MFIs
- As compare to Banks microfinance charges a loan processing charges and other service charges.
- A suggestion to improve the conditions of MFIs and the need for a regulatory body to develop and guide MFIs is emphasised
- The growth of this sector can change the fortune of the Indian Economy.

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AN EMPIRICAL ANALYSIS ON CUSTOMER PERCEPTION TOWARDS USAGE OF E-WALLETS

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ABSTRACT

The concept of doing cashless transactions without the use of hard cash is growing with pace. People are becoming more and more aware about using cashless mode of transactions, even for small payments, people these days are switching themselves towards cashless mode of payments. With the continuous development of technology, several payment modes have been developed. It is a fact that the cashless economy is the future of country as the Government of Inia is continuously step up towards growing up as a Digital Economy. E-wallet refers to a kind of a e-card that can be used for doing transactions online through a device. It serves the same purpose as a credit or debit card. To make payments, an E-wallet must be linked to the individual's bank account. The use of E- wallets is increasing day by day ensuring improved consumers' shopping experiences and shifted the economy toward one without cash. The e-wallets adoption is significantly and favorably impacted by the customer’s perception regarding e-payments. This paper aims at assessing customer perceptions toward usage of e-wallets. This study has been undertaken with special reference to Dehradun district. For this study, primary data has been collected through a questionnaire framed from which specific conclusions were formed with the use of appropriate tools for data analysis.

Keywords: Customer perception, Cashless, E-wallets, Digital transactions, Convenience, Satisfaction level

Introduction

Digital technology has transformed life in a different way in recent years. India is developing country. People of our country are becoming aware of using technologies. The use of mobile phone and internet is very common and almost all people are using it. With the initiation of cashless modes of transactions and electronic payments, people generally use these e-wallets for shopping on a day -to-day basis (Ranjith, Kulkarni & Varma, 2021).

E-wallet refers to a kind of account which is prepaid, and in which helps a user to reserve his/her money those transactions which are to be done in online mode in future. An E-wallet is secured with a password. One can pay for petty payments with the aid of an e-wallet (Puranama ,2021). There are two significant components of e-wallet including software and information. Besides the various advantages of using e-wallets, perception of people differs. Some people are early adopters of the technology, some lack trust in these technology enables wallets. Some people feel agitated about fraudulent practices involved and technological glitches while using the e-wallets (Pai, 2018). These issues pose major hurdles for further growth of the cashless modes. Hence, there is a need for service providers to analyse the customer perception regarding the e -wallets they are using, as customer is the king and they decide which product or service will continue to flourish in the market and which will not (Chawla & Joshi ,2019).The major e-wallets available in India are Paytm, Google Pay, Mobi Kwik, Airtel Money, Jio Money, Amazon Pay, etc. Since its introduction over 20 years ago, electronic wallets have risen in popularity. E-wallets enable customers to make purchases, withdraw cash from ATMs, and transmit money from one person to another in a very convenient manner. The use of e-wallets is increasing since 2019, and the coronavirus epidemic is pushing more individuals toward cashless solutions. Nowadays, things around us have changed dramatically because of advances in innovation. Man's serenity and comfort are facilitated by innovation. You can do everything with the help of your smartphone. An e- wallet allows the user the convenience of digitally storing one or more payment methods (Reiss, 2018). The government is quick to provide a consistent experience for making online instalment payments through UPI, which will combine various financial balances and cards into one. As per the reports, versatile wallets are not yet included in the UPI framework. The introduction of UPI may have additional effects on the community that already has undergone enormous change in the past few years. According to information released by the Reserve Bank of India, the decision to use a portable wallet as a transaction method was met with a gigantic explosion (Gupta, 2017). It can be said that with the service of high encryption, e-wallets are considered to be the safe payment method. It is anticipated that in the up-coming years, it will become second most popular among other means of e- payments.

Literature Review
A review of the literature was done to study the previous work done in the related field. A numerous studies have been done for studying the customer perception regarding e-wallets. Some of the recent studied are included here for the present study.

Adil , Hatekar (2020) The adoption of e-wallets is impacted by factors like costs, transaction, security, and acceptability of digital payments methods. It will be very significant if a bank took efforts to make people aware about the adoption of e-payment services. Brahmbhatt (2018) After demonetization, people showed their eagerness to do e-payments via e-wallets which are increasing since then. Awareness is needed to be created among people regarding the usage of e-wallets so as to ensure the establishment of a cashless society. Chawla , Joshi (2019) The important factors including " ease of use, security and trust put impact on attitude of customer" towards the usage of e-wallets. A significant role is played by trust in determination of security.

Oyelami, Adebiyi & Adekunle (2020) According to a study in Nigeria, factors including digital literacy, financial inclusion, services of internet and infrastructure are important for the adoption of digital payments. Podile , Rajesh (2017) Everyone from small tradesman to big businessmen are supporting e-payment solutions. Many customers in the country have adopted electronic payment systems for their day-to-day transactions. Some factors that refrain people from using cashless payments are security issues, poor network problem, lack of knowledge etc. Punwatkar, Verghese (2018) The key factors involved in the usage of e-wallets are convenience and ease of use. They are of the opinion that 'perceived security' plays a crucial role in consumer behaviour towards adoption of e-wallet services. Ranjith, Kulkarni & Varma(2021)The usage of digital transactions in India is increasing. The most significant factor involved in adoption is the transaction cost and comfort. Security threat refrains them from usage of digital payments.

Reiss (2018) A major role is played by the customer perception in adoption of e-wallets. They also suggested that there should be a proper care to avoid delays in processing of payments. Improvements in Information and technology and reduction in cost of internet also played an important role in adoption of e -wallets. Sumathy , Vipin (2017) Discovered that the increased use of digital payment systems is a result of better customer service and a welcoming environment for customers. E- wallets usage is growing and are admired by people of urban and rural areas as well. Tiwari, Garg & Singhal (2019) The usage intention, usage of new methods and price discounts influence mobile wallets among customers, and they found that government owned platforms are safer for transactions. It was also found that cost was an important in which adoption of e-wallets depend upon.

Objectives of the study
1. To analyse perception of customers regarding the use of e-wallets.
2. To identify the factors influencing the use of e-wallets.
3. To assess the satisfaction level of customers regarding e-wallets.
4. To find out the association between demographics (including age, gender and occupation) and difficulties faced by users of e-wallets.

Research Methodology
Research Methodology followed in the present study is Following are the sources of data collection used for the present study. To get primary data, a structured questionnaire has been framed to collect the same. The collection of secondary data has been done via various books, magazines, journals etc. Respondents of age 18 to 45 years who use e-wallets and belong to Dehradun district were selected as sampling unit. The sample size take for the present study was 100. The technique of sampling used for the survey was Convenience sampling . The data was analysed through MS Excel and SPSS. The tools used in data analysis were Graphical Representation, Frequency Analysis, Chi-Square Test, Analysis of Variance.

Hypotheses of the Study
The hypotheses proposed for the present study are as follows:
Hypothesis 1
H_0 There is no significant association between age and difficulties faced by users of e-wallets.
H_1 There is a significant association between gender and difficulties faced by users of e-wallets.
Hypothesis 2
H_0 There is no significant association between gender and difficulties faced by users of e-wallets.
H_1 There is a significant association between gender and difficulties faced by users of e-wallets.
Hypothesis 3
H_0 Customers are not satisfied with the usage of e-wallets.
H_1 Customers are satisfied with the usage of e-wallets.

Hypothesis 4
H_0 There is no significant difference between occupation and level of satisfaction of users of e-wallet services.
H_1 There is a significant difference between occupation and level of satisfaction of users of e-wallet services.

Data Analysis
Through a well-structured questionnaire, the responses of 100 respondents were collected through to find out their perception regarding use of e-wallets. The analysis is as follows:

	Category	Responses	Percentage (%)
Age	18-25 years	44	44.0%
	26-35 years	30	30.0%
	36-45 years	26	26.0%
Gender	Male	54	54.0%
	Female	46	46.0%
Education	Undergraduate	8	8.0%
	Graduate	59	59.0%
	Post-Graduate	33	33.0%
Annual Income	Less than 1 Lakh	20	20.0%
	Rs. 1 Lakh- 3 Lakhs	32	32.0%
	Rs. 3 Lakhs -5 Lakhs	30	30.0%
	Above 5 lakhs	18	18.0%
Occupation	Service	35	35.0%
	Business	20	20.0%
	Profession	10	10.0%
	Student	35	35.0%

Table 1. Demographic Profile of the Respondents

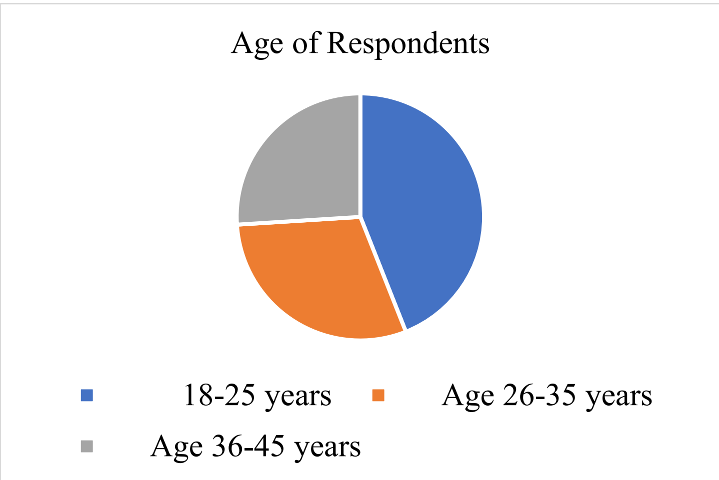


Figure 1. Age of the Respondents

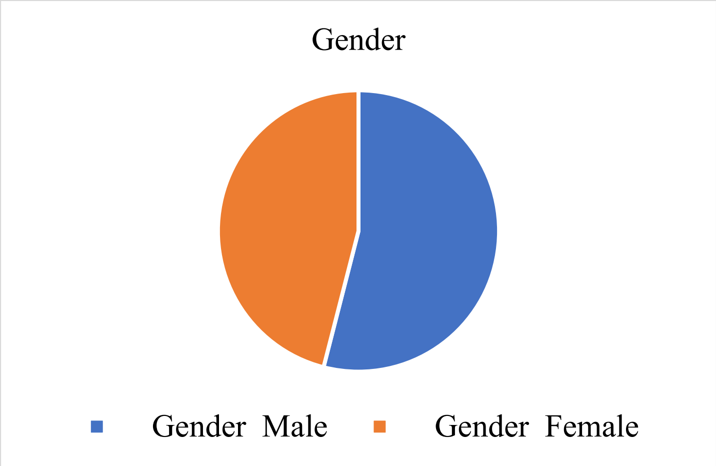


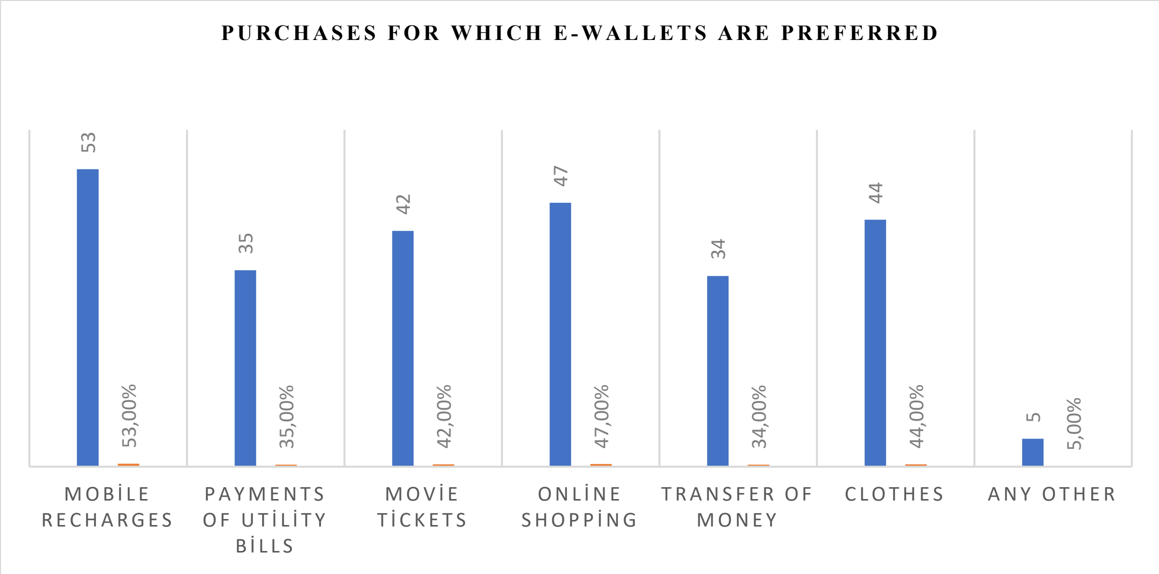
Figure 2. Gender of the Respondents

Interpretation:
According to the Table 1, there are three age brackets out of which 44.0% respondents belong to the age group 18-25 years,30.0% respondents belong to the age group 26-35 years of age, and 26.0% respondents belong to the age group 36-45 years. Taking into consideration Gender, a total of 54.0% respondents were male and 46.0% were female, respectively.

Around 59% of respondents are graduates; and occupation of around 35%respondents is services while 35% respondents are students.

Services/ Product Purchased	Responses	Percentage (%)
Mobile Recharges	53	53.0%
Payments of Utility bills	35	35.0%
Movie tickets	42	42.0%
Online shopping	47	47.0%
Transfer of money	34	34.0%
Clothes	44	44.0%
Any other	05	5.0%

Table 2. Type of purchases for which e-wallets are preferred



Graph 1. Purchases for which e-wallets are preferred

Interpretation:
As depicted in the table 2, it can be said that 53% respondents prefer e-wallets for mobile recharges which is in majority. Around 47% preferred them for doing online shopping and 44% use e-wallets for purchasing clothes.

Particulars	24x7 availability of e-wallet services	Convenience in the use of e-wallets	Easy and comfortable to use e-wallets	Wide Acceptance of e-wallet services	Easy to avail discounts and Reward points by E-wallets
Strongly Agree	59 (59.0%)	62 (62.0%)	60 (60.0%)	62 (62.0%)	59 (59%)
Agree	36(36.0%)	26 (26%)	35 (35.0%)	26(26.0%)	36 (36%)
Neutral	5(5.0%)	12 (12%)	5 (5.0%)	12(12.0%)	5 (5%)
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0(0.0%)	0(0.0%)
Strongly Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 3. Factors influencing respondents the use of e-wallets

Interpretation:
As per table 3, It is evident that around 60% people strongly agreed that e-wallets are easy to use and 59% of people strongly agree that they use e-wallets because it is easy for them to avail discounts and reward points through e-wallets. Around 59% people strongly agree that they use e-wallets due to 24x7 availability of e-wallet services. 62% people agreed that the convenience affect the usage of e-wallets for them. This shows that the factors which highly influence customers towards use of e-wallet services are convenience, easy availability, wide acceptability and rewards and discounts facilities.

Particulars	Prefer to use e-wallets	Safety of money is a concern	Technical faults are there	Trust is an issue in payments through e-wallets	Concerned about information theft via e-wallets
Strongly Agree	42(42.0%)	42 (42.0%)	44 (44.0%)	42 (42.0%)	43(43.0%)
Agree	31(31.0%)	31(31.0%)	30 (30.0%)	31(31.0%)	30(30.0%)
Neutral	19(19.0%)	20 (20.0%)	17(17.0%)	20(20.0%)	20(20.0%)

Disagree	8(7.0%)	7 (7.0%)	9 (9.0%)	7(7.0%)	7 (7.0%)
Strongly Disagree	0 (0.0%)	0(0.0%)	0 (0.0%)	0(0.0%)	0(0.0%)

Table 4. Factors refraining respondents from using e-wallets

Interpretation:
As indicated in the table 4, it has been found that around 43% of the respondents are of the opinion that they are concerned about information theft while using e-wallets which is a great concern. Similarly, 42% people strongly agree that trust is an issue while using e-wallets. So, Trust and security on e-wallets are major concerning areas to be taken into consideration.

Particulars	Responses	Percentage (%)
Once	0	0.0%
Twice	11	11.0%
Thrice	19	19.0%
More than thrice	70	70.0%

Table 5. Frequency of monthly usage of e-wallets

Interpretation:
As evident from the table 5, it has been found that around 70% respondents use e-wallets more than thrice in a month. Only 11% people use e-wallets twice in a month. So, a majority of respondents are of the opinion that they frequently use e-wallets.

Particulars	Responses	Percentage
Yes	19	19.0%
No	81	81.0%

Table 6. Difficulties faced in using e-wallets

Interpretation:
From the table 6 above, it can be depicted that 81% respondents do not face difficulties while using e-wallets. Only 19% respondents are of the opinion that they face difficulties in using e-wallets.

Age * Do you face difficulties in using e-wallets? Crosstabulation				
Count				
		Do you face difficulties in using e-wallets?		Total
		Yes	No	
Age	18-25 years	14	30	44
	25-36 years	1	29	30
	36-45 years	4	22	26
Total		19	81	100

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.703[a]	2	.008
Likelihood Ratio	11.108	2	.004
Linear-by-Linear Association	4.172	1	.041
N of Valid Cases	100		

Table 7. Chi-Square test on association between age of respondents and the difficulties they face while using e-wallets

Interpretation:
Table 7 depicts that value of chi-square test at degree of freedom 2 is 9.703 and the table value at degree of freedom 2 with at 0.05 is 5.991,value of x^2 is greater than the table value . So, for hypothesis1, the null hypothesis is rejected and alternate hypothesis is accepted that there is a significant association between age and the difficulties they face while using e-wallets.

Gender * Do you face difficulties in using e-wallets? Crosstabulation				
Count				
		Do you face difficulties in using e-wallets?		Total
		Yes	No	
Gender	Male	14	40	54
	Female	5	41	46
Total		19	81	100

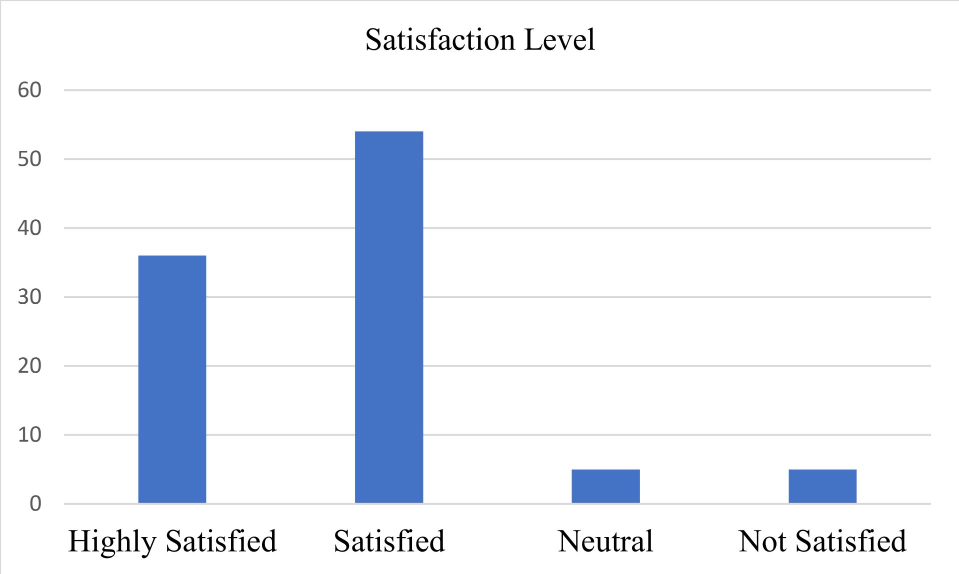
Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.659[a]	1	.056
Likelihood Ratio	3.811	1	.051
Linear-by-Linear Association	3.622	1	.057
N of Valid Cases	100		

Table 8. Chi-Square test on association between gender of respondents and the difficulties they face while using e-wallets

Interpretation:
Table 8 instructed that value of chi-square test at degree of freedom1 is 3.659 and the table value at df1 at 0.05 is 3.841,value of x^2 is less than table value. So, for the hypothesis 2, the null hypothesis is accepted and it can be concluded that there is no significant association between gender and the difficulties they face while using e-wallets.

Particulars	Responses	Percentage (%)
Highly Satisfied	36	36.0%
Satisfied	54	54.0%
Neutral	5	5.0%
Not Satisfied	5	5.0%

Table 9. Satisfaction level of the users towards e-wallets services



Graph 3. Satisfaction level

Interpretation:
As per table 9 and the chart above, it can be interpreted that 36% respondents are highly satisfied by the use of e-wallets. On the same point, 54% are satisfied using e-wallets. Only 5% respondents are neutral about this decision, and a few are not satisfied. Hence, null hypothesis for Hypothesis 3 is rejected and alternate hypothesis is accepted that customers are satisfied with the usage of e-wallets.

ANOVA					
How much satisfied you are using e-wallets?					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.954	3	.318	.549	.650
Within Groups	55.636	96	.580		
Total	56.590	99			

Table 10. Analysis of Variance (One-way)

Interpretation:
Table 10 shows that the significant value is greater than 0.05 so, for the hypothesis 4, the null hypothesis is accepted that there is no significant difference between occupation and satisfaction level of users of e-wallet services.

Findings
The present study was done the basis of which was a structured questionnaire which was given to respondents belonging to the Dehradun district. A total of 100 questionnaire we found to be filled and finding of the same includes out of 100 respondents 54% are male, and 46% were females. 44% respondents belong to the age bracket 18-25 years, 30% respondents belong to the age group 26-35 years and only 26% of the respondents belong to the age group 36-45 years. Majority of respondents are graduates (around 59%) followed by postgraduates (around 33%) and only 8% of the respondents were undergraduate. Annual income of 32% of the respondents is between 1 lakh to 3 lakh, 30% respondents belong to the category of 3 lakh to 5 lakh and 18% belong to the group of above 5 lakhs. Occupation of 35% respondents is service, 35% respondents are students, 20% of the respondents are engaged in business and 10% are professionals. Majority of respondents (around 53%) prefer usage of e-wallets for mobile recharges followed by online shopping, the percentage of which was around 47%. factors which highly influence customers towards use of e-wallet services are convenience, easy availability, wide acceptability and rewards and discounts facilities. Around 70% respondents use e-wallets

more than thrice in a month. Only 11% people use e-wallets twice in a month. So, most respondents are of the opinion that they frequently use e-wallets. Around 36% respondents are highly satisfied using e-wallets. On the same point, 54% are satisfied using e-wallets. Only 5% respondents are neutral about this decision, and a few are not satisfied. Around 81% of the respondents do not face difficulties while using e-wallets. For hypothesis1, the null hypothesis is rejected, and alternate hypothesis is accepted that there is a significant association between age and the difficulties they face while using e-wallets in resemblance to a study (Tiwari, Garg & Singhal 2019). For hypothesis 2, the null hypothesis is accepted, and it can be concluded that there is no significant association between gender and the difficulties they face while using e-wallets. Null hypothesis for Hypothesis 3 is rejected and alternate hypothesis is accepted that customers are satisfied with the usage of e-wallets. The result is alike in the study (Rathore, 2016) that digital payment users are satisfied by e-payment services. For the hypothesis 4, the null hypothesis is accepted that there is no significant difference between occupation and satisfaction level of users of e-wallet services. There are some limitations to the study. The present study is based on a sample size of 100 which is small, the results may vary considering large sample size. It was conducted in Dehradun district only. Time and cost constraints were also there.

Conclusion

After this extensive research study, it can be concluded that the usage of e-wallets provides numerous benefits to customers as their day-to day transactions become easier with the introduction of e-wallets. Customers' perception is positive towards usage of e-wallets. There are majority of respondents who use e-wallets because it is convenient for them to use it, easy in its terms as no such technical skill is required to know how to use them as they are in smartphones and their devices. Security and safety issues are there a This shows that people in Dehradun city have already started using e-wallets and this is a great pathway towards the journey of cashless society.

There are many modes of cashless transactions available including, debit cards, credit cards, internet banking, NEFT, RTGS and e-wallets proved to be a new feather in the cap. Now, the success of e-wallet services depends upon how they are going to win the customers' trust in terms of safety and security of transaction as well.

The service providers should check out their services for the want of security of transactions and so that the reasons which abstain customers from using e-wallets may be decreased. Government is continuously stepping towards creation of awareness among people for going cashless and the use of e-wallets is rising still the policy makers should conduct awareness campaign regarding the usage of e-wallet services so that more value can be added to it soon.

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AN EMPIRICAL STUDY ON DIGITAL MARKETING AND ITS IMPACT ON SHOPPER PURCHASING CONDUCT

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ABSTRACT
Computer-aided pointing is the path of digital communication used by sponsors to support devices and organizations to the location of the company. The specific legitimacy of the electronic display is imposed on the customer, who can mix with the sides through the balance of the interface media. This article discusses the importance of auto-progress for both clients and publicists. Consider the revenue of the slice aspect promotion based on your organization's readiness. Digital marketing has a good progression and improvement in its approaches and yields closer positive outcomes than old-style performances and is a stretcher method of marketing than conventional methods. Marketing goods online costs a smaller amount than marketing them by brick and mortar retail stores. Internet marketing endows individualized proposals to consumers by structuring a profile of their buying history. Online buying is the utmost influential platform on the internet to get connected to numerous customers at a time. Digital marketing has a striking future for elongated term sustainability of the product or services in the dynamic high-tech market.
Keywords: Automated, Publicizing, Promotion, Consistent, Interact, Digital

Introduction

Advanced hoisting is once in a very whereas intimated as 'electronic publicizing', 'web showing' or 'showing has gained infamy for quite whereas, particularly in unambiguous nations. within the USA internet progressing is currently bound, in Italian Republic is usually recommended as internet advancing nonetheless within the UK and everyone round the planet, Digi-showing has become the foremost outstanding term, significantly when the year 2013.Electronic displaying is associate in dealing umbrella term for the progressing of things or associations utilizing advanced enhancements, usually on the web, nevertheless, to boot together with cell phones, show business, and another general medium. How extraordinary business has created since the Nineteen Nineties and 2000s has altered however brands and affiliations use headway and robotized progressing for his or her showing. Computerized advancing camp area unit developing to be a lot of resistless still as useful, as state of the art stages area unit perpetually joined into market plans and regular presence, and as people utilize advanced contraptions as hostile getting to authentic outlets.

What Is Digital Marketing?

The term progress publicizing suggests the use of mechanized channels to exhibit things and organizations to show up at clients. This sort of displaying incorporates the usage of locales, phones, online amusement, web search devices, and other identical channels. Progressed advancing turned out to be notable with the methodology of the web during the 1990s. Mechanized advancing incorporates a part of comparable guidelines as standard publicizing and is commonly viewed as one more way for associations to push toward buyers and get everything they might want of acting. Associations as often as join standard and progressed publicizing strategies in their systems.

Getting Digital Marketing

Exhibiting insinuates any activities that an association uses to propel its things and organizations and further foster its slice of the pie. To make genuine progress, displaying requires a blend of publicizing savvy, bargains, and the ability to pass stock on to end-clients. This is routinely endeavoured by unambiguous specialists or sponsors who can work inside (for associations) or from a distance with other displaying firms. By and large, associations focused in on promoting through print, TV, and radio. But these decisions really exist today, the climb of the web incited an adjustment of the way associations showed up at purchasers. That is where innovative exhibiting turned out to be potentially the main element. This sort of promoting incorporates the use of locales, electronic amusement, web crawlers, applications whatever unites exhibiting with client analysis or a two-way cooperation between the association and client. Extended development and more modern floats compelled associations to affect how they exhibited themselves. Email was a notable advancing contraption in the start of automated exhibiting. That middle moved to web files like Netscape, which allowed associations to tag and watchword stuff to get themselves observed. The headway of sharing objections like Facebook made it plausible for associations to follow data to take unique consideration of purchaser designs. Mobile phones and other progressed devices are as of now simplifying it for associations to exhibit themselves close by their things and organizations to buyers. Focuses on show that people favour using their phones to sign on to the web. So, it should stun nobody that 70% of individuals go with buying decisions (when in doubt, on their phones) before they truly hit the purchase button. Mechanized exhibiting can be savvy and is commonly used to target express areas of the client base.

Extraordinary Considerations

Marketing experts are routinely insinuated as sources, while people from the assigned notices are called beneficiaries. Sources routinely target significantly unambiguous, clear beneficiaries. For instance, after night business hours were created, McDonald's employed shift laborers and voyagers with the most recent watches. This considers that the association gets these individuals as the main part of the night business. The affiliation requested that they download the Eatery Locater application, zeroing in on getting a brief look at the ATMs, corner shops, and regions that clients visit routinely and often.

Automated Marketing Channels

As shown above, exhibiting was done through print (papers and magazines) and broadcast promotions (TV and radio). These are channels that really exist today. Electronic publicizing channels have progressed and continue to do thusly. Coming up next are eight of the most generally perceived streets that associations can take to help their exhibiting tries. Recollect that a couple of associations could include different coordinates in their undertakings.

Site Marketing

A website is that the spot of mixture of all prime level moving activities. it's associate unfathomably stunning direct in repression, nevertheless it is the medium expected to execute an event of internet business enterprise endeavours. A website ought to address a complete, thing, and relationship in an understandable and mammoth method. It ought to very be speedy, adaptable, and simple to use.

Pay-Per-Snap (PPC) business enterprise.

Pay-per-click (PPC) lifting engages sponsor to point out up at internet shoppers on completely different mechanized stages through paid headways. Sponsor will originate PPC campaigns on Google, Bing, LinkedIn, Twitter, Pinterest, or Meta (early Facebook) and show their movements to folks checking out terms connected with the items or affiliations. PPC missions will partition shoppers considering their section credits, (for instance, by age or heading), or maybe ensured their specific advantages or region. the foremost renowned PPC stages are Google Promotions and Meta Advertisements.

Content Showcasing

The goal of content look is to point out up at doubtless shoppers utilizing content. Content is faithfully passed on a page and befittingly progressed on through web primarily based amusement, email business enterprise, website page smoothing out, or maybe PPC campaigns. The mechanical social events of content propulsive circuit objections, advanced books, on-line courses, infographics, webcasts, and on-line courses.

Email Promoting

Email business enterprise is presently maybe the foremost extraordinary, robotized pushing channel. completely different folks botch email progressing for spam email messages, nevertheless that may not the terribly issue that email showing is regarding. this sort of lifting licenses relationship to contact doubtless shoppers and anybody with any interest in their brands. Different motorized upholds use any further progressed showing channels to feature prompts their email records and beginning there, through email effectual, they create shopper obtaining lines to vary those leads into shoppers.

Electronic Amusement Advertising

The focal goal of an internet primarily based amusement moving labour is complete care and spreading out heat trust. As you go more into on-line redirection driving, you'll be able to use it to induce leads or maybe as a speedy plans channel. Progressed posts and tweets are two times of electronic redirection advancing.

Associate Showcasing

Assistant look is the foremost coordinated quite business enterprise, and the internet has given new life to the current previous facilitate. With assistant look, forces to be reckoned with advance others' things and obtain a commission on every occasion associate approach is created or a lead is introduced. 2 or 3 astounding affiliations like Amazon have branch-off programs that remuneration out unimaginable completely different bucks while not fail to complaints that sell their things.

Video Showcasing
YouTube is one in all the foremost notable internet crawlers on earth. associate Brobdingnagian load of shoppers are planning to YouTube going before seeking once a shopping for call, to be told one thing, browse a review, or simply to unwind. There are some video showing stages, together with Facebook Recordings, Instagram, and even TikTok to use to run a video driving labour. Affiliations gain the foremost headway with video by cementing it with computer program optimisation, content showing, and everyone a lot of wide virtual diversion business enterprise endeavours.

SMS Informing
Affiliations and beneficent affiliations aside from use SMS or messages to send data regarding their latest developments or grant mammoth opportunities to willing shoppers. Political contenders lobbying for workplace comparatively use SMS message missions to unfold positive data regarding their own institution. As progress has advanced, completely different message to-give campaigns comparably grant shoppers to pay or offer through an important message clearly.

Objective of the studies
1.The principal inspiration driving this paper is to see the comfort of digit marketing in the genuine market.
2.Focus on the impact of modernized advancing on client's purchase.

Research methodology
Fundamental Data: The investigation is done through insight and arrangement of data through surveys.

Discretionary Data: Secondary data is assembled from journals, books, and magazines to encourage the speculation.

Test Size: The model not completely settled as 130 respondent's activity inions from the clients who before long purchasing things with a help of electronic promoting.

Basis for Comparison	Traditional Marketing	Digital Marketing
Meaning	Conventional marketing is defined as marketing that uses traditional channels or media for marketing communication.	Digital marketing refers to the promotion of goods and services using digital channels such as the internet, smartphones, display advertisements, and other digital media.
Nature	Static	Dynamic
Conversion	Slow	Comparatively fast
Engagement	Low	Comparatively high
Return on Investment	Cannot be measured easily.	Can be measured easily.
Effectiveness and expensiveness	Less effective more expensive	Less expensive more effective
Tracking	Not possible	Possible
Targeting	Standardized	Customized
Tweaking	Not possible once the ad is placed.	Can be performed anytime, even after the ad is placed.
Reach	Local	Global
Results	Delayed results	Quick and real-time results
Interruptions	Consumers cannot skip the ads, as they are bound to see them.	Allows the consumers to avoid or skip the ads which do not interest them.
Communication	One-way Communication	Two-way Communication

Table no.1 Comparison of Traditional and Digital Marketing

Review of Literature
Srivastava (2012) It was conditional that the internet networking platform was held by promoters. All attributes contemplated, as promoters want to grow from television advertising: the graphic effects of ordinary dialog and much more information calculation. The marker's intention was to deliver advertisements. Intuitive marketing amends customers to end up soberly tangled in the light of the realism to the end of operation.

Singh (2013) revealed that Internet shopping has attained a substantial role in the 21st century. In these conditions, online shopping was the minimum demanding and most suitable form of shopping. The Internet has renovated the system for the purchaser's market.

Jain (2014) determined that the statistics of online shopping of Indian consumers is distinct with various segments. The key attention of this investigation is to identify the impact of standard risk, known pleasure, outward value, and supposed comfort factors on customer online shopping behaviour.

Stephen (2015) uses the late-divided customer studies in computerized and electronic life marketing environments. The same base formed five themes based on various situations and buyers' reaction to study conduct of the shoppers. This paper highlights the impact of purchasers to different special situations. Regular study is required to know the purchase pattern to know the wider range of the buyers.

Mishra (2016) scrutinised the understanding, reception, and impact of e-commerce on the buyer's behaviour in Odisha. They say, marketers realise the prerequisite of the consumers to show their existence online. Key findings of the study is youngsters of both the genders, below 30 years of age use the internet most and Income plays a major role in purchasing behaviour, and transactions as per the convenience of the buyer.

Lodhi (2017) shows speedy evolution of advertising in e-commerce platforms. Most establishments have started preparing their own websites for product development as compared to conventional advertising This research shows that about 80-90 percent of consumers are tangled in online marketing implementations.

Nizar (2018) gauges the effect of online presence for marketing as an option for the consumers. The purpose of study is to perform critical research on web-based life marketing and consumer purchasing conduct, through surveys. This research sightseers the rationality of web-based life marketing on purchasing behaviour. 184 feedbacks were built to conduct the study.

Desai (2019) focused on metaphysical knowledge of digital marketing. Digital marketing has grown from the 1990s and 2000s and has resumed the mode brands and organizations practice technology for marketing. As digital platforms are progressively integrated into marketing plans in everyday existence, and usage of digital devices significantly, digital marketing operations have become frequent and competent. Digital marketing has an optimistic prospect for sustainability of the product or services in the modern high-tech marketplace.

Polanco-Diges et al (2020) mentioned the presence of digital marketing platforms has changed the behaviour of consumers. The analysis consents for the affinity of the digital marketing strategies and methods applied to concerted stages and specifies the position of digital marketing in the online environment and improving the user- generated content and e-word-of mouth.

Nair , Gupta (2021) have seen the innumerable applications of Artificial Intelligence in social media and digital advertising. Special Agencies must focus on advanced developments in keep the pace of the dynamic market. Digital marketers should comprehend the significance of application of AI in digital marketing and social media marketing to bring out more effective marketing strategies.

Dunakhe and Panse (2021) paper is as base for numerous research in the digital marketing and get the outline transpired research and understand the valid research gaps that exist in said area. This is original literature published on the topic related to "impact of digital marketing", from years 2012 to 2020. Due to Covid-19 outbreak the whole world has shifted to Digital Marketing, to make significant developments in the same.

Data Analysis

Clients can keep awake to date on corporate data by means of computerized advertising innovation (Gangeshwer, 2013). These days, numerous clients can utilize the web whenever and from any area, and organizations are ceaselessly refreshing data about their labour and products. Clients comprehend how to peruse the organization's site, research items, make online buys, and give input. Buyers get exhaustive data about the things or administrations (Gregory Karp, 2014). They can contrast it with other comparative items. Buyers can make buys through advanced promotion 24 hours per day, seven days every week. Costs in advanced advertising are clear (Yulihasri, 2011).

Particulars	Category	Number of respondents	% of respondents
Profession	Housewife	17	13.08
	Employee	63	48.46
	Business	25	19.23
	Students	15	11.54
	Any other	10	7.69
	Total	130	100%

Table 2 Profile of online buyers

Particulars	Category	Number of respondents	% of respondents
Profession	Below 25000	25	19.23
	25001-50000	48	36.92
	50001-100000	40	30.77
	Above 100000	17	13.08
	Total	130	100

Table 3 About Profession those are using digital buying.

Particulars	Number of respondents	% of respondents
Knowledge above online shopping (Yes)	130	100
No	0	0

Table 4: Awareness of Online Shoppers

Particulars	Number of respondents	% of respondents
Excellent	67	51.54
Good	45	34.62
Average	15	11.54
Poor	3	2.31
Total	130	100

Table 5: Availability of Online product and its related information

Particulars	Number of respondents	% of respondents
Wide variety of Products	35	26.92
Easy buying Procedures	55	42.31
Lower Prices	19	14.62
Various Modes of Payments	14	10.77
others	7	5.38
Total	130	100

Table 6: Reasons for Choosing Online Shopping

Particulars	Number of respondents	% of respondents
Purchase once Annually	20	15.38
up to 5 Purchases Annually	53	40.77
Between 10-15 Purchases Annually	33	25.38
Above 15 Purchases and above Annually	24	18.46
Total	130	100

Table 7: Frequency of Online Purchasing

Findings

1. In the present market, advanced promoting has a more promising time to come.
2. By procuring computerized showcasing, clients are cheerful.
3. Individuals accept it is a protected method for making an internet-based exchange.
4. The male client proportion in web shopping is high, at 70%.
5. The respondents are mindful of internet purchasing.
6. The pay of respondents is in the scope of Rs. 25,001 to Rs. 50,000, representing 48 percent of the aggregate.
7. Workers of different organizations buy 50% more than others through internet shopping.
8. Most of respondents, 38%, accept that web-based shopping has direct buying systems; others accept that they can have a wide selection of items, items at lower costs, an assortment of instalment techniques, etc.
9. 74% of respondents trust that the accessibility of web data on Products and Services is fantastic.
10. 53% of respondents purchase the items up to multiple times every year.

Proposals

Improve innovative improvement in computerized showcasing advancement.

Collect and execute the purchaser criticism in the appropriate way.

Provide a straightforward and great support of the purchaser both when the exchange.

Raising public information on computerized promoting.

A definite depiction of the merchandise should be given to online clients.

Conclusion

130 respondents have come together to provide a clear overview of the ongoing survey. Digital showcasing has turned into a significant part of many organizations' procedures. Right now, entrepreneurs have a very minimal expense and successful method for selling their items or administrations in the public arena by using advanced advertising. It is unhindered. Help the organization and its items and administrations, the organization can utilize any innovation, for example, tablets, advanced mobile phones, TV, PCs, media, virtual.

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AN EMPIRICAL STUDY ON THE WORK-LIFE BALANCE OF ENTREPRENEURS WITH REFERENCE TO THANE DISTRICT, MAHARASHTRA

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ABSTRACT
Entrepreneurs in India are quickly embracing modern technology, particularly information and communication technology (ICT). They are under a lot of pressure from this shifting paradigm, which is unbalancing their family lives. Because of this, maintaining a work-life balance (WLB) is essential for managing their businesses to handle the unpredictable nature of the dynamic environment. This study examines WLB in general and tries to highlight the connection between demographic factors like age, gender, and stress level in balancing work and personal life for entrepreneurs in order to address this issue. This paper also aims to highlight how they manage to balance their personal and professional lives. The chi-square test's findings show a strong correlation between the demographic factors used in the study and the degree of stress associated with balancing work and personal obligations. This analysis reveals that the majority of respondents were dissatisfied with their WLB. Any enterprise wants to succeed in today's intensely competitive environment, which means they must balance their professional and personal lives.
Keywords: entrepreneurs, ICT, stress, time management, WLB

Introduction
Although work-life difficulties have been around since the 1960s, they have gained more attention in the last two decades. A significant quantity of study has been done on work-life issues, particularly WLB, as most organisations and people look for ways to balance the demands of work and family. The majority of this research and practice is directed towards industrialised nations worldwide. Korabik, Lero, & Ayman (2003), with a focus on the US and the harmony of work and family. Moreover, developing nations are becoming more cognizant of WLB difficulties. Joplin, Shaffer, Francesco, & Law (2003).The increasing concern over WLB is a result of the pressure and intensification of the workplace, the growing importance of family and community life, as well as societal views and values. Guest (2002) This causes a considerable increase in stress connected to health issues, which financially impacts the government and the employer. Frone, Russell, & Cooper (1997) Even if more study is done, teaching professionals are barely mentioned. This study aims to investigate the stress levels of entrepreneurs who are balancing their work and family responsibilities.

Definitions of Work-life balance
There are different ways to define WLB. It has diverse connotations for various individuals at various eras. The phrase "work-life balance" was referred to as an "almost taken for granted metaphor." Pitt-Catsouphes, Kossek, & Sweet (2006) Broadly speaking, a condition of equilibrium where the demands of a person's employment and personal life are equal is referred to as WLB. Nothing more than devoting the same amount of time and effort to both work and personal life. It is said to be "an individual's ability to meet their job and family commitments, as well as other non-work obligations and activities." Parkes, Langford (2008) WLB is simply "getting pleasant experiences in all areas of life." Kirchmeyer (2000) and Lewis (2000) conceived of work-life balance differently, viewing it as a two-way process that takes into account both employees' and employers' demands. When defining WLB Clark (2000), she also introduced satisfaction and role conflict. Balance is "happiness and excellent functioning at work and at home with a small role conflict." He described it as a state of contentment and effective role-playing at both work and home. It is "the absence of unacceptable levels of conflict between work and non-work obligations." Greenblatt (2002) The new school of thought provided distinct features to WLB, whereas the conventional definitions emphasised the absence of conflict between the paid work and personal life sectors. It is the degree to which people are equally involved in and satisfied with their work and family responsibilities. A positive balance implies a correspondingly high degree of satisfaction with both professional and personal roles, while a negative balance implies a correspondingly low level of pleasure with those responsibilities. They break down their definition into three parts: time balance, interest balance, and satisfaction balance. They describe balance as existing independently of a person's preferences or ideals. Greenhaus, Collins, & Shaw (2003) In order to define balance, they projected equality and participation. WLB

was defined as "accomplishments of role-related goals that one person negotiates and shares with their role-related partners in their personal and professional lives." Grzywacz, Carlson (2007)

Why is Work-life balance necessary in India?
India being a developing country, Indian entrepreneurs face intense competition. They are constantly under pressure as a result of liberalisation, privatisation, and globalisation. In addition, the development of ICT and the rise in female employment complicate the task of balancing paid jobs and personal obligations. As a result, it is crucial to offer WLB programmes to Indian entrepreneurs so that they may balance their professional and personal lives.

Why Work-life balance is crucial for Indian entrepreneurs?
WLB is unavoidable for those who are managing their own business for a number of reasons. The first of these is the enormous progress made in technology, notably the growth of ICT, which has altered the way in which business is conducted. Entrepreneurs have to deal with a lot more uncertainty in the business environment, which causes stress and creates imbalance in their personal lives. The role they have played has been another crucial factor for the economy. WLB is therefore essential for entrepreneurs.

Objective of the study
1. To determine the association between demographic factors (partner's marital status and employment condition) and the level of stress involved in managing work-life

Hypothesis of the study
H_a1 - There is a correlation between the respondent's age and the stress level they feel when attempting to reconcile paid work and personal life.
H_a2 - The stress level that respondents experience when balancing their paid work and personal lives is connected with their gender.

Research Design
The study was carried out in Maharashtra, India's Thane District. The entrepreneurs of Thane District were used as part of the stratified random sampling approach to select the respondents. The study's objective was to ascertain the relationship between demographic factors and the sample respondents' stress levels in relation to balancing work and personal obligations. The dependent variable chosen for this purpose was the stress level. For this analysis, independent variables such as partner employment position and marital status were selected. Only 98 of the 120 entrepreneurs that received the questionnaire responded, yielding an 81% response rate. Thus, there were 98 responses in all, 50 of which were men and 48 of which were women. Among the 98 respondents, 41 were married, 57 were single, and 32 of the married respondents said their spouse or partner is a working person.

Analysis of Data
The collected data were properly organised into statistical methods and tables. The following metrics were used: percentage, average, range, standard deviation, two-way tables, and the chi-square test. The Henry Garret rating method was used to determine what entrepreneurs expect.

1. Age and stress level
For this study, the age of the respondents has been separated into three categories: Young (less than 30 years), Middle (31–50 years), and Old (more than 51 years). It includes in the sample 17 (17%) respondents who are elderly, 54 (55%) respondents who are middle-aged, and 27 (28%) respondents who fall into the young age category. The sample respondents' ages are broken down in Table 1, along with the stress level they were facing about balancing work and personal commitments.

Respondent's age	No. of Respondents	%	Stress Level			SD
			Range		Average	
			Min	Max		
Young (Less	27	28	33	41	37	1.7

than 30 years)						
Middle (31-50 years)	54	55	34	40	37.7	1.7
Old (More than 51 years)	17	17	35	42	38.6	1.5
Total	98	100				

Table 1: Age and Stress Level

Interpretation

According to Table 1, the respondents in the young age category reported an average stress level of 37, with a range of 33 to 41. The middle-aged respondents' perceptions of stress ranged from 34 to 40, with an average of 37.7. The older age group of respondents, however, indicated an average stress level of 38.6 that varied from 35 to 42. The data leads to the conclusion that respondents in the senior age category experienced the most stress.

2. Age and Stress Level (Two-Way Table)

A two-way table has been constructed and is presented in Table 2 in order to determine the strength of the connection between the respondents' ages and the stress level that they experience when balancing work and personal responsibilities.

Respondent's Age	Stress Level			Total
	Low	Medium	High	
Young (Less than 30 years)	6 (22%)	10 (38%)	11 (40%)	27
Middle (31-50 years)	8 (15%)	34 (63%)	12 (22%)	54
Old (More than 51 years)	5 (29%)	5 (29%)	7 (42%)	17
Total	19	49	30	98

Table 2: Age and Stress Level

Interpretation

The percentage of respondents who reported experiencing high levels of stress related to balancing work and personal obligations was highest among older respondents (42%), and lowest among middle-aged respondents (22%), as shown in Table 2. Middle-aged respondents experienced the highest percentage of moderate stress (63%), whereas older respondents experienced the lowest amount (29%). On the other hand, those who were middle-aged had the lowest percentage of low stress (15%), and those who were older had the highest percentage (29%).

3. Age and Stress Level (Chi-Square Test)
Table 3 presents the findings of the chi-square test that was used to determine the link between the respondent's age and the stress level they felt about balancing work and personal obligations.

Factor	Value of Calculated $\chi2$	Value of Table	D.F	Remarks
Age	15.400	9.488	4	Significant at 5% Level

Table 3: Age and Stress Level

Interpretation
Table 3 demonstrates that at the 5% level, the outcome is significant. and that the anticipated chi square value exceeds the table value. So, it’s accurate to say that "respondents' age and their stress level in balancing work and life" The statistics show a strong relationship between the age of the respondents and how stressed they are attempting to balance work and personal obligations.

4. Gender and Stress Level
For this study, the respondents' gender is categorised as male or female. 48 respondents (49%) who are female and 50 (51%) who are male make up the sample. Table 4 displays the distribution of sample responses by gender and the level of stress they felt when balancing work and personal obligations.

Respondent’s Gender	No. of Respondents	%	Stress Level			SD
			Range		Average	
			Min	Max		
Male	50	51	34	41	37	1.9
Female	48	49	33	42	38.1	1.5
Total	98	100				

Table 4: Gender and Stress Level
Interpretation
According to Table 4, the average stress level felt by male respondents aged between 34 and 41 was 37, compared to the average level felt by female respondents aged between 33 and 42, which was 38.1. The statistics showed that female respondents felt most stressed out.

5. Gender and Stress Level (Two-Way Table)
To find out the significance of the association between the respondents' gender and their level of stress, Table 5 was created.

Respondent’s Gender	Stress Level			Total
	Low	Medium	High	
Male	8 (16%)	19 (38%)	23 (46%)	50
Female	6 (13%)	12 (25%)	30 (62%)	48
Total	14	27	53	98

Table 5: Gender and Stress Level

Interpretation
The percentage of respondents who reported experiencing high levels of stress is shown in Table 5 to be highest (62% among female respondents) and lowest (46% among male respondents). The number of respondents as a percentage who reported experiencing a medium degree of stress was highest (38% among men) and lowest (25% among women). Number of responders as a percentage who reported least levels of stress, on the other hand, was lowest (13%) among females and highest (16%) among respondents who identified as male.

6. Gender and Stress Level (Chi-Square Test)
The outcomes of the chi-square test, which was used to determine the connection between the respondent's gender and their stress levels related to balancing work and life, are displayed in Table 6.

Factor Analysis	Value of Calculated $\chi 2$	Value of Table	D.F	Remarks
Gender	27.253	5.991	2	Significant at 5% Level

Table 6: Gender and Stress Level

Interpretation
According to Table 6, the result is significant at the 5% level because the anticipated chi square value is higher than the table value. The statement "Respondents' gender and their stress level in balancing work and life are associated" is accurate as a consequence. The statistics show a strong relationship between the respondents' gender and the stress they feel when balancing work and personal responsibilities.

Observations and Findings
According to the analysis, the majority of respondents who were older and female said they struggled to balance their personal and professional lives. The chi-square analysis findings revealed a strong correlation between respondent's ages and how stressed out they were about balancing work and personal obligations. In a similar vein, there is a strong correlation between respondents' gender and how stressed they are about balancing work and personal obligations. As a result, it is advised that the enterprises should adopt policies pertaining to work and family that include parental or family support systems, government schemes, and health care initiatives. The analysis shows that because of their burden, which includes administrative responsibilities and having to handle everything on their own, the majority of respondents (92%) were unhappy with their WLB. They grew irate as a result of not being able to spend quality time with their family. This result is in line with the research findings by Pocock, Skinner, & Williams (2007). It described how having a poorer WLB is frequently associated with working longer hours. According to the analysis, the vast majority of respondents (94%) agreed that everyone involved must work together to preserve a WLB.

Conclusion
In today's world, the position of the entrepreneur is continually changing, and the new environment is putting a lot of pressure on them. This professional pressure will have an effect on their personal lives, creating an imbalance between work and life. Therefore, the WLB of entrepreneurs has a significant impact on the success and expansion of enterprises. Any company that wants its people to be able to balance their personal and professional lives must provide them with stress-reduction tools. The outcomes of further research may be used to determine the work and life initiatives that will benefit them the most in the Indian economy. It is a worthwhile endeavour for the students and advances their knowledge of societal issues.

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AN EMPIRICAL STUDY TO MEASURE A MULTIDIMENSIONAL SCALE FOR THE SUCCESS OF MOBILE BANKING APPLICATIONS

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ABSTRACT
Mobile banking is becoming an important part of the e-commerce business nowadays. All the researchers and industry experts are getting interested in exploring the various trends of mobile banking applications because mobile banking facilitates a great number of banking transactions with ease and in less time. But to accept mobile banking services to a large extent, it becomes very much mandatory that various variables required for the success of mobile banking applications should be explored, analyzed, and measured that affect customers' intention to continue the use of M-banking apps. A questionnaire was developed based on various variables extracted from the literature review and various models of information system success. To find out the various variables to create a model Structural Equation Modeling (SEM) was used. It was witnessed in the study that security, reliability, user interface, service quality, response time, and information quality are important constructs for the success of mobile banking applications. All these constructs have an impact on satisfaction and intention behavior.
Keywords: Mobile Banking, applications, service quality, information quality, factors, determinants, Information System Success

Introduction

Various financial innovations have emerged in the commercial banking industry, and banking has shifted from the traditional brick mortar banking system to the new technology-based banking system to satisfy the various needs of the customers and to get a competitive edge among its competitors. Mobile banking is such an innovation. With the help of mobile banking various banking activities like paying off utility bills, investments, balance inquiries, fund transfers, NEFT and others banking services can be performed with greater ease and convenience. Mobile banking is not only used for utility purposes only but for hedonic use also likewise as for booking movie tickets and shopping etc.

Mobile banking is like an innovative tool in the hands of the banking industry to excel in a competitive market to improve the effectiveness and performance efficiency of banks. Due to the technology revolution, the growth of the volume of mobile transactions is increasing manifold. So, banks should pay it becomes necessary on the part of banks that they should pay attention to the successful implementation of mobile banking services (Bouhlel, Garrouch, & Nabil, 2023). Banks should focus on the factors affecting the success of mobile banking services to make them accessible to the larger segment of the population (Majumdar & Pujari, 2022). Many factors contribute to the success of mobile banking applications like user interface, ease of use, reliability, security, user interface, information quality, service quality, and many others.

Literature Review

Mobile banking is accessed by customers to get information regarding their accounts, account balances, and many other financial transactions. If the customer feels that attained information is not good, irrelevant and insufficient, or an outdated user can doubt the service providers' integrity, and ability and this leads to the situation of dissatisfaction among the customers, so to bring customer satisfaction it is must factors required for success mobile banking should be analyzed.

A Model is required to measure the success of any information system (DeLone , McLean, 1992); (Bagayoko, et al., 2020). Among the various models of information system quality the model of De Lone , Mc-lean, 1992 is considered one of the good models (Tate, Sedera, Mclean, & Jones, 2011); (Urbach ,Müller, 2011). Initially, this model was given by Mclean and Delone in 1992 that included mainly six variables information quality, system quality, use, user satisfaction, individual impact, and organizational impact (DeLone & McLean, 2016) (Rizqy, Puspitasari, & Saputra, 2022). But from 1992 to 2007, many researchers (Mahmood, Hall, & Swanberg, 2001); (Sedera, Gable, & Chan, 2004); (Bokhari, 2005) suggested that there should be some up-gradation in the model and service quality should be included (Pitt, Watson, & Kavan, 1995); (Tate, Sedera, Mclean, & Jones, 2011) (Jiang, Klein, & Carr, 2002). Moreover, the new construction of intentional behavior and net benefits were also included in the new model of DeLone & McLean (Mehta, Chauhan, & Kaur, 2021), which replaced organizational and individual impact (Seddon, 1999). The findings of various researchers are as under-

DeLone , McLean, (2002) stated that system qualities consist of the qualities of the Information System. The measures of this construct mainly focus on performance characteristics and usability. System quality leads to the success of the system by providing satisfaction and the user's intention to continue using the system. Information quality is defined as the sufficiency, efficiency, and relevancy of the information. It consists of the contents of completeness, personalization, and ease of understanding

Lin , (2011) suggested loyalty as a net benefit that is affected by system quality and information quality. Perceived values (Innovativeness) and intention to continue are similar to net benefits.

Wang, Wang, & Shee, (2007) adopted the D & M model to measure the success of the E-Learning System Success (ELSS). This study showed that the D & M 2003 model is quite sufficient in measuring the success of the ELS in educational institutions, but in this study, pedagogy used by teachers was not studied at all. According to this study technical or system quality mainly consists of initial operations, reliability, ease of use, response time/ speed, user interface, security, compatibility and relative advantage, and functioning and performance.

Taoting, (2010) used three types of qualities viz. information, system, and service quality were to measure perceived innovativeness, satisfaction, and intention of continuing usage in banking apps by applying the DeLone and McLean IS Success Model. Service quality means support from the IT department and IS department personnel like customer care and the help desk. Previously this construct was not part of the original IS success model, it was later added to the Updated D&M model (DeLone & McLean, 2002). The existence of this construct is very disputable in IS literature.

Seddon, (1997) stated that system quality is not an important construct so it should not be included in the model, although many researchers were in favor of including service quality in the IS success model. Assurance, empathy, and responsiveness were taken as a measure of service quality in this study. Aldiabat, Al-Gasaymeh, & Kwekha Rashid, (2019) found that due to the transition of banks from traditional banking to mobile banking, adoption of it has received more attention. This study has analyzed various factors important for proper implementation of mobile banking in the Jordardian banking sector. It was observed in this study that the Support system of service quality is having a significant positive impact on user satisfaction.

Masoner, Lang, & Melcher, (2011) stated that Information quality, perceived usefulness, system quality, and user satisfaction are the main factors that define the success of any information system (IS).

Budiwati , Kurniasih, (2014) used ease-of-use, preferences, security, and response time as constructs of system quality and relevance, accuracy, information diversity, and completeness were taken as the components of information quality. It was witnessed in this study that constructs of system quality had an impact only on user satisfaction, not on use, but information quality significantly affected both use and user satisfaction.

Noh , Lee, (2016) believed that intention to use is more important than user satisfaction. The main emphasis was put on information quality, intention behavior, service quality, and trust. Service quality, system, and information quality affect user satisfaction positively. Tam & Oliveira, (2016) suggested a model to find out the impact of mobile banking on individual performance of individuals by combining D&M model and TTF (Task Technology Fit) models. This study stated that system quality, information quality and system quality all are having a positive impact on user satisfaction: system quality, information quality and TTF affect use of mobile banking.

Hossain (2016) used the information system (IS) success model in the field of Mobile –Health application. It was observed in this study that intention to continue behavior depends upon the perceived value of the system and positive perceived values are having a positive significant impact on user satisfaction.

Khan, Akter & Akter, (2017) observed that variables like security, cost, convenience, trustworthiness, complexity, and network availability were used as variables to measure the intention behavior. These variables are having a more significant influence on the usage behavior of mobile banking customers, but trustworthiness and network problems are comparatively insignificant in this adoption behavior. Boshkoska & Satiroski, (2018) analyzed the relationship of satisfaction with factors like age, qualification, education, computer knowledge, frequency of usage and type of banking services. It was observed that there is no significant relationship between satisfaction and ease of use. On the other hand, age, education, and complexity in usage have significant impact on satisfaction. Elderly people are less inclined to use mobile banking services as compared to young ones. Adoption and penetration of new technology is having a positive impact on the satisfaction level of customers. So, it is advisable that banks should be innovative, creative and should identify the needs of the customer to serve them in a better way. This will lead to customer satisfaction.

Alalwan, Dwivedi, Rana, & Algharabat, (2018) stated that effort expectancy, performance expectancy, Price value, hedonic motivation and perceived risk all are having significant influence on the behavioral intention of the customers. On the other hand, it was found that there is no significant impact of social influence on behavioral intentions. Ghobakhloo M, (2019) stated that for the success of mobile banking applications post-use trust, Experienced advantage, and user satisfaction are the most critical and important factors. Banks, and financial institutions should focus on these factors to provide a successful mobile banking app.

The objective of the Study

(1) To determine factors leading to the success of mobile banking apps.

(2) To find out a model for the success of mobile banking applications.

Research Methodology

This study is mainly empirical. This study focuses on a model to determine the success of applications of mobile banking. Various variables like reliability, functionality, ease of use, understandability, timeliness, security, user interface, and response time were extracted from the literature review. A questionnaire was formed based on those constructs to collect data with the help of convenient sampling, judgmental sampling, and non-probability sampling methods. (Nyataya & Celine, 2017), (Boonsiritomachai & Pitchayadejanant, 2017) (Khan, Akter, & Akter, 2017), (Amin, Hamid, Tanakinjal, & Lada, 2005).

To identify various dimensions Structural Equation Modeling (SEM) was used to establish the relationship of various variables with other variables.

Research Model

Proposed relationships among the various exogenous, endogenous, and mediating variables are shown with the help of a flow diagram. Exogenous variables are reliability, ease of use, security, user interface, response time, Service Quality, and Information Quality. There are two mediating variables; Customer satisfaction and perceived innovativeness, that are having an impact on the intention to continue using. Given here is the proposed model.

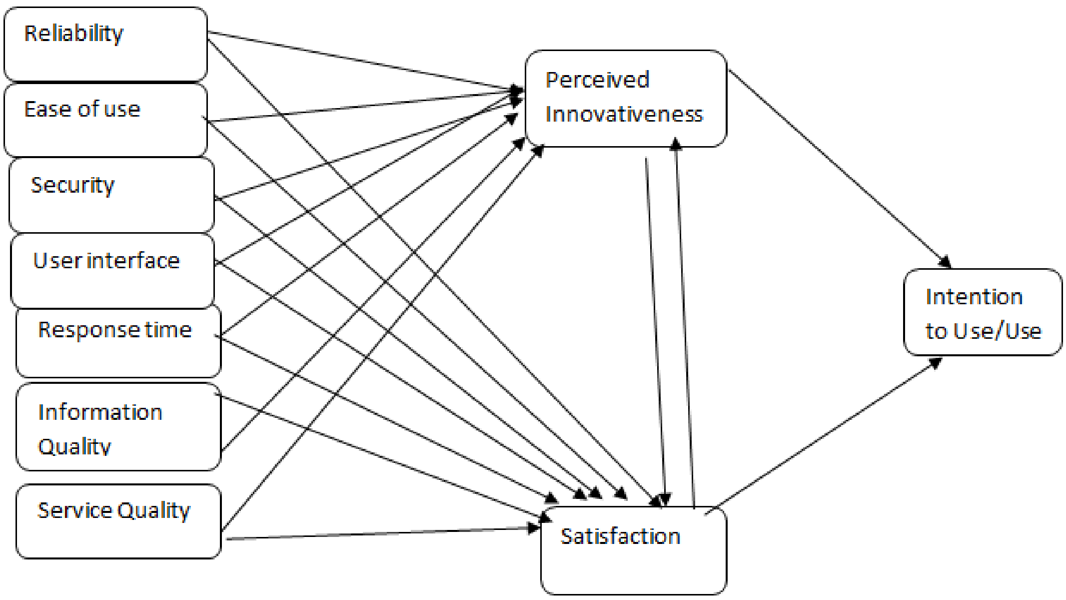

Figure -1 Proposed Model (Source- By author)

Data Collection

Data was collected from 330 respondents with the help of a structured questionnaire. Given table shows the demographical data of respondents.

Variables	Category	Frequency	Percent
Gender	Male	215	65.2
	Female	115	34.8
Age	18 to 35 years	122	36.9
	35 to 55 tears	145	43.9
	more than 55 Years	63	9.2
Education	Senior Secondary	6	1.8
	Higher Secondary	17	5.2
	Graduation	146	44.2
	Post-graduation	140	42.4
	Doctorate	21	6.4
Employment	Employed for 30 hours or more per week	120	36.4
	Employed part-time, for less than 30 hours per week	66	20
	Not currently employed	29	8.8
	Student	43	13
	Self-employed	70	21.2
	Other	2	0.6
Banking App	State Bank of India	69	20.9
	Bank of Baroda	45	13.6
	HDFC Bank	56	17.0
	ICICI bank	47	14.2
	Axis Bank	42	12.7
	CITI bank	6	1.8
	Kotak Mahindra Bank	18	5.5
	Union Bank	5	1.5
	Others	42	12.7
History of using Mobile banking App	Less than 1 month	34	10.3
	1-3 months	56	17
	4-6 months	60	18.2
	7-12 months	69	20.9
	More than 12 months	111	33.6
Frequency of usage of the App	Less than once a week	91	27.6
	About once each week	102	30.9
	Several times each week	78	23.6
	About once each day	46	13.9
	Several times a day	13	3.9
	Total	**330**	**100**

Table I: Demographic features of Sample (n-330)

Exploratory factor analysis (EFA)

The very first step in establishing and validating any model is exploratory factor analysis (Aga, 2022). The results of the Bartlett test of Sphericity (χ^2 = 12613.544 with DF=903, p < 0.0001) suggested that the correlation matrix was not an identity matrix and data is suitable (Patel & Patel, 2020). The overall KMO = 0.928 shows sampling adequacy (Hair et al, 2006). It was found in EFA that various constructs of Ease of Use (EOU) and satisfaction are having cross-loadings, so these were removed from the scale to establish reliability and validity.

Cronbach's Alpha test was performed to measure the internal reliability of all the dimensions. Table II shows the values of Cronbach's Alpha.

Sr. No.	Factor Names	Cronbach's Alpha	No. of items
1	Reliability	0.897	5
2	Interface	0.913	6
4	Response time	0.904	4
5	Security	0.804	4
6	Information Quality	0.937	13
10	Service Quality	0.996	3
11	Satisfaction/intention	0.902	5
12	perceived innovativeness	0.876	3

Table 2: Reliability of the items

It is clear that Cronbach's Alpha > 0.7 in the case of all the factors. So, reliability is established. All constructs were grouped into 8 factors and all explain 71.652 percent of the variance. Given table-III shows the factor loading of all the constructs and all the constructs loaded in their designated factors significantly.

Factors	Loadings
Information Quality	
I understand the information displayed on my app.	0.689
information is understandable.	0.741
information is not ambiguous.	0.697
information is meaningful.	0.656
information meets my needs.	0.675
information is sufficient for my needs.	0.706
information is complete	0.662
the app provides up-to-date account information.	0.702
Account information is timely.	0.691
the app provides current account information.	0.673
Most online banking functions are included in the app.	0.614
Variety of banking functions.	0.672
All the online banking functions that I want	0.646
Interface	
The information on my app is attractively displayed.	0.671
The menu of my app is well-designed.	0.749
The interface of my app looks good.	0.786
The layout of my app is appealing.	0.76
The app fits the screen size	0.658
Navigation to the functions is straight	0.624
Reliability	
I am not logged out in the middle of transactions.	0.761

The app is not crashing.	0.814
I can easily log in.	0.794
Pages do not freeze.	0.81
No blank screens.	0.821
Satisfaction and Intention to continue	
The app will be used regularly.	0.654
Preference will be given to the app over a visit to the bank.	0.762
Continue to use the app.	0.776
Banking tasks will be done via the app in the future.	0.82
In general, I am satisfied with my app.	0.496
Response Time	
Logging into my app is fast.	0.775
Logging out of my app is fast.	0.821
My app quickly loads all content	0.764
My app processes my transactions quickly	0.679
Service Quality	
The customer service is good.	0.99
The customer service provider/tech support representatives are willing to help me solve problems related to my app.	0.991
The customer service provider/tech support representatives are interested in my feedback related to my app.	0.99
Innovativeness	
My bank is innovative in adopting new technology.	0.624
The overall impression I have of this bank is that they are technologically innovative.	0.689
My bank is a leader in technology	0.726
Security	
Confident about the security of the banking app.	0.694
My app is secure.	0.661
I am not concerned about re-access my account via my app.	0.776

Note: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
Table 3: Exploratory Factor Analysis

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was run in AMOS software. Model fit criteria were checked accordingly from the data collected from 330 respondents. Model fit values of CFA showed good model fit of the model with (χ^2 (786) = 1590.941, χ^2/df = 2.024, GFI = .822, CFI = 0.934, SRMR = 0.0483, RMSEA = 0.056) (Lowry & Gaskin, 2014). It is clear from the given details that all the indexes have achieved the required level of values in all three categories of model fit. This is a good model fit.

	CR	**AVE**	**MSV**
1. security	0.862	0.681	0.530
2. Info Quality	0.938	0.537	0.526
3. interface	0.912	0.635	0.489
4. reliability	0.898	0.639	0.270
5. Satisfaction/Intention to continue	0.907	0.662	0.496

6. Response time	0.891	0.674	0.530
7. Service quality	0.996	0.989	0.013
8. innovativeness	0.882	0.714	0.526

Note; (χ^2 (786) = 1590.941, χ^2/df = 2.024, GFI = .822, CFI = 0.934, SRMR = 0.0483, RMSEA = 0.056
Table 4: Confirmatory Factor Analysis

Reliability & Validity
Cronbach's alpha and Composite Reliability (CR) are used to check reliability. Cronbach's alpha (Table II) and Composite Reliability values are more than 0.7(Table IV). So reliability is established.

To establish Convergent validity AVE > 0.5 and for Discriminant validity, AVE values are compared with MSV values and correlation values of the constructs. AVE values should be more than the values of MSV and Correlation values among the constructs (Fornell & Larcker, 1981). This is clear in Table-IV and V.

	AVE	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. security	0.681	**0.825**							
2. Info Quality	0.537	0.521	**0.733**						
3. interface	0.635	0.482	0.699	**0.797**					
4. reliability	0.639	0.372	0.429	0.429	**0.799**				
5. Satisfaction/ Intention to continue	0.662	0.427	0.704	0.624	0.383	**0.813**			
6. Response time	0.674	0.728	0.487	0.501	0.520	0.455	**0.821**		
7. Service quality	0.989	0.012	0.006	0.041	0.035	0.039	0.114	**0.994**	
8. innovativeness	0.714	0.464	0.725	0.685	0.257	0.690	0.423	0.043	**0.845**

Notes: Diagonal values are the square root of AVE values, correlation coefficients are significant ($p<0.001$);
Table 5: Convergent & Discriminant Validity

Dependent Variable		**Independent Variable**	**Estimate**	**P value**
innovativeness	<---	Info quality	.557	***
innovativeness	<---	interface	.332	***
innovativeness	<---	reliability	-.088	.003
innovativeness	<---	Response time	.032	.598
innovativeness	<---	Service quality	-.015	.459
innovativeness	<---	security	.077	.201
satisfaction	<---	Info quality	.363	***
satisfaction	<---	interface	.105	.102
satisfaction	<---	reliability	.059	.041
satisfaction	<---	Response time	.065	.254
satisfaction	<---	Service quality	.023	.228
satisfaction	<---	security	-.026	.658
satisfaction	<---	innovativeness	.338	***

Note-*** shows a significant P value
Table 6: Results of Path Analysis

It is clear from the given data that only information quality and user interface are having a significant direct impact on satisfaction, intention behavior, and innovativeness, but other exogenous constructs of service quality, reliability, response time and security are not significantly affecting intention behavior.

Conclusion

Mobile banking is an important aspect of human life for providing banking services in a more friendly and successful way. Information quality is of prime importance for the adoption of any information system. Customers will adopt mobile banking when they feel that these applications are successful enough to provide the desired services in a more friendly way to them. So customers' perception and satisfaction play a very significant role. Initially, many factors like user interface, security, validity, reliability, response time, information quality, ease to use, functionality, service quality, and trust were used to measure satisfaction and intentional behavior.

It is evident in this study that information quality, security, reliability, response time, user interface, and service quality are important constructs. It is also witnessed that information quality and user interface affects positively innovativeness and satisfaction of the customer while reliability, security, response time, and service quality are not having a significant impact on customer satisfaction. So, application designers should focus on understandability, timeliness, and viability under information quality while designing applications.

Managerial implications

This paper analyzes the various factors that affect the intended behavior and satisfaction level of customers of mobile banking users. This paper is putting efforts to highlight all those factors that are essential for customers for the success of any mobile banking applications. So, this study will be beneficial for the banking fraternity to focus on the various components that are essential for customers and provide better services in that segment. Moreover, this study will be beneficial to the technology personnel while developing mobile banking applications.

Limitations & Future Prospectus

There are certain limitations. First, this study is having limited validity as it uses cross-sectional data and not longitudinal data. Second, the study doesn't focus on individual customers' points of view, as different factors affect individual customers differently. Third, this study focused only on Mobile Banking Apps, so this study cannot be generalized to the various factors of information system success.

This study covered only one aspect of mobile banking i.e. Apps based, further studies may be conducted focusing on the various other aspects of mobile banking like SMS banking and the USSD channel. The same study can be conducted in various other countries focusing on people of various other cultures and educational backgrounds. Further studies can use this model for measuring the success of information systems (IS) in other fields also.

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AN OVERVIEW OF THE EFFECTS OF BLOCKCHAIN TECHNOLOGY IN FOOD CHAIN SUPPLY: A CASE STUDY ON WALMART

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ABSTRACT
Walmart is one of the world's largest firms by revenue. Such a big establishment from the retail industry has a large distributed channel of vendors and suppliers. Blockchain technology is very much popular for its application in Cryptocurrency. Blockchain is a ledger or a distributed database that is shared through computer network. It maintains secure and decentralized records of transactions. The salient feature of this technology is that it is an innovative system that guarantees fidelity and security of data without interference of a trusted third party. Apart from its use in the financial sector, it is also used for other applications such as Food Supply Chain Management. Application of innovative technology in the business ultimately results in improvement in performance. This is especially necessary in businesses that involve food and edible materials. For this research, a case study has been conducted with respect to Walmart.
Keywords: Blockchain, Cryptocurrency, Food Supply Chain, Walmart, E-commerce

Introduction

Contamination source is difficult to be found out. This is because the product moves from farmer to processors, then to distributors, then to vendors and lastly to the consumer. Due to the unchallengeable and shared nature of Blockchain, tracking became easy and this also offers transparency. Therefore, it provides a trusted environment. A well-known company in the retail field viz. Walmart uses Blockchain technology in Food Chain Supply. In our research study, we analyzed the effectiveness of Blockchain technology for Food Supply Chain. For the analysis purpose, a case study of Walmart has been taken into consideration.

Significance of the Study

The study is significant in following perspective:
Food Supply Chain (FSC) is the emerging area of Blockchain technology application and hence its efficiency needs to be analyzed. Walmart is an ideal example for implementation of Blockchain for FSC, which needs to be studied to get more insight into this area.

Literature Review

Various research papers are available on the applications of Blockchain in various fields. But very few of them cover the area studied here. Some of them are discussed below:

Tan (2018): The four types of impacts of adoption of Blockchain on food supply chains. Michelson (2017): The study of the paper gives understanding of how food safety and quality is important nowadays. Walmart is a leading worldwide superstore chain with an increasing presence in China, and evidence advises that their supply chain policies are similar to other large superstores in the region. Chiles ,Dau (2005): Retail industry analysis and company case study analyses of Wal-Mart and Amazon.com capital investments in information technology and infrastructure, relationships with vendors, and commitment to process efficiency through product profile analysis support the efficiency, service, and asset utilization goals that they strive to balance.

Kirwan (2017): It is required to understand and access the different meanings, which are related to food supply chains. Duan (2020): Production process of food and due to globalization, the supply chain has become more delicate. Holmberg (2018): Investigates the challenges and possibilities of a possible implementation of a traceability system supported by Blockchain technology. Fortuna & Risso (2019): Resulting from research conducted jointly by supply chain actors for the purpose of developing new commercially applicable technologies, for cost reduction and increasing profits. Harsha (2020): Walmart has shown that the use of

Blockchain technology covers the way towards a more efficient level of operations within the units of the organization.

Kamath (2018): mentions the challenge for the implementation of Blockchain technology especially in food supply chain and possible solutions for the same, for increasing safety norms and waste reduction. Zhang (2019): mentions a content-analysis in implementing Blockchain technology within food supply chain.

The Concept of Blockchain
Blockchain is a communal, unchangeable record that is used to save the transactions. The communal means the records are shared by all participants. Also, the records only can be saved in the form of block and next information can only be appended to the previous record through a chain. Hence the name Blockchain. As Blockchain is digitally scattered publicly and not centralized, this can be used to trace the assets in a business network. Blockchain technology is an innovative database mechanism that allows translucent information sharing within a commercial network. A blockchain database stores data in blocks that are connected together in a chain. The data is chronologically reliable because you cannot delete or modify the chain without consent from the network.

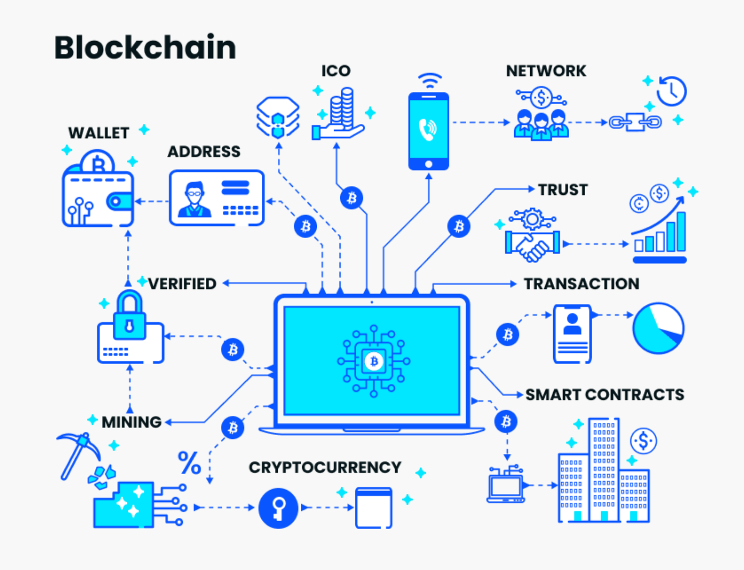

Figure 1: Blockchain Technology (Source-https://mmcgbl.com)

Walmart
Walmart is one of the world's largest firms by revenue. It has more than 10,586 stores under more than 55 company names spread over 24 countries [2]. More than 265 million customers visit these stores and e-commerce Websites. To maintain the workflow with such a big customer base is a big challenge for Walmart. Hence the company is consistently looking to optimize their supply chain.

Food Supply Blockchain in Walmart
Food supply chain includes all the activities that start from growing the grains in the form till its utilization by the consumers. By placing a supply chain on the Blockchain, it makes the process more transparent and traceable. Every node on the Blockchain represents an entity that has handled the food on the way to the stores, for faster and easier movement and to ensure that farmers have not sold infected batch in any location.

Research Methodology
Present study is particularly a case study of Walmart with respect to overview of Blockchain technology for its food chain supply, that analyses the subordinate information for estimating the impact of Blockchain technology in food sector.
Available literature doesn't have proper focus on food supply chain, though there are a few papers on supply chain management. Other details are as below:

Scope
The retail industry has a very broad scope. Therefore, the scope of the study is limited to specific segment of retail. This study is based on the findings of analysis of overview of Blockchain in food supply chain. The study is carried out for an eminent globalized retail company viz. Walmart

Objectives

- The main objective of the study is to understand how to use Blockchain technology in food chain supply. Other specific objectives include:
- To study challenges and advantages in using Blockchain technology in food chain supply.
- To study how Walmart has implemented Blockchain technology for their food supply chain.

Case Study Analysis

Supply Chain Management of Walmart

Walmart provides service to the customers through different distribution channels. The success of Walmart is due to the fact that it has its own supply chain to cater to its requirements and to cut down its costs. Since its beginning the policy that Walmart has followed is to build Walmart stores in smaller groups. They began negotiating directly with manufacturers as well as distributors, thereby reduced middleman to further streamline the supply chain. The steps taken for products flow through distribution centers are:

- Products are sent from vendor to distribution centers
- Products are batched by retail store
- Products are distributed out by retail store

For successful conduct of this process Walmart and its merchants must cooperate well with each other to ensure that the stores have sufficient stocks as per demands of customers.

Walmart works with IBM to improve the trailing and traceability of food products, leading to better food safety. Blockchain on food supply network enables complete transparency across food-chain to maximize shelf life, increasing partner networks and increase recall response efficiency, for reduction of waste. It is possible to develop and improve food industry, Blockchain and Internet of Things (IoT) can be used. IoT facilitates monitor various stages of food production and provides factual information, in addition to taking required steps for the reduction of food-waste. IoT in food processing has started to food suppliers, processors and retailers with good opportunities for financial and operational support in the food and beverage businesses.

All functional areas in the food industry have been influenced by the solutions provided by IoT. For example, IoT in food processing enables food industries to achieve better traceability, food safety and accountability all throughout the supply chain.

Blockchain implementation in Walmart

Walmart, a leader in supply chain management, is now using block-chain for creating automated process in invoices handling and payment systems for its 70 third-party freight carriers.

History of Walmart's Applied Blockchain

Walmart uses Blockchain technology, which is a backbone of cryptocurrency blockchain, by improving traceability. The new technology will allow Walmart as well as the consumers to track the geographical location of food product with the help of bar code.

History of Walmart's Food Tracing

The history of Walmart's food tracing starts from the year 2016, when there was an issue of traceability of mangoes. It took 6-7 days to trace the same. Hence, Walmart, with the help of IBM and Tsinghua University in Beijing started Blockchain ledger for the traceability of beef for the supply chain from China. In the month of September 2018, Walmart could improve the system further for better traceability.

Use of Blockchain Technology for FSC

A Blockchain is a distributed register with growing lists of annals (blocks) that are securely linked together via crypto-graphical hashes. There are various application areas of Blockchain. As FSC is a distributed system there should be transparency among FSC transactions. The decentralized register records and protects business information shared among multiple parties. All parties authenticate the transaction by their digital signature.
The use of Blockchain offers following advantages:

- Transparency in FSC
- In case of any anomaly participants can immediately take action
- Supplier on-boarding is easy

When Walmart realized these applications, the company commenced to work on the same along with their partner IBM. Hyperledger Fabric provides a method of system that enables performance that enables data privacy. After successful implementation of the application Walmart started working with other companies such as Nestle to launch IBM food trust.

Benefits of Blockchain in FSC

- **Transparency:** Blockchain-based supply chain registers can identify food loads that are subject to product recalls, thus, simplifying the prompt removal of unsafe food from store shelves.
- **Food Safety:** Blockchain provides a new way to bring diverse stakeholders composed to ensure food safety by providing a transparent and absolute antiquity of transactions. This transparency can enhance customer belief and brand trustworthiness.
- **Decreases food wastage:** Minimalizing food waste at the manufacturing, retail, and consumer levels. Therefore, it is important for preventing any major food crisis and meeting the increasing food needs.
- **FSC Effectiveness:** Customers can scan products to verify their genuineness, while Blockchain allows them to query digital records. Furthermore, Blockchain technology is less expensive than existing food tracking systems. Blockchain technology can be used to track exact records and provide tamper-resilient data.

Food Supply Chain Challenges

Figure-2 Challenges in the food supply chain (Source- https://www.ecoideaz.com)

Lack of superiority and security: - With rising difficulties come the responsibility to produce more and supply more, the supply chains are exposed to fraud and forgery and food corruption. The climate crisis further drives food uncertainty.
Lack of perceptibility: -post-harvest loss ranges from 35-40%, which is due to insufficient storage facilities, reformer handling, bad logistics and packing. Inadequate association among stakeholders and lack of perceptibility lead to huge wastages.
Authorities need to take steps in providing a supervisory authority along with predefined standards, practical knowledge, economic support, etc. to help better the supply chain as a whole. Food systems need to follow to quality standards and ensure a harmless product.
In these days everybody is accepting the success of Blockchain in every arena and consider it trustable technology. Blockchain is a wonderful asset to make food protected from frauds and helps in tracing the defects caused by anyone and also protects money by not tracking each and every one, who distributes products in supply chain management. A few features of Blockchain technology give us frameworks to trace FSC.

Conclusion
Walmart has excellently planned and executed Blockchain technology in food chain supply.
The main objective of the study is to understand how to use Blockchain technology in food chain supply. Other objectives are to study the challenges and advantages in using Blockchain technology in food chain supply; and to study how Walmart has implemented Blockchain technology for their food supply chain. The benefits of Blockchain technology are transparency, food safety, decreases in food waste, FSC effectiveness. To conclude customers can scan products to verify their genuineness, while Blockchain allows them to query digital records. Furthermore, Blockchain technology is less expensive than existing food tracking systems. Blockchain technology can be used to track exact records and provide tamper-resilient data.

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ANALYSIS OF PORTFOLIO MANAGEMENT IN CORPORATE COMPANIES

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ABSTRACT
As part of corporate strategy, Corporate Portfolio Management (CPM) is at the heart of it. Simple matrices and other tools for managing the company's portfolio should not be the only way to use CPM. It includes strategic decisions made at the corporate level, like starting new businesses, allocating scarce resources to different business units, or getting rid of value-destroying divisions that don't add value to the whole company. This means that CPM should be very important to executives and investors, as well as strategic management experts. A recent study of the top multi-business companies in the world shows that top management thinks CPM is very important and relevant.
Keyword: Portfolio, Investment Style, Risk analysis

Introduction
Portfolio management is a systematic way to make sure that you reach your financial goal, according to the plan you made. It takes a lot of work to build and manage different types of financial investments and securities. Managing a portfolio is thought of as a well-planned and organized management for the benefit of the investors. This is what it takes to run a portfolio: accurate forecasting and good planning if you want to keep investing for a long time. This method is sure to give the investors good returns on their money. Portfolio management is a regular thing to do and making changes to the investment portfolio is important. This is true for any kind of investment portfolio, including stocks, bonds, gold, real estate and insurance, pension funds but it doesn't matter what kind. As a portfolio manager, you have to keep an eye on and adjust your portfolio from time to time. The main goal is to invest all the money that you have in the right way. Risk tolerance varies from person to person, and this is built to meet the needs of the individual investors. People sometimes keep their money in government bonds for safety. Diversified investment is needed to lessen the risk of the Portfolio investments. People also say that most investment portfolios are set up so that they can enjoy a good retirement. For safety reasons, many investments and assets are bought in a variety of types and sizes. This helps to lower the risk and make money. For this reason, financial advisors or portfolio managers offer portfolio management services to people who need them.

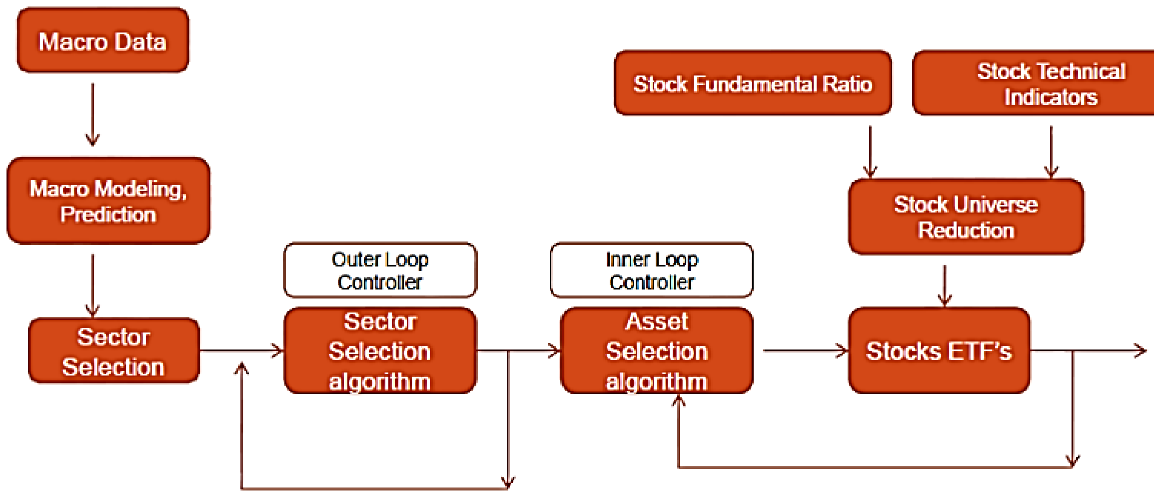

Figure 1: Integrated Hierarchical Portfolio management (Source compiled by Researcher)

Classification of portfolio
If you look at the portfolio, it's classified into (i) The Aggressive Portfolio (ii) The Defensive Portfolio (iii) The Income Portfolio (iv)The Speculative Portfolio (v) the Hybrid Portfolio. These are the types of portfolios: All of this shows how the investors are going to spend their money.

The Aggressive portfolio- This type of portfolio has a lot of risky investments in it. Investors think that if they take on a lot of risks, they will get a lot of money back. A high-risk investment shows a lot of changes in the stock market and a lot of growth. To build this kind of portfolio, you need to know a lot about money, and because you've done this before, you can handle the risk. This type of portfolio is good for investors who don't have to take care of their families and want to make a lot of money quickly.

The Defensive Portfolio- This type of portfolio doesn't have any investments that are very risky. Investors take a calculated risk with a lot of safety. This is how it works: People who want to invest do research on investments before they do so. They watch how the company works on a daily basis. This company is a regular service provider and there is a lot of demand for their goods. When they invest, they get back the money.

The Income Portfolio- For people who want to make money on a regular basis, this type of portfolio is right for them. This is a great portfolio for people who are retired. People who own shares in the company get capital gains when they make money. This can also be a good source of investment in the long run. It's not risky to invest in real estate, and it also has a good chance of giving you a good return every few months.

The Speculative Portfolio- This type of portfolio is based on a lot of risks. You must be financially smart and have up-to-date market information to build this kind of portfolio. People make investments based on rumour's to make a lot of investments in a short time. This is almost like gambling. For investors to make money through the portfolio, they should be skilled.

The Hybrid Portfolio- This type of portfolio is made up of a lot of different types of investments, like stocks and bonds. This type of portfolio gives you a lot of different types of investments and a lot of investments to make. There are government and private bonds, mixed equity shares, Bank fixed deposits, Postal investments like gold and silver jewellery, and more. This is called a "fixed income pattern."

Review of Literature

Stick (2011) To generate portfolio abnormal returns for use in hypothesis testing, the resulting company abnormal returns were added cross-sectionally in event-time. To gain some understanding of the effects of merger activity, capital structure changes, and greenmail announcements on shareholder wealth, evidence from earlier studies is first reviewed. Wilson (2011) The economic and financial performance and survival of buyouts supported by private equity (PE) in the UK during the years preceding and including the most recent global recession are examined in this research. The recessionary era starting in 2007 is considered in the analysis of performance.

Nazarova (2015) studied the growth of the company through the Mergers and Acquisitions (M&A) process can have a negative effect on how analysts, investors, and business organizations view it. This is known as value destruction. Because each diversified corporate structure (the diversified company) is a distinct phenomenon, this issue is still pertinent today. Therefore, the issue of value creation or destruction and the market's view of their corporate conception must be investigated within the framework of the individual approach for the diversified companies growing through the M&A strategy. In this study, the Unilever Group's M&A strategy is analysed, and problems with determining what makes a diversified business valuable are also discussed.

Al-shibori (2010) The paper connects empirical corporate finance problems with investment analysis in this way. The findings show that the intended measures work as intended; however, the market's assessment of the firm's potential for raising additional capital may also account for the negative connection between returns and leverage. Khan (2021) Through opportunities for diversification, stock markets play a critical role in fostering economic processes and growth. Due to numerous industry specifics like those in the food, auto assembly, fertilizer, and textile industries, among others, buying financial instruments, particularly stocks in today's volatile market, is a backbreaking task for investors.

Alcock (2013) In the study "Canonical vine copulas in the modern world of portfolio management: are they worth it?" Said that the goal of every investor is to get a steady amount of money out of their investment portfolio so that it can help them in times of need. This is only a way to save for the future. It doesn't matter how little money they make on their investment because they are still happy. But the investor thinks that the money they should get should last for a long time and come often.

Gabriela (2013), in the study While making an investment portfolio, it's important to find out about the current state of the capital market and what kind of financial instrument is being used in it. This means that you're going to do specific types of analysis, like technical and fundamental analysis. Technical analysis is needed to find out how the financial instrument has worked in the past and how much money the investors think they will make by investing in a certain option in the future. The main part of fundamental analysis is to look at the financial instruments in the current situation. It looks at the current rate and risk of the instrument from the point of view of the investors. At the start of making the portfolio, investments with less risk should be chosen.

Kumar (2009) According to the research, management cannot assume that merely pursuing mergers and acquisitions will result in the creation of synergy and an increase in profits. Abraham (2012) in their study "Determinants of university working students' Financial Literacy at the University of Cape Coast, Ghana," found that men are very good at making daily financial decisions, like whether to invest or spend investment on things like food and clothes. This is because they have had a lot of experience and are old enough to learn about money. The mother should be financially literate so that she can teach her child to be financially literate. This is important when teaching students about financial literacy.

Luc (2012) in their study "Financial Literacy and Financial Planning in France" found that for people to make good decisions about diversification, inflation, or compounding of interest, they need to be financially literate. Women, young adults, and people who aren't very financially literate have more problems. It was also found that people who know a lot about money will make their financial budget or plan and work with it. Through practice, they get the right experience and handle their money in the right way. Because they can predict the outcome of their financial plan for a longer time, they can figure out how their plan will work out. This will make them want to keep doing this in the future, too.

Research Methodology

When a researcher does research, he or she finds out facts about a specific problem by following a scientific and systematic process. Before presenting the research study, it is important to decide on the research method. To do research on a problem, the researcher has to plan out a number of steps. This way, one can work on the problem in a logical way. Research Methodology is based on the size of the sample, which is the group of people chosen for the research activity, as well as how the researcher makes decisions while he or she is doing the research.

Sources of Data

A lot of secondary sources are being used to get data. A lot of data was gathered from both inside the company and outside sources, and the sources are listed below.

Materials like monthly fact sheets, research reports, etc. provided by asset management companies, Data on the website of national and international journals.

Data Analysis

Data analysis has been planned to compare returns and their comparison through the measurement of central tendency through the mean, and variation through the SD. This is how the data will be used (Standard Deviation). There are also clues about why a company did well or not well compared to its peers based on its investment philosophy, sector-wise allocation, weighting, and top 10 stock holdings. A comparison of the portfolio's performance with that of the BSE and Nifty over the last six months, one year, two years, three years, five years, and since it was started is also planned.

It has been planned to use Beta, which is a measure of how sensitive a portfolio is to market changes, and performance indices like Sharpe's Index to look at the risk and reward of a portfolio. Standard deviation and extra return are used to figure out how much money you get for each unit of risk. In this case, Jenson's Alpha (It is the amount by which a portfolio has done better than its benchmark, taking into account how much the portfolio is exposed to market risk, Beta) and other tools would be used to look at the data and make inferences from it.

People look at how much money they made over a certain amount of time in the last month of the financial year and how well they did compare to their peers who made the same amount over the same time. Some examples: 3 or 6 months, one year, two years, and so on. In fact, sheets that the company has released show how much money and how well they did.

The information that is unique to a client is only told to the client and not made available to the public. A model customer who has been invested in a scheme since it was set up is the person whom the AMCs show in their data on returns. According to the specific portfolio construction characteristics of each individual client, the returns they get may be different. This is because of the individual client's mandates, the time of entry into a portfolio offered for PMS, the extra money they put in, and if they make withdrawals. It's important to note that the returns below one year are real, but the returns above one year are annualized, which is called the Compound

Annual Growth Rate (CAGR). Unless it's specifically said, the data on the returns of AMCs usually include the costs and fees the AMC charges, unless it's specifically said otherwise.

Analysis

Duration	Portfolio	Nifty	BSE
Three Months	-10.5%	-3.9%	-6.1%
Six Months	-2.0%	2.3%	4.5%
One year	4.6%	9.9%	10.9%
Two years	15.3%	13.9%	15.8%
Three years	7.8%	5.9%	6.8%
Five years	16.0%	13.1%	13.9%
Since Inception date	14.9%	13.9%	14.5%

Table 1: Investment style and sector allocation of absolute freedom portfolio in the last month

The tabulated data for the financial year ending March shows that the Absolute Freedom Portfolio lost money in the first three months, six months, and a total of nine months. It also lost money compared to the benchmark index.

Direct investment in BSE 200 and Nifty Index shares also returns less than if you buy them yourself. Nifty Index Shares have had better returns over the last two years, but they haven't been as good. People who invest in the stock market for three years and more make more money than the BSE 200 index and Nifty index. Two-thirds of the portfolio is in large-cap stocks and one-third in mid-cap stocks. It's spread out across a wide range of industries, with a lot of focus on the financial sector.

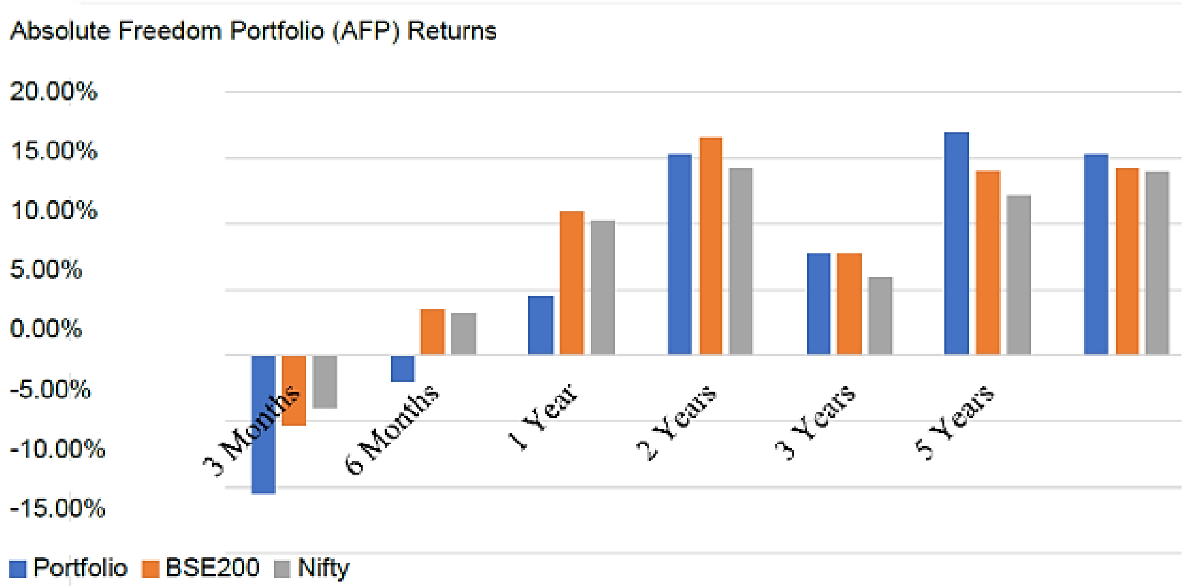

Figure 2: Absolute Freedom Portfolio (AFP) Returns in the Last Month (Source compiled by the researcher)

Interpretation

It has become more profitable to invest over time. By the third year, direct investment in Nifty Index Shares had outperformed direct investment in the benchmark BSE 200 shares, but it was still behind. Absolute Freedom Portfolio (AFP) has had good returns over the last five years and since it started. This shows that the PMS has a lot of potential and that investors can make more investments than they would if they invested directly in the benchmark stocks.

Large-cap stocks make up about two-thirds of the portfolio. This helps keep the portfolio stable. When an industry or sector slows down, having a good amount of diversification can help protect you from the negative effects. Thus, it can be said that the help of a qualified expert portfolio manager can help people make more money in the equity market.

Duration	Portfolio	Nifty	Nifty 500
Three months	-10.2%	-3.9%	-5.9%
Six months	-0.9%	3.3%	3.6%
One year	4.9%	9.9%	10.5%
Two years	18.4%	13.9%	16.5%
Three years	10.3%	5.9%	14.9%
Since Inception Date	19.9%	10.9%	14.9%

Table 2: Returns, Investment Style, and Sector Allocation of High Conviction Portfolio (HCP) in the last month.

Analysis
The High Conviction Portfolio's financial year shows negative returns and is less than the benchmark index in the first three months, six months, and one year, as shown in the table.

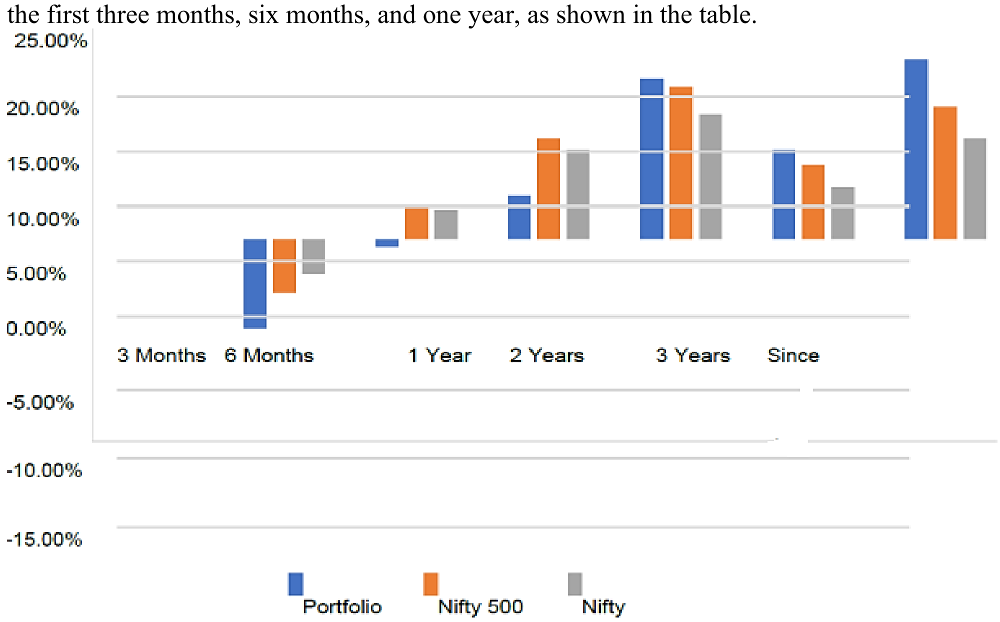

Figure 3: High conviction Portfolio (HCP) Returns in the Last Month

It has been two years since the returns of the Nifty 500 and the Nifty Index Shares have been better than they were. In the third and fourth years, the Nifty 500 index and the Nifty index haven't been able to keep up with the growth of the company. As a comparison to both the Nifty 500 and the Nifty index, the High Conviction Portfolio has made a lot of money in the four years it has been around. The style of investment shows that there is almost 50 percent risk in large cap and 41 percent risk in mid-cap, which is about right. The investment is spread out across a wide range of industries, with a lot of investment going into financial services.

Interpretation
It is usually true that as the time horizon of an investment grows, the returns also grow. This can be seen in the chart, where the returns of the portfolio for three years and more have surpassed the benchmark of the Nifty 500 Index and the Nifty 100 Index.

The sum of the percentages of investment invested in each investment style and each sector shows that the balance amount is cash that portfolio managers might keep for investment at a better time in the market. A look at the investment style shows that the Portfolio is less risky because it has a lot more money invested in large-cap companies and very little in small-cap companies. Judgment diversification across different sectors also reduces the risk and giving more money to well-performing financial sectors will help the company grow.

Analysis of Risks of the Portfolios

Analysis of the returns of a portfolio of a PMS could give an idea of how much money invested in equity through the PMS route would grow. However, this must be backed up by an analysis of the risks that come with that. This can be done by looking at the capital market, the risk-free rate of return and the risk premium of the market, and so on. They use Standard Deviation and Beta to measure the volatility of returns, and Sharpe Ratio and Sharpe Ratio to figure out how risky a market is.

It was used because the Sharpe ratio is a better analysis to look at things than Alpha, which is used in other types of analysis. It's because Sharpe Ratios are more useful because the standard deviation of a fund's return is measured in absolute terms, not relative to an index. Jenson's Alpha, on the other hand, is only useful if a fund's R-squared is high, which the case with the standard deviation isn’t. It is also easier to compare the portfolios with the standard deviation-based Sharpe ratio than with Beta-based Alpha.

Findings

A minimum investment of at least 25 lakhs is required to use the Portfolio Management Service (PMS) offered by Asset Management Companies (AMC). This is because of SEBI regulations.

Investment in large-cap stocks makes the portfolio more stable. Investment in mid-and small-cap stocks has made more money, but it has also been more volatile. Absolute Freedom Portfolio and High Conviction Portfolio both use large caps to make small and mid-cap stocks less risky, so this is how they work.

The Portfolio Management Services offered by different Asset Management Companies (AMC) invest in equity based on the risk-taking interest of the person who wants to use them. A less risk-taking investor should invest in Absolute Freedom Portfolio, an investor who is willing to take some risk should invest in High Conviction Portfolio, and a more risk-taking investor should invest in Emerging India Portfolio in corporate.

When an industry or sector slows down, having a good amount of diversification can help protect you from the negative effects.

They all have a negative return up to six months, then it gets better up to one month. There are more good returns if you invest for at least three years or more. Direct investment in benchmark scrips doesn't give you as good an investment.

Conclusion

Effective Corporate Portfolio Management should mean that only money should be spent on change programs that are meant to help the business run better and make money. Also, Corporate Portfolio Management should make sure that all the company's projects are done together and in an integrated way, which increases the returns, reduces the risk of failure, and reduces the costs. Senior executives who show good corporate governance by setting up a system of internal control over change programs (CPM) would also show that they are doing a good job. Important thought should also be given to how the one-time task of setting up a Corporate Portfolio Management environment in an organization should be done.

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ANALYSIS OF SUCCESS FACTORS OF CAUSE-RELATED MARKETING IN INDIAN CONTEXT FOR NESTLÉ AND NANHI KALI- #EDUCATE THE GIRL CHILD

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ABSTRACT
Cause related marketing is a promotion strategy in which a firm or organization collaborates with a non-profit or social cause to promote their products or services. This strategy tries to establish a win-win scenario, where the company benefits from increased sales and brand reputation while also supporting a cause that aligns with its values and the interests of its customers. In this Paper, researcher did extensive literature review to analyse the success factor of cause related marketing in Indian context. The success of CRM initiatives depends on several factors, including the relevance of the cause to the brand, the credibility of the cause, the perceived genuineness of the brand's commitment to the cause, and the authenticity and transparency of the brand's commitment to the cause. Nestle aligned their strategy by identifying cause i.e. girl child education which was one of the most important issue India was facing.
Keywords: Cause Related Marketing, CSR, Brand Success,Brand Commitment, Brand Credibility

Introduction
As of 2020, there were 108.18 men for every 100 women in India's total population. Women make up 48.04 percent of the population, while men make up 51.96 percent.A complex mix of cultural, social, economic, and political reasons can be used to explain the variance in ratio in India. Male children have always been preferred above female children in Indian society because male children are traditionally valued more highly.This has given rise to a multitude of discriminatory practices involving female children, including education, starvation, etc. Due to a lack of schools, worries about their safety, and cultural beliefs that place a higher priority on male education, female children are sometimes denied access to education, especially in rural areas. Many forms of prejudice against female children have a long history and are strongly ingrained in social and cultural standards. Governmental laws, local programmes, and social change movements must all support attempts to advance gender equality, uplift women and girls, and stop discrimination.One of the initiatives that various organisations are making is cause-related marketing.

Varadarajan,Menon (1988)cause marketing is a process of formulating and implementing marketing activities that are characterized by an offer from the firm to contribute a specified amount to a designated cause when customers engage in revenue-providing exchanges that satisfy organizational and individual objectives.

In simpler terms, Cause Marketing refers to a marketing strategy in which a company partners with a social cause or charity and donates a portion of their profits to that cause, while also promoting their products or services. This approach allows companies to demonstrate their commitment to social responsibility, while also generating positive publicity and increasing sales.Usually, the business commits to giving the chosen cause a part of its sales or profits, or it may create a special product or service whose proceeds go to the cause. The company may also engage in other activities to promote the partnership, such as hosting events, creating social media campaigns, or featuring the cause in their advertising.

As customers have grown more aware of the social and environmental consequences of their purchases, cause-related marketing has grown in popularity in recent years.This approach allows companies to differentiate themselves from their competitors and appeal to consumers who are looking for brands that share their values and contribute to positive social change.

However, it is important for companies to approach cause-related marketing authentically and with a genuine commitment to the cause. Consumers can quickly spot insincere or superficial efforts, and this can backfire and harm the company's reputation. Therefore, it is essential for companies to choose causes that align with their values and that they can support meaningfully over the long term.

Cause-related marketing can significantly improve society by bringing relevant concerns to people's attention, providing funding for non-profit organizations, and promoting responsible corporate behaviour. By supporting companies that engage in cause-related marketing, consumers can help create a more sustainable and equitable society.

Cause-related marketing has several benefits for both the business and the non-profit or social cause that they collaborate with:

Increased brand awareness and customer loyalty: By associating with a cause, a company can enhance its reputation and build a positive image with customers. This can lead to increased customer loyalty and repeat business.

Enhanced brand differentiation: In a crowded marketplace, cause-related marketing can differentiate a brand from its competitors by demonstrating a commitment to social and environmental issues that customers care about.

Increased sales: Customers are often more likely to purchase products or services from a brand or company that supports a cause that they care about. This can lead to increased sales and revenue for the company.

Positive impact on society: Cause-related marketing can contribute to positive social and environmental outcomes by supporting non-profit organizations and social causes that work to address important issues.

Employee engagement: Employees often feel proud to work for a company that supports a cause, which can increase job satisfaction and employee retention.

Improved public relations: Cause-related marketing can generate positive media coverage and social media buzz, which can enhance a company's public relations and visibility.
Overall, cause-related marketing can be a powerful approach for companies towards building their brand, increase sales, and contribute to positive social and environmental outcomes. By collaborating with non-profit organizations and social causes, companies can demonstrate a commitment to corporate social responsibility and engage customers and employees in meaningful ways.

CSR Approach in India
The Companies Act of 2013 was a turning point since it made it urgent for businesses to support CSR. Initially, a few businesses that weren't contributing but were required to do so under the Act looked for inventive ways to "game" the system. The primary focus of CSR is often what happens to earnings once they made. Larger organisations are aware of the significance of CSR in the business framework for sustainable growth. The triple bottom line, which focuses on economic, environmental, and social performance, is another way that businesses consider CSR as a strategy for socially and economically viable development.

Despite being closely related to concepts and expressions like "business responsibility," "sustainable development," "philanthropy," "sustainability," "responsible business," "triple bottom line," "shared value," "value creation," "business ethics," "socio-economic responsibility," "bottom of the pyramid," "stakeholder management," and "corporate social performance," the term "Corporate Social Responsibility" (CSR) is frequently used in India.

Cause-related marketing and corporate social responsibility (CSR) are similar in that both entail businesses adopting initiatives outside of their normal business operations to have a positive influence on society and the society. The two ideas do, however, differ significantly in some important ways.

A company's voluntary efforts to include social and environmental concerns in their business processes and stakeholder communication are referred to as CSR. This can involve doing things like cutting back on carbon emissions, encouraging diversity and inclusion, encouraging employee volunteerism, and getting involved in the community. A company's overall business strategy and decision-making processes include CSR as an ongoing commitment.

Contrarily, cause-related marketing is a particular term of strategy in which a business collaborates with a non-profit group or social cause to advertise its goods and services while also raising awareness and support for the cause. Campaigns for a certain topic or cause are usually time-limited and subject-specific.

CSR and cause-related marketing can work well together despite their differences. Companies can show a long-term commitment to social and environmental issues by participating in CSR, and cause-related marketing can aid in generating awareness and support for certain causes or campaigns. Cause-related marketing can also be a means for businesses to highlight their CSR initiatives and show that they are dedicated to having a beneficial impact on society.The aim of this paper is to identify the success factor for the cause related marketing campaign in Indian context.

Literature review

Gupta , Sagar (2017**)** cause-related marketing helps in a positive brand image, enhancing customer loyalty, and differentiating the brand from competitors. It is important for an organisation to select a relevant cause, aligning the cause with the business's values, and communicating the cause effectively to the target audience.

Kureshi, Thomas (2016**)** cause-related marketing initiatives are prevalent in the Indian market, with consumers showing a high level of awareness and interest in such initiatives. There are several factors that influence consumers' responses to cause-related marketing initiatives including the relevance of the cause to the brand, credibility of the cause, and the perceived sincerity of the brand's commitment for the cause.

Thomas, Kureshi (2017**)**companies engaging in cause-related marketing should carefully consider the type of cause they support, with health-related causes being the most preferred by consumers. Companies should also consider the scope of the cause, the preference for local causes may vary depending on the context and cultural norms of the target audience.

Handa, Gupta (2020**)** brand-cause fit is positively related to consumer behavioural intentions in digital cause-related marketing campaigns. factors which influence cause related marketing are brand-cause fit, including cause relevance, cause image, and brand image.

Manasi Kumari, Patthey and Anute, (2022) SEO and Social Media marketing are extremely important for the company to make them visible. Luxury brands are known for their uniqueness and exclusiveness, so therefore it is very important for them to use the best SEO and Social Marketing strategies so that they can be able to target their prospective customers.

Gadhavi ,Shukla & Patel (2014**)** presence of a cause-related marketing campaign moderates the relationship between attitude towards the product and purchase intention. Companies can use cause-related marketing campaigns to strengthen the relationship between consumers' attitudes towards products and their purchase intentions. Cause-related marketing campaigns must align with the company's values and that resonate with consumers. The relationship between attitude towards the product and purchase intention was stronger when a cause-related marketing campaign was present.

Gupta, Chawla (2021**)** consumers' perceptions of cause-related marketing offerings are influenced by several factors, including the perceived fit between the brand and the cause, the credibility of the cause and the organization supporting it, and the emotional appeal of the cause-related marketing message. These factors are interrelated, with the perceived fit between the brand and the cause having the strongest direct effect on consumers' perceptions of cause-related marketing offerings.

Aggarwal, Joshi & Singh(2016**)** the motivations behind companies' engagement in cause-related marketing, including enhancing brand image, building customer loyalty, and contributing to social welfare. Cause-related marketing can serve as a win-win strategy for both companies and social causes, providing benefits to both parties.

Aggarwal, Singh (2017**)** purchase intention is significantly influenced favourably by cause participation. This means that consumers who feel a stronger connection to a particular cause are more likely to purchase products that support that cause. Cause involvement increases consumers' emotional attachment to a brand and strengthens their brand attitudes.

Pandey, Chawla, & Puri (2020)there are significant differences between Generation Y and Generation Z with respect to their attitudes and behaviours towards CRM. Generation Z Customers are more inclined to engage with firms that support social causes, to place a higher value on social responsibility, and to let CRM efforts affect them when making purchases.

Pandey, Chawla & Joung (2022**)** purchase intention and brand loyalty are significantly influenced positively by attitudes towards the CRM campaign. Customers are more likely to view the brand as trustworthy and socially responsible if they have a positive attitude towards the CRM effort. The kind of cause that the CRM campaign supported was a significant factor in determining attitude, intention, and loyalty. Customers are supportive of CRM campaigns that support causes related to health and education in both India and the Philippines.

Deb (2021**)** the mindset regarding the CRM effort is overwhelmingly positive. The influence of scepticism on purchase intention is moderated by religiosity. Particularly, consumers who were more religious experienced skepticism's adverse effects on purchase intention more severely.

Rathod, Gadhavi, & Shukla(2014**)** CRM can be an effective instrument for companies looking to enhance their reputation and increase purchase intention. However, the efficiency of CRM may depend on the type of cause supported, as well as the authenticity and transparency of the brand's commitment to the cause.

Preetha (2018)consumers are prospective to respond positively to CRM programs if they perceive the brand's commitment to the cause as genuine. Extent of consumer awareness and understanding of the cause, the effectiveness of the communication strategy used to promote the CRM program, and the perceived social impact of the program are the factors for success of the campaign.

Agarwal, Malhotra & Nisa (2019**)** CRM is an effective tool for creating positive social impact while also enhancing the reputation of organizations that engage in such programs.

Singh, Pathak (2020**)** consumers were more likely to engage with causes that are related to social issues, such as poverty and education, rather than environmental issues. Additionally, consumers were more likely to engage with companies that support causes that are directly related to their products or services.

Methodology

Researchers found very little research done in the field of factors responsible for successful cause related marketing in Indian context.The literature search was done via Google Scholar, Elsevier, Sage and Web of Science etc. using the keywords "Cause Related Marketing India" focusing on journal publications and their related citations. The findings from the literature review were analysed in a systemic way. Further these findings was analysed with Nestle Company's long running Cause Related Marketing campaign i.e. #Educategirlchild. Project Nanhi Kali was started in 1996 as a joint initiative between the K. C. Mahindra Education Trust (KCMET) and Naandi Foundation, with support from the Government of India. Nestle India Ltd. collaborated with the initiative in 2001 to enhance its outreach and impact.

Objective

1. To study Cause related marketing in the Indian context.
2. To investigate the relationship between corporate social responsibility (CSR) and cause-related marketing in India.
3. To identify the key success factors that led to the effectiveness of Nestlé and NanhiKali's #EducateTheGirlChild campaign

Observation from literature review for Success Factor for Cause related Marketing

Overall, the studies suggest that cause-related marketing (CRM) can be an effective strategy for companies to enhance their brand image, build customer loyalty, and contribute to social welfare. The success of CRM initiatives depends on several factors, including the relevance of the cause to the brand, the credibility of the cause, the perceived sincerity of the brand's commitment to the cause, and the authenticity and transparency of the brand's commitment to the cause. Customers' choices for CRM activities are significantly influenced by the nature and scope of the cause. A CRM campaign can improve the connection between consumers' perceptions regarding products and their intents to buy. In addition, consumers' impressions of CRM products are most directly influenced by how well the brand and the cause are viewed to fit together.Finally, the success of CRM initiatives may depend on the effectiveness of the communication strategy used to promote the program and the perceived social impact of the program.

Sucess Factor of CRM In india
Cause to the brand

Credibility of the cause

The perceived sincerity of the brand's commitment to the cause

The authenticity

Transparency of the brand's commitment

Figure1 :Success Factor of CRM in India from derived from Literature Review

Cause to the brand or "Brand-cause fit refers to the degree to which the values, image, and reputation of the brand and the social cause are perceived to be compatible and mutually reinforcing" Du, Bhattacharya Sen(2010). Lafferty, Goldsmith(2005) credibility of the cause refers to the extent to which the cause is perceived as genuine, trustworthy and capable of making a meaningful contribution to the social issue it represents.Mohr, Webb(2005)another definition of credibility of the cause suggest that it is a multidimensional construct that includes three components:

1. Competence (the ability of the organization to effectively address the social issue)
2. Trustworthiness (the degree to which the organization is perceived as honest, transparent and reliable)
3. Identification (the extent to which the organization's values and beliefs align with those of the cause it supports).

Perceived sincerity refers to the extent to which consumers believe that the brand's commitment to the cause is genuine, rather than just a marketing tactic to increase sales Liu, Ko(2017). In addition,Perceived sincerity of the brand's commitment to the cause involves consumers' beliefs that the brand is truly committed to the cause and that the cause is not being used solely for commercial purposes Thomas, Kureshi(2017).

Authenticity in cause-related marketing refers to the extent to which a company's commitment to a cause is genuine, honest, and consistent with the company's values and actions. It involves transparency and open communication with stakeholders about the company's motives for supporting a cause and the impact of its actions. An authentic approach to cause-related marketing is important in building trust with consumers and other stakeholders and can lead to positive outcomes for both the company and the cause. Mohr,Webb(2005).

Transparency of the brand's commitment in cause-related marketing refers to the extent to which the brand discloses relevant information about their cause-related initiatives and their impact on the cause. It involves clear and honest communication about the brand's intentions, actions, and outcomes related to the cause they support. Transparency helps to build trust and credibility with consumers, who are increasingly interested in the social and environmental impact of the brands they support Kotler,Lee(2008).

About Nestle India

The Indian branch of the international Swiss firm Nestlé is called Nestlé India Ltd. Gurgaon, Haryana, serves as the company's headquarters. Food, drinks, chocolate, and confections are among the company's product offerings.The business was incorporated on March 28, 1959, and Nestlé Alimentana S.A. promoted it through a subsidiary called Nestle Holdings Ltd.As of 2020("Bloomberg News.") the parent company Nestlé owns 62.76% of Nestlé India. The company operates Nine production sites across India in various cities.

About Nestlé and NanhiKali#EducateTheGirlChild
In order to educate girls in India, two organizations—Nestlé and Nanhi Kali—have been collaborating. The #EducateTheGirlChild movement seeks to end the cycle of poverty by giving education to poor girls in India.

In the communities it serves, Nestlé has been working to empower women and give children access to education as part of its Creating Shared Value (CSV) initiative. In order to help the cause, the business teamed up with Nanhi Kali, an Organisation that aims to provide education to poor girls in India.

Since 2017, Nestlé has supported the education of more than 3000 girls in India through this relationship. The business has been giving Nanhi Kali financial assistance, which is subsequently used to buy the girls' school supplies, including books, uniforms, and backpacks. Nestlé has actively participated in advancing the cause through a number of awareness initiatives and events in addition to providing financial support. Since 2012, Nestlé India has worked with Nanhi Kali to promote the education of disadvantaged girls in India. The alliance aims to encourage the advancement of future female leaders and promote education for girls.

("Nestle Gives Brands A New Look To Support Education For Girl Child.")On September 1st, 2016, Nestlé India extended its support to Nanhi Kali, further strengthening its commitment to the cause. With the objective of empowering girls from economically disadvantaged homes to break the cycle of poverty and become change agents in their communities, Nestlé India has been striving to provide education, vocational training, and scholarships to them through a number of projects.

Since then, Nestlé India has continued to support Nanhi Kali and the cause of girl child education through a number of initiatives and programmes, such as employee fundraising and volunteering, the creation of a digital learning platform, and the launch of cause-related marketing campaigns to increase awareness of the project and funds for it.

The #EducateTheGirlChild programme has had a huge impact. In addition to assisting females in getting an education, the programme has also helped to raise their general socioeconomic standing. Girls who receive an education are more likely to make greater salaries, live longer, and have fewer children. Also, they are more likely to have a favourable influence on their families and communities, which may promote greater social and economic advancement. Nestle India modified the packaging of some of its well-known products, including Maggi, Nescafe, KitKat, and Munch, as part of this campaign to include the Nanhi Kali logo to support the cause of female child education.

Nestle India promised to donate a share of the sales proceeds for each package of these items bearing the Nanhi Kali label to the Nanhi Kali initiative, which supports the education of impoverished girls.

The goal of Nestle India's project was to promote gender equality and increase public awareness of the value of educating girls.

Campaign Evaluation Based on the 5 Success Factors

Factor	**Evaluation**	**Explanation**
Cause to the brand	Positive	The cause of Project Nanhi Kali to the brand of Nestle India can be seen as a strategic move that aligns with the company's values, mission, and objectives.
The credibility of the cause	Positive	The credibility of Project Nanhi Kali is high due to Nestle's long-term commitment, partnerships with established NGOs, and transparent communication about the initiative's progress and impact.
The perceived sincerity of the brand's commitment to the cause	Positive	The perceived sincerity of Nestle's commitment to the cause of girls' education in India can be evaluated based on the longevity of the project, the transparency of the project, and the alignment of the cause with Nestle's values and business objectives.
The authenticity	Positive	Nestle's actions indicate a genuine commitment to the cause of improving education for underprivileged girls in India, which enhances the authenticity of their involvement in Project Nanhi Kali.
Transparency - brand's commitment to the cause.	Positive	Nestle's commitment to transparency helps to enhance the perceived sincerity and credibility of its support for Project Nanhi Kali.

Table 1:Evaluation ofCampaign Based on the 5 Success Factors

Impact of Campaign on Nestle India

The initiative has received recognition and awards from various organizations, including the World Business Council for Sustainable Development and the Confederation of Indian Industry. According to a statement by Nestle India, the initiative generated over 4.4 million digital impressions and resulted in a significant increase in sales of the products with the Nanhi Kali logo.

YEARLY RESULTS OF NESTLE INDIA (in Rs. Cr.)	DEC '22	DEC '21	DEC '20	DEC '19	DEC '18	DEC '17	DEC '16	DEC '15	DEC '14	DEC '13
Net Sales/Income from operations	16,787.43	14,633.72	13,290.16	12,295.27	11,216.23	9,952.53	9,159.28	8,123.27	9,806.27	9,061.90
Other Operating Income	77.63	75.69	59.87	73.63	76.04	57.07	64.52	52.04	48.57	39.15
Total Income From Operations	16,865.06	14,709.41	13,350.03	12,368.90	11,292.27	10,009.60	9,223.80	8,175.31	9,854.84	9,101.05

Figure 2: Financial of Nestle India (2013-20122)
Source: https://www.moneycontrol.com/financials/nestleindia/balance-sheetVI/NI.

Looking at the financial results of Nestle India over the past 10 years (2013-2022), we can see that the company has experienced consistent growth in net sales/income from operations. From 2013 to 2022, Nestle India's net sales increased from Rs. 9,061.90 crore to Rs. 16,787.43 crore, indicating a CAGR of around 7.5%.From the table provided, we can see that the total income from operations for Nestle India has been increasing steadily from 2013 to 2016. However, there was a significant increase in total income from operations from 2016 to 2017, where it increased from Rs. 9,223.80 crore in 2016 to Rs. 10,009.60 crore in 2017. The total income from operations has continued to increase since then, reaching Rs. 16,865.06 crore in December 2022.

Findings

According to a review of the literature on the success factors for cause-related marketing in the Indian context, successful partnerships need that the cause and the brand are a good fit and that the brand is seen as authentic, credible, and committed to the cause. The perception of "cause washing" or dishonest intentions must be avoided at all costs, therefore communication must be transparent **.**Also, based on Nestle India's financial data, we can conclude that the company's sales increased significantly following the introduction of programme exclusives in the form of cause-related marketing, a type of marketing strategy that supports a cause. Because cause related marketing is a strategy used by organisations for improving reputation, brand image, sale etc. The #EducateGirlChild Initiative by Nestle had its strategy examined together with the Indian factors for the success of cause-related marketing, which were gleaned from a review of the literature.

Conclusion

It can be said that cause-related marketing can be an effective way for companies to not only make a positive social impact but also boost their brand image and increase sales. However, for such partnerships to be successful, it is crucial for the cause and the brand to have a good fit, and for the brand to be perceived as authentic, credible, and committed to the cause. Transparency in communication is also important to avoid any perception of "cause washing" or insincere motives.

The success of CRM initiatives depends on several factors, including the relevance of the cause to the brand, the credibility of the cause, the perceived sincerity of the brand's commitment to the cause, and the authenticity and transparency of the brand's commitment to the cause. In the case of the Nanhi Kali project, the partnership with Nestle appears to have been successful in achieving its intended goals, as the project has reportedly been able to expand its reach and provide education to more girls as a result of the funding received. However, as with any cause-related marketing partnership, it is important to continue to monitor and evaluate its impact over time. Nestle aligned their strategy by identifying cause ie girl child education which was one of the most important issues India was facing.

Overall, cause-related marketing can be a win-win for both the brand and the cause, but it requires careful consideration and execution to ensure its effectiveness and authenticity. Further research can be done on this campaign on brand loyalty.

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ANNOUNCEMENT OF BONUS ISSUE & ITS EFFECT ON THE EQUITY SHARES MARKET PRICE OF NSE INDIA LISTED COMPANIES

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ABSTRACT
An attempt is made to gauge the reaction of the announcement of bonus,on the market price of equities, in terms of its effect on returns inIndian environment.The impact is captured for 61 days (-30 0 +30) event window. Present study consists of123 selected bonus announcements, relevant to the companies, listed on National Stock Exchange. The selected announcements are spread across 13 years ranging from 1st April 2006 to 31st March 2019. Event study methodology is used with market model. Cross sectional AAR is calculated and are tested for the entire event period. In addition 30 days pre & 30 days post announcement day, effects are also observed. Besides, CAAR- Cumulative Average abnormal return is tested for examining the cumulative effect.The study reveals that the AAR reaches the peak on the announcement day. The results of T statistics at 5% LOS provide adequate confirmation of significant positive AAR, clustered on and the days surrounding the event day thereby rejecting the null hypothesis at 5% LOS.Strong rejection at 1%LOS is observed on D-2, D-1& D0 days. The cumulative average abnormal returns (CAAR) take off from the days before the announcement with a gradual rise, to reach the peak on the D+1 day and further a decline in the immediate post event window is noticed. 14significantCAAR is observed at 5%LOS with presence of strong rejection at 1%LOS for 8 CAAR.Paired T test result showed strong rejection as significant difference of AAR at 1% in 30 day's pre-and 30 days post-announcement day is discovered.Overall, it can be said that the selected bonus announcements create a significant impact on the equity shares market price around the event window. Hence, it sounds reasonable to conclude that the bonus announcement is viewed as a positive action by the market & thereby, these freebies offer an opportunity for wealth creation.
Keywords: Bonus, Event study,Market Model, AAR, CAAR.

Introduction

'Free Shares', sounds interesting…In the world of finance these shares are popularly known as bonus share. Without charging a penny these extra shares are bestowed by a company to its present shareholders on a Pro-rata Basis & there is no dilution of shareholder's interest in the company. Bonus is a non-monetary and mandatory corporate action.Suppose a company comes up with a bonus issue of 1:2, it means for every 2 shares held by the shareholder in the company, he will get one share without any charge as a freebie.The reasons for bonus can be varied, to reward the shareholders, to infuse liquidity, to arrest the share price moving southwards, or to face the liquidity crunch. One of the advantages of bonus issue from a company viewpoint is that the existing cash reserve of the company can be maintained.The notion in finance theory states bonus issue does not increase value of shares as it is a mere transfer from reserves to capital. There is a depletion in the reserves with an equal rise in the company's share capital. The number of shares with the shareholders is increased and there is a proportionate reduction in price. So in terms of wealth effect, the impact should be immaterial, as the increase in the number of shares tends to compensate, with fall in price ex-bonus, with no change in the total equities. Therefore it should not have real economic significance for investors however the delight as the bonus announcement news hits the market, poses certain questions. Does the script pick up with the pace of announcements, does it remain stagnant or does it head for a nosedive on announcement?Is there any effect in terms of significant return on the announcement day? Is it confined to announcement day itself, or spread in the pre post days of the announcement? Is there any difference of the impact in the pre and post announcement period of the announcement day? Do the shareholders have an opportunity to create wealth? Here an attempt is made to unfold these questions by assessing the reaction on the market price of equities,due to bonus announcement, in terms of its impact on returns.

Literature Review

Masse (1997), conducted a study to inspect the effect around bonus announcements on the listed companies in Toronto exchange Canada & found presence of positive extraordinary returns which were significant. Papaioannou, Travlos, Tsangarakis (2000) Presence of significant excess returns on announcement day was not observed. The returns were not statistically different from zero in the Greece market. Pathirawasam (2009) study at Colombo stock exchange Sri Lanka offered support to information signalling hypothesis. Ahsan, Chowdhury & Sarkar (2014) **c**aptured the effect in Dhaka bourses Bangladesh- extraordinary returns encompassing the period surrounded by the announcement and on stock dividend announcement date itself were revealed. Findings also document inconsistent results with respect to sectoral decomposition.Four sectors showed positive reaction while two sectors engineering and textile showed opposite results to the proven theories. The study has highlighted the concern of leakage of information. Ansari, Hussien (2017) documented positive impact on share price in the Egyptian Stock Exchange. Moving to the studies in the Indian context Obaidullah (1992) has documented positive reaction on bonus announcement as manifested by CAAR. The study consisted of seventy five stock dividend issues .The period of study was 1987-89.The study mentions about the rise in the trend prior to the announcement period. Mishra, , (2005) with 46 bonus announcements during 1998 to 2004 of Indian listed companies, revealed the stocks showed positive abnormal returns around eight to nine days prior to the announcement. They attributed the possibility of information leakage. The post announcement returns were found to be negative which were significant on the 4th day. Malhotra, Thenmozhi, & ArunKumar, G.(2007) observed negation of abnormal returns around the stock dividend announcement date for chemical companies in India. It conveyed markets under reaction since negative reaction after announcement was observed. Dhar ,Chhaochharia (2008) documented abnormal return for bonus announcement. The reaction to the announcement was found to be significantly positive in the Indian stock Market. Sharma , Singh (2009) Studied 25 bonus issues of companies, though the results were positive but they were not statistically significant. Joshipura, (2009).Sufficient evidence of positive abnormal return ahead of the announcement & on bonus announcement day were found. Ray (2011) the bonus issues revealed a negative AAR of -1.3 percent on the announcement date. However it was not statistically significant. Alex (2017) analysed market Reaction of 57 companies around the Bonus Issues in Indian Market, the study carried out for sample companies in India documented average abnormal returns on 5th day , however it was not found to be statistically significant. So the study claimed that bonus announcements do not affect the share prices in India. Kaur , Singh (2009) conducted the study pertaining to the period from January 1999 to December 2004 regarding the reactions of the stock market on the of stock dividend announcements by listed Indian companies on the BSE. Based on the results, abnormal returns have been observed around stock dividend announcements. Moreover, support is found for the signalling hypothesis as well as for optimal price hypothesis. Sharma, Anute, & Ingale (2021) the investor should learn about the development taking place in the marketplace. Investors should keep in mind before investing in the share market that trading has both positive and negative effects. Kumari , Pushpender (2019) did not find reaction to announcement of stock dividend on Indian bourses. No significant reaction was observed on the share price on the bonus share announcement.

Objectives

1. To find the bonus announcement effect on market price of equity shares in the event window.
2. To analyze the cumulative effect of bonus announcements on returns.
3. To examine the announcement effect of bonus before (-30) and after (+30) days of the event day.

Hypothesis

H0 1: There is no significant reaction on market price of equity shares due to announcement of bonus around (-30,0, +30) days of the event window.

H1 1: There is significant reaction on market price of equity shares due to announcement of bonus around (-30,0, +30) days of the event window.

H0 2: There is no significant (CAAR) depicted in the (-30,0, +30) days event window due to bonus announcement of equity shares.

H1 2: There is significant (CAAR) depicted in the (-30,0, +30) days event window due to the bonus announcement of equity shares.

H0 3: There is no significant difference in the pre- announcement day (-30) days AAR and post announcement day (+30) days AAR upon the bonus announcement.

H1 3: There is a significant difference in the pre-announcement day (-30) days AAR and post announcement day (+30) days AAR upon the bonus announcement.

Research Methodology

Secondary data is collected from National Stock Exchange, Capitaline Database, Economic Times, Money control. In addition Articles & Research papers are also referred. The study covers 123 selected bonus announcements spanned across 13 years ranging from 1st April 2006 till 31st March 2019. Event study methodology is used in the study in order to find the impact on the stock returns.(MacKinlay, A. C. (1997), Brown, S. J., & Warner, J. B. (1980). Brown, S. J., & Warner, J. B. (1985).

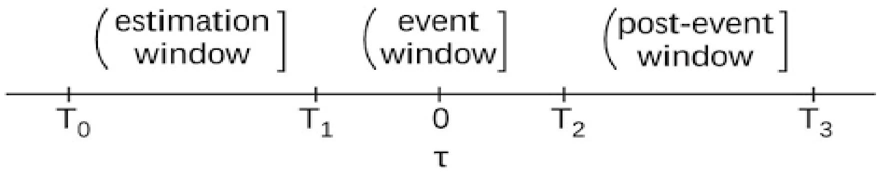

Figure 1: Event study timeline: (MacKinlay, A. C. (1997).)

Estimation period: Time period (days) "T_0-T_1"
Event window: Time period (days) "T_1-0-T_2"
Event date: Day T "0"
Post-event window Time period (days) "T_2-T_3"
Market model is used for this study. Event date considered is the board meeting date for bonus announcement. T "0" (If the announcement is made on a holiday then the following trading date is considered.). The event window [T_1 0 T_2] is [-30 0 +30. T_0 to T_1 is the estimation window of 120 days. Nifty 500 - Index of National Stock Exchange India is considered as the surrogate for market portfolio. Daily stock returns and market returns are computed as below:

$$R_{it} = (P_{it} - P_{it-1})/P_{it-1}$$

Where,
R_{it}Is the daily stock return

$$P_{it} \& P_{it-1} \ are\ the\ daily\ prices\ for\ Company\ i\ at\ time\ t\ \& t-1\ respectively$$

$$R_{mt} = (I_t - I_{t-1})/I_{t-1}$$

Where,

$$R_{mt}\ is\ the\ daily\ market\ return$$

$$(I_t - I_{t-1}) are\ the\ daily\ index - (Nifty\ 500)\ values\ at\ time\ t\ \&\ t-1\ respectively$$

Normal Return:

$$NR_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

$$NR_{it}\ is\ \ the\ observed\ daily\ return\ of\ the\ stock\ for\ the\ company\ i\ at\ time\ t,$$

$$\alpha_i\ is\ estimate\ of\ the\ intercept\ for\ stock\ of\ company\ i,$$

$$\beta\ is\ the\ estimate\ for\ beta\ of\ stock\ of\ company\ i,$$

$$R_{mt}\ is\ the\ observed\ daily\ return\ for\ the\ market\ index\ at\ time\ t$$

$$\varepsilon_{it}\ is\ the\ residual\ error\ term$$

Abnormal Return: it is the excess return computed as daily stock return over the normal return.

$$AR_{it} = R_{it} - NR_{it}$$

Where,

$$AR_{it}\ is\ the\ Abnormal\ Return\ of\ stock\ for\ company\ i\ at\ time\ t$$

$$R_{it}\ is\ daily\ stock\ return$$

$$NR_{it}\ is\ the\ normal\ Return\ for\ the\ company\ i\ at\ time\ t$$

Average Abnormal Return (AAR_{it}):Cross-sectional $AAR_{it}$are computed as below:

$$AAR_{it} = \frac{\Sigma AR_{it}}{N}$$

Where,

$$AAR_{it}\ is\ the\ Average\ Abnormal\ return\ of\ stocks\ i\ at\ time\ t.$$

$$AR_{it}\ \ is\ the\ abnormal\ return\ of\ the\ stock\ for\ the\ company\ i\ at\ time\ t$$

$$N\ is\ the\ number\ of\ observations.$$

Cumulative Average Abnormal Returns: (CAARs): Computation of CAAR is done by aggregating the AAR_{it} for the event window

$$CAAR = \sum \quad AAR_{it}$$

Where,

$$AAR_{it}\ is\ the\ Average\ Abnormal\ return\ of\ stocks\ i\ at\ time\ t.$$

Testing Of Hypothesis: Traditional Brown and Warner method is used to calculate the t statistic. The test statistic for AAR on day t in the event window is as below:

$$t\,AAR_t = \frac{AAR_t}{S_{AAR}}$$

$$S_{AAR}^2 = \frac{1}{M-2}\sum_{t=T_0}^{T_1} \left(AAR_t - \underline{AAR}\right)^2$$

Where, (T_0, T1) is the estimation window and

$$\underline{AAR} = \frac{1}{M}\sum_{t=T_0}^{T_1} AAR_t$$

The test statistic for testing CAAR is

$$t_{CAAR} = \frac{CAAR}{\sqrt{T_2 - T_1}S_{AAR}}$$

For testing before & after event effects Paired T Test is used

Results and Discussions: The results obtained are as below:

COUNT	AAR	ARR (%)
No. of Days : Positive	32	52.46
No. of Days : Negative	27	44.26
No. of Days : Zero	2	3.28

Table 1: No. & Percentage -Positive, Negative, Zero _AAR
(Source generated by researcher)

Table No.1 shows that the AAR is positive for thirty-two days which is 52.46 % more than half of the days in the event window. Negative returns and zero returns are observed for 27 days _44.26 % and 2 days _3.28% respectively.

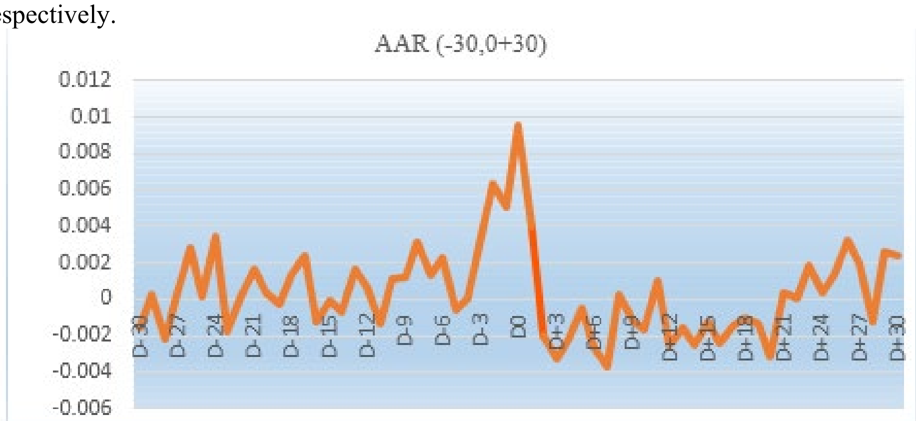

Figure 2: Event Window AAR (Source generated by researcher)

The above figure 2 shows the increase in AAR in the immediately preceding days of the announcement day. Strikingly it reaches the peak on the event day Further days the fall in AAR is visible.

BONUS_ W30	AAR	TSTAT_AAR
D-2	0.0063	3.4265**
D-1	0.005	2.7132**
D0	0.0095	5.1724**
D+1	0.004	2.1989*
D+7	-0.0037	-1.9962*

**, * Significant at 1%, & 5% α =0.05 T Critical= 1.9796, α =0.01 T Critical= 2.6167
Table 2: Significant AAR Days (Source generated by researcher)

Table 2 presents the results for AAR for a sixty-one -day event window (-30 0 +30). It portrays the (AAR) & the t-statistic for α =0.05 and α =0.01. Null hypothesis H0 1 is rejected strongly at 1% LOS which comprises the event day. Two consecutive days' pre-event D-1 & D-2 & on D+1 it is rejected at 5 % LOS For positive AAR.Further negative returns are found to be significant on D+7 day.

CAAR:In order to evaluate the net magnitude the total returns are cumulated for the entire window period.

COUNT	**CAAR**	**CAAR (%)**
Positive	55	90.16
Negative	6	9.84
Zero	0	0

Table 3: No. & Percentage -Positive, Negative, Zero _CAAR for (-30, 0, +30 window)
(Source generated by researcher)

Table 3 exhibits the No. & Percentage -Positive, Negative, Zero _CAAR. The positive CAAR witnessed are 55 (90.16%) ,with only 6 negative CAAR (9.84 %) at the beginning of the window, during the pre-event period are seen.

BONUS_ W30	**CAAR**	**TSTAT_CAAR**
D-2	0.0237	2.3912*
D-1	0.0287	2.8463**
D0	0.0382	3.729**
D+1	0.0423	4.059**
D+2	0.0403	3.812**
D+3	0.037	3.4449**
D+4	0.0348	3.1952**
D+5	0.0343	3.1031**
D+6	0.0317	2.8283**
D+7	0.028	2.4671*
D+8	0.0282	2.4494*
D+9	0.027	2.3208*
D+10	0.0254	2.151*
D+11	0.0264	2.2095*

**, * Significant at 1%, & 5% α =0.05 T Critical= 1.9796, α =0.01 T Critical= 2.6167
Table 4: Significant CAAR Table (Source generated by researcher)

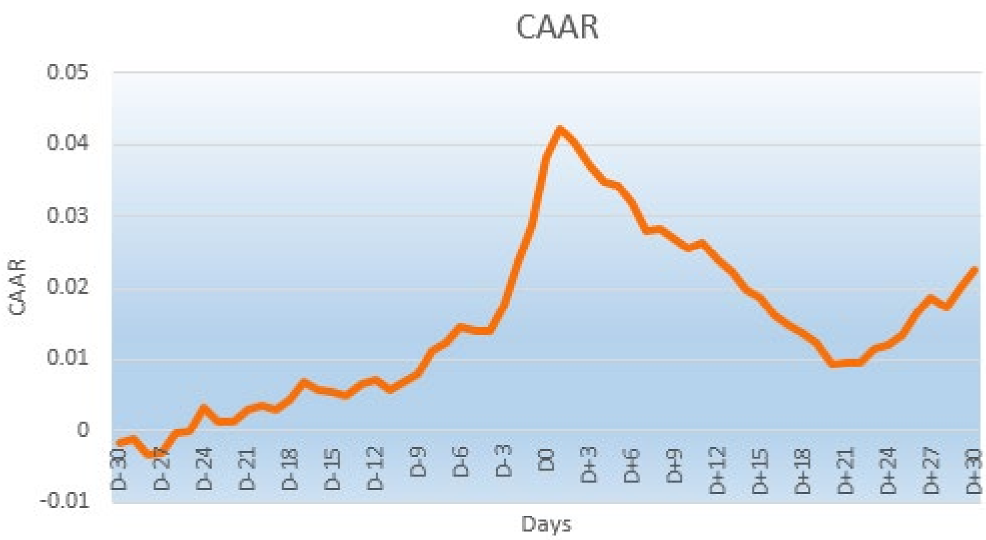

Figure 3: Event Window CAAR (Source generated by researcher)

Table 4 and Figure 3 shows the CAAR takes off from the commencement of the pre event window (-30,0+30) and displays a steady growth from -30 day till it reaches the peak on D+1 followed by a gradual downward movement. A reverse direction is visible where a pick up is seen from day +22 CAAR onwards till the end of the event window. The null hypothesis H0 2is rejected for 14 CAAR fromD -2 to D+11 days at 5% LOS. The strong rejection is captured for 8 CAAR from D-1 to D+6. Whereby the null hypothesis is rejected at 1 % LOS. Further in order to test the effect thirty days earlier and thirty days after the event day. Paired sample t test is applied, the results are as below:

PAIRED T TEST FOR AAR								
Before (Mean)	**After (Mean)**	**Difference of Means**	**p-value**	**Calculated t-Value**	**Critical t-Value 5% LOS**	**Decision at 5% LOS**	**Critical t-Value 1% LOS**	**Decision at 1 % LOS**
0.0010	-0.0005	-0.0015	0.0005	3.5844	1.9796	H0 Rejected	2.6167	H0 Rejected

Table 5: Paired T Test Result (Source generated by researcher)

The above table reveals that the average AAR has reduced in the post event window as compared to pre event window. The difference is significant and strong rejection of null hypothesis H0 3 is evident at 1%LOS.

Conclusion

The study examined the stock price reaction to selected123 bonus announcement by using event study methodology with market model. It is evident that the bonus announcements generate statistically significant AAR around the announcement. The rejection of null hypothesis on the event day and immediate post and pre event windows is seen. Observations reveals the rejection of null hypothesis around the event window at 5% LOS and strong rejection is also seen at 1% LOS. The before and after effect of the announcement shows the difference in AAR is also significant. It is noticed that AAR is highly significant & reaches its peak on 0 day (Event day).The rise in CAAR is gradual till D+1 day, with a drop in the immediate surrounding days.14 significant CAAR are observed at 5% LOS with presence of strong rejection at 1% LOS for 8 CAAR.Overall, it can be said that the selected bonus announcements create a significant impact on the equity shares market price around the event window. Hence, it sounds reasonable to conclude that the bonus announcement is viewed as a positive action by the market & thereby, these freebies offer an opportunity for wealth creation.

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ASPIRATIONAL DISTRICTS PROGRAMME (ADP): UNLOCKING POTENTIAL THROUGH FISCAL FEDERALISM

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ABSTRACT
To overcome the issue of horizontal imbalance, persisting largely across and within the states in India, and to promote the spirit of competitive & cooperative federalism, the NITI Aayog has initiated 'Transformation of Aspirational Districts' Programme (ADP) since April 2018. The objective of this programme is to monitor the real-time progress of these Aspirational Districts based on 49 indicators from 5 identified thematic areas. After four years of implementation of ADP, assessment of the given themes of selected districts has happened in 2022.
This paper gets divided into two sections. The First section focuses on details of ADP and its themes and their assessment (delta ranking), etc. In the second section of this paper, researchers have chosen Maharashtra State, and the selected districts to study and analyse the process of assessment of these districts based on Five ADP themes. Here, baseline scores and rankings of the districts in 2018 and composite scores and rankings in 2022 are majorly taken up to comment on the districts' performance on selected parameters. Researchers have extensively used secondary data sheets for this analysis and few formal as well as informal interactions with the ADP stakeholders.
Keywords: Aspirational districts, fiscal federalism, Health, Education, Finance, Skill Building.

Introduction
On Purchasing Power Parity (PPP) basis Indian Economy Continues to be the World's third largest economy in the World. (Press Information Bureau (PIB), GoI) this claim is backed by the World Bank data too. Despite this robust growth indicator, the data on Human Development Index (HDI) or rise in the standard of living of people portrays a completely contrasting picture with India's global ranking at 135 out of 189 countries with a score of 0.645. This clearly underlines the need for Public Policy with reference to achieving of major Sustainable Development Goals (SDGs) to enable a good quality life to the Indian masses. In addition to the above indicated picture of the HDI ranking, the states in India are more vulnerable due to the typical nature of Fiscal Federalism as the system gives limited autonomy to the states and thereby the states struggling to enhance their respective HDI values. The Finance Commissions being a statutory body in India, enables the states to correct the vertical imbalances in this Fiscal Federalism but then horizontal imbalances persist largely across and within the states in India.

The Aspirational Districts Programme (ADP) is a program initiated by the Government of India to transform the 112 most backward districts in the country into model districts through a convergence of central and state schemes. The program aims to address the economic, social, and developmental gaps in these districts and unlock their potential for growth and development.

The ADP operates on the principle of fiscal federalism, which involves the transfer of funds and decision-making power from the central government to state and local governments. The program incentivizes states to focus on these aspirational districts by providing additional funding for schemes and programs, based on their performance.Deb (2021).The ADP identifies key performance indicators (KPIs) across five sectors - health and nutrition, education, agriculture and water resources, financial inclusion and skill development, and basic infrastructure. These KPIs are used to measure the progress made by the districts and to incentivize them to improve their performance.Marquez, (2019); Alderman (2007). The program uses a bottom-up approach, where the district administration and local communities play a crucial role in identifying the key challenges and developing solutions that are tailored to the local context. This approach ensures that the program is responsive to the needs of the communities and that the interventions are effective in addressing the challenges faced by the districts. Storper (2005).

The ADP has seen some notable successes, with several districts making significant progress in areas such as health and nutrition, education, and agriculture. The program has also helped improve the quality of life for people in these districts by providing access to basic services and infrastructure. Irshad (2022).

Literature Review

Report of the high-level committee on Balanced Regional Development Issues in Maharashtra (2013) (Report of the High-Level Committee on Balanced Regional Development issues in Maharashtra, October 2013), emphasises on greater empowerment and accountability at regional level and local level to achieve balanced development on a sustainable basis. Same report has proposed policy measures for tribal areas of the State, ensuring drinking water and basic healthcare, etc. The above Committee formation and its recommendations have its deep roots in the Maharashtra Economic Development Council's reports and publications. (Maharashtra Economic Development Council 1976 Report on Regional Imbalances in Maharashtra, 1976)

Hatekar (2013) in their analytical work published in Economic and Political Weekly, 2013, tried assessing inter-district inequality based on the per-capita income of the region. Recently, Hatekar (2013) along with Azim Premji University, developed the district level ranking based on parameters which are close to the aspirational district parameters.

While doing this research we have also referred to some of the books and research papers, which are not directly referred to in our writings but some of them are mentioned in the reference list for the readers' interest's sake. To overcome the issue and to promote the sense of competitive & cooperative federalism, the NITI Aayog has initiated 'Transformations of Aspirational Districts' Programme (ADP) since April 2018. (Aayog, 2018)

The objective of this programme is to monitor the real-time progress of these Aspirational Districts based on 49 indicators from 5 identified thematic areas with specific weightages as Health (30%), Education (30%), Agriculture and Water resources (20%), Basic Infrastructure (10%) and Financial Inclusion and Skill Development (10%). The selection of these five themes is because they have a direct bearing on the quality of life and economic productivity of citizens. In a Quasi-Federal structure in India, the real growth drivers are the states through their local administration. This role of the local and state governments is very well brought out by the policy document on Aspirational Districts which says, "We need to identify existing aspirations in the districts and channelise them to create a ripple effect for transforming Aspirational Districts. (Transformation of Aspirational Districts - A New India by 2022, 2022)

The development of every village of these 115 districts is vital to our commitment to social justice". This programme aimed at transforming 115 districts that were identified from across 28 states and covered Gram Panchayats (8,603) across these districts. The three core aspects of the programme are: 3 C's Principle - 1Convergence (of Central & State Schemes) 2. Collaboration (of Central, State-level 'Prabhari' Officers & District Collectors) 3.Competition among districts

Themes	Weightage	Focus area
Health &Nutrition	30%	Pre- and post-natal care, contagious diseases, growth of health infrastructure. Severe Acute Malnutrition, supplementary nutrition under ICDS
Education	30%	learning outcomes at primary and secondary level, students' performance in Mathematics and Language, infrastructure pertaining to education institutions such as girls' access to toilets, electricity supply, drinking water.
Agriculture Water resources	20%	improving access to water management as well as market access for farmers, improved agricultural inputs, livestock

Financial Inclusion Skill Development	10%	six indicators for Financial Inclusion which include improved access to bank accounts through Pradhan Mantri Jan Dhan Yojana, disbursement of loans under Pradhan Mantri Mudra Yojana skill development includes both short- and long-term training schemes and the number of apprentices trained
Basic infrastructure	10%	housing water access, electricity, and road connectivity. It mainly involves community level infrastructure

TableNo.1:ADPStructureSummary.
(Source: https://www.niti.gov.in/aspirational-districts-programme)

Focused at district level and instituted by states, the programme focuses on the strengths of local governments to accelerate the realisation of SDGs aspirations for communities, households, and individuals in our country. This programme thus highlights the collaborative nature with an attempt to converge schemes across the sectors at the national, state or district levels. It aims to improve coordination among central and state governments to improve social development indicators. "Aspirational Districts Programme: An Appraisal" 2020, by the UNDP Report, "Aspirational District Programme a global example in enlisting sub-national government, with multi-stakeholder partnerships, to ensure that SDG progress becomes real in the eyes of people in their daily lives. The programme is not only replicable within India, but also across the globe". ADP has given attention to districts otherwise neglected due to their lower performance. The funding for the programme is provided by the Union government and the recent budget 2023-24 allocated Rs.60,000 for Har Ghar, Nal Se Jal Scheme as a part of ADP. This is the best collaborative effort of the Union and the States through the local governance by the district level authorities.

This programme used the Delta Ranking Method that measures incremental changes in performance indicators on a monthly basis. The methodology adopted by NITI Aayog for this purpose, employs a mix of self-reported data entered by the selected districts. The districts were chosen by senior officials of the Union government in consultation with State officials. The progress of the districts was gauged on the basis of Resilience: positive changes that are added to the development capacity of the districts and secondly Vulnerability: a set of negative indicators that would hinder ability of districts to attain their development goals. The Champions of Change (CoC) Dashboard was developed solely for the purpose of tracking and measuring growth.

To shortlist the states, a Composite Index of deprivation was constructed using a range of socio-economic indicators. The Composite Index comprised the challenges faced by the districts in terms of poverty, poor health, nutrition and education status and infrastructure deficiencies. While clarifying the role of this programme, the NITI Aayog has expressed, "After several rounds of consultations with various stakeholders, 49 key performance indicators have been chosen to measure progress of the districts. Districts were prodded and encouraged to catch-up with the best district within their state, and subsequently aspire to become one of the best in the country, by competing with, and learning from others in the sense of competition & cooperation-based federalism."

Objectives of the Study
1.To understand the concept of Aspirational District with reference to fiscal federalism in India.
2. To study the performance of aspirational districts in Maharashtra
3. Understanding the challenges and loopholes in transforming these aspirational districts and suggesting some policy prescriptions.

Methodology
For this paper, researchers have chosen Maharashtra State, and selected districts to study and analyse the process of assessment of these districts based on Five ADP themes. Researchers have extensively used secondary data sheets for this analysis and few formal as well as informal interactions with the ADP stakeholders as the source of primary data.

Maharashtra State

Out of the total 112 Aspirational Districts, four districts were chosen from Maharashtra in 2018 on these bases. Selected districts in Maharashtra are facing deep rooted inequalities and pockets of instability. Most of these districts are located in remote areas, having more tribal population. Bringing these tribes into the mainstream is a stupendous task. These factors continue to hinder the growth and make it more difficult for any development programmes to be implemented. This is in big contrast with the other districts of Maharashtra and looking at the progressive status of this state, vouching on high per capita income, industry spread, strong agriculture base, literacy rate and reduction in poverty rate, etc. Challenge here is to minimize this contrast and achieve fair uniformity in the district's progress on account of decent standard of living for all.

District name	**Rank**	**Delta Score**
Washim	7	13.8
Osmanabad	52	5.7
Nandurbar	53	5.7
Gadchiroli	72	4.4

Table No.2 Ranks of ADP in Maharashtra
(Source: https://www.niti.gov.in/aspirational-districts-programme)

These ranks of the AD in Maharashtra clearly indicates that out of these four districts, the performance of Washim district was much better in 2018 with its rank much higher and the rate of change (incremental) in the given parameters too was quite impressive. The ADP has aimed at the Real time data and accordingly tapping the potential of these districts in transforming them by 2022. This brings us to the comparison of these four districts based on the data in 2018 and 2022 for all the five parameters and within those parameters with reference to few sub-indicators under each parameter. Let us have a look at these data for 2018.

Themes	**Districts' Scores and Ranks (Composite)**			
	Washim 54.5 and 112	Osmanabad 63.8 and 65	Gadchiroli 58 and 80	Nandurbar 47.8 and 106
Health and Nutrition	60.3 (71)	70.8 (55)	60.9 (89)	51.1 (92)
Education	71.5 (07)	80 (31)	78 (31)	57 (31)
Agriculture and Water resources	18.8 (112)	23.7 (38)	16.3 (84)	15.8 (41)
Financial inclusion and Skill Development	18.3 (110)	23.1 (78)	25.8 (12)	24.5 (112)
Basic Infrastructure	72.4 (98)	90 (88)	78.4 (74)	74 (96)

Table No.3 - Relative Positions of ADP
(Source: http://championsofchange.gov.in/)

The above table shows the relative positions of these four ADs in Maharashtra. In terms of the Ranks as well as scores, Nandurbar and Washim are at the last. Osmanabad had been better than others in terms of the Rank as well as the score. If we look at the five parameters, Osmanabad has done well in the case of Health and Nutrition, Education, Agriculture and Water resources and Basic Infrastructure too. The only parameter where it lagged was the financial inclusion and Skill Development. This could be due to the low coverage of various schemes of financial inclusion and skill development in Osmanabad. The worst performance was of Nandurbar except for Financial inclusion and Skill Development as well as Basic Infrastructure where Washim performed the worst. So, the ADP has offered financial assistance as well as capacity building for potential development of these districts, otherwise would have been neglected due to such low performance. After four years of inspection with the Real time data, it is interesting to look at these states' performance by the end of 2022 and then compare and/or contrast the performance.

Themes	**Districts' Scores and Ranks (Composite)**			
	Washim 55.8 and 58	Osmanabad 59.5 and 103	Gadchiroli 51.4 and 85	**Nandurbar 57.7 and 54**
Health and Nutrition	**78.7** (78)	**83.2** (92)	**77.4 (87)**	**71.2 (41)**
Education	63.2 (23)	**62.7 (12)**	53. 5 (**18**)	**75.2 (23)**
Agriculture and Water resources	**23.9 (65)**	**37** (61)	15.8 (**74**)	**22.3** (46)
Financial inclusion and Skill Development	**31.4 (14)**	**26.9 (39)**	22.9 (78)	22.5 **(61)**
Basic Infrastructure	53.1 (96)	56.5 (112)	66.4 **(59)**	71.1 **(65)**

Table No.4 Ranking of the Aspirational Districts in Maharashtra 2022.
(Source: http://championsofchange.gov.in/)

Comments on the data comparison of ADs in Maharashtra in 2018 and 2022

- The two districts, Nandurbar and Washim, who were at last in 2018 in Rank and score, have indicated real time development. For Washim, with a marginal rise in its score (54.5 to 55.8) its rank has been upgraded from 112 in 2018 to 58 in 2022.
- Washim's success story is on account of its performance in Health and Nutrition score (from 60.3 to 78.7), Agriculture and Water resources score as well as the Rank (from 18.8 to 23.9 and from 112th Rank to 65th Rank). Same is the case in financial inclusion and Skill Development (from 18.3 to 31.4 and from 110th Rank to 14th Rank). However, for Basic Infrastructure, Washim has performed worst of all these districts. It has the lowest score of 53.1 against the highest score of Nandurbar at 71.1 for this parameter.
- Coming to Nandurbar, the score has increased from 47.8 to 57.7 and the Rank is upgraded from 92 in 2018 to 54 in 2022. The major themes in which Nandurbar has performed are Health and Nutrition score as well as Rank (51.1 and 92 to 71.2 and 41), Education (57 and 31 in 2018 to 75.2 and 23 in 2022). The score of Nandurbar is the highest of all these ADs. Referring to Agriculture and Water resources, Nandurbar's score is upgraded from 15.8 to 22.3 but the Rank has not been upgraded. On the

other hand, for financial inclusion and Skill Development (112 to 61) and Basic Infrastructure (96 to 65) the Ranks have improved a lot but not the scores. To improve these scores the measures taken up by the district administrative body have been clearly mentioned in the District Vision Document. (Nandurbar - Vision 2022, 2022)

- ➢ Looking at Osmanabad, like 2018 it performed well in Health and Nutrition score (70.8 to 83.2), Agriculture and Water resources score (23.7 to37) and financial inclusion and Skill Development score and Rank (23.1 and 78 to 26.9 and 39). It has lagged very badly in case of Basic Infrastructure score as well as Rank (90 and 88 to 56.5 and 112).
- ➢ Gadchiroli is the only district that performed well only in Health and Nutrition score and Rank both (60.9 and 89 to 77.4 and 87). In case of Education, Agriculture and Water resources and Basic Infrastructure, Gadchiroli has decelerated in its score but has upgraded its Rank (31-18, 84-74 and 7459 respectively).
- ➢ To conclude the whole picture of development of these Ads in Maharashtra, we see that all the districts performed well in Health and Nutrition scores but not so well on Education except positively progressed Nandurbar. In case of Basic Infrastructure, all these Ads have degraded their scores and Rank too for Osmanabad but others upgraded at least their Ranks (Washim 98 to 96, Gadchiroli 74 to 59 and Nandurbar 96 to 65).

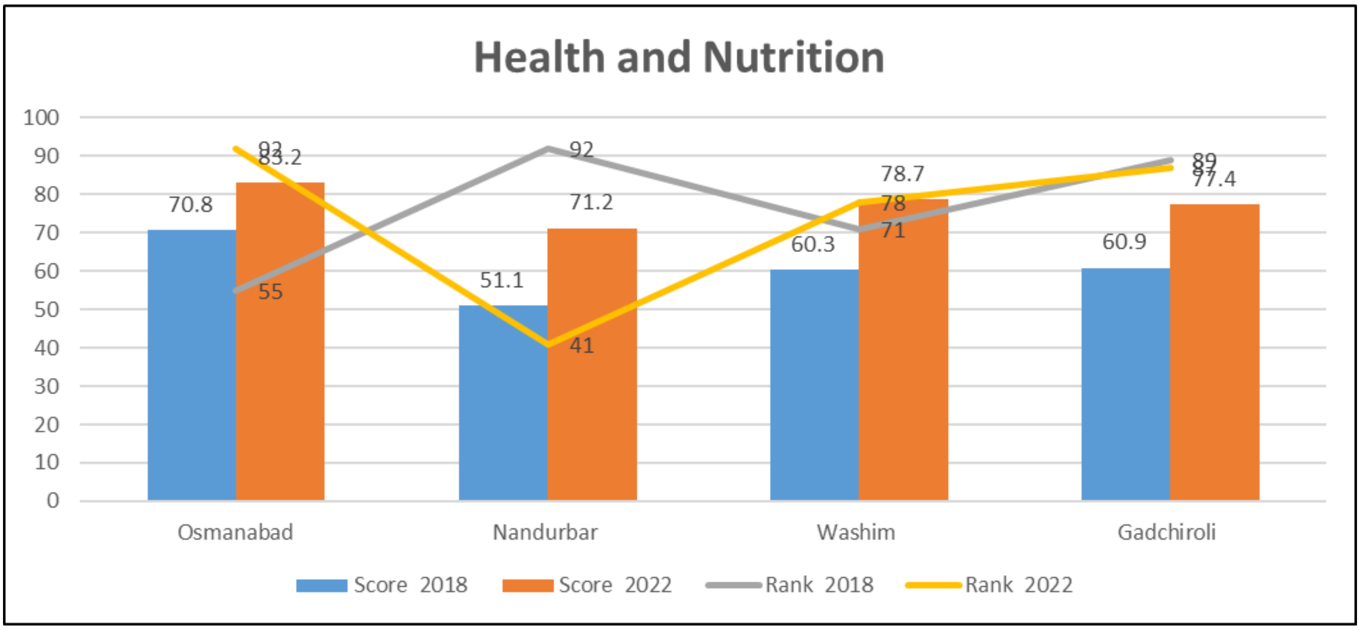
These observations further probe into the indicators under each theme as specified by the NITI Aayog policy document on ADP. Even though the weightages for all these themes are not the same as mentioned earlier in this paper, it becomes interesting to investigate these intricacies.

Data Analysis
Theme-wise details of ADP and Districts in Maharashtra

1 Health and Nutrition: With 30% of the weightage on Health & Nutrition, the program has been identified.
13 indicators to focus on antenatal care, postnatal care, gender parity, health of new-borns, growth of children, contagious diseases, and health infrastructure. It also includes contagious diseases, Severe Acute Malnutrition, supplementary nutrition under ICDS and so on. Again these 13 indicators have different weightages, some of them are as follows:

- Percentage of children fully immunized (9-11 months) (BCG+ DPT3 + OPV3 + Measles 1 (3%)
- Percentage of underweight children under 5 years (2.1%)
- Percentage of Pregnant women having severe anaemia treated against PW having severe anaemia tested cases (1.5%)
- Proportion of Primary Health Centres compliant to Indian Public Health Standards (1.5%)
- Percentage of Pregnant Women tested for Haemoglobin 4 or more than 4 times for respective ANCs against total ANC registration (1.2%)
- Percentage of institutional deliveries out of total estimated deliveries (1.2%)
- Percentage of new-borns breastfed within one hour of birth (1.2%)

With reference to some of the above dominant sub-indicators we can observe that in case of the sub-indicator the percentage of underweight children under 5 years (2.1% weightage), all the four ADs have performed well except Gadchiroli. This indicates a positive change towards Health and Nutrition which probably has overcome the issue of Severe Acute Malnutrition mentioned above in the focus areas. Rest all indicators also show a very positive picture of these districts such as the percentage of institutional deliveries out of total estimated deliveries, percentage of children fully immunized (9-11 months) (BCG+ DPT3 + OPV3 + Measles1. This injects hope while sorting out the issues of maternal as well as infant mortality rates as well as mal and under-nutrition to achieve the SDGs and thereby promote Human development through the states. Health being the Merit good and in the State list in India under the federal structure, this is a welcoming situation from the viewpoint of fiscal federalism.

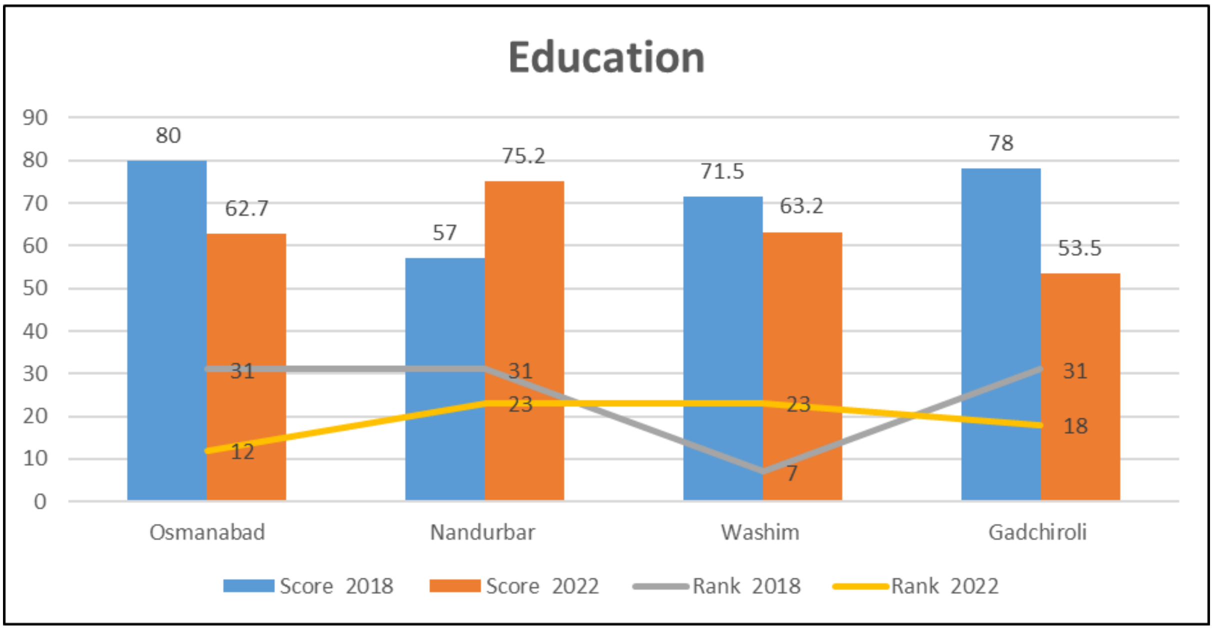


Graph No.1 Health and Nutrition. (Source: http://championsofchange.gov.in/)

2Education: Education sector accounts for 30% weightage of the overall index and 8 indicators have been identified focussing on learning outcomes such as transition rate from primary to upper primary, and subsequently to secondary schooling, average scores in mathematics and language etc., infrastructural indicators like toilet access for girls, drinking water, electricity supply and some institutional indicators like pupil-teacher ratio, timely delivery of textbooks and so on. In 2018, three ADs, namely Osmanabad, Gadchiroli and Washim were among Better 20 ADs in India.

- Learning outcomes (15%)
- Transition Rate - Primary to Upper Primary level (4.2%)
- Female literacy rate (15+ Age group) (2.4%)
- Percentage of elementary schools complying with Right to Education(RTE) specified Pupil Teacher Ratio (2.4%)
- Transition Rate - Upper Primary to Secondary level (1.8%)
- Toilet access: Percentage schools with functional girls' toilets (1.5%)

Education again being the Merit good and in the Concurrent list from its strategic importance in the Human Capital development of a country like India, it is interesting to look at the performance of the ADs with reference to the weightages to its sub-indicators. Under this programme, States are required to declare and upload the data sheets on the Dashboard created by the NITI Aayog as Champions of Change. It needs to be taken seriously that no data is available for the sub-indicator, learning outcomes despite it having the maximum that is 15% weightage. This includes the performance of Mathematics and Languages at 3rd, 5^{th,} and 8th standard students. In fact, this is the important indicator to gauge the soft skills capacity building among the students till 8th standard that would shape our Human Capital base. In case of another strong sub-indicator, percentage of elementary schools complying with RTE specified Pupil Teacher Ratio, only for Washim this ratio increased and this has a serious implication of higher drop-out rate as well as scarcity of well-qualified teachers. The great hope in the theme of Education is that most of these districts have reached 100% or near 100% in case of toilet access: percentage schools with functional girls' toilets. This is remarkable from health, hygiene, and female literacy orientation in the state.



Graph No.2 Education. (Source: http://championsofchange.gov.in/)

3Agriculture and Water Resources- The third identified thematic area is, Agriculture and Water Resources in ADP. Agriculture and water resources by their very nature are localized activities and resources. With varied agro-climatic zones, cropping patterns, available local knowledge, access to markets, emphasis on research and development, etc, all this leads to differences in state-wise agriculture and water related issues. Agriculture is in the State list but the entry 33 of Concurrent list provides that Centre and States both have powers to control production, supply, and trade, agri-products. Then the districts which are aspiring to grow, are fully entitled to cooperative federalism.

Ten indicators have been identified for the 20% weightage allocated to this theme. The focus area is divided into following sub-areas-

a. Inputs – which includes micro irrigation, quality seed access, soil health cards, etc.

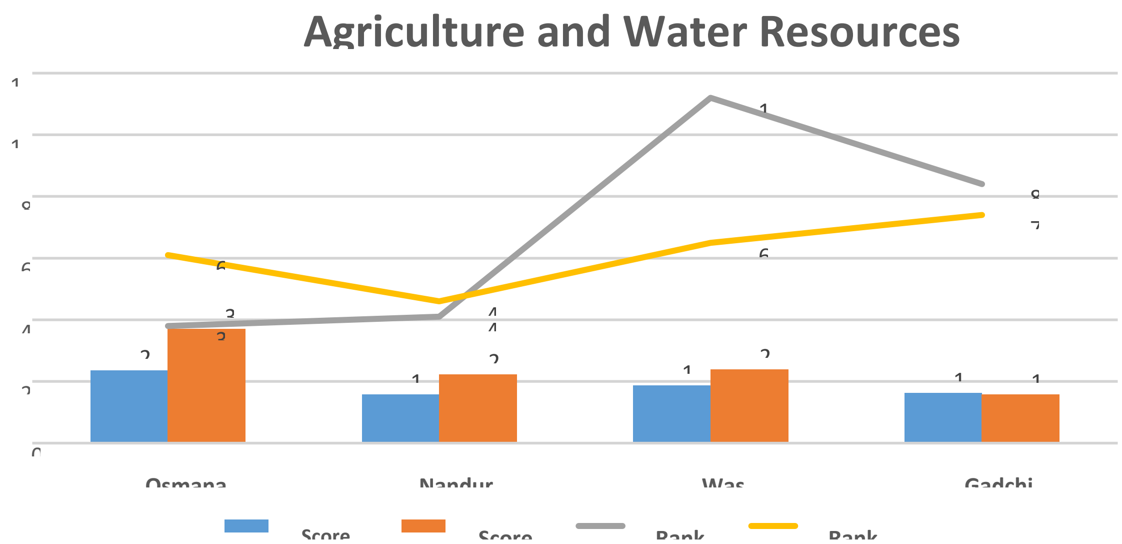
For example, for water related positive investment and employment purposes, 'Pradhan Mantri Krishi Sinchan Yojana (PMKSY) has been launched and it ensures tying up of funds with PMKSY-micro irrigation for the district. Also, emphasis is on priority for water related activities under MGNREGA.

For quality seeds' distribution and soil health card creation, Schemes like Krishi Unnat Yojana, Rashtriya. Krishi Vikas Yojana (RKVY), etc have been taken up along with local bodies for effective implementation.

b. Outputs – includes yields and price realization. The difference between Farm Harvest Price (FHP) and Minimum Support Price (MSP) is defined as price realization.

c. Institutional Support – incorporates crop insurance, electronic markets, artificial insemination, animal vaccination.

For example, linking APMC (Agriculture Produce Market Committee) Mandi with e-NAM (e-National Agriculture Market), activation of an electronic auction platform, increasing the spread and awareness of Pradhan Mantri FasalBima Yojana (PMFBY), etc. Non-farm activities or agriculture allied activities constitute almost 40 percent of farmers' income (FAO, 2022). Building up the capacities of all other agri-allied activities is on a priority and the same has been taken up in these aspirational districts in the form of schemes like Livestock Health and Disease Control Scheme. As per baseline ranking in 2018, Maharashtra's Osmanabad was among the better 20 districts and fortunately the other three selected districts were not in the bottom 20 districts. Assessment in year 2022 of chosen four districts of Maharashtra, indicates the score-wise and rank -wise improvement of all districts, except fall in Gadchiroli's scorecard from 16.3 in 2018 to 15.8 in year 2022-23.



Graph No.3 Agriculture and Water Resources.
(Source: http://championsofchange.gov.in/)

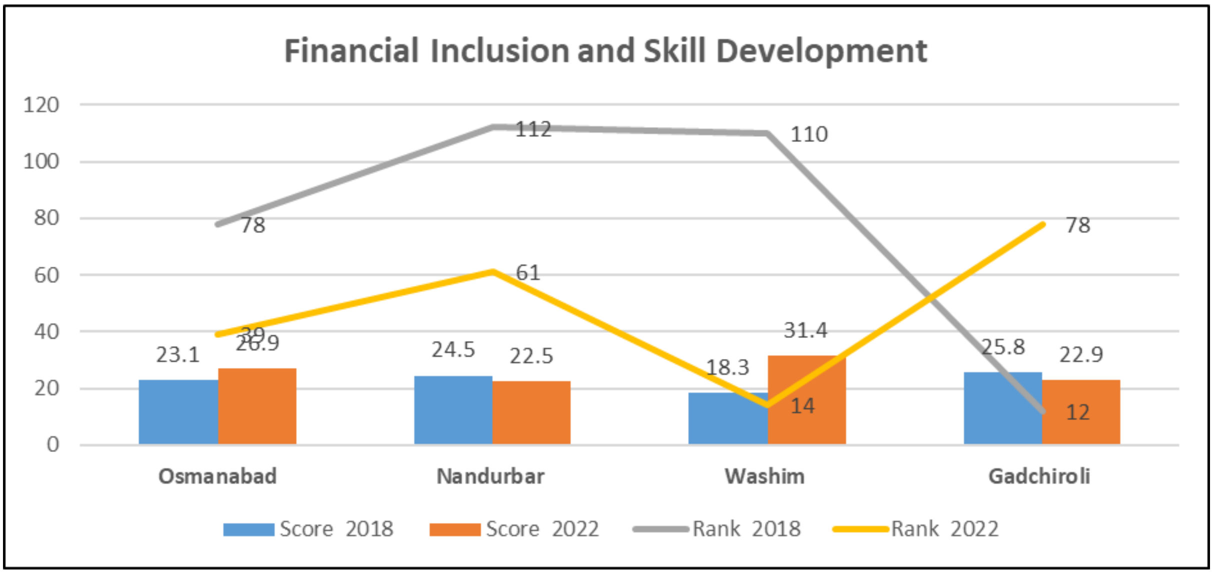
4 **Financial Inclusion and Skill Development** –these two themes account for 10% of the overall Index in ADP. Considering priorities like penetration of banking habits, easy access to financial institutions and finances, building up a sense of financial security among the informal/ unorganised labourers and last but not the least is providing government benefits in financial form and without any middle party, i.e., direct transfer to make the government help/support more effective.

Six indicators have been identified in financial inclusion to measure progress in take-up of important central government schemes (Atal Pension Yojana, Pradhan Mantri Jeevan Jyoti Bima Yojana, Pradhan Mantri Suraksha Bima Yojana, etc.), reach of institutional banking (the number of accounts opened under Jan Dhan Yojana), and ease of institutional financing for small businesses (disbursement of Mudra loans). The target here is, to tap the potential of micro-small medium enterprises, who would otherwise become non-functional without timely financial support.

Similarly, five indicators are identified in skill development to keep track of the progress in skilling of youth, employment, and the skilling of vulnerable/marginalized youth. Here, Centre schemes are divided into short and long-term training programmes in the age group of 15-29. Schemes like, Pradhan Mantri Kaushal Vikas Yojana (PMKVY); Deendayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) are the examples of it.

This provision for hard and soft infrastructure (including skilled human resources) has been made available and it ensures the timely assessment of the same and certification as well. For this, local government bodies are also getting involved. Organizing skill melas, distribution of awards like 'Champions of Change,' etc., it gets facilitated by the local bodies. Another important feature of this theme is to map the district-wise skills of the youth to ensure the demand-supply mismatch. On-job training or apprentice promotion is rising through this theme. There are schemes like National Apprenticeship Promotion Scheme (NAPS), National Apprenticeship Training Scheme (NATS) to facilitate target groups. Marginalised youth of the region have been given a separate attention and priority in the entire skill development theme.

As per baseline ranking in 2018, None of the selected districts from Maharashtra were among the better 20 districts and in the bottom 20 districts. They were all in the middle category based on their performance with respect to financial inclusion and skill development. Assessment in year 2022 of four districts in Maharashtra, indicates that rank-wise, three districts namely Osmanabad, Washim and Nandurbar have performed well and same is applicable to their score-based performance, (except Nandurbar, reduction in score by some points) (Refer: table No.2 and 3). It is only in case Gadchiroli, where the score has gone down to 22.9 in 2022 from 25.8 in 2018 and rank has shifted to 78th rank from 12th rank.



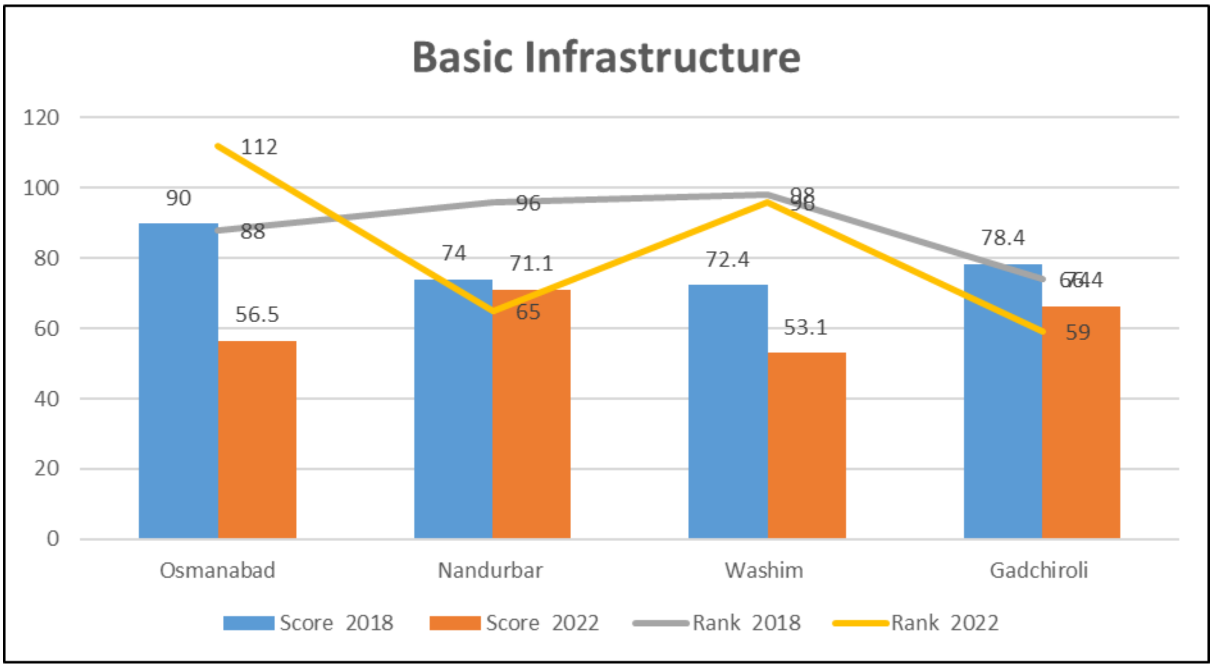
Graph No.4 Financial Inclusion and Skill Development
(Source: http://championsofchange.gov.in/)

5. **Basic Infrastructure-** Basic infrastructure has been identified as a key instrument for economic growth and development as well. Basic infrastructure does not directly produce any goods or services in the country but it facilitates the production of primary, secondary and tertiary sectors of the economy. Investing in basic infrastructure provides the firmest foundation for long lasting economic development.

A roof over one's head, with water, electricity, and road connectivity is the priority of the Government. Ten percent weightage has been given to this theme and overall, seven important indicators have been identified here as key contributors to the basic infrastructure. Rural habitations with access to an adequate quantity of potable water, Pucca House construction, Electricity connections and individual household latrines are given the top priority in the basic infrastructure. The road connectivity and establishment of Common Service Centres at Gram Panchayat level along with internet connections are significant in this regard.

To give a real face to these objectives, Centre Schemes like Pradhan Mantri Awaas Yojana (Gramin) for pucca house building ensures land availability, construction-material and finance, Swachh Bharat Mission (Gramin) to take care of household latrines along with water. The National Rural Drinking Water Programme has been launched to ensure the availability of potable water, rainwater-harvesting, and ground-water level recharging in water-starved areas. Similarly, Pradhan Mantri Grameen Sadak Yojana has been taken up to improve the rural area connectivity.

As per baseline ranking in 2018, none of the selected districts from Maharashtra were among the better 20 districts and in the bottom 20 districts. They were all in the middle category based on their performance with respect to basic infrastructure. Assessment in 2022 of these four districts in Maharashtra, indicates that on the score basis, all four districts in Maharashtra have not scored higher numbers as compared to their baseline numbers. The reduction in the scores is a worrisome factor. If we look at the rank-wise data, Osmanabad's rank has gone down dramatically from 88 to112, but Nandurbar and Gadchiroli are able to improve their rank. Washim, apparently looks stagnant in the basic infrastructure building and in proving its capability there. (Refer: Graph no. 5 or table No.2 and 3).



Graph No.5 Basic Infrastructure.
(Source: http://championsofchange.gov.in/)

Findings

- Looking at the very framework of the ADP, the themes have quantitative as well as qualitative outcomes and District collectors are assigned the authority to institutionalize the mechanisms. Here the question of strong political will comes to the centre. In the case of Education, we have pointed out earlier that in case of learning outcomes despite it having the maximum (15%) weightage, no data is available on the Dashboard created by the NITI Aayog as Champions of Change. This is a serious issue in terms of implementation and implications too of this whole programme as it includes the performance of Mathematics and Languages at 3rd, 5th, and 8th standard students, most essential in developing basic skills among the students. In this regard we strongly feel that there must be a mandate for timely declaring the data of these states and that can be the precondition for receiving the funding from the Union government through the State governments. This would make the process smoother along with more transparency and accountability from all layers of governance that is the essence of Fiscal federalism.
- Specific to the ADs in Maharashtra, within these districts there are wide disparities in terms of remoteness, social structures, population profiles, the level of education, incomes, and employment. This calls for a more district specific flexible approach and we witnessed the same while doing the Pilot survey of our project on ADs in Maharashtra in general and Nandurbar in particular. The Ashram shalas are performing extremely well in some talukas of Nandurbar as compared to the ZP schools. This calls for a positive role of the Tehsils and Gram Panchayats in dealing with the masses.
- Drop-out rates in the primary and secondary schools are still a serious issue and the role of teachers and educating the parents are very critical here. Education extension and awareness can help in this regard. Schemes like the Central Kitchens for the schools' midday meals are doing very well in Nandurbar. They need to replicate elsewhere.
- Though the number of underweight children under 5 years have come down in all these districts, still the fact remains that more than 10% underweight children under 5 years are predominant and that is still a concern for us.
- While interacting with the stakeholders of this Aspirational District Programme, a need for an appointment of dedicated personnel such as Aspirational District Fellows or Technical Support Units across all the districts or to collaborate with development partners for providing technical expertise, got highlighted.

Conclusions

To conclude, the scheme of ADP has started picking up in a very short time frame of just 4 years and that is the ray of hope for all the stakeholders to lead the path of SDGs through effective collaboration and convergence between the Union and the States and through the competitive federalism among the districts of these states.

This serves the best for Competitive as well as cooperative federalism in India through unlocking the potentials of these ADs in India. This scheme will have a long way to go as they have started identifying the district specific commodity to vouch for the production, processing, sell and trade, its addition to supply chain management, etc. For example- in the case of Nandurbar, they have identified Chilli as a commodity and they have started referring Nandurbar as 'Chilli Capital' This itself gives a very big scope for further research and assessment of this project across the districts.

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ASSESSING THE GROWTH OF E-COMMERCE IN INDIA: A STUDY OF FLIPKART'S PERFORMANCE, VIABILITY, AND FUTURE PROSPECTS

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ABSTRACT
This paper explores the dynamic e-commerce landscape in India, which is expected to reach a value of $70 billion by 2020, based on Technopak Advisors' projections. The emergence of popular online shopping platforms such as Amazon, Flipkart, eBay, and Shopclues has revolutionized the way buyers and sellers interact, leveraging the power of the Internet and information technology (Technopark, 2020). Despite India's rapidly growing internet user base of over 300 million, digital commerce companies continue to expand their operations, with Flipkart being a leading player in the market. Customers frequently refer to their purchases as "Flipkart," which speaks to the platform's popularity and brand recognition. Despite facing fierce competition from Amazon and Shopclues, Flipkart has remained profitable, even as it offers widespread discounts to customers in a highly competitive e-commerce environment. This paper provides a detailed analysis of Flipkart's financial performance and offers intriguing insights and observations gleaned from the study.
Keywords: Flipkart, Online Marketing, Performance evaluation, E- Commerce, Information Technology

Introduction
E-commerce has become a household term in today's world, representing the online exchange of products and services. This form of online retail has brought about numerous benefits for tech-savvy customers, making information more accessible and the world more interconnected. Information and technology are the driving forces behind this transition, and the emergence of online marketing websites like Flipkart, Amazon, eBay, and Shop clues have facilitated this growth. With the rise of e-commerce, the gap between buyers and sellers has been reduced, allowing for a more globalised marketplace. These online retailers, also known as "etailers," have diversified from their early days of offering food, groceries, and electronics to industries such as engineering, pharmacy, and agriculture.

Flipkart is one of the leading online retailers in India, but despite its success, the company has faced challenges in terms of profitability and legal recognition. The company's low profitability and its registration in Singapore rather than India have raised concerns about its future. However, Flipkart has made efforts to expand its product offerings, introducing its own range of home and personal care products under the name "citron" and its own product line called "digiflip." The company also offers a range of payment options, including cash-on-delivery, credit or debit card purchases, net banking, e-gift cards, and card swipe on delivery.

In its early days, Flipkart focused solely on book sales but has since expanded into other product categories, covering around 150 cities and sending out 5 million shipments each month. The company has also made strategic acquisitions, buying the websites mime360.com and chakpak.com in 2011 and introducing its flyte digital music store in 2012. However, the flyte digital music store was taken offline in 2013 due to the emergence of free music streaming websites in India.

Despite its challenges, Flipkart remains one of India's biggest online retailers, and its ability to diversify its product offerings and payment options may help to increase customer satisfaction and loyalty. As e-commerce continues to grow globally, Flipkart and other online retailers will need to adapt to changing consumer demands and the evolving technological landscape to stay competitive in the market

Literature review
Jain (2018) The advantages of online shopping, emphasizing the convenience it offers to customers. With online

shopping, customers have access to a vast range of products that may not be available in traditional stores. This allows them to make informed decisions and choose the best options from various alternatives. Additionally, online shopping saves time as customers can place orders from anywhere and at any time without having to deal with crowds. Online shopping also provides customers with detailed information about the size, brand, color, quantity, and quality of products, which helps them make informed buying decisions. Despite the potential drawbacks such as security and privacy concerns, online shopping remains a preferred option for customers due to its convenience and ability to meet their shopping needs.

Chaitanya (2017) customers are often attracted to the competitive prices and discounts that are offered by online stores. The affordability factor is a significant incentive for customers to shop online, and they tend to make more purchases from online sites than traditional brick-and-mortar shops.

Mandal (2017) pricing is a critical factor in online marketing, and offering fair prices along with appropriate discounts can attract customers. When products are priced lower than their MRP, customers tend to feel satisfied. Affordable pricing appeals to both middle and lower-level customers. However, the company must ensure that they are delivering quality products and satisfying customers to improve product ratings and reviews, which can impact the purchasing decisions of other customers.

Rupila (2018) online customers are often drawn towards speedy delivery of products, round-the-clock availability of services, discounts and offers, a diverse range of products, cash on delivery option, and hassle-free return policies. A positive customer experience in terms of these factors can lead to increased customer loyalty, as customers are likely to recommend the site to others, resulting in repeat sales and increased global exposure for the company.

Dahiya, (2017) The internet has become an integral part of our daily routines, with almost all our tasks involving some form of online activity. In the past, traditional marketplaces were the go-to for buying and selling goods in India. However, the advent of e-commerce has revolutionized the way we conduct transactions, providing convenience and accessibility to consumers. E-commerce websites in India have made it possible to purchase and sell a wide range of products at reasonable prices, making it a popular form of commerce. The impact of e-commerce on different marketplaces and businesses is significant. In this article, we will explore the influence of e-commerce on various merchants and marketplaces.

Kumar (2014) the growing importance of ecommerce as a future retail and business venture in India, driven by the increasing population of internet users and favorable demographics. However, the article also highlights certain issues that need to be addressed in the Indian ecommerce industry. The authors provide an assessment of the current state of ecommerce in India, discuss the challenges faced by the industry, and explore the future growth potential of ecommerce in India.

Mitra (2013), The "E-commerce in India: A Review" article, published in the International Journal of Marketing, Financial Services, and Management Research, concludes that e-commerce is a revolutionary phenomenon that has surpassed geographical boundaries. The article predicts that India's e-commerce industry will experience significant growth in the next five years.

Gageshwar. (2013) An Indian Business Report published in the International Journal of Underground and Electronic Services, Science, and Technology, the future of e-commerce in India is bright, despite potential drawbacks such as security, privacy, and technology dependency. The report suggests that e-commerce has enormous potential for growth in India and can offer many benefits to businesses and consumers alike. While there are some challenges that need to be addressed, the study concludes that e-commerce is a viable option for Indian businesses and is likely to play a significant role in the country's economic growth.

Aggarwal, Singla, & Aggarwal (2012) the total retail sales were $471 billion, out of which organized retail accounted for $260 billion, with a penetration rate of 21%. They suggest that allowing foreign direct investment (FDI) could lead to the improvement of supply chain technology, benefiting local players, consumers, and suppliers. FDI could also result in the creation of a world-class supply chain architecture, reducing corporate information, production, and transaction costs and opening up new markets, which could ultimately benefit farmers and customers with lower prices. However, the federal government has a responsibility to regulate anticompetitive business practices, workforce, and environmental protection. The government needs to demonstrate its commitment to its policies.

Sharma, Mittal (2009) The growth of e-commerce in India is experiencing a surge due to a large middle-class population of 288 million and rising real estate costs. E-commerce has become an integral part of our daily lives with a plethora of websites offering an extensive range of products and services including books, clothing, health and beauty products, electronics, and more. Flipkart, one of the leading e-commerce websites in India, has made strategic investments in companies like Letsbuy and Myntra to reduce competition, decrease marketing costs and increase profitability. Although some investments may not yield positive returns, Flipkart's deliberate wagering approach has proven successful in the industry.

Gupta, Senior Managing Director of Helion Venture Partners, and one of the initial angel investors in Flipkart, has expressed his confidence in the company's strategic investments.

Coelho, Easingwood, (2008) Despite being slow to change, the distribution mix is crucial to a company's competitive position, and thus, it is imperative for companies to continuously examine their channel mix to meet the evolving needs of their customers. To achieve this, it is vital to understand the factors that drive channel change. This study develops and tests a model of channel change using both quantitative and qualitative data from financial service organizations in the UK. The findings show that the degree of channel change is associated with customer needs volatility, target customer sophistication, product sophistication, environmental conflict, competitor strategy volatility, scope economies, and company size. Although the sample size is modest, the study presents significant results that have practical implications for both practitioners and academics. The research findings alert practitioners to the factors that influence channel change while demonstrating to academics that this complex subject can be researched. Additionally, the study highlights potential research issues for future studies. The originality of this article lies in testing a set of hypotheses on the drivers and inhibitors of change in distribution systems at the micro level, making it one of the pioneering works in this area.

Miyazaki, Fernandez (2001) The study's findings highlight the importance of understanding customer needs and ensuring product affordability to create a successful and profitable online store. The technological acceptance model was found to be an inadequate foundation for e-commerce research.

Objectives
The following objectives are the subject of the current study:

- To comprehend the development and evaluation of the growth of e-commerce in India.
- To evaluate Flipkart's financial health and the unleashed factors that contributed to its underperformance in the face of fierce competition in the e-commerce industry.
- To evaluate its performance and long-term viability.

Methodology of research
The study utilized both primary and secondary research methods to gather data. While secondary sources such as websites, newspapers, periodicals, books, and journals were the primary source of information, customer feedback was also gathered to supplement the research findings.

E-Commerce in India: A Significant Path to Growth
The growth of e-commerce in India has been a major pathway for economic growth and development. With the increasing number of internet users, there is a significant potential for e-commerce to expand and reach new markets. India is already one of the fastest-growing e-commerce markets globally, and this growth is expected to continue in the coming years.

The rise of e-commerce has enabled businesses to expand their customer base and increase their sales through the use of digital channels. Consumers are now able to shop online, compare prices and make purchases from the comfort of their homes. The convenience and accessibility of e-commerce have made it a preferred choice for many consumers.

Furthermore, e-commerce has also created opportunities for small and medium-sized businesses to enter the market and compete with larger players. With the right digital tools and strategies, businesses can build their online presence and reach customers that were previously inaccessible through traditional channels.

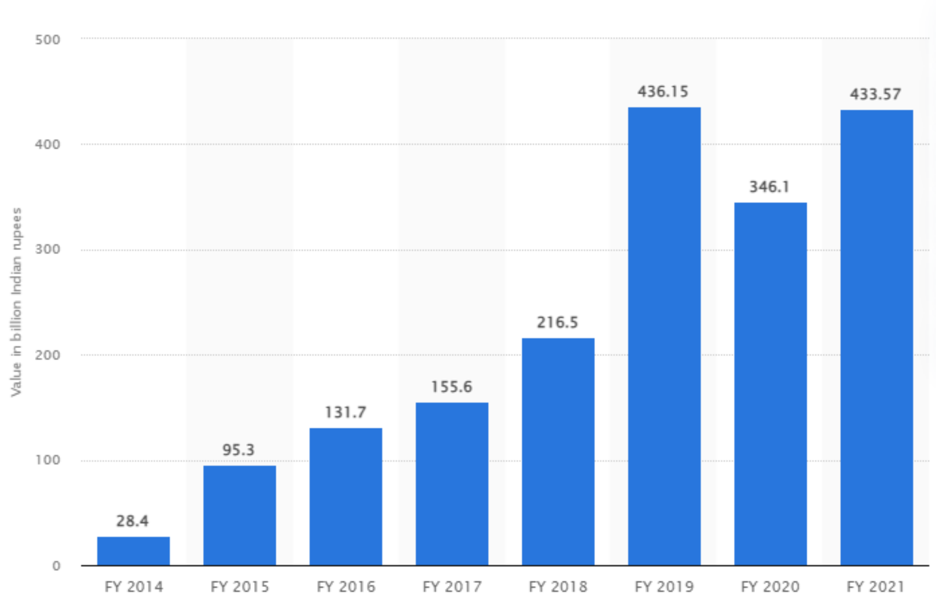
Overall, the growth of e-commerce in India presents a significant opportunity for businesses to expand their reach and increase their profits. With the right investments in digital infrastructure and technology, businesses can take advantage of this growing market and establish a competitive edge in the digital economy.

Flipkart's financial performance

Flipkart Ltd. has seen impressive growth in both revenue and operating margins over the years. Between FY2014 and FY2021, the company's revenue nearly tripled, and its operating margins showed significant improvement. In FY2019, the company experienced a remarkable growth in revenue, with a 436.15% increase. Despite facing competition from Amazon, Flipkart has managed to maintain its position in the Indian market. It is worth noting that the information provided is based on open sources and may not provide a complete representation of the company's current state. Furthermore, the earnings for Flipkart's fiscal year 2021 have not yet been made public (Minhas, 2022).

Revenue of Flipkart Private Limited between financial year 2014 and 2021 (in billion Indian rupees)

Flipkart Ltd. has seen impressive growth in both revenue and operating margins over the years. Between FY2014 and FY2021, the company's revenue nearly tripled, and its operating margins showed significant improvement. In FY2019, the company experienced a remarkable growth in revenue, with a 436.15% increase. Despite facing competition from Amazon, Flipkart has managed to maintain its position in the Indian market. It is worth noting that the information provided is based on open sources and may not provide a complete representation of the company's current state. Furthermore, the earnings for Flipkart's fiscal year 2021 have not yet been made public.



Graph 1: Revenue of Flipkart Private Limited between financial year 2014 and 2021 (in billion Indian rupees) (Source: (Minhas, 2022) (www.statista.com)

Data Analysis

E-commerce has become increasingly popular among people of all genders due to the convenience and accessibility it offers. However, recent data shows that female respondents have a higher inclination towards online shopping than male respondents. This could be attributed to their preference for a wider range of products and services, including international products that were previously not available online. Overall, e-commerce has revolutionized the way people shop by providing a seamless and hassle-free shopping experience that caters to the diverse needs of customers.

Sr.No.	Respondents	Frequency	Percent
1	Once in month	21	30.0
2	Once in two month	11	15.7
3	More frequently	17	24.3
4	Very rare	21	30.0
	Total	70	100

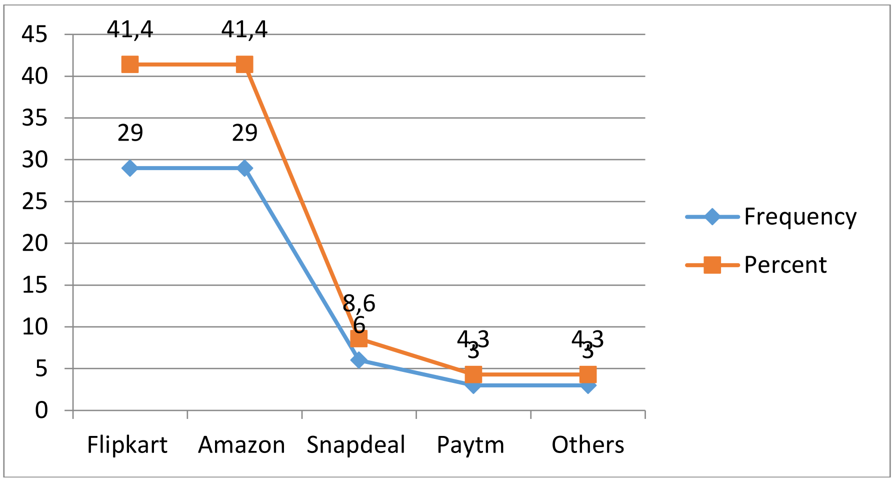
Table 1: How Often Respondent Shop Online

Interpretation: The above table provides valuable insights into the shopping behavior of respondents and highlights a growing preference for online shopping over physical stores. The data reveals that 30% of respondents shop online at least once a month, indicating a significant shift towards e-commerce in recent years. This trend presents a lucrative opportunity for e-commerce entrepreneurs to tap into a rapidly expanding market and increase their chances of success. By leveraging the convenience and accessibility of online shopping, entrepreneurs can cater to the changing needs and preferences of consumers and establish a strong foothold in the e-commerce industry.

Sr.No.	Respondents	Frequency	Percent
1	Flipkart	29	41.4
2	Amazon	29	41.4
3	Snapdeal	6	8.6
4	Paytm	3	4.3
5	Others	3	4.3
	Total	70	100

Table 2: Preferred Online Site By Respondent

Interpretation: The data presented in the table above suggests that Flipkart is the preferred e-commerce platform for a significant percentage of respondents, with 41.4% choosing it over Amazon. However, other players in the e-commerce market, including Snapdeal (8.6%) and Paytm (4.3%), are struggling to gain a foothold and compete with the dominant market share of Amazon and Flipkart. Despite Paytm's efforts to offer competitive pricing and attractive discounts, it has not been able to achieve the same level of success as its major rivals. However, the e-commerce industry is highly dynamic, and newer players may have the potential to disrupt the market and challenge the dominance of established players in the future.

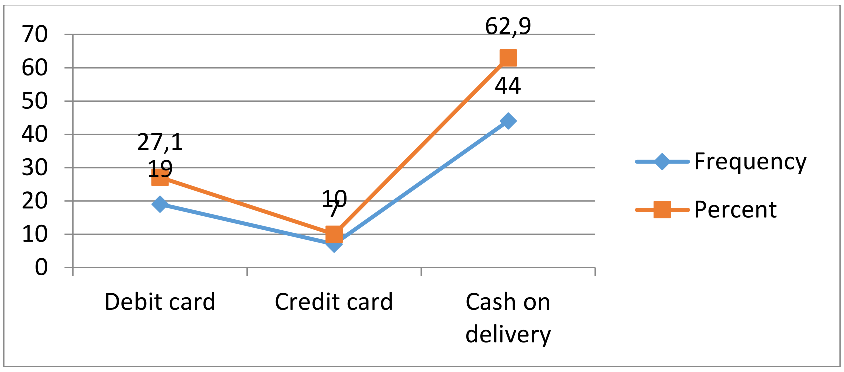


Graph 2: Preferred Online Site By Respondent

Sr.No..	Respondents	Frequency	Percent
1	Debit card	19	27.1
2	Credit card	7	10.0
3	Cash on delivery	44	62.9
	Total	70	100

Table 3: Respondent Payment Method

Interpretation: The e-commerce industry needs to prioritize customer privacy and regain their trust. The data suggests that when given a choice of payment methods, a significant percentage of respondents, 62.9%, prefer cash on delivery, indicating a lack of confidence in online payment methods. This preference for cash on delivery suggests that customers find this option more convenient and straightforward. Moreover, with the availability of scanners for delivery personnel, the cash-on-delivery option has become even more convenient for customers. E-commerce businesses must prioritize customer preferences and provide a hassle-free shopping experience to gain their trust and foster long-term relationships.

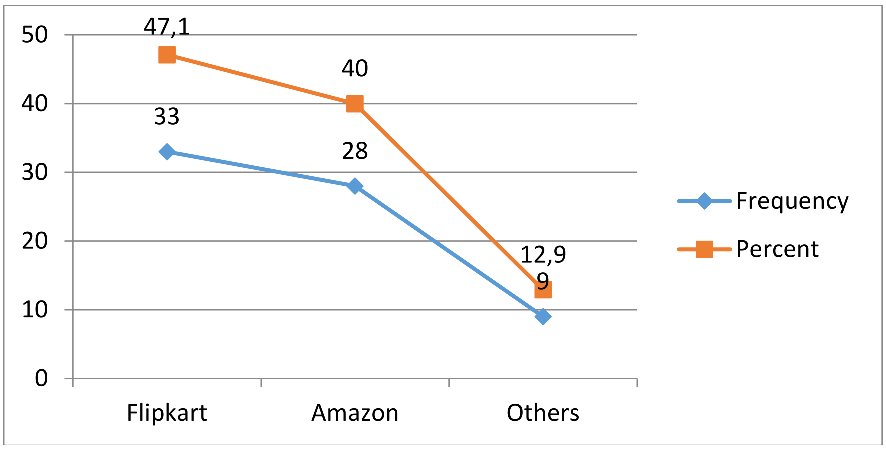


Graph 3: Respondent Payment Method

Sr.No.	Respondents	Frequency	Percent
1	Flipkart	33	47.1
2	Amazon	28	40.0
3	Others	9	12.9
	Total	70	100

Table 4: Respondent Is Most Impressed With Which E-Commerce Site

Interpretation: The data highlights that Amazon is the most valued e-commerce platform among customers, with a lead of 40% over its closest competitor, Flipkart, which garnered the interest of 47.1% of respondents. The remaining e-commerce sites have not been able to compete with the dominance of Amazon and Flipkart, indicating that these two platforms dominate the Indian e-commerce market. The results are a testament to the trust and confidence customers place in Amazon's brand and its ability to provide a seamless shopping experience. Nonetheless, the e-commerce industry is highly dynamic, and new players may emerge in the future, providing customers with more options and promoting healthy competition in the market.

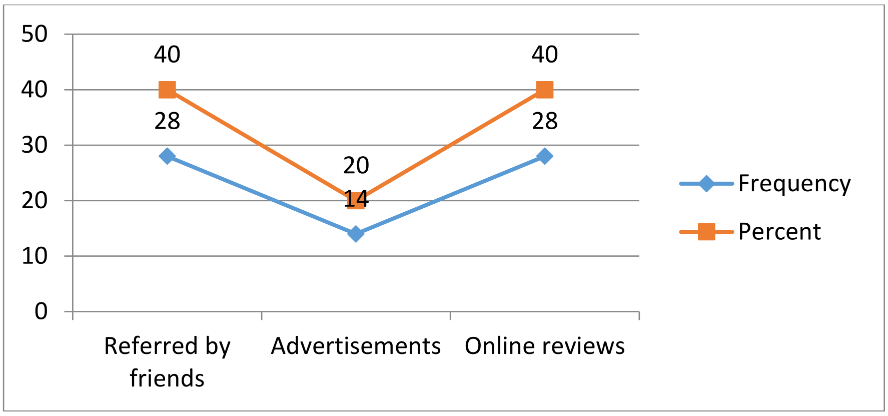


Graph 4: Respondent Is Most Impressed With Which E-Commerce Site

Sr.No.	Respondents	Frequency	Percent
1	Referred by friends	28	40.0
2	Advertisements	14	20.0
3	Online reviews	28	40.0
	Total	70	100.0

Table 5: Respondent Choosing Method of E-Commerce Site

Interpretation: To determine the most effective strategy for reaching customers in the e-commerce industry, it's crucial to understand what motivates customers to shop online. The data presented in the table suggests that customers are equally likely to choose e-commerce sites based on recommendations from friends and online reviews. This highlights the importance of word-of-mouth marketing and the power of positive online reviews in building customer trust and loyalty. E-commerce businesses can leverage these insights to design marketing campaigns that prioritize customer referrals and online reviews to attract and retain Customers.



Graph 5: Respondent Choosing Method of E-Commerce Site

Findings

The research has highlighted some significant issues that have put Flipkart in a challenging position.

- One of the major concerns is the focus on deep discounts and Gross Market Value (GMV) by Indian e-retailers in recent years. Flipkart has reported a loss of Rs. 2000 crores during the year, and its competitor Snapdeal has reported a loss of Rs. 1,328 crores, indicating that the focus on growth at any cost has not been a sustainable strategy. This has also led to questions about the long-term viability of Flipkart's business model.
- The research has highlighted two additional factors contributing to Flipkart's adverse position. Firstly, the high cost of machinery and skyrocketing operational costs, which have become a common challenge for all players in the industry as the initial rush to raise Gross Market Value (GMV) and achieve billion-dollar valuations has subsided. This has resulted in Flipkart continuing to operate at a loss. Secondly, the company's excessive amount of stockpiled inventory has led to reduced profit margins in the long term.
- The Big Billion Day event has posed a major challenge for Flipkart, as the company has struggled to meet the high volume of orders, leading to negative feedback from customers about the company's ability to handle large-scale operations.
- The success of an e-commerce company depends heavily on its ability to attract and retain talented employees. Unfortunately, Flipkart's hiring practices have led to a high number of underperforming employees, resulting in the recent layoff of 400 employees due to poor performance. This highlights the need for proper hiring procedures to ensure that qualified and capable individuals are recruited, and the company can achieve its goals.
- The study highlights some issues with Flipkart's return and refund policies. Due to their simple and lenient policies, the company is vulnerable to exploitation by unscrupulous customers, which leads to losses for the company. On the other hand, Amazon has implemented structured return policies and refund procedures that hold customers accountable for their losses. This has led to dissatisfaction among sellers who feel that Flipkart has lost its appeal in this regard.

Conclusion

Despite facing several challenges such as high operational costs, excessive inventory, and improper hiring procedures, Flipkart remains a major player in the Indian e-commerce market. The company's evolution from selling books online to selling a wide range of products has inspired new businesses, and with a growing e-market, there is still room for businesses to dominate. The key to success in this market is ultimately the customer, and Flipkart has recognized this by expanding its network and making the shopping experience more convenient and comfortable for its customers. While competition from other e-retailers like Amazon remains strong, Flipkart has shown its understanding of the Indian market and has strengthened its Indian roots. Although there may be challenges and investments required to survive in this market, Flipkart continues to perform well and is a clear winner according to customer surveys.

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AWARENESS AND ADAPTABILITY OF PERSONAL CARE PRODUCTS BY RURAL WOMEN CONSUMERS

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ABSTRACT
Personal care products are used for personal health and hygiene. The rising disposable income and increasing awareness in rural areas increases the use of personal care products as per their purchasing power. Personal care product manufacturing companies are also launching smaller sachets with lower prices to match the affordability of the rural population.
The present research was conducted to achieve the objectives of finding out awareness and adaptability of rural women consumers towards personal care products as well as various factors which restricted rural women to use the personal care products. The research work is based on primary data collected from rural areas of the Jalgaon district in Maharashtra state. The primary data was collected from 140 women consumers of personal care products through a structured questionnaire. The collected data was analysed by SPSS tools. Various media play an important role in the awareness programme of personal care products, but there are still some factors that restrict rural women from using the personal care products.
Keywords: Rural women consumer, Personal care products, Personal hygiene, Affordability, Adoptability.

Introduction

Every human being wanted to look and feel attractive from the earliest days of civilization. Today, in our image-obsessed world, taking care of one's personal appearance and demonstrating good hygiene are extremely important. The personal-care products are used by people to look better and feel better about them. It is observed that those who present a good personal image have a better chance of success in life (www.vault.com). The main reason for boosting the Global Beauty & Personal Care Products Market is the desire to maintain youthfulness and look beautiful & smart amongst all. The fear of old age has created the demand for so many personal care products (Ink Wood Research, 2018).

In India the personal care category was valued at Rs. 54.6 billion and an average Indian spends 8% of his income on personal care products. The rising middle-class discretionary income and rising expectations of people to live well and look nice. To meet the needs of clients with varying purchasing power, businesses are releasing a selection of items at a range of price points. The rural population is integrating into society as roads, telecommunications, and businesses reaching out to residents of villages and small towns strengthen connections to the city. Due to increased awareness and a strong desire to appear well, young people's use of personal care products has significantly increased. Consumers of personal care products always expect quality and value for money (assocham.org, 2017).

The main growth drivers of personal care market are increase in disposable income and awareness of personal care products. People's increased access to disposable income is what motivates them to spend money on personal care items. The increased level of education, increased awareness of health and hygiene and penetration of media to the rural part leads the consumers to use of personal care products. (inkwoodresearch.com, 2018).

The increasing penetration and awareness programme of various personal care product brands increasing the use of personal care products. The companies are now launching personal care products in small sachets to suit the affordability and purchasing power of rural women consumers (ruralmarketing.in,2017).

Personal Care Products

"Personal Care Products" are a wide variety of items that are commonly found in the health and beauty sections of drug and department stores. The term "Personal Care Product," is not defined by any law. The personal care products are divided in to two categories, which are defined by law. Those two categories defined by law are Cosmetics and Drugs. Under the of law cosmetics. "Personal Care Products" include moisturizers for the skin, toothpaste, deodorants, nail polish, lipstick, eye and face makeup, permanent waves, shampoo, and nail paint. Personal care items including lip balms, diaper ointments and skin protectants are prohibited under the Drugs

Act, as are antiperspirants, deodorants and treatments for dandruff. Some personal care products such as Shampoo come under both laws. It is a cosmetic product because it is meant to clean the hair, whereas it is a medicine because it is meant to treat dandruff. Some examples of these items include fluoride-containing toothpaste, antiperspirant-deodorants, moisturisers, and cosmetics that make sun protection claims. (U.S. Food and Drug Administration, FDA, 2017).

Literature Review

Personal care products are not a new concept, but they are as ancient as mankind and civilization. Women want to look beautiful, so they use various personal care products. Indian herbs are very famous all over the world, which were used for beauty products. Most of the consumers are aware and prefer herbal cosmetics and personal care products because they have no side effects. Free from side effects is the main reason for customers to switch to herbal products. (Banu, 2015).

In earlier periods women were satisfied within the four walls of the house and taking care of their homes and children. They were busy with family work all the time. They did not have time to take care of their skin, hair, and appearance. They were not doing any work. But today, women are taking on the responsibilities of home and job efficiently. Now they are more conscious about their appearance, which increases the personal care market rapidly. All aged women use facial skin products for personal hygiene, medical effects, and improvement of the skin. Young and unmarried women are more brand loyal. (Choudhary,2014).

Housewives and married people have a more positive attitude towards cosmetics and personal care goods in order to retain their status in the workplace. Customers pay more attention to the quality and brand of the product (Jawahar,2013).

The personal care products are used to maintain health, hygiene, and youthfulness. Demographic and socio economic status influences the buying behaviour of the women consumers of personal care products. Majority of the people uses herbal personal care products (Nagananthi, 2016). Bohra, Nagansur and Anute, (2022) ITC Ltd, with a market capitalization of Rs.2.13 lakh crore, is the second largest FMCG Company after HUL. Both of these businesses are in direct competition with one another for personal care products.

The factors that influence customers to purchase and consume herbal skin care products are natural ingredients, quality of the product, celebrity endorsement, and environment friendly (Huda, 2013). The cosmetic industry is growing due to two main reasons. First is cost effective products demand increases, and second is an average Indian’s purchasing power increases. The other reasons for growth are television which is in every home and number of channels as well as internet. Consumers get product information on television from numbers of advertisements (Desai,2014)

In India more than half the population of India lives in the rural area. The rise in a rural economy became a golden chance for personal care industries to develop their market in India. There is an impact of celebrity and advertisement on women consumers in their buying decision (Choudhary, Mukherjee, 2014).

The personal care products have a good scope in a rural area because a major portion of Indian population is a rural population. Rural consumers have diversity in their socio-economic background. This socio-economic background brings diversity among rural consumers and markets. These are different in different parts of the country (Sharma, 2014).

The brand name, quality, and advantages of personal care goods are more important to rural consumers. When rural customers get suitable brand for them, then they do not divert to other brand by any influencing factor. If they found particular satisfactory brand for them, they stick with it (Prialatha, 2011).

Today people are ready to pay more for quality personal care products. The price is not the only factors which influence consumer decision-making. Customers are influenced by price, packaging and promotion. Consumer’s purchase decision making depends on various factors such as price, quality, ingredients, storage, advertisement and promotional activities (Latha, 2017).

Modern media and advertisements increase the popularity of personal care products among consumers. The awareness about the personal care products created by electronic and print media increases demand for the personal care products. Due to this many local and international brands introduce their new products in the market (Jose, 2016).

Newspapers and road shows are used to raise awareness among people about personal care products. But advertising is the useful tool to attract the consumers. Indian consumers are brand conscious while purchasing personal care products. Word of mouth promotion is a very useful factor for the price conscious economy. Consumers' attitudes, perceptions and beliefs are key factors in their purchase decisions for personal care products. There are some factors which influence the consumer to accept or reject personal care products and Cosmetics. Consumer decision about personal care products depend on sensory properties, physical status, previous knowledge, previous experience and consumer attitude and beliefs (Rao, 2015).

Objectives of the study

1. To study the awareness of Rural women consumer towards Personal Care products.
2. To study the adoptability level of Rural women consumer in Personal Care products.
3. To study the factors affecting adoptability of Personal care product for Rural women consumers.

Hypothesis of the study

H1: Rural women consumers are aware about all categories of Personal Care products.
H2: Rural women consumers are using all categories of Personal care products.
H3: Various factors affects the adoptability of Personal care products in Rural women consumers.

Materials and Methods

The present study is a descriptive research based on primary data only. The primary data has been collected from the women of rural part of the Jalgaon district of Maharashtra state. A structured questionnaire was developed to collect data from women of a rural area. Total 140 women are selected by simple random sampling technique from selected rural area and those are ready to give response. Data collect from these 140 women respondent was in the form of personal data as well as personal care products consumption data of their family. The collected data was analyzed by SPSS software.

Data Analysis

Sr. No.	Variable	Response	Frequency	Percentage
1	Age	Up to 20 years	56	40.0
		20 – 30 years	77	55.0
		30 – 40 years	7	5.0
2	Marital Status	Unmarried	84	60.0
		Married	50	35.7
		Widow	6	4.3
3	Education Level	Primary (up to IV std.)	22	15.7
		Secondary (V to X)	37	26.4
		Higher Secondary (XI& XII)	43	30.7
		Graduate	29	20.7
		Post Graduate	9	6.4
4	Profession	Student	34	24.3
		Housewife	63	45.0
		Service	22	15.7
		Self Employed	21	15.0
5	Monthly income	Less than 10,000	63	45.0
		10,000 to 20,000	42	30.0
		20,000 to 30,000	35	25.0

Table No.01, Results of personal data of rural women consumers of personal care products.

Sr. No.	Variable	Response	Frequency	Percentage
1	Awareness about Personal Care Products	Yes	112	80.0
		No	28	20.0
2	Awareness about Haircare products	Yes	105	75.0
		No	35	25.0
3	Awareness about Skincare products	Yes	63	45.0
		No	77	55.0

4	Awareness about Oral care products	Yes	98	70.0
		No	42	30.0
5	Awareness about Personal hygiene products (Body)	Yes	42	30.0
		No	98	70.0
6	Using Hair care Products	yes	112	80.0
		No	28	20.0
7	Using Skin care products	Yes	84	60.0
		No	56	40.0
8	Using Oral care products	Yes	42	30.0
		No	98	70.0
9	Using Personal Hygiene (body) care products	Yes	42	30.0
		No	98	70.0
10	Personal Care Products not using due to Medical/Allergy reason	Yes	84	60.0
		No	56	40.0
11	Personal Care Products not using due to Fear of side effect	Yes	70	50.0
		No	70	50.0
12	Personal Care Products not using due to No trust on quality	Yes	91	65.0
		No	49	35.0
13	Personal Care Products not using due to Not affordable	Yes	98	70.0
		No	42	30.0
14	Personal Care Products not using due to Not necessity	Yes	28	20.0
		No	112	80.0

Table No.02, Results of Personal care products usage by rural women consumers

Hypothesis Testing:
All three Hypothesis are tested with One Sample t test at 5% level of significance i.e. α = 0.05.
H1: Rural women consumers are aware about all categories of Personal Care products.
H0: Rural women consumers are not aware about all categories of Personal Care products.

One-Sample Test				
	Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference
Awareness about Haircare products	34.034	139	.000	1.250
Awareness about Skincare products	36.733	139	.000	1.550
Awareness about Oral care products	33.446	139	.000	1.300
Awareness about Personal hygiene products (Body)	43.737	139	.000	1.700
Awareness about Cosmetic products	43.737	139	.000	1.700

Table No.03, One sample test of hypothesis

We reject the null hypothesis since the test's significance value, "p," is less than α level 0.05, and we infer that Rural women consumers are not aware about all categories of Personal Care products.

According to the test's mean difference, Rural women consumers are mostly aware about haircare products and Oral care products. Rural women consumers are moderately aware about skincare products and less aware about the personal hygiene (body) & cosmetic products.

H2: Rural women consumers are using all categories of Personal care products.
H0: Rural women consumers are not using all categories of Personal care products.

One-Sample Test				
	Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference
Using Haircare products	35.369	139	.000	1.200
Using Skincare products	33.692	139	.000	1.400
Using Oral care products	43.737	139	.000	1.700
Using Personal Hygiene (Body care)	43.737	139	.000	1.700
Using Cosmetic products	43.737	139	.000	1.700

Table No.04, One sample test of hypothesis

We reject the null hypothesis since the test's significance value, "p," is less than α level 0.05, and we infer that Rural women consumers are not using all categories of Personal Care products.

According to the test's mean difference, Rural women consumers are mostly using haircare products and moderately using skin care products. Rural women consumers are using oral care products, personal hygiene (body) care products and cosmetics products categories are using very less.

H3: Various factors affects the adoptability of Personal care products in Rural women consumers.
H0: Various factors not affects the adoptability of Personal care products in Rural women consumers.

One-Sample Test				
	Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference
Personal Care Products not using due to Medical/Allergy reason	33.692	139	.000	1.400
Personal Care Products not using due to Fear of side effect	35.369	139	.000	1.500
Personal Care Products not using due to No trust on quality	33.370	139	.000	1.350
Personal Care Products not using due to Not affordable	33.446	139	.000	1.300
Personal Care Products not using due to Not necessity	53.054	139	.000	1.800

Table No.05, One sample test of hypothesis

We reject the null hypothesis since the test's significance value, "p," is less than α level 0.05, and we infer that various factors not affect the adoptability of Personal Care products.

According to the test's mean difference, 'Not affordable' and 'no trust on the quality of personal care products' affect the use (adoptability) of personal care products. Medical reason or Allergy of personal care products as well as fear of side effects of personal care products moderately affects the use (adoptability) of personal care products. While not necessity of personal care products rarely affects the adoptability of personal care products.

Findings

- 80% women consumers are aware of selective personal care products. Maximum 75% and 70% women consumers are aware of Hair care and Oral care products. They are less aware of personal hygiene products and Skin care products.
- The uses of personal care products are in variation according to categories of personal care products. The maximum 80% rural women consumes are using Hair care products and minimum 30% women

are using Personal hygiene (Body) care and Oral care products. While 60% are using Skin care products.

- Not affordable (high price), 70% and No trust on the quality of personal care products, 65% are the main factors affecting the use (adoptability) of personal care products. While Medical reason or Allergy of personal care products, 60% as well as fear of side effects of personal care products, 50% are moderately affects the use (adoptability) of personal care products. While not necessity of personal care products, 20% is rarely affects the adoptability of personal care products.

Conclusion

The rural women consumers are well aware about personal care products with 80 percent awareness level. But they are not well aware about all categories of personal care products. They are maximum aware about haircare products and minimum aware about personal hygiene (Body care). From the hypothesis testing, it is proved that Rural women consumers are mostly aware about haircare products and Oral care products. Rural women consumers are moderately aware about skincare products and less aware about personal hygiene (body) & cosmetic products. They are adopting (using) all categories of personal care products in different percentage. The hypothesis testing also proved that Rural women consumers are mostly using haircare products and moderately using skin care products. Rural women consumers are using oral care products, personal hygiene (body) care products and cosmetic product categories are using very less. The main factors affecting the adoptability of personal care products of rural women are “Not affordable to purchase” and “No trust on the quality of personal care products”. The hypothesis testing also proved that these two factors restrict rural women for using personal care products.

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BRANDING STRATEGIES OF SHOPPING MALLS TO GENERATE IMPULSE BUYING BEHAVIOUR AND LOYALTY AMONG GENERATION Y

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ABSTRACT
The branding of shopping centres is widely used for the most common consumer goods. The power of branding has shifted from manufacturers' brands to retailers' brands. Shopping centre brands have gained a good reputation in recent years. Retailers can be classified by their retail stores and brands. There is a direct relationship between retailers and consumers. Businesses are recreating the experience of a physical mall in the digital space. Shopping and entertainment centres are growing in both urban and rural areas. They have started franchises and are only getting bigger and better to encourage impulse buying and become a staple of today's urban lifestyle. Findings would contribute to positive social change by providing a better understanding of millennial customers' brand loyalty strategies and further opportunities to increase impulse buying, sales, profitability, and retail margins. Communities could see an increase in business activity and employment opportunities, which would positively impact tax revenues.
Keywords: Digital space, Branding, shopping malls, Consumer Preferences, Retail Brands, Sales Opportunities, Impulse buying, Generation Y

Introduction

The 'branding of shopping centres' approach is well-known in consumer goods and products. Wealthy manufacturers and industrialists of consumer goods have built a brand by developing a different brand value and a long-standing reputation for good quality and class, validated by extensive publications, advertising, and other activities to support the brand. Once a brand has established itself in the minds of consumers, it takes on a unique position and generates special meaning and value. Brand awareness is the consumer's conscious or unconscious decision to buy a particular brand regularly, expressed through intent or behaviour. To build brand loyalty, advertisers must break with consumer habits, help them create new ones, and reinforce these habits by reminding consumers to buy these products and encouraging them to continue to buy these products. "millennials" refers to millennials, a generation of people born in the 1980s and early 2000s.

This is an important segment for companies using digital malls to understand inventory and warehouse management, as well as self-service and assisted checkout systems for stores. Product data such as item images, displays, descriptions, photos, and prices would be captured. Innovative services would provide customers with a more pleasant, efficient, and convenient shopping experience. Once the brand is ingrained in the minds of consumers, it takes on a very special position that gives it unique meaning and value. Brand awareness is the consumer's conscious or subconscious decision, expressed in the determination or behaviour to purchase and repurchase a brand frequently. To create brand loyalty and retention, advertisers need to break consumers' routines that help to build and maintain new habits and reinforce them by immediately reminding consumers of the purchase made and encouraging them to buy these products in the future, which can only be done through digital conversion. It's good to immediately remember who generation Y is and what they want to target and engage this age group, which offers a huge percentage of spending potential. This is an important component for companies. Marketers need to be very focused on developing strategies to capture the attention of these customers.

Why and when do people buy impulsively?
Eighty percent of all impulse purchases are made because an item is on sale. The consumer currently considers it the best and cheapest purchase. Impulse buyers buy because they are angry, stressed, guilty, or bored. They have the extra money in their pocket. Digitization attracts young shoppers to shopping malls.

The Characteristics of Impulse Buying:
The unplanned, spontaneous, and intensive purchases by the buyer, who often ignores the later consequences
Feelings and emotions play a very crucial role in impulse buying, triggered by the sight of the product or when exposed to an advertising message.
Without prior knowledge of the product or intention to purchase it.
A kind of emotional and irrational purchase, often for the sake of pleasure, imagination, social and economic pleasure
Consumers often regret their purchase after they have bought on impulse
How marketers should take advantage and make the most of it to increase their sales.

Review of Literature
The history of shopping centres shows how planners attempted to combine physical design with social reform, leading to the development of planned shopping centres in the suburbs and cities. Leading theorists of the mall movement, Victor Gruen and James Rouse, advocated creating controlled environments that are as exciting as the city, but without the quintessential urban elements. Adaptation of techniques developed in the suburbs has helped revitalize urban commerce in city centres but has also raised new questions about the compatibility of malls with the needs of the surrounding city, Gillette (1985)

Brand-conscious businesses can use their visibility in the community to attract more customers, which can increase their sales. This awareness can also help make customers feel more comfortable when deciding to purchase the company's products or services, Aaker (1991)

Large gated malls are important institutions in contemporary Western culture, Consumer relationships with shopping malls as places of consumption using the habitat concept of ecological sciences. It is an empirical study of consumer behaviour in different shopping centres. In particular, it identifies differences in the shopping centre business patterns and identifies buying orientations that help explain these differences, Feinberg , Meoli (1991)

The term branding is familiar in consumer goods, but the power has shifted from manufacturer brands to retailers. The term "image" is more common than "brand" in the context of shopping centres, but "brand" can become more important. Firstly a qualitative investigation was done and found a significant difference among the centres. Secondly, the authors quantitatively assessed six UK shopping centres. The "strong and lively" inner city performed significantly better than the "boring" inner city, better "branded" inner cities were generally characterized by higher reach, sales, and rental income. The researchers find that brand management can pay off in terms of sales, customer base, and rental income. The concentration of retail in malls has shifted the balance of marketing "power" from branded to private labels. The brands have increased their brand recognition, Mc Goldrick (1990), Jary , Wildman (1998)

An assessment of a mall's relative strengths and weaknesses from the perspective of two shopper segments: those who prefer to shop there and those who prefer a competitive mall. An important performance technique used to analyze the data. The implications were: Multi-Attribute Approach to Understanding Shopper Segments, Parsons (2003)

The growth of the Indian consumer market and retail industry looks promising due to Indian retail market growth, favourable government policies, and emerging technologies to facilitate business. Thus, the Indian retail sector is a growing segment in terms of shopping malls. The boom in shopping malls is a clear indicator of India's economic prosperity. The 4D and 5D multiplexes and food courts, which are growing at a rapid pace, are attracting customers. The purpose was defined as shopping malls, which are usually enclosed with a cool, air-conditioned walkway between two facing strips of stores on floors, McKinsey (2007)

Nowadays, shopping malls play a dominant role in the lifestyle of people in big cities, which has greatly changed shopping habits, and shopping malls can be found almost everywhere. Nowadays people think that malls are the best place to shop or go out. They are not only a place for shopping but also a place for socializing and relaxation. Consumer behaviour towards these malls, with special attention to the city of Chennai, and finding a solution to make the shopping experience more enjoyable and profitable for the companies involved in retailing, especially malls, Sharma , Shivakumar (2012)

Despite a very good growth potential, retail in India is going through turbulent times, so differentiation becomes very important. In the apparel segment, there are several lifestyle format providers. These apparel companies offer almost the same as their competitors. Therefore, the only way to increase customer traffic and sales was to differentiate through visual merchandising. The objective is to find out the consumer perception towards apparel stores in Ahmedabad. The results showed why visual merchandising is important for strategic marketing decisions aimed at increasing in-store sales. specifically global retailers whether they are cautious-aggressive or aggressive-cautious, Kearney (2013)

In 2012, India's retail sector accounted for more than 20% of the country's gross domestic product (GDP) and 8% of total employment (The Indian Kaleidoscope-Emerging trends in retail, PWC, 2012). India has a growing middle class and a virtually undeveloped retail sector which are the key factors in driving global retail giants to enter new markets. This, in turn, paves the way for India in the retail sector which is growing at a faster pace.

India's organized retail penetration growth is being driven by a combination of demand, supply, and regulatory factors, which are considered to be growth drivers for the Indian consumer and retail market. In 2013, India's retail sector was valued at US$520 billion, making it one of the largest employers in the country. Grocery and groceries are the largest retail categories at 60%, followed by apparel and mobile phones (IBEF, 2014). According to the McKinsey report "The rise of the Indian Consumer Market", the Indian consumer market is expected to quadruple by 2025. Penetration of organized retail is projected to increase from 5% in 2010 to 21% in 2015 New technology makes doing business easier, Sudeep , Menaka (2015)

Digital marketing is a branch of prevalent such as: current, ordinary, regular, traditional, typical, and accepted mainstream marketing. Marketing that uses various new and evolving technologies to showcase products and communicates with customers and investors to grow business and build brand visibility, recognition, and awareness, Wymbs (2011), Koong, Liu, Bai, & Wei (2008), Zhang, Liu & Wen (2018), Waheed , Yang (2018)

Effects of a mobile augmented reality app on impulse buying behaviour with tourism research in terms of usability, perceived enjoyment, and impulse buying propensity. Live-streaming consumers are more likely to make impulse purchases due to the introduction and promotion of live streaming for a short period. A live retail impulse buying model was developed and validated in the Chinese context. The results of this work provide concrete suggestions for retailers, Do et al (2020)

The overview of the shopping centres operating in and around Pune

The Polish retail market has been in continuous development since the 1990s. As of 2020, there are 145 shopping centres in Pune with a total leasable area (GLA) of approximately 10.9 million m2. However, they show the general trends of change in the market of shopping centres in Pune. This retail form that has shown maximum growth is shopping malls or multipurpose shopping complexes. These extravagant malls are positioned as a one-stop destination for a family's entertainment, as they can not only shop but also dine at the food court restaurant and watch a movie.

Nowadays, there are more and more shopping centres, and the increasing competition between them has led to a decrease in the number of visitors. Alternatives that stimulate the impulse buying behaviour of Generation Y customers would ultimately lead to their survival despite this intense competition. Marketing research has repeatedly examined how frequently merchandise was purchased in terms of brand loyalty, service loyalty, and shop loyalty. The developing and emerging Indian retail market is facing global competition where the importance of managing customer loyalty is a management challenge for marketers.

The importance of research and the identification of the research problem

India is one of the most important countries for global retail with its current retail growth rate. More consumer spending by the young population between 25 and 40 years of age, Generation Y (more than 31% of the country belongs to Generation Y), and Strong growth in disposable income is driving the development of the organized retail sector in India. Tier 1 and Tier 2 cities are also experiencing significant changes in consumer preferences and lifestyles, making them attractive markets for retailers looking to expand their footprint.

This present article would study and focus on the determining latest trends in the malls in Pune, investment in good fundamentals of the shopping malls, top challenges faced by the mall managers, a need for the mall managers to focus on running the properties in sound and perfect condition and operating using the best practices and international standards. Thus, the question comes up, "What strategies must be formulated and implemented by mall developers and managers for shopping malls in Pune to be successful?"

Objectives
Below are the objectives of the study:

1. To study the different shopping mall attributes for customer evaluation in selected shopping malls in Pune
2. To learn strategies for branding the mall and creating mall loyalty
3. To propose branding strategies for shopping malls and their influence on the impulse buying behaviour of generation Y.

Hypothesis
This study considers the following Hypothesis for the achievement of the objective of the research;
H1: The distinct shopping mall attributes have significance on Impulse buying amongst Gen Y customers.

Research Methodology
From June 2022 to November 2022, a direct market survey was conducted to analyze brand loyalty strategies for shopping centres. The analysis is based on preferences in shopping location choice, data on the use of mall retailers' ancillary services, digitization and service facilities, and identification of non-retail features of shopping malls that are of particular interest to Gen Y consumers to make impulse purchases. The survey was conducted in Pune using a questionnaire. Respondents were randomly selected. The survey was conducted in Pune to avoid the effect of the correlation between the place of residence and the place of shopping, and consequently, the choice of the nearest shopping mall as the most attractive place to shop.
Study population and target population (survey): 350 respondents. The population consists of adult male and female customers residing in the city of Pune. The population covered by the study is adult shoppers visiting malls in Pune.

Sampling Design
A targeted sampling technique was used to collect the data. The study used primary and secondary data collection methods. Baseline data was collected from mall shoppers using a small survey with a structured questionnaire. The secondary data collected was based on available information published in trade journals and magazines, as well as data published by retail establishments or shopping malls. The survey included 350 respondents-mainly residents of Pune. Female respondents accounted for slightly more than 60% of the total, while male respondents accounted for nearly 40%. Nearly 50% of the respondents were professionals and those with college degrees. The data was collected through questionnaires sent out by internet users who frequently buy the products. The questionnaire consisted of two basic parts, namely the demographic profiles and the basic questions. The demographic part includes seven characteristics (see Table 1), while the second part consists of basic questions with 29 statements. In the period from June 2022, questionnaires were distributed to 400 internet users. Subsequently, 370 questionnaires were returned to the authors, of which 350 were finalized after eliminating somewhat unacceptable documents. Data was collected from major cities in Pune. A five-point Likert scale was used. Data analysis methods The SPSS software package was used for data analysis. Correlation analysis was primarily used to test research hypotheses and other statistical methods

Data Analysis
In the following, the results and findings of this study are presented according to the objectives and assumptions. Attributes of shopping malls considered by customers when selecting shopping malls

1. H1: The distinct shopping mall attributes have significance on Impulse buying amongst Gen Y customers.

Gender:	Male	141	40.00%
	Female	209	60.00%
Age	23 to 25	44.1	12.60%
	26 to 30	167.3	47.80%
	31-35	62.3	17.80%
	36 to 40	31.15	8.90%
	40 Above	45.15	12.90%
Profession:	Student	113.9	32.80%
	Self Employed	23.1	6.60%

	Working professional	200.9	57.40%
	Housewife	11.57	3.30%
Income:	Below 4 lakhs	232.05	66.30%
	4 to 8 lakhs	59.85	17.10%
	8 lakhs above	58.1	16.60%
Education:	Graduate	100.8	28.80%
	Post Graduate	248.9	71.20%
Marital Status:	Single	247.45	70.70%
	Married	89.15	25.50%
	Not Disclosed	12.95	3.70%
Impulse Buying tendency	Rarely	141.05	40.30%
	Sometimes	158.2	45.20%
	Almost every time	50.75	14.50%

Table No. 1: Demographic information

Time Spent by the gen Y respondent in the shopping malls		
Time Spend	No of Respondents	% of Respondents
< 1 Hour	118	33.7
1 - 2 hours	106	30.3
2 - 3 hours	56	16
3 - 4 hours	19	5.4
4 - 5hours	31	8.8
> 5 hours	20	5.7
Total	350	100

Table No. 2: Time Spend by the Gen Y respondent in shopping malls

The above table shows that about 79%, slightly more than three-quarters of the respondents, spend up to 3 hours in the shopping centres

Frequency of Gen Y visiting shopping malls		
Frequency	No of Respondents	% of the respondents
Once every week	65	19
Once every fortnight	118	34
Once every month	135	39
Once every 45 days and more	32	9
Total	350	100

Table No. 3: Frequency of Gen Y visiting shopping malls

The table above shows that 39%, or just over one-third of shoppers, visit a mall only once a month, but 19%, or less than one-fifth of shoppers, visit once a week. This shows that shoppers prefer shopping centres.

Reason for Current Visit to the Mall	No of Respondents	% of Respondents
Buy a gift	48	13.71
Kill time due to digitisation facilities in the mall	24	6.86
Needed to eat	15	4.29
Buy food and drink	34	9.71
To purchase	8	2.29
Movie	25	7.14
Entertainment	56	16.00
Shopping	141	40.00
Total	350	100.00

Table No. 4: Reasons for Current Visit to the Shopping Mall

The above table reveals that 13.4 % of respondents go to malls to buy a gift or a purchase, 10% opt to buy food, 15% for entertainment, and 41.5 % for shopping. 7% for digitization opportunities in the mall. The main reasons for visiting a mall are shopping, leisure, buying gifts or shopping, and window shopping is also an important factor in mall attractiveness.

KMO Results

Before analyzing the factor structure by exploratory factor analysis, the KMO test is performed. The KMO and Bartlett tests are used to determine the adequacy of sampling the data, which are then used for factor analysis.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.756
Bartlett's Test of Sphericity	Approx. Chi-Square	8235.199
	Df	190
	Sig.	0.000

Table No. 5: KMO and Bartlett's Test Results

The KMO value was used and was greater than 0.50 (0.756), and Bartlett's test also proved significant (2 = 8235.199, df = 190) at a significance level of 0.00.

	Income	Age	Education	Frequency	Impulse
Gender	-.103*			.153**	.167**
Profession	.468**	.587**			
Marital	.556**	.763**	.158**		-.142**
Age	.682**		.181**		-.189**
Brands	-.235**				
Frequency of visit	.127**				.512**
IBT	-.113*				

Table No. 6: Correlation Matrix

*. The correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.744[a]	.537	.575	.551	.538	164.290	3	423	.000	1.678

Table No. 7: Multiple Regression Analysis

a. Predictors: (Constant), Branding of Malls
b. Dependent Variable: Impulse Buying Tendency

Multiple regression analysis was performed to estimate the causality between the predictors and the outcome variable. The R-value of the model was 0.744, while the R-squared and fitted R-squared were 0.537 and 0.575, respectively. The adjusted R- squared value indicates the variance contribution of the model, which is 53.8%. The Durbin-Watson value for the model was 1.648, which is within the prescribed range of 1.5 to 2.3, indicating the suitability of the model for further analysis The Durbin-Watson value for the model was 1.678, which is within the prescribed range of 1.5 to 2.3, Indication of the usefulness of the model for further analysis. Multiple regression models analyzed the influence of three independent variables (mall brand and IBT) on the impulsive behaviour of millennial shoppers.

It was found that the different attributes of shopping malls are important for impulse purchases of Generation Y customers when choosing shopping malls:

One-Stop-Store, Convince, Value for Money, Entertainment, Digitalization and Specialties Retailers'

Mall branding strategies to generate impulse purchases and retain Generation Y customers at the mall
1. One-Stop Strategy: The one-stop shop offered at the mall can be a place where routine purchases are done, as well as valuable time for relaxation or things one likes to do with his family. The mall's attractive interior and exterior design, basic amenities, and vibe also play a role in impulse buying among millennials who want to spend more time feeling comfortable and stress-free.

2. Convenience Strategy: Since a shopping centre cannot be located in the city centre, it can be located in adjacent residential areas or a more pleasant and quiet area a little further from the city. Multi-level hydraulic parking can be used to solve parking problems. Unique competitive positioning, promotional and marketing activities for the entire shopping mall during the holiday season and special occasions such as Valentine's Day and public holidays. Shopping malls should have well-trained security systems and state-of-the-art digital security.

3. Mall Value Strategy: The pricing methods used by most retailers (mall stores) are price plus price, and special discounts for students, youth, and seniors. The low-price strategy can be used for small to medium-sized stores as shoppers expect better value for money from these stores.

4. Entertainment Strategy: The mall should provide a balance of key attributes such as entertainment, 4D/5DM multiplexes, grocery stores, and children's play areas. This strategy can attract shoppers, particularly those shopping with their families, and motivate them to visit frequently.

5. Specialization Strategy: Based on the mall's brand positioning and brand image in the public eye, it should contain a mix of national and global brands as well as private labels. A thoughtful selection of stores can help the centre solidify its unique position and become shoppers' first choice in the face of fierce competition.

6. Technology, the basis of success: Use new technologies like augmented reality (AR) to improve the user experience. It aims to digitally replicate a person's shopping experience in a mall. Information on the available quantity of goods. Consumers can check if the product they are looking for is available and reserve it. In addition to the quick collection of products, the service offers the possibility of individual advice in the shop and of trying out the products before buying them.

Managerial Implications
The managerial implications of this study are as follows:
1. Customers need to notice and know what is in store in a mall. For a specialty store, this would help position the store for your target audience

2. Store managers should research to understand what is happening at nearby stores in malls, and then take appropriate measures to increase customer loyalty in the stores. Reasonable strategies must be employed to maintain participation and loyalty. Store loyalty is an important factor. When customers are dissatisfied with a particular store, their loyalty to that particular store decreases, resulting in loyalty to the mall. To maintain the level, the retail manager needs to establish regular collaboration and relationships with the management of the mall and other stores in the area.

3. In a changing retail market where malls are growing, managers need to understand buyer psychology and behaviour, which would help them penetrate their target market.

4. Shopping malls want to integrate new technologies like augmented reality (AR) to improve the user experience. It aims to digitally recreate a person's experience associated with shopping in a mall.

5. The branding of the malls and the innovative nature of this initiative will take the form of a 'virtual test room' where the customer can try to browse the products like in any other offline area of a gallery or mall. The consumer app interface will be available on the web and will also be available on iOS and Android devices in the future.

6. A combination of frameworks will support applications and a virtual platform. Addressing the critical needs of the e-commerce market, the Virtual Trial Room will be the most unique aspect of the app, allowing users to digitally try on products featured in the virtual mall.

Conclusion

- Income was found to be strongly and positively correlated with occupation (r=0.472), marital status (r−0.557), age (r=0.68), and millennial purchase frequency, which increased with age and hence the career advancement is increasing, reflecting an increase in purchase frequency.
- The age of a person was found to have a positive correlation with his or her occupation (r = 0.589) and marital status (r = 0.763), indicating the natural phenomenon that a person has advanced in employment and is more likely to marry with age.
- It has been shown that purchase frequency is positively related to gender (r=0.163). The results show that older customers buy more.
- A positive correlation was found between the frequency of impulse purchases and gender (r-0.170) and the frequency of impulse purchases (r=0.510). According to the researcher, this suggests that the higher the frequency of impulse buying experiences, the more likely the user will make more impulse purchases.
- The building blocks of a brand include building a competitive advantage, positioning it, and communicating with customers that would generate impulse purchases and keep them with the brand longer. Emerging trends can be identified based on internal historical data and customer feedback.
- From this, digitization and marketing strategies can be formulated for attributes such as one-stop shops, mall value, convenience, entertainment, and specialty services, as these attributes of malls play an important role in building mall brand image.
- These strategies aim to transform the shopping experience in malls and make shopping mall visits much more enjoyable and rewarding, which will lead to increased customer loyalty through new mall branding technologies. With the variety of shopping options and numerous channels available to today's consumers in a city like Pune, the mall needs to be top-notch in the minds of the consumers to survive in the long term.
- This study could provide multi-dimensional insights that could help mall developers and store owners position themselves to appeal to their target customer segments.

Limitations and Future Research

- The research paper suggests several directions for future research, such as research that can be carried out in different markets in other parts of India. We can't measure loyalty accurately by asking fewer questions, but we need to analyze the different factors that affect loyalty.
- Future research should examine other factors such as atmosphere, services, and accessibility, as well as other factors that can be used to design an appropriate mix of shopping centres. The size of shopping centres such as theme centres or niches can also contribute to the investigation. Gender differences and their responses can also be explored.
- Socioeconomic variables such as different age groups and generational differences can also be compared, which may be important in different product categories and influence mall loyalty.
- This study can provide insights and help shopping centre owners more effectively attract the most desirable tenants, increase customer satisfaction and expect high returns for investors.

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CHANGING SCENARIO OF AUTOMOBILE INDUSTRY IN INDIA IN THE POST TECHNOLOGICAL UPGRADATION ERA AND COVID-19

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ABSTRACT
Automobile industry is a key driver of the economy and plays a significant role in the country's sustainable economic and industrial development. The present paper highlights the impact of major technological upgradation and covid19 with respect to the automobile industry. To assess the impact of technological upgradation and Covid on the growth of the automobile industry, a comparison has been made between these periods in terms of vehicles produced, domestic sales and exports for the period from 2012-2013 to 2020-2021. Compound Annual Growth Rate (CAGR) has been used to analyse the data of pre and post technological upgradation reform period and post covid periods. The findings of the study revealed that industry did not get affected before 2018-19 due to technological upgradation norms as industry implemented it in slow pace and public also responded positively like adoption of BS IV as industry shows positive growth rate in 2017-18 and 2018-19 but the order of the supreme court that only BS-VI compliant vehicle will be sold in India from April 2020, badly affected the industry and mainly cause to negative growth in 2019-20. Further, the impact of covid - 19 in the first year 2020-21 found to be more on the negative growth of Indian automobile industry than the technological upgradation norms. But in the second year responded positively and recovered as shown positive growth in all segments of the automobile industry.
Keywords: Automobile Industry, Financial Crisis, Regulatory Policies, Compound Annual Growth Rate (CAGR)

Introduction

The automobile industry in India has flourished after economic liberalization in 1990's like never before. It has been suddenly exposed to a vast international market as an opportunity and to global competition on a large scale. In the wave of economic liberalization, this dynamic industry has witnessed marvelous growth leading to the future expansion of its domestic automobile market by attracting investment by multinational automobile companies. With this tremendous growth over the years, it has emerged as a major contributor to India's Gross Domestic Product (GDP). This dynamic industry currently accounts for almost 7 percent of the country's GDP and employs about 37 million people both directly and indirectly. India is emerging as one of the world's fastest growing and largest two-wheeler markets, 2nd largest heavy bus maker, 3rd largest heavy truck maker, 4th largest car maker and 7th largest commercial vehicle maker in the world. India also has the largest base to export compact cars to Europe. Automotive Mission Plan (AMP) 2006-2016 achieved the target of incremental employment creation of 25 million jobs over the past decade. Also, significant investments have been attracted from global and local OEMs as well as component manufacturers, exceeding the target of Rs. 1,57,500 crores. As per data released by the Society of Indian Automobile Manufacturers (SIAM), the gross turnover of the automobile manufacturers in India has increased to 67,724 USD Million in 2016-2017 from 63,866 USD Million in 2015-2016 showing a growth of 6.04 per cent. The Vision of Automotive Mission Plan 2016-26 states that "By 2026, the Indian automotive industry will be among top three of the world in engineering, manufacture and export of vehicles and auto components, and will encompass safe, efficient and environment friendly conditions for affordable mobility of people and transportation of goods in India comparable with global standards, growing in value to over 12% of India's GDP, and generating an additional 65 million jobs." Therefore, the industry is recognized as one of the drivers of economic growth as it contributes significantly to the overall GDP of the nation.

In India since the early 1940s, when the auto industry rolled out the first passenger car, the Indian automobile industry has been on progressive wheels. But, the financial crisis in the US distressed the global auto industry and consequently, Indian automobile industry also felt the heat of the global recession, Ransariya (2013). The industry soon recovered from difficult phase of global recession and registered the remarkable growth across all the segments in 2009-10.But, presently, it has been a tough ride for the Indian Automobile industry, as it is facing declining trend in 2019-20 over 2018-19.The key technological upgradation norms like leapfrogging to BS-VI norms, 100% Electric Vehicles (EVs) by 2030 in public and 40% in private sector, End-of Life Value (ELV) policy, methanol economy, fuel efficiency norms, alternate fuels have posed several challenges in terms of technology up-gradation, investment, affordability, implementation etc., before the Government, industry, regulatory bodies and financial institutions. (SIAM Annual Report, 2019-20). Additionally, Covid-19 also affected the automobile industry worldwide.

Literature Review
Haugh, Chatal (2010), showed that the automobile industry is economically important and discussed the policy measures taken for car scrapping programmes to support the automobile industry at the time of crisis. It was found that rapid increases were foreseen in China and to a lesser extent in India. Medium-term projections suggested that capacity exceeds trend sales by around 20% in the five largest Western European markets and these countries would need to ensure significant growth in export volumes with the same capacity. Ray (2011), analysed the financial health of the automobile industry in India and found that global recession has negatively impacted the Indian economy in general and automobile industry in particular and the government must take regulatory measures for the sustainable growth of the automobile industry. Shinde, Dubey (2011), analysed the automobile industry and found that the Indian automobile industry has been able to sustain even at the tough times of recession and has growth potential in future by adopting technological changes. Pandya, Pandya (2013), carried out the fundamental analyses of two automobile companies and estimated their intrinsic value to assist investment decisions. The study revealed that the automobile industry is one of the core industries in India and is optimistic of posting good sales in the near future. Ransariya (2013), found that the last two years have been the toughest for the Indian Automobile industry with the continuous decline in the profitability and in the market of commercial vehicles. The study revealed that as compared to profitability of the automobile industry the liquidity performance is less affected by global crises. Tawiah, Bogeh (2014), found that the automobile industry registered a decline in profit after tax during the crisis but their dividend pattern was about the same as pre- and post-recession era. The IT industry, on the other hand, had growing profit at a decreasing rate during the recession but this dividend pattern fell during the crisis. It was found that though the IT industry enjoyed growing profit than the Automobile industry; the dividend payout ratio of the Automobile industry (40%) was higher than the IT industry of 30%. Varshney (2014), concluded that FDI has a direct and positive impact on the overall progress of the automobile industry of the country. Yadav, Manvani (2015), assessed the pre- and post-recession growth and performance of the automobile sector. It was found that during both periods, negative growth sales of all vehicles is two times more than negative growth of all produced vehicles. During the recession period, growth of automobiles is negative while other periods show extensive growth in both production and sales volume. Eugenio, Maria and Jeff (2018) examined the effect of national policies on the European automobile industry. The results depicted that the European automobile industry benefited from pro-diesel fuel taxes and a lenient no emission policy. Wen, Yang and Gao (2021) analysed the impact of covid-19 on the electric vehicle industry. The study found that covid-19 badly affected the electric vehicle sales and production. The pandemic affected small brands more than the leading brands. Additionally, travelling restrictions during covid -19 have also interrupted electric vehicle material supply.

The review of existing literature revealed that the global financial crisis has badly affected the automobile industry for the short period and the industry was able to sustain even in the tough times. But now the industry is facing challenges due to the quick technological upgradation reforms and covid-19.

Objective of the Study
The present study comprises of the following objective:

1. To assess the impact of technological upgradation norms and covid on the growth of Automobile Industry in India.

Research Methodology
The Present study is descriptive in nature. The data was collected from secondary sources such as journals, magazines, published reports, various websites related to the automobile industry and by reviewing existing literature. To assess the impact of technological upgradation norms and covid on the growth of automobile industry, a comparison has been made between these periods in terms of no. of vehicles produced, domestic sales and exports for the period from 2012-2013 to 2020-2021. The pre-norms period includes the years from 2012-13 to 2015-16, and the post-norms period covers the years from 2016-17 to 2019-20 and post Covid period 2020-21. Compound Annual Growth Rate (CAGR) has been used to analyse the data of pre and post norms period.

Technological Upgradation Norms taken by the Government of India for Automobile Industry
The regulatory technological upgradation norms in the Indian automotive sector are rapidly evolving and changing fast mainly from 2016. Like the Information Technology and Telecommunication sectors, the future of the automobile industry is at the journey of complete transformation. Some of the major norm's initiatives are

Emission Norms, Promoting Electric vehicles, Fuel Efficiency Norms, Policy of End-of-Life (ELV) of Vehicle, Vehicles Safety Norm, Harmonization of Vehicle Regulations (UN-WP.29), Alternative Fuels, etc. So far, reforms under the automobile sector have been incremental and gradual, however, the recent decisions like leapfrogging to BS-VI emission norms, 100% electric vehicles by 2030 in public sector, methanol economy, fuel efficiency norms etc. are metamorphic with highly compressed transitional phases as compared to the transition time given to industry in other countries, and will have profound impact on entire automotive ecosystem.

Secondary Data Analysis
Secondary Data Analysis of Growth Rate of Automobile Industry in terms of Volume of Production, Domestic Sales and Export for Pre, Post-Technological Upgradation Era and Post-Covid Period

Category	**Automobile Production Trend**						**No. of Vehicles**	
Period	**Commercial Vehicles**	**Growth %**	**Passenger Vehicles**	**Growth %**	**Three wheelers**	**Growth %**	**Two Wheelers**	**Growth %**
Growth for Pre-Norms Period for the year 2012-13 to 2015-16								
2012- 13	831744	(8.76)	3233561	3.5	839742	(4.33)	15721180	1.73
2013-14	699,035	(15.95)	3,087,973	(4.50)	830,108	(1.15)	16,883,049	7.39
2014-15	698,298	(0.11)	3,221,419	4.32	949,019	14.32	18,489,311	9.51
2015-16	786,692	12.66	3,465,045	7.56	934,104	(1.57)	18,830,227	1.84
CAGR		(1.84)		2.3		3.6		6.20
Growth for Post-Norms Era Period for the year 2016-17 to 2019-20								
2016-17	810253	2.99	3801670	9.71	783721	(16.10)	19933739	5.86
2017-18	895448	10.51	4020267	5.75	1022181	30.43	23154838	15.81
2018-19	1112405	24.23	4028471	0.20	1268833	24.13	24499777	5.81
2019-20	752022	(32.40)	3434013	(14.76)	1133858	(10.64)	21036294	(14.14)
CAGR		(2.5)		(3.3)		13.0		1.8
Growth for Post-Covid Period for the year 2020-21								
2020-21	624939	(16.90)	3062221	(10.82)	611721	(46.05)	18349941	(12.77)

2021-22	805527	28.89	3650698	19.22	758088	23.93	17714856	(3.46)

Source: www.siam.in

Table 1 Trend of Production in Indian Automobile Industry

Table 1 depicts the major decline in growth of production in the year 2013-14 for commercial vehicles, passenger vehicles and three-wheelers in pre technological upgradation period whereas in the post technological upgradation period, the major decline observed in all segments of automobile industry in the year 2019-20. The post covid 19 period 2020-21 also showed negative growth in all four segments of automobile industry. The results also revealed highest 46.05 per cent decline in growth of production in three wheelers in post covid period followed by 32.90 decline in commercial vehicle of post technological upgradation norms period in the year 2019-20.The study revealed that industry did not get affected before 2018-19 due to technological upgradation norms as industry implemented it in slow pace and public also responded positively like adoption of BS IV as industry shows positive growth rate in 2017-18 and 2018-19 but the order of the supreme court that only BS-VI compliant vehicle will be sold in India from April 2020, badly affected the industry and mainly cause of negative growth in 2019-20. Further the impact of covid -19 in the first year 2020-21 found to be more on the negative growth of Indian automobile industry than the technological upgradation norms. But the industry immediately recovered in the second year and showed positive high growth in all segments except two wheelers. It indicates the huge potential and demand of the automobile industry. Therefore, there is a need for the government to make policies favorable for the revival and significant growth of the automobile industry.

Category	**Automobile Domestic Sales Trend**				**No. of Vehicles**			
Period	**Commercial Vehicles**	**Growth %**	**Passenger Vehicles**	**Growth %**	**Three wheelers**	**Growth %**	**Two Wheelers**	**Growth %**
Growth for Pre-Norm Period for the year 2011-12 to 2015-16								
2012- 13	793150	(2.02)	2686429	2.6	538291	4.88	13797748	2.69
2013-14	632,851	(20.21)	2,503,509	(6.81)	480,085	(10.81)	14,806,778	7.31
2014-15	614,948	(2.83)	2,601,236	3.90	532,626	10.94	15,975,561	7.89
2015-16	685,704	11.51	2,789,208	7.23	538,208	1.05	16,455,851	3.01
CAGR		(4.74)		1.26		(.01)		6.05
Growth for Post-Norm Era Period for the year 2016-17 to 2019-20								
2016-17	714,082	4.14	3,047,582	9.26	511,879	(4.89)	17,589,738	6.89
2017-18	856,916	20.00	3,288,581	7.91	635,698	24.19	20,200,117	14.84
2018-19	10,07,311	17.55	3,377,389	2.70	7,01,005	10.27	21,179,847	4.85

2019-20	717,688	(28.75)	2,773,575	(17.88)	636,569	(9.19)	17,417,61 6	(17.76)
CAGR		.17		(3.09)		7.54		(.33)
Growth for Post-Covid Period								
2020-21	568559	(20.77)	2711457	(2.24)	216197	(66.04)	15119387	(13.19)
2021-22	716566	26.03	3069499	13.20	260995	20.72	13466412	(10.93)

Source: www.siam.in
Table 2 Trend of Domestic Sales in Indian Automobile Industry

Table 2 highlights CAGR of commercial vehicles was negative 4.74, positive 0.17 and negative 20.77 in pre, post technological upgradation period and post covid period respectively. It indicates the highest decline of 66.04 per cent in growth of sale of three-wheeler followed by 20.77 per cent in commercial vehicles in the first year 2020-21 of post covid period. The sale of all segments was declined in the first year of post covid period. But industry immediately recovered in the second year 2021-22 and showed positive high growth of sales in all segment except two wheelers. It indicates huge demand of automobile industry. The technological upgradation period 2019-20 showed higher decline than previous period in all four segments sale. In this period highest decline was 28.75 of commercial vehicle followed by 17.88 of passenger vehicle. The research concluded that both technological upgradation norms and covid badly affected sales of automobile sector. The lower performance of 2019-20 can be attributed to poor customer sentiments, liquidity crisis, higher cost of acquisition due to new safety and environment regulations, including BS IV to BS VI transition, higher upfront insurance premium, lower demand of CVs due to change in Axle weight norms, amongst others (SIAM annual report, 2019-20). Therefore, the automobile companies should really need to develop effective cost management strategies to transform the prospects in to the customers.

Category	**Automobile Export Trend (No. of Vehicles)**							
Period	**Commercial Vehicles**	**Growth %**	**Passenger Vehicles**	**Growth %**	**Three wheelers**	**Growth %**	**Two wheelers**	**Growth %**
Growth for Pre-Norm Period for the year 2012-13 to 2015-16								
2012- 13	79944	(13.73)	554686	9.34	303088	(16.48)	1960941	0.71
2013-14	77,050	(3.62)	596,142	7.47	353,392	16.60	2,084,00 0	6.28
2014-15	86,939	12.83	6,21,341	4.23	4,07,600	15.34	24,57,46 6	17.92
2015-16	1,03,124	18.62	6,53,053	5.10	4,04,441	(0.77)	24,82,87 6	1.03
CAGR		8.86		5.59		10.09		8.18
Growth for Post-Norm Era Period for the year 2016-17 to 2019-20								

2016-17	1,08,271	4.99	7,58,727	16.18	2,71,894	(32.77)	23,40,277	(5.74)
2017-18	96,865	(10.53)	7,48,366	(1.37)	3,81,002	40.13	28,15,003	20.29
2018-19	99,933	3.17	6,76,192	(9.64)	5,67,683	49.00	32,80,841	16.55
2019-20	60,713	(39.25)	6,77,311	0.17	5,02,169	(11.54)	35,20,376	7.30
CAGR		(17.54)		(3.71)		22.69		14.58
Growth for Pre-Covid Period for the year 2020-21								
2020-21	50334	(17.09)	404400	(40.29)	392941	(21.75)	3277724	(6.90)
2021-22	92297	83.37	577875	42.89	499730	27.17	4443018	35.55

Source: www.siam.in
Table 3 Trend of Exports in Indian Automobile Industry

Table 3 reveals that covid 19 badly affected exports of all segments of the automobile industry in the first year 2020-21. The negative growth of covid 19 was 17.09, 40.29, 21.75 and 6.90 for commercial vehicle, passenger vehicle, three-wheeler and two -wheeler respectively. The highest negative growth was in passenger vehicles which indicates covid affected export of passenger vehicle more than other segments in the first year. But industry immediately recovered in the second year 2021-22 and showed positive high growth of export in all segments. It indicates the huge demand of the automobile industry of India in foreign countries. Even in the second year of post covid the growth rate of export is higher than in all previous year growth. The CAGR of commercial vehicles and passenger vehicles was negative in post technological upgradation norms period. Therefore, policies and strategies should be made in order to create offshore demand for the vehicles manufactured in India.

Findings
The findings of the study revealed that during the first year of covid, the automobile industry of India faced a tough time as performance got impacted by production, sale and export, but not demolished under covid and immediately recovered and bounced back on recovery and growth path. Since every coin has two sides, the technological upgradation norms in automotive sector, on the one hand, have opened a new vista of opportunities for developing new collaborations, partnerships, joint ventures, investments, transfer and development of cutting-edge technologies in automobile sector, but on the other hand, new norms have confronted the industry with challenges of rising input cost, low-capacity utilization, price sensitive consumers etc. Currently, the industry is facing a declining growth rate among all the segments. Therefore, such interventions impact not only in financial terms but also the growth of the sector, technology transfer including employment and rate of inflation. The short term, ad-hoc policy measures without a roadmap poses difficulty in implementation and achieving targets. The benefits of the recent decision of the Government about the BS-VI norms for all types of vehicles cannot be realized unless the inspection & maintenance of in-service vehicles, end of life vehicle, dismantling, recycling is implemented across the country. Moreover, the industry has already made a huge investment in efficient gasoline, diesel and hybrid vehicles and the government is promoting electric vehicles only. The over-dependence and reliance on a single option (viz. EVs) may hamper the spirit of bringing innovations and creative thinking. Hence, the new policy regime has impacted the industry more as shown by the current period. The order of the supreme court that only BS-VI compliant vehicles will be sold in India from April 2020, mainly affected the industry and caused negative growth in 2019-20.

Conclusions
The research concludes that the first year of Covid 19 2020-21 and technological upgradation norms one year 2019-20 badly affected the growth of the automobile sector in terms of production, sale and export. But the automobile industry of India has huge potential as it immediately recovered and bounced back again on a higher

growth path. Further, the Government of India had simplified and streamlined the regulatory policies framework for ease of doing business. Many multinational companies are making India as their manufacturing base due to the potential for growth and supporting infrastructure. The automobile manufacturers can achieve higher growth by utilizing the opportunity provided by the AMP 2016-2026 and schemes like Low Carbon Transport Scheme, Green Urban Transport Scheme, Make in India Initiatives and the Faster Adoption and Manufacturing of Electric and Hybrid under the National Electric Mobility Mission 2020 and 100% EVs by 2030. Additionally, harmonization of international technical regulations is required to promote the export of vehicles. The companies should bring innovation in designing new engine technology and alternative fuels. The regulatory policies and norms should be made which may be well-suited to Indian situations and keeping in view the ground realities. The future of the automobile industry seems to be promising enough as the government is constantly taking initiatives and bringing new policy regimes to support the industry in every manner. Initially, the automakers may find it difficult to adjust themselves and create the confidence among the customers to be fit in the new policy regime. But, in no time the situation will be much favorable for the industry and coming years will definitely see remarkable growth among all the segments of automobile industry.

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COVID-19'S IMPACT ON CONSUMER BEHAVIOR IN ESSENTIAL GOODS SHOPPING ACROSS ORGANIZED, UNORGANIZED, AND E-RETAIL PLATFORMS IN METROPOLIS

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ABSTRACT
In the month of March 2020, the coronavirus epidemic engulfed the entire globe. Despite the fact that the lockdown caused panic buying for people to stock up on necessities such rice, wheat, packaged foods, home care products, etc., reports indicate that people did not reportedly stock up significantly on sweets and beverages, but rather simply hurried to stock up on necessities. Therefore, the researcher has examined how consumer behaviour has changed as people shop for necessities in the metropolis through organised, unorganised, and online retail platforms during COVID 19. From 195 samples from the Pune metropolitan municipality, the researcher has gathered opinions. The researcher utilised the paired sample t test to examine his hypotheses. Following the study, researchers discovered a change in consumer behaviour while shopping for groceries and FMCG products during COVID 19.
Keywords: Consumer Behaviour, Shooping Behaviour, Essential Goods, COVID 19

Introduction

India was not exempt from the widespread disruptions brought on by the COVID-19 pandemic. To stop the virus spread, the Indian government declared a national lockdown in March 2020. Consumer behaviour significantly changed as a result of the lockdown's rapid implementation, especially when it came to the purchase of necessities. People rushed to grocery stores and supermarkets in a frenzy to stock up on necessities as a result of the shutdown. Stores became overcrowded as a result, making it challenging for business owners to control the crowds.

Additionally, there were numerous rumours going around on social media, which confused customers. The lack of products on the market also increased the ambiguity and confusion. When entering stores to make necessary purchases, consumers were instructed by the government to adhere to the laws and regulations. Commerce firms like Flipkart and Amazon temporarily paused their services during the statewide lockdown in order to preserve social distance. This shift in behaviour brought attention to the importance of researching shifts in consumer behaviour during the pandemic, particularly with regard to the purchase of necessities in urban areas.

We undertook a study to look at changes in consumer behaviour during the COVID-19 pandemic in the metropolitan municipality area in order to fill this demand. We set out to find out if consumer behaviour had changed when it came to buying necessities. We investigated the possibility that consumer behaviour did not alter as a result of the epidemic. Our research concentrated on the purchasing of groceries, FMCG goods, vegetables, milk and products related to milk, bread goods, egg, meal, and fish sectors, animal feed, household goods and utilitarian things, and clothing.

Significant alterations in consumer behaviour during the epidemic were discovered by investigation. For instance, we discovered that consumers preferred unorganised and online vendors for their grocery needs instead of organised retailers. Additionally, we discovered that customers' preferences for choosing a shopping platform slightly changed while they were purchasing FMCG items. When buying veggies, milk, and products related to milk, some customers have also started using online platforms.

Contrarily, we discovered that customers moved their choice from unorganised merchants to organised retailers in the egg, meal, and fish areas, as well as the animal feed category. Customers' preferences, however, in the category of products associated to bakeries varied, with some people choosing not to purchase any bakery goods at all. Additionally, we discovered that most customers who preferred organised retailers and online shopping delayed making decisions about purchasing clothing until after the lockdown.

Our analysis emphasises how crucial it is for companies to modify their distribution and marketing plans in response to the shifting customer landscape. Our study's conclusions have significant commercial and policy ramifications, and we anticipate that they will help shape the creation of more sensible crisis management plans in the future.

The topic of this essay is customer behaviour. Consumer behaviour is the term used to describe the behaviours, choices, and habits people have when making purchases of goods and services. It is essential to comprehend consumer behaviour.

Understanding consumer behaviour is essential for businesses to create marketing plans that work and to produce goods and services that satisfy customer demands and preferences. The COVID-19 epidemic has had a considerable impact on consumer behaviour, causing companies to modify their business plans to accommodate shifting customer demands.

The pandemic has brought attention to the value of internet platforms and e-commerce as a way to buy necessities while keeping social distance. As a result, companies must make sure their internet and e-commerce platforms are reliable in order to adapt to changing consumer demands. Businesses have invested in new technology and procedures to safeguard the safety of their consumers as a result of the pandemic, which has also increased the focus on hygiene and safety precautions.

The pandemic has also brought to light the need of supply chain resilience and the requirement for companies to have agile supply chain strategies to deal with unanticipated disruptions. Due to the pandemic, there have been severe supply chain disruptions, shortages of necessities, and rising demand for particular products. To satisfy the shifting needs of consumers, businesses must be able to quickly alter their supply chain strategy.

Review of Literature

For the study, researchers took reviews from sources like research papers, newspaper articles etc. After the review researcher has taken a few opinions and findings from literature.

Pantano (2020), Kim (2021), Fares (2022) lockdown impact on merchants Although purchasing necessities remains a top priority, consumer behaviour was well observed in retail establishments, CİCİ (2021) which stocked up on these items before the lockdown was announced. 70 percent of respondents said they preferred to buy their groceries in-person, while 47 percent also selected home delivery and 17 percent depended on curbside pickup.

Roundhal (2021) younger generations and urban dwellers favoured home delivery while the elderly group preferred in-person shopping, with the latter preference being prevalent across all product categories.

Singh (2020) 67% of shoppers expressed little to no excitement for shopping after the shutdown, citing safety and hygiene concerns. This is in line with the retail sector's continued slow development.

Sharma (2020), Jain (2020) within the first three months following the lockdown, 62% of respondents said they planned to visit stores. In cities in Tier II and Tier III, this percentage rises to 75%. However, 78% of respondents said they would cut back on their shopping spending, while only 6% said they would up their spending.

Latha,(2022) the retail industry requires the help of all stakeholders to boost sentiment, as the majority of consumers have expressed reluctance to start buying again in the upcoming months. To convince customers that they will have a safe shopping experience, retailers must prioritise safety and sanitary precautions. Despite a challenging quarter, the industry will need to invest in putting the required safeguards in place to regain the trust of customers.

The regular sanitization is required by 75% of respondents as their preferred measure and expectation to feel safe and comfortable when shopping, reflecting the new-normal. 57% of respondents stated they would like little employee engagement, and 30% said they would prefer virtual trial rooms. Uthaman, (2022), deccan Chronicle published article (2020) a poll conducted by the Retailers Association of India to assess the effects of lockdown, 67 percent of consumers are not motivated to shop after lockdown. throughout 4000 respondents

from all throughout the nation participated in the survey titled "Unlocking Indian Consumer Sentiment Post Lockdown."
Patil (2020) due to the unexpected change in consumer purchasing patterns caused by the national lockdown. The dealers, wholesalers, traders found it challenging to control the large crowd that has gathered to buy necessities. Through social media, rumours are rapidly spreading. Due to a shortage of products on the market, consumers were puzzled. The population was very vulnerable. Consumers' attention was redirected towards the usage of preventative measures.

Objectives of the Study
Researcher has set following objectives for the study
- To compare the changes in retailer preferences for essential goods before and after the COVID-19 lockdown.
- To investigate the impact of the COVID-19 pandemic on consumer behavior while shopping for essential goods, across organized and unorganized retail platforms as well as e-commerce.

Hypothesis of the Study
Researcher has considered following hypothesis for the study
H_0- There is no change in Consumer Behavior during COVID 19 while shopping essential goods.

Research Methodology
The present research is descriptive in nature. The researcher has collected primary and secondary data through various sources. Secondary data for the study were collected through newspapers, research papers, articles, etc. The primary data collection research used a structural questionnaire containing three sections i.e. demographic profile, Retailer preference before lockdown, and Retailer preference after lockdown. The researcher has used an online Google form for data collection. The data were collected in the month of July when the Government of Maharashtra, India announced 1st phase of unlocking. The population is infinite for the study, so the researcher has used a convenience sampling method to select samples. The researcher has collected a total of 195 samples from the Metropolitan Municipality area. The researcher received samples from western Maharashtra in which the majority of the samples are from the Pune area. After the data analysis researcher validated data through MS Excel and used simple statistical tools like frequency, percentage, Measure of central tendency, and measure of dispersion. The researcher has also calculated reliability using Guttman split Half Coefficient the value is 0.895 and shows data is reliable.
The researcher has utilized a paired sample test for inferential analysis.
Data Analysis
Preference of Retailer for essential good before and after the lockdown
Following table and Graph shows the way or platform preferred by samples for shopping of essential goods before and after the lockdown

Sr.	Particular	Unorganized Retailer				Organized Retailer			
		Before Lockdown		After Lockdown		Before Lockdown		After Lockdown	
		Freq	%	Freq	%	Freq	%	Freq	%
1.	Grocery	78	40.00	120	61.54	117	60.00	66	33.85
2.	FMCG products	72	36.92	114	58.46	123	63.08	75	38.46
3.	Vegetables	177	90.77	165	84.62	15	7.69	18	9.23
4.	Fruits	168	86.15	168	86.15	21	10.77	18	9.23
5.	Milk and Milk Related Products	165	84.62	165	84.62	18	9.23	15	7.69
6.	Bakery Items	153	78.46	144	73.85	12	6.15	6	3.08
7.	Egg Meat Fish	117	60.00	105	53.85	3	1.54	6	3.08
8.	Packaged food/ Beverages	78	40.00	90	46.15	60	30.77	30	15.38
9.	Animal Feed	84	43.08	75	38.46	0	0.00	6	3.08
10.	Home utensils and useful items	87	44.62	84	43.08	57	29.23	36	18.46
11.	Clothes	60	30.77	63	32.31	72	36.92	33	16.92

Table 1. Preference of Retailer for essential good before and after lockdown from unorganized and unorganized retailers

Sr.	Particular	Online				Not Purchased			
		Before Lockdown		After Lockdown		Before Lockdown		After Lockdown	
		Freq	%	Freq	%	Freq	%	Freq	%
1.	Grocery	0	0.00	9	4.62	0	0.00	0	0.00
2.	FMCG products	0	0.00	6	3.08	0	0.00	0	0.00
3.	Vegetables	0	0.00	9	4.62	3	1.54	3	1.54
4.	Fruits	0	0.00	6	3.08	6	3.08	3	1.54
5.	Milk and Milk Related Products	6	3.08	9	4.62	6	3.08	6	3.08
6.	Bakery Items	0	0.00	3	1.54	30	15.38	42	21.54
7.	Egg Meat Fish	0	0.00	6	3.08	75	38.46	78	40.00
8.	Packaged food/ Beverages	9	4.62	15	7.69	48	24.62	60	30.77
9.	Animal Feed	3	1.54	9	4.62	108	55.38	105	53.85
10.	Home utensils and useful items	15	7.69	12	6.15	36	18.46	63	32.31
11.	Clothes	30	15.38	24	12.31	33	16.92	75	38.46

Table 2. Preference of Retailer for essential good before and after lockdown from online and data regarding not purchased items

A comparison of the shifts in consumer behaviour and preferences during the COVID-19 pandemic is shown in the table above. Prior to the lockdown, 60.00% of respondents preferred organised retailers over unorganised ones for grocery purchases, while 0.00% preferred online platforms. After the lockout, however, respondents favoured online platforms, 61.54% chose unorganised stores, 33.85% liked organised retailers, and 4.62% preferred unorganised merchants. This shows a major movement in consumer preferences for grocery products away from organised outlets and towards unorganised and internet merchants.

Before the lockdown, 0.00% of respondents favoured online shopping, 36.92% preferred unorganised merchants, and 63.08% preferred organised retailers for FMCG products. Following the lockdown, 3.08% of respondents preferred online shopping, 38.46% of respondents preferred organised retailers, and 63.08% of respondents preferred unorganised retailers. This can indicate a modest shift in consumer preferences for FMCG goods.

In the case of vegetables, prior to the pandemic, respondents favoured unorganised merchants 90.77% of the time, organised retailers 7.69% of the time, and internet shopping 0.00% of the time. Following the lockdown, 84.62 percent of respondents preferred independent retailers, 9.23 percent preferred chain stores, and 4.6 percent preferred online shopping. This suggests that while the majority of customers did not alter their preferences, some did go to online platforms.

Before the lockdown, 84.62% of respondents chose unorganised merchants for milk and milk-related products, 9.23% preferred organised retailers, and 3.08% preferred online purchasing. Following the lockdown, online shopping was preferred by just 4.62% of respondents, while organised retailers were preferred by 7.69% of respondents. This implies that while the majority of consumers did not alter their choices, some did go towards online platforms.

Prior to the lockdown, 78.46% of respondents said they preferred unorganised retailers for items related to bakeries, 6.15% said they preferred organised retailers, and 0.00% said they preferred online shopping. Following the lockdown, 21.54 percent of respondents preferred products from unorganised retailers, 3.08 percent preferred those from organised retailers, 1.54 percent preferred online shopping, and 7.85 percent did not prefer such products. This suggests that consumers' tastes have evolved and some no longer favour bakery goods.

Before the lockdown, 60.00% of respondents favoured unorganised merchants for the egg, meal, and fish categories, whereas 1.54% preferred organised retailers and 0.00% preferred online purchasing. Following the lockdown, 40.0% of respondents did not prefer such products, while 3.08% preferred organised retailers, 3.08% preferred online shopping, and 53.85% preferred unorganised retailers. This suggests that consumers' preferences have changed, and some have switched from unorganised to organised stores, as the researcher also noticed in the animal feed sector.

Prior to the lockdown, respondents favoured online shopping (7.69%), organised merchants (29.23%), and unorganised outlets (44.62%) for household goods and practical products. Following the lockdown, 32.31% of respondents did not prefer organised retailers, while 18.46% preferred them, 6.15% preferred online shopping, and 43.08% preferred unorganised retailers.

Before the lockout, the majority of respondents (36.92%) favoured organised merchants for clothing, followed by unorganised retailers (30.77%), and online shopping (16.92%). Following the lockdown, the preference for independent retailers rose to 32.31%, the preference for chain stores fell to 16.92%, and online shopping rose to 12.31%. Additionally, 38.46% of respondents said they never preferred to buy clothes. These results imply that a significant portion of customers who had previously favoured organised merchants and online shopping did not do so following the lockout and instead turned to unorganised retailers.

Overall investigation reveals that customers' preferences have changed while choosing a purchasing platform. The paired t test was performed by the researcher to examine behaviour change.

Hypothesis Testing

Following table shows the paired sample test between opinion of respondents regarding preference of platform for shopping before the lockdown and after the lockdown for essential goods.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Grocery before Lockdown - Grocery After Lockdown	.1692	.6478	.0464	.0777	.2607	3.648	194	.000
Pair 2	FMCG products before Lockdown – FMCG products After Lockdown	.1846	.5531	.0396	.1065	.2627	4.661	194	.000
Pair 3	Vegetable before Lockdown - Vegetable After Lockdown	-.1077	.4352	.0312	-.1692	-.0462	-3.456	194	.001
Pair 4	Fruits before Lockdown - Fruits After Lockdown	.0000	.5276	.0378	-.0745	.0745	.000	194	1.000
Pair 5	Milk and milk related products before Lockdown – Milk and milk related products After Lockdown	-.0154	.5697	.0408	-.0958	.0651	-.377	194	.706
Pair 6	Bakery items before Lockdown – Bakery items After Lockdown	-.1846	.9120	.0653	-.3134	-.0558	-2.827	194	.005
Pair 7	Egg meat fish before Lockdown – Egg meat fish After Lockdown	-.1231	.5423	.0388	-.1997	-.0465	-3.169	194	.002
Pair 8	Packaged Food Beverages Before Lockdown – Packaged food beverages After Lockdown	-.0923	.6273	.0449	-.1809	-.0037	-2.055	194	.041

Pair 9	Animal feed before Lockdown – Animal feed After Lockdown	-.0462	.7550	.0541	-.1528	.0605	-.854	194	.394
Pair 10	Home utensils and useful items before Lockdown – Home utensils and useful items After Lockdown	-.2769	1.1993	.0859	-.4463	-.1075	-3.224	194	.001
Pair 11	Clothes before Lockdown - Clothes After Lockdown	-.3846	1.1491	.0823	-.5469	-.2223	-4.674	194	.000

Table 3. Paired Samples Test

Between respondents' opinions on various platforms, researchers used 11 pair tests. The researcher has taken into account all 11 kinds of necessities. After the test, it was found that there had been no change in consumer behaviour during COVID-19 when purchasing fruits, milk, and products related to milk, as well as animal feed, as indicated by the p values of 1.000, 0.706, and.394 at the 95% level of significance. As all tests are significant at the 95% level of significance, the researcher observed changes in consumer behaviour during COVID-19 while shopping for groceries, FMCG products, vegetables, bakery items, eggs, meat, fish, packaged food beverages, home utensils, and clothing.

Findings

Based on data analysis, the researcher came to the following findings:

Our study's findings show that during the COVID-19 epidemic, there were a number of noteworthy shifts in consumer behaviour. First, our analysis reveals that respondents' choices for grocery items have changed from organised merchants to unorganised and internet retailers. Second, clients' preferences for choosing a shopping platform have slightly changed when they are buying FMCG products. Thirdly, although some customers have switched to online platforms, the majority of customers still prefer veggies. Fourthly, although some customers have shifted to online platforms, most consumers still choose milk and the products associated with it. Fifth, consumers' preferences have changed for products related to bakeries, with some choosing not to purchase any bakery goods at all. Sixthly, buyers have started choosing organized merchants over unorganized ones for the egg, meat, and fish sections. The same pattern was seen in the animal feed category. Seventhly, shoppers have not altered their preferred buying platform for household goods and practical things. The bulk of clients who favored organized businesses and internet shopping has delayed making their decision to purchase clothing until after the lockdown, which brings us to our final point. These results show that companies must modify their distribution and marketing plans to reflect the shifting customer landscape.

Conclusion

In conclusion, present study has shown that the COVID-19 pandemic has greatly impacted consumer behavior in the purchasing of essential goods, particularly in the metropolitan municipality area. Customers have faced numerous challenges during the lockdown, resulting in changes in their preferences for grocery items, FMCG products, and bakery items. Notably, some customers who previously preferred organized retailers have shifted towards unorganized and online retailers. These findings highlight the need for businesses to adapt to the changing consumer landscape by reevaluating their marketing and distribution strategies.

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CREATING SHARED VALUE WITH NEW-AGE CONSULTANCY SERVICES

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ABSTRACT

CSR may go back to the nineteenth century when the Lever Brothers and Cadbury implemented personnel, administration, production, and community activity norms to address the basic requirements of their workers and their families. Their individual business goals were evenly correlated with their social goals.

India has experienced a path of financial liberalization over the last three decades and is now one of the strongest in the world. Over the years, the manufacturing industry has been capable of creating a lot of money. However, the development has not reached the common people, leaving a considerable number of people with restricted access to basic facilities including hygiene, safe drinking water, and health care. According to the most recent Human Development report, it is rated 131 Although being referred to as an emergent global actor, the country will continue to have the highest number of poor, starving children with little access to education and health services. The uneven wealth distribution can be the source of social unrest. The growth of new age consultancy services presents a number of opportunities for both firms and individual consultants. For firms, the opportunity to offer consultancy services in emerging areas such as blockchain, AI and cybersecurity is particularly attractive. These areas are in high demand and are likely to continue growing in importance in the coming years.

For individual consultants, the opportunity to work on projects with innovative and forward-thinking companies can be highly rewarding. New age consultancy services are often focused on solving complex and challenging problems, and consultants who can deliver results in these areas are likely to be in high demand

This research paper is work in progress paper focused on using descriptive case study methodology to study the initiatives post-pandemic and the future of Mind Cube Multiservices Pvt Ltd, classified as non-Government and is registered at Registrar of Companies located in ROC-KANPUR working in alignment with CSR Provisions and Schedule VII of Companies Act, 2013.

Keywords: CSR, business model, collaborations, new-age consultancy, schedule VII, stakeholders

Introduction

"Businesses must reconnect company success with social progress. Shared value is not social responsibility, philanthropy, or even sustainability, but a new way to achieve economic success. It is not on the margin of what companies do but at the centre. We believe that it can give rise to the next major transformation of business thinking."

- Michael Porter

India has experienced a path of financial liberalization over the last three decades and is now one of the strongest in the world. Over the years, the manufacturing industry has been capable of creating a lot of money. However, the development has not reached the common people, leaving a considerable number of people with restricted access to basic facilities including hygiene, safe drinking water, and health care. According to the most recent Human Development Report, it is rated 131. Although being referred to as an emergent global actor, the country will continue to have the highest number of poor, starving children with little access to education and health services. The uneven wealth distribution can be the source of social unrest.

This research paper is work in progress paper focused on using descriptive case study methodology to study the initiatives current and the future of Mind Cube Multiservices Pvt Ltd, classified as non-Government and is registered at Registrar of Companies located in ROC-KANPUR working in alignment with CSR Provisions and Schedule VII of Companies Act, 2013. Mind Cube Multiservices Pvt. Ltd belongs to new age consultancy services formed to decode the best solutions in the world of CSR.

Literature Review

Corporate Social Responsibility in India

For many decades, India has followed the practice of "Jan Kalyan" (mass welfare) as an element of starting a business. According to Kautilya's Arthashasthra, "in the wellbeing of the people lay the king's prosperity, and in their happiness his happiness" (cited in Jose et al., 2003). In India, Jamshedji Nusserwanji Tata founded the J.N

Tata endowment, which provided scholarships to qualified students to study abroad. In the twentieth century, he established the town of Jamshedpur. The Tata group's social growth and community welfare projects focused on the concept of "Social Responsibility." Gradually, the idea acquired popularity and then became part of the enterprise's management. To lessen its ecological consequences, it has partnered with other companies to investigate renewable power sources.

Corporate Social Responsibility
CSR may go back to the nineteenth century when the Lever Brothers and Cadbury implemented personnel, administration, production, and community activity norms to address the basic requirements of their workers and their families. Their individual business goals were evenly correlated with their social goals . "The Father of the CSR Movement," Howard Bowen, described CSR in his book "Social Responsibilities of the Businessman" as "obligations of businessmen to promote those policies, make those judgments, or follow those lines of action which are desirable in terms of our society's objectives and values." (Friedman, 1970; Bakardjieva, 2016)

Organizations like the United Nations, the OECD, and other international organizations recognized CSR as a major source of the system of gradual and equitable development around the turn of the century. As enterprises grew in size, accounting for a sizable portion of a country's GDP, the perception that they are pillars of societal growth grew. Shareholder returns are reinvested in the system via investment, taxation, and social spending. (Bennett et.al , 2001). Tax revenues help to fund public services. (Luken, 2005)

The World Business Council for Sustainable Development defines CSR as "the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large." Adrian Henriques investigated whether CSR must be strictly controlled. There are legislations focusing on things like the minimum wage, health and safety, and investor disclosure, but none encompass as a whole disclosure of environmental influence, somewhat on supply chain, and next to nothing on community awareness (Raynald 2002; Singh, 2019). Opinions in the CSR sector are equally divided, with some supporting a legislative structure for CSR and others worrying it will ruin everything. The least common denominator rationale is the most frequently cited justification for why the proposed law would harm CSR. This implies that if there were CSR laws, firms would supply what the legislation provides, but never more. (R. E., 1984; Jones,. 1995 & Carroll, 2010)

New age consultancy services - concept and challenges
New-age consultancy services have become increasingly popular in recent years, as companies seek ways to adapt to rapidly changing business environments. This literature review examines the key trends, opportunities, and challenges in this emerging field. Despite the many opportunities presented by new-age consultancy services, there are also several challenges that firms and consultants must navigate. One of the biggest challenges is staying up-to-date with rapidly changing technologies and trends. In order to remain relevant, consultancy firms must invest in professional development and ensure their staff is knowledgeable about emerging areas such as blockchain, AI, and cybersecurity. Another challenge is the need to continuously demonstrate value to clients. As Gartner notes, clients are becoming more discerning and are increasingly focused on outcomes rather than inputs. Consultancy firms must be able to demonstrate that they are delivering tangible results in order to maintain client loyalty.

Research Objectives

1. The research objective of the case study is to meet the information needs of the multiple stakeholders:
2. To understand the impact of new-age consultancy services on their collaborator's
3. success
4. To examine the challenges and opportunities ahead for the new-age consultancy services
5. To analyse the ways in which new-age-consultancy can improve and grow their impact

Research Methodology

Based on the study's prerequisites, the research design used for the study is a descriptive case study approach. A case study's all-encompassing characteristic is its increased emphasis on a single phenomenon within its real-life context... [Case studies are] research situations in which the variety of factors of interest far outnumbers the number of data points"
A case study is an empirical method used to develop an in-depth, comprehensive knowledge of a difficult subject in its real-world setting. It is a well-established research design that is widely utilized in many fields, especially the social sciences. The study made considerable use of secondary sources that were commonly accessible. In-depth interviews were also conducted with one of the founders of Mind Cubes Multiservices Pvt Ltd along with different stakeholders.

Case Study

Ms. Arpita Srivastava Rai, a Professional Business Consultant with more than 20 years of experience in Hospitality, Public Relations, Non-Governmental Organizations (NGOs), and Individual/Corporate/Government Project Consultancy, is from Varanasi, India's "City of Learning" and "Cultural Capital." She accidentally ventured into the hospitality business during her professional stint with Taj Group of Hotels, and after dabbling with several roles in the professional world in Mumbai, she chose to discover different changes in the business world with her firm Mind Cubes Multiservices Pvt Ltd. Her spouse, Mr. Satish Rai, a management professional from an international university and a businessman, has been a strong supporter while she transitioned from being salaried to launching her firm and building a legacy in the field of New age consultancy and liaison.

Formation of Mind Cube Multiservices Pvt Ltd

Mindcube Multiservices Private Limited is a private company that was founded on March 7, 2017. Mindcube Multiservices Private Limited is a non-government organization incorporated with the Registrar of Companies in Roc-Kanpur. Mindcube Multiservices Private Limited Company's authorized share capital at the time of registration was Rs. 1000000, and the total assets of the company were Rs. 100000**.**

Development of Mind Cube Multiservices Pvt Ltd and Major Milestones

Mind cube is a new-age consultancy concentrating on collaborating with socially responsible organizations to help them broaden their influence through government partnership and inclusion, and it focuses on the classification of Tasks that companies may include in their Corporate Social Responsibility Policies as listed in Schedule VII of the Companies Act 2013.

Reducing starvation, unemployment, and illiteracy, improving medical services [including preventative health], enhancing hygiene with aid to the Central Government's Swatch Bharat Kosh for the advancement of hygiene] and making access to safe water accessible; improving the system, including special education and work enhancing career choice skills, particularly among children, women, the elderly, and income-generating activities development strategies; (Maji et.al, 2020; Mishra et.al, 2020)

Aligned with the above list included in schedule VII of Companies Act, 2013 some of the key associates of Mindcubes Multiservices Pvt Ltd include:
Atma Nirbhar Bharat Webinar series to NGOs/Individuals for Vocational Learning/ Teachings. Is hosted by Mind Cube Multi Services Pvt. Ltd. in helping them to reach their Target Audience in Urban and Rural India.

Rajul Vasa Foundation – Mind cube has been contracted by them to help them connect with NGOs and beneficiaries for their program so that the foundation can increase its geographical reach and work with Govt. health facilitators to make their program accessible to all

Wockhardt Foundation- works with Mind cube to connect with government and PSU bodies for fulfilling their funding requirements. Talent Edge India- Mind cube plays the crucial role of being a bridge between the company and educational institutes to help them access the vast untapped potential of Indian youth and give the youth access to high-quality, cost-effective education.

Social Center for Rural Initiative & Advancement: Mind cube plays the crucial role of a government Liaison for the center by connecting it with various government departments and ministries to ensure their work is approved and accepted by the government.

Navneet Foundation – contracted Mind cube to help them reach out to government schools in Mumbai, where we coordinate with the BMC and MCCGM to take to the schools Navneet's programs and educational initiatives.Advisor to Aarambh sports and fitness academy and Social Impact development Foundation. Consultant to Future Captions providing placement and entrepreneurship support to educational institutions.Channel partner for Jan Aushadhi Sangh Marketing State Federation. Initiatives undertaken in collaboration with stakeholders include: Conducting 40 days Atma Nirbhar Bharat webinar on Vocational learning & teaching for Ngo's / Individuals from 27 July to 4 Sep 2021. Organized a 3-day Autism awareness workshop and panel discussion on Demystifying Autism from 15 May to 17 May 2021. Partner for the inaugural ceremony of Sign Language - The Basic 14 days course on Mission Only Capability started on 12 June 2021. Community Partner for the 2nd Annual LGBTQ + Leadership Conference. Conducted a 45 days Team Vying Tournament on Public Policy under Srijan Social Internship for students of UPES Dehradun, NMIDT Mumbai, Avinashilingam Coimbatore started on 20 June 2021. Conducted National CSR Conference on 28 Aug 2021 for 10 days. Conducting online Incubation program for Women Entrepreneurs and girl students starting from 19 Feb - 18 May 2021. Pillars for conducting 'Nari Shakti Samman" Conclave and Award function held at GL

Bajaj Institute of technology and management in Delhi on 1 May 2021. On 30 May successful completion of Mission Vatsalya project of Women & Child Development Govt of NCT of Delhi State Child Protection Society on health, hygiene, and protection. Signed a new contract with a Ph.D. welfare foundation for self-defence.

Hohnens' CSR implementation framework
Mindcubes Multiservices Pvt Ltd plans to follow Hohnens'

CSR implementation framework for collaborating with different stakeholders.

Regarding CSR practices, there is no "one-size-fits-all" technique; each business has unique characteristics and conditions that impact the firm. Nevertheless, there is incredible potential in methodically adopting CSR, per the company's basic values, employer brand, climate, and company's key operations. (Hohnen, 2007, Moravcikova et.al., 2015)

Hohnen divides a methodical CSR integrated approach into four parts: Plan, Do, Check, and Improve. The first section, Plan, is the practice of creating unique Strategic planning within the firm. It is critical to engage at all stages inside the firm and to win approval from the President, executive leaders, and personnel.

CSR agreements must be established and afterward executed in the key process of the execution stage, Do. In this section, personnel must become proactively engaged in management. This is accomplished in combination by drafting and executing the CSR corporate strategy with continuous improvement, and via ongoing CSR instruction. This is followed by the main section, Check. It is critical in this section to ensure, evaluate, and track the effectiveness of the adopted Csr program within the organization, as well as to involve the main players. Improve, the final stage of the CSR project execution highlights the necessity of reviewing and identifying areas of concern (Hohnen, 2007).

No	Step	Description
1	Plan	CSR Planning, from researching needs to strategizing it.
2	Do	Develop CSR commitments and implement CSR commitments.
3	Check	Verify and report on CSR initiatives.
4	Improve	Evaluate and make improvements from existing CSR activities.

Source: Hohnen, 2007

Hohnen-Potts CSR Framework Model

Figure 1: Hohnens' CSR Implementation framework (Source: Hohnen, 2007)

Stakeholder and Mind Cube Multiservices Pvt Ltd
Consumers bodies, banking institutions, provincial and federal departments, businesses, instructors, foreign organizations, non-governmental organizations, and SHGs were among Mind Cube Multiservices Pvt Ltd's important stakeholders. It collaborated with different regulatory ministries, including the ministries of regional development, MSME, governmental ventures, and food manufacturing, on a variety of projects. (Rypakova et.al, 2015)

Future Initiatives
Mind Cube Multiservices Pvt Ltd's plans include providing advice and management consulting to section 8 enterprises. The major goal of creating a firm as a Section 8 Company is to support non-profit goals such as trading, business, entertainment, philanthropy, educational, religious, protection of the environment, social protection, athletic study, and so on.

Chaitanya Drishti Foundation is one such initiative formed under the guidance of Mind Cube Multiservices Pvt Ltd. Foundation is committed to the development of Women, Child, and Children with Special Needs. We conduct Awareness Camps, Health Camps, Skill Development & Training programs, Employment opportunities for women, and many more activities.

Solving real problems requires real commitment and vision. After learning about harmony with water and health, they are constantly working to progress our world, and they are always dedicated to the social issue they stand for.

Limitations of the Study

The research conducted has two limitations. The first limitation is that it is a qualitative study based on exploratory research, future research will include the quantitative aspect. The second one is that as it is a new-age consultancy firm the availability of literature is limited on the said topic.

Direction for future Research

Research on similar new age consultancy services and longitudinal time series analysis considering success parameters of the organization under study can be considered as future scope of the study. Trends. One of the key trends driving the growth of new age consultancy services is the need for companies to embrace digital technologies (Raynard et.al, 2002). As McKinsey & Company notes, digital technologies are disrupting traditional business models and changing the very nature of work. This has created demand for consultancy services that can help companies understand and adapt to these changes. Digital technologies are also creating new opportunities for companies to innovate and grow, and consultancy firms are well positioned to help them do so. (Porter, et.al. 2011; World Business Council for Sustainable Development. 2010; Wood et.al, 1991; KPMG International, 2019).

Another trend driving the growth of new age consultancy services is the rise of globalization. As companies expand into new markets, they need the expertise of consultants who can help them navigate the cultural, regulatory and logistical challenges of doing business in foreign countries. Globalisation has also created demand for consultants who can help companies manage complex supply chains and logistics networks. The future research can also be aligned with the above trends

Conclusion

This paper is attempted to link the CSR activities of Mind Cubes Multiservices Pvt Ltd to the Schedule VII of the Companies Act, 2013. The inclusion of mandated CSR requirements in the new Companies Act is a sincere endeavour to satisfy India's humanitarian and sustainability objectives. Corporations have neglected to consider the economic effects of their activities, and it is past time for them to consider their civic obligations to their employees, consumers, investors, and the wider community. There is an essential lack of available comprehensive CSR administration, where enterprises should not see CSR as a barrier to doing operations in India. Instead, it must be taken as an attempt to positively benefit the neighbourhood. CSR provides a chance for India to walk a fine line between ethical, ecological, and financial implications while also preserving the interests of many partners and reducing burdensome regulations (Harris et.al, 2020) Firms like Mind Cubes Multiservices Pvt Ltd are working hard to make this possible and create a legacy of becoming the transformation that society expects to see to achieve total wellbeing.

New age consultancy services represent an exciting and rapidly growing field. As companies seek to adapt to changing business environments and embrace new technologies, the demand for consultancy services is likely to continue growing. However, firms and individual consultants must be prepared to navigate the challenges of this emerging field in order to succeed.

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CUSTOMER SATISFACTION AND THE E ENABLED BUS TRANSPORT SERVICES IN INDIA: A LITERATURE REVIEW

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ABSTRACT
An e enabled service is one which uses the internet to do business or carry out a task which finally would be delivering output for better customer serviceability and in turn easing the task of an operator and customer at large. The bus transport service has for long been a topic of debate. We have seen bus operators running a day to day cash run business back in the 1990's where there was no internet and so availability of seats, rest stops, amenities and the likes were not the priorities of passengers but only reaching from one place to the other was. Similar to a mobile phone owner in the 1990, only making calls was contrary to today's smart mobile phones with so many features. Came 2000 with a digital platform for passengers and operators to do business online and the line 'Customer is the King' started gaining importance in the Bus Transport Service Sector too. This paper addresses this bus transport service sector in India.
Keywords: E-enabled business, Bus transport, Passenger road transport, unorganized, SERVQUAL, customer satisfaction

Introduction

Customer satisfaction is a metric used to assess a company's customers' level of satisfaction with its goods, services, and capabilities. Information about customer satisfaction, such as surveys and ratings, can assist a business in deciding how best to adjust or improve its goods and services (Jain 2020). Customer satisfaction must be the organization's core objective. This rule is applicable to every division of a company, including industrial corporations, retail and wholesale businesses, government agencies, service providers, and non-profit organizations (Kumar 2021). Customer satisfaction is "the number of customers or the proportion of total consumers whose reported experience with a business, its products, or its services exceeds specified satisfaction targets," according to Paul Farris in his book Marketing Metrics. In reality, the Marketing Accountability Standards Board has approved this term as the accepted definition of customer pleasure. More significantly, there are two consequences to Farris' definition. It first makes it clear that customer happiness is more than simply an ethereal idea. It can be given a number. Second, they discuss specific satisfaction objectives. "A person's sense of pleasure or disappointment that arises from comparing the perceived performance or outcome of a product with his or her expectations," according to Philip Kotler, is what constitutes customer satisfaction.

This study was conducted to better understand customer satisfaction dynamics in the context of the e-enabled bus transportation industry. A review of the literature was done as part of the investigation. The same, as well as the research gap, are presented in this work.

E enabled

An e-enabled business model is a company's strategy for operating a successful online business. Companies in all sectors are going online to increase their visibility in the market. Post the pandemic major businesses have taken the online routes of selling their products or services. This has helped garner larger market share and in turn increasing profitability for the companies. There are virtual shops or even nowadays the concept of a cloud kitchen for example which sells products without any physical presence whatsoever. Companies choose e-enabled business models in order to get economies of scale. For a more sustainable business, there should be a trade-off between the two physical and online models of doing business.

Passenger Road Transport in India

Most people in India use the roads out of the other modes of transportation, which include air, sea, rail, and road. Two-wheelers, cars, and buses are the types of transportation on roads. Buses are the ones with the lowest cost per passenger mile out of all of these. Additionally, compared to 40 persons riding in a bus, more space is needed for 3 passengers in an autorickshaw or 4 passengers in a car. Moreover the fuel consumption of a car or a auto rickshaw will be considerably high as compared to a bus in terms of more fuel being burnt in a car or an auto rickshaw. If 40 persons are considered 10 cars would be required for transporting them and if an auto rickshaw is considered 13 would be the requirement. Additionally, financial considerations support the bus industry in terms of moving people from one location to another. It might be said to be the most practical method of passenger transportation in India. The lower and middle class have their dependence maximum on the bus transportation system. Depending on the various categories available like Non Ac Seater buses, Ac Seater buses, Non ac Sleeper buses and Ac Sleeper different sections of society choose their way of travel in India

However, there is not much done to advance India's bus transportation industry. The Passenger Bus Transportation industry is being marginalized. Majority of the private bus operators are small fleets and there is not much they can do to make their voice reach the concerned. Small private businesses in this industry are dying off slowly due to increasing taxes and tolls and rising fuel prices.

Research Methodology

This study is descriptive and concentrates on customer satisfaction towards the enabled bus service sector. As a part of the study available literature that the researchers could access from various sources is collected and reviewed. As most of the passenger road transportation services in India are unorganized and are not collectively addressed due to the large number of small fleet operators, an effort is made to represent all such aspects and literature related to all such factors is brought together through this paper for achieving the stated objectives.

Research Objectives

1. To identify gaps in existing research on e enabled bus transport service in India.
2. To gain new insights about the research topic from previous studies.

Literature review on Customer Satisfaction

Ulimaz (2020) there is a relationship between service quality and cost relation and the rise in consumer happiness. The five aspects of tangibility, reliability, responsiveness, assurance, and empathy are also used to measure service quality, while an indication of fairness of ticket price, fair price policy, ethical ticket price policy, and acceptable ticket price policy are used to measure price. Customer satisfaction is positively impacted by both pricing and service quality.

Ejem (2021) road transportation is one of the economic engines since it links producers and consumers. Customer dissatisfaction in the industry is a result of the road transport system's poor and inept administration, which has hampered the growth of the Nigerian economy and social activities. Road transportation and customer satisfaction are consequently crucial for the movement of goods and persons from the standpoint of the passengers. According to the study's findings, regular vehicle and road maintenance as well as the provision of high-quality customer services are needed to please commuters who frequently utilize the roads in order to increase customer satisfaction and, consequently, economic activity.

Situmorang (2018) the sharing economy encourages people to share resources and create economies that are more effective. The sharing economy is anticipated to expand quickly and develop into a very attractive business model in Indonesia. The internet transportation business concept is currently one of Indonesia's most active sharing economies. Experience and happiness play a big role in moderating the relationship between eCRM and customer loyalty in online transportation. Results reveal that the link between eCRM, customer satisfaction, and loyalty fully mediates the customer experience.

Switala (2019) the assessment of consumer needs of logistics service providers revealed a substantial correlation between service performance and customer satisfaction, which served as the impetus for their research on logistics customer service (LSPs). The purpose of the report is to determine which service performance components are significant to clients that purchase logistics services in Poland and merit LSP investment. The respondents found that expanding flexibility and raising the bar for customer service were less important. Yet, discriminant analysis revealed that even with the assumption of a delayed delivery, great satisfaction with logistics outsourcing can be attained should invest in elements that produce above-average customer satisfaction, such as improved operational flexibility and service levels, including pro-environmental activities, if they want to stand out in the logistics service market. These include cost reduction and service time improvements, but also factors that increase customer satisfaction.

Hengsadeekul (2018) the key variables impacting the caliber of bus service and customer satisfaction in private businesses' bus services from Phnom Penh to Poipet were included. Through the SERVQUAL 5 dimensions, including tangibility, reliability, assurance, empathy, and responsiveness, it researches and analyzes customer expectations of bus service quality. Participant data was gathered in order to examine the connection between customer happiness and the five elements of service quality. Service operators should first focus on understanding customer needs and expectations before implementing an appropriate service strategy to meet customer needs.

Hajduk (2022) the relationship between service providers and consumers as well as a network of transportation and communication infrastructure are necessary for the growth and operation of the global economic market. Transport is a technological method for moving people, things, or energy over long distances. For logistics activities in the field of products turnover to be completely functional and effective, understanding the logistics system and its procedures is crucial. Customer loyalty, satisfaction, and perceptions of the given services and defined criteria should all be continuously assessed. The perception of the rules by which the consumer is governed is demonstrated through a customer satisfaction survey. The methods for gauging client satisfaction in terms of the caliber of transportation services are showcased.

Vlachos (2018) transport service managers must have a suitable and sophisticated analytical framework in order to optimize resource allocation and raise customer satisfaction. In order to address various conceptual and methodological issues with Importance-Performance Analysis, this study suggests a new analytical framework called "Importance-Performance-Impact Analysis". Transportation managers can better allocate resources than IPA to increase customer satisfaction by using the IPIA table and IPIA matrix.

Sun (2021) few have looked into supplementary services related to minimizing the negative aspects of hotel location. The diversity of transportation amenities as a marginal stimulus, drawing on the development of a probability model, presents an econometric model that assesses the effect of transportation amenities on customer satisfaction. This association is moderately influenced by the type and mode of passengers' satisfaction. From the perspective of the three-factor theory, transportation facilities are a fundamental aspect for business travelers but an exciting

Yarmen (2020) numerous scholars have conducted considerable research on the perceptions and behaviors of passengers of public transportation. Research on the WOM of passengers using public transportation is, however, lacking. Thus a WOM model for Indonesian public transportation was found necessary to be used to fill in the gaps in the literature. The theories of planned behavior, customer satisfaction, and personal norms are all incorporated into the paradigm. More specifically, attitude, subjective norm, moral norm, and environmental norm all have a direct and significant impact on WOM. Additionally, perceived quality has an indirect impact on WOM through attitude. On the other hand, contentment, perceived behavioral control, and perceived service quality do not directly and significantly affect WOM.

Sirajudeen (2019) various problems are encountered by the passengers of Tiruchrappalli while traveling in the town buses of Tamil Nadu state transport corporation. Various measures can be adopted to reduce the problems to increase the service quality towards passengers traveling in such buses. The passenger perception towards service quality is identified.

Literature Review on Passenger Road Transport

Mashur (2019) there is some linkage between e-CRM, e-service quality, and e-loyalty on e-customer satisfaction and e-loyalty. The results of a sample of 167 users of online bus reservation services show that customer loyalty and happiness are significantly impacted by the quality of the e-service.

Jiménez (2019) in order to assess the quality of the public transportation system service in the Mexican city of Morelia was the objective. The SERVQUAL model, which has five aspects, was used on a sample of 392 respondents who had, on average, used bus transportation services for 15 years. Results indicate a medium level of perceived quality and a large difference between the expected and the obtained service, which directly affects a user's degree of happiness.

Rathour (2018) an effective public transportation system fosters egalitarian, sustainable, and safe urban mobility. The impact of Vadodara's public transportation on the city's urban mobility is assessed. The current realities of Vadodara's public transportation system with the overall goal of offering solutions and outlining actions that should be made to maximise urban mobility is the main concern of assessment.

Bagade (1980) in public transportation projects, passenger comfort comes first. Building bus terminals, storage sheds, and other transportation-related infrastructure requires capital investment and must receive enough consideration in the capital expenditure plan. While there may not be much room for product development in the bus transportation sector, there is plenty of room for field research. According to the author, a separate department for field research should be justified as being a crucial component.

Mantri (2002) provides solid evidence to demonstrate that the transportation infrastructure needs to be improved and that transportation planning has to be adjusted as a crucial component of national planning. Planning must be done well since, as the population grows, so will the requirement for transportation.

Selvachandran (2018) there are service quality elements in the public transport system which must be identified. These service elements are important from the viewpoint of the operator to increase the level of service quality with less cost.

Research Gap

Though the Passenger Bus Transport Sector has grown tremendously, the service provided by such a vast industry is always questionable. There has not been found any studies that provide most recent data on customer satisfaction for passengers using such bus transportation services. As a result, it is necessary to give a thorough analysis of the relevant literature to comprehend the studies done so far. Also the study examines the present situation on the Passenger Road Transport as Transportation by bus is an important mode of travel in India with special importance to Service Quality and Customer Satisfaction

Conclusion

Researchers have expanded the concept of SERVQUAL with models like AIRQUAL. Similarly authors have written about the concept of Voice-of-the-Customer (VOC). However, measurement of customer satisfaction for e-enabled transportation services is relatively on the lower side. Research in bus transport is also limited in relation to the overall research on transport services. Additionally, studies with Indian contextual settings are quite less. Hence this research was undertaken with the objectives of studying the existing operating pattern and industry dynamics of unorganized passenger bus transport services in India, studying e-enabled business model of passenger road transport as the future of passenger transportation services in India, exploring customer satisfaction from the bus transport services and developing a service quality measure towards gaining customer satisfaction. Higher service quality will also gain a higher customer satisfaction index and thus help the operator to garner higher profits in the process. The passenger bus transport industry is an unorganized sector and hence the future scope of study and work can be carried out on a large scale.

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CUSTOMERS' SATISFACTION TOWARDS RESTAURANT SERVICES IN NAVI MUMBAI

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ABSTRACT
One of the most important cornerstones of the Indian economy is the service industry. The performance of this sector is a result of the performance of other industries. A restaurant revolt is now taking place in India. The restaurant industry in India is predicted to expand at a rate of 7-8% annually, with organised restaurants' market share likely to triple by 2015. In this competitive market, where there is a wide range of catering venues from fast food, chain brands, specialised or themed, to high-class Michelin star restaurants, many new enterprises fail during the first few years of operation. Those that are successful must make sure they identify strategies for elevating and satisfying the overall client experience. rising numbers of nuclear families, and demographic More Indians will try eating at restaurants as a result of changes in per capita income and shifting dietary preferences.
Indian cuisine in the modern day uses a variety of distinct culinary techniques that are influenced by many different traditions and cultures. Every state has its own cuisine, and the majority of them have unique dishes. Being customer-focused is the key to any firm succeeding in gaining and keeping clients on this globalised platform. Businesses designed to provide an outstanding product or services and experiences from the minute a consumer decides to enter the building until they leave, and to some extent beyond that, to ensure they leave wanting more. A restaurant or other service-based business might succeed or fail depending on the customer. The owners and management of these businesses must learn to take the full customer experience into account. The focus of the current study is to use factor analysis to investigate the factors influencing restaurant patron satisfaction in Navi Mumbai. To examine the effects of factors on demographic variables, additional regression analysis is conducted.
Keywords: Restaurants, Customer Satisfaction, Eating Habits, Servqual

Introduction

People's dietary patterns are evolving. The adaptable and flexible Indian culture blends with different cultures like salt in cuisine. Indian cuisine is an intersection of numerous cooking styles from various traditions and cultures at the "Vasudev Kutumbakam" platform. Since the time of the Aryans, different cultures have existed in India. Every state, including its towns, villages, and even suburbs, has its own distinct regional cuisine. Indian cuisine offers a vast variety of delectable dishes from many different cuisines. The ingredients and cooking method used boost Indian food's all-around popularity. Indian cuisine is influenced by several different contributions and special recipes that reflect the wealth and ages of its and has an impact. Indian cuisine has undergone a great deal of change from its inception and the notion of food assurance assumption until the present. Individuals began adopting cooking styles and eating habits based on their faith. Religion significantly influenced the development of the eating behaviour, which is now inextricably linked to religious ideals.

Across the entire Indian subcontinent, Navi Mumbai's cuisine has the best flavour, taste, garnishing, and variety.

Literature Review

The customer satisfaction level is an integrated assessment answer that sums up consumers' subjective responses to numerous product qualities. Integrated Product Satisfaction Level has evolved into a metric for gauging customer happiness (Czepiel 1974). The idea that evaluating a product's overall, integrated satisfaction level would be the best way to gauge customer satisfaction is disagreed with, and it was believed that using this type of evaluation method to ask customers to provide a quick response while they are dealing with complex situations would result in the loss of pertinent information. Hence, the amount of consumer happiness can be measured. on each product feature, in addition to the overall level of satisfaction (Handy, Pfaff, 1975). The emotional pleasure of customers in the hotel sector can be raised by offering them distinctive services. Because each person is unique, the services supplied to a customer must fulfil those needs in order to be satisfactory (Jacoby, Chestnut, 1978).

The Servqual model, a theory of customer satisfaction, there are five criteria used to assess the quality of customer service: dependability, responsiveness, empathy, and assurance. The tangibles include the outward appearance of the buildings, the tools used, the staff, and the materials used to interact with clients. Overall client satisfaction, which was a key objective, was significantly impacted by transaction-specific satisfaction. Customers are likely to consider price, food quality (reliability), and overall satisfaction with the dining experience when deciding whether to make a purchase, as well as specific transactional details like product features (such as food quality and restaurant ambience) and service features (such as the server's responsiveness). Depending on the situation, the meanings of civility and knowledge components can vary. In the context of the restaurant business, empathy might not be necessary (Parasuraman, 1991).

To ensure that only the highest calibre services are provided to the clients, it is crucial to provide training and seminars for the staff members who interact directly with them (Reichheld, 1993). In order to ensure that all clients are satisfied, a study done to clarify the function of hospitality workers advised that staff members should not demonstrate any bias, prejudice, or discrimination against some customers (Restall ,Gordon, 1993). Emotional contentment solidifies people's allegiance to a firm or organisation because emotions are now a crucial part of loyalty and satisfaction (Dick , Kunal, 1994). The workers must be involved in gathering consumer feedback on the services they receive. A corporation uses the database it has created to analyse the collected data, identify any issues, and suggest adjustments that would improve customer satisfaction (Bloemer, Kasper, 1995).

Due to the great feelings they had while using the services, the consumers who are supplied custom services that are tailored specifically for their wants and requirements exhibit a strong desire to pay higher costs in the future (Bagozzi, 1999). The five categories employed to analyse the components of consumer satisfaction were first and last impressions, service excellence, atmosphere excellence, culinary excellence, feeling at ease while dining there, reservations, and parking (Kivela, 2000). According to research conducted in Hong Kong, factors such as competitive location, pricing, food quality, and customer services affect people's decisions to use restaurant services. Another study found that among the key factors influencing people's decisions to use restaurant services were the location's competitiveness, costs, the quality of the cuisine, and the customer service. (Pun, Ho, 2001)

Offering exceptional food and service is not sufficient to draw and keep customers, according to research conducted in Spain that looked at the primary determinants. Restaurants must provide meals that are affordable and served in a pleasant environment to gain a competitive edge in the market of today (Soriano, 2002). Because of the poor treatment, dissatisfied customers will seek services from another company or organisation. The reputation of the business suffers tremendously when customers voice their complaints to co-workers, acquaintances, or family. The expectations of the public are influenced by the industry's progress in providing services. customers. The requirement for adaptable and dynamic hospitality employees to match the demand for improved services (Cochran, 2003).

In the hospitality sector, word-of-mouth advertising that is motivated by favourable feelings is effective (Gitman, Carl, 2005). According to a study based on the Servqual model, several aspects of eating experiences in China, such as dish quality and cost, did not fall into the categories that evolved in terms of patron pleasure in those establishments (Bartlett & Han, 2007).

Objective

- Exploring the factors that affect restaurant patron satisfaction in Navi Mumbai is our main goal.
- To research how age affects restaurant patron satisfaction in Navi Mumbai.
- To research how Navi Mumbai city eateries' income affects patron pleasure.

Hypothesis

To evaluate the study's goal, the following null hypotheses were established.
Ho: At restaurants in the Navi Mumbai city, age has little bearing on patron happiness.
Ho: In restaurants in the Navi Mumbai city, wealth has little bearing on patron happiness.

Research Methodology

The empirical aspect of the study sought to identify the variables that affect restaurant patron satisfaction as well as the effects of age and wealth on patron satisfaction in Navi Mumbai.

Data

The primary data has to be recovered for the study. To gather the information, a structured, open-ended questionnaire was created.

Sample Size

There were 105 respondents drawn from Navi Mumbai.

Sampling Technique

The data were gathered via Easy Judgmental Sampling.

Tools for Analysis

The goal was to uncover variables that affect patron satisfaction at eateries in Navi Mumbai. The characteristics affecting restaurant patron satisfaction were found by factor analysis. SPSS 17 was used to analyse the data acquired for the investigation. Regression analysis was utilized to determine the effect of age and income on customer satisfaction.

Analysis and Interpretation

The study focused on 54% men and 46% women. The respondents' demographics are as follows. According to the respondents' qualifications, 12% were qualified up to 12.31% had undergraduate degrees, and 57% had graduate degrees. Also, 70% of respondents were between the ages of 18 and 30, while 30% of respondents were beyond the age of 30. 40% of those surveyed reported monthly incomes of at least 20,000 rupees. whereas 60% of respondents fell into the lower income bracket.

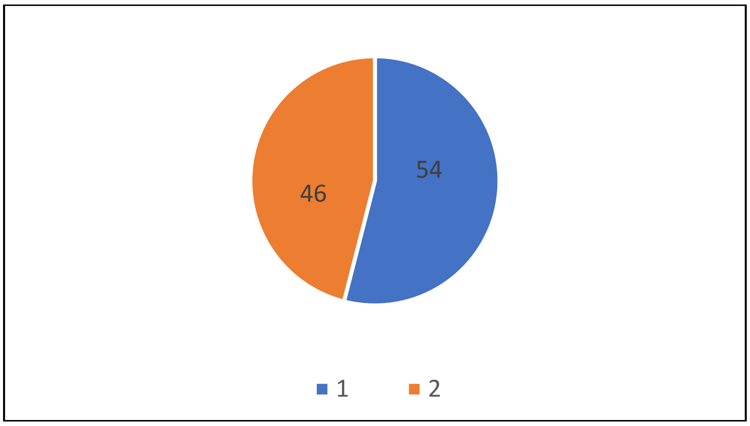

Figure 1: % of Respondents on the Basis of Gender

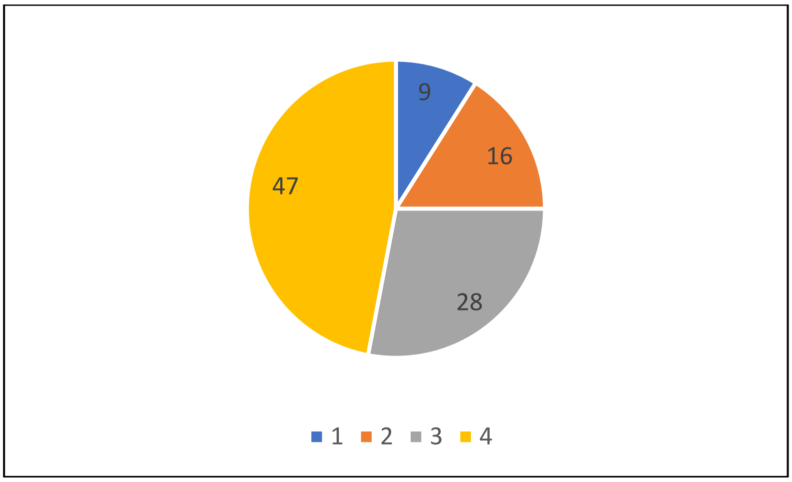

Figure 2: % of Respondents on the Basic of Qualification

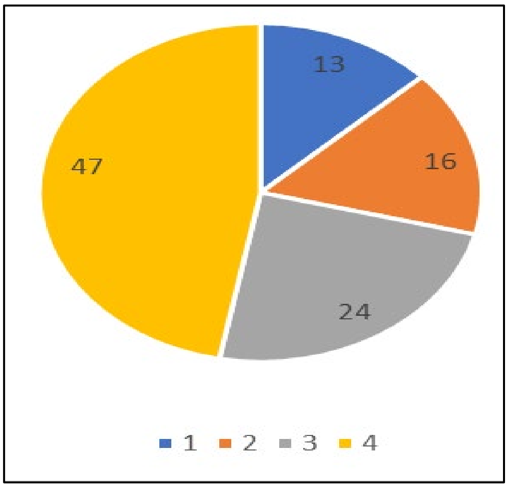

Figure 3: % of Respondents on the Basic of Income

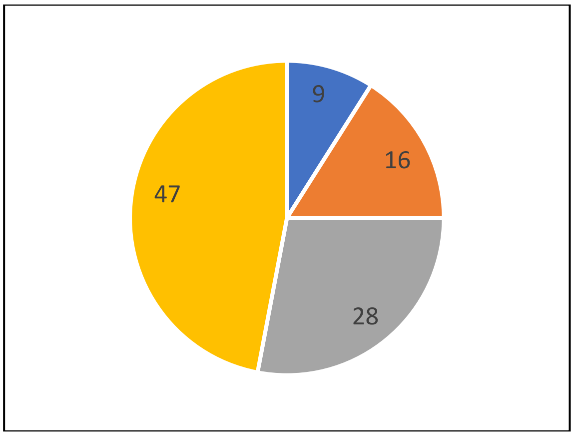

Figure 4: % of Respondents on the Basic of Age

Reliability & Validity

Kaiser – Meyer Olkin Measure of Sampling Adequacy		0.761
Bartlett's Test of Sphericity	Approx Chi-square	797.405
	Dof	153
	Sig.	.000

Table 1: KMO and Bartlett's Test

KMO and Bartlett's Test was used to determine whether the data was reliable. The KMO and Bartlett value of 0.761 indicates that the data are trustworthy. Just the first five elements should be used, according to the Kaiser Criteria, as subsequent Eigenvalues are less than one.

Factor Analysis

The association between an original variable and its factor is represented by a factor loading.

Factor No	Labels	Factor Name	Statement	Factor Loading
F1	R1	Food attributes	The food is hot.	0.741
	R2		The Food is served fresh	0.582
	R5		Employee (Waiter) Speaks clearly	0.565
	R9		The Menu was readable	0.733
	R10		The Food is tasty	0.813
	R16		Timely Billing	0.514
F2	R6	Employee	Employees are respectful	0.754
	R12		The service is first-rate.	0.805

	R11		Assistance to order was taken correctly	0.803
	R15		Parking Facility	0.702
F3	R7	Value for Money	While serving the meals, there were no errors.	0.555
	R13		receiving value for our money	0.737
	R14		Ambience	0.770
F4	R3	Options	The food on the menu is varied.	0.627
	R4		The cuisine is of exceptional quality.	0.731
	R17		Special discounts given to customers	0.779
F5	R8	Offers Value	Employees take orders with patience	0.713
	R18		Special day offers	0.769

Table 2: Factor Analysis

Factor 1: Food Characteristics (Factor Loading: 3,948)
First is the quality of the food. It is the most important aspect and includes expressions like: The staff speaks well (0.741), the menu was easy to read (0.733), the meal is presented fresh (0.813), and prompt billing is offered. Meals are provided hot (0.582). (0.514). These factors suggest that the most satisfied patrons will frequent restaurants that serve hot, fresh meals.

Factor 2: Support from employees 3.064 is the factor loading
The second component is personnel assistance. Four things make up this second crucial factor: "Service is outstanding (0.803), "Employees are nice (0.805), "Order was taken correctly (0.754), "Parking facilities (0.702)," and "Service is excellent." These four claims imply that giving diners the best service possible might increase consumer happiness.

Factor 3: Value for the Money 2.062 is the Factor Loading
The third factor is the monetary value. This grade is based on the ambience (0.770), price/value (0.737), and the consistency of the meal service (0.737). (0.555). The key concern is getting the most for our money. This implies that the customer would be content after getting a refund equal to the amount of the down payment.

Factor 4: Options is the Factor Loading: 2.037
Options are the fourth factor. This factor has three variables placed into it. The statements, significant discounts offered to customers (0.779), the menu's wide range of products (0.627), and the great quality of the food (0.631), suggested that a restaurant's selection of high-quality food could readily meet customers' demands.

Factor 5: Offers Value id the Factor Loading: 0.056
Offers value is the fifth factor. Employees are patient when taking orders, which makes up two assertions in this factor (0.713); special day offers (-0.769). We can infer that clients frequented eateries because of alluring deals.

Regression Analysis

1	r18,r14,r11,r7,r1,r9,r16,r4,r6,r10, r13,r5,r8,r15,r2,r17,r12		Enter

Table 3: Variables Entered/Removed

Taking Income as Dependent Variable
There is a moderate association between the examined values, as indicated by the moderate correlation (R) value of 484, between the observed and predicted variables. This demonstrates that there is no discernible relationship between restaurant revenue and patron happiness in Navi Mumbai. In contrast, the F statistic value is more than 0.05, indicating that income does not adequately explain the differences in the dependent variables. The model fit data has a minimal dependency on independent variables, and the dependent variable does not strongly depend, as shown by the R Square value of 0.234.

a. Predictors: (Constant), r18, r14, r3, rll, r7, rl. 19, r16, r4, ró, r10, r13, r5, r8, r15, r2, r17, r12
b. Dependent Variable: Age

Model	Change Statistics					
	R Square	F Change	Df1	Df2	Sig.F Change	Durbin-Watson
1	0.253	1.622	18	86	0.072	1.850

Table 4: Model Summary

b. Dependent Variable: Age

Model				
	R	R square	Adjusted R Square	Std. Error of the Estimate
1	0.503	0.253	0.097	0.439

Table 5: Model Summary

ANOVA
a. Predictors: (Constant), r18, 114, 13.11,17.1.9. r16, 14, 16, r10, r13, 15, 18, r15, r2, r17, r12
R stands for correlation, and a value of 0.503 indicates a moderate relationship between the evaluated values and the variables that were observed and predicted. Age has no effect on customer satisfaction at restaurants in Navi Mumbai, according to research. As the F state value is more than 0.05, however, the F value is significant, indicating that age does not adequately explain changes in the dependent variables. The model fit data has a minimal dependency on independent variables, and the dependent variable does not strongly depend, as shown by the R Square value of 0.253.

Implications
To investigate customer satisfaction more thoroughly, it is essential to emphasise additional elements and look for better construct metrics. Food quality is the only component that hasn't fully accounted for complicated and diverse structures. Finding the reason why clients frequent restaurants is another crucial consideration. Other than for meals, going to restaurants is mostly done for business purposes and to enjoy the company of loved ones. Customer satisfaction factors are therefore influenced by several circumstances. Depending on the situation, they change. Findings from this methodology cannot be generalised because the sampling region's needs for restaurants may differ. (2006) Andaleeb and Conway As a result, the present owners ought to go through the review procedure and set up the necessary requirements. To serve an ever-growing consumer base, the entrepreneur entering the restaurant industry should focus on the aforementioned characteristics.

Conclusion
Determining the customer's level of satisfaction is essential for good service delivery. The knowledge a hospitality manager could have comes from successfully implementing client satisfaction levels through product innovation, higher customer retention, and favourable word-of-mouth advertising. The data clearly shows that the majority of customers have eaten at several restaurants at various periods. So, restaurant operators must take action to keep patrons and turn them into lifelong consumers. The purpose of the study, which builds on a prior one in the service industry in the United States, was to identify the variables that explain why customers are satisfied in restaurants. It was found that three factors—service quality (responsiveness), price, and food quality (reliability)—should be the focus of restaurants (Andaleeb & Conway, 2006). thus quality. Tastes, services, and location are the respondents' top three considerations when choosing a restaurant, thus business owners should never skimp on any of these elements. Consumers today are pickier and more demanding. Consumers are constantly looking to try new things. It has become difficult to maintain their loyalty to a certain cause because they constantly seek out new endeavours and experiences. eat-out. Customers who are willing to explore and whose loyalties are quickly shifting look for diversity rather than having any particular preferences. The Indian restaurant sector has matured by expanding its services, attempting to satisfy Indian tastes, and remaining competitive with global juggernauts in order to offer clients better services.

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DEVELOPMENT OF NURSING COMPETENCY SCALE USING A FOUR-ROUND DELPHI PROCESS

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ABSTRACT
The Delphi method is a type of research method used for systematically establishing the consensus of experts using a series of surveys that is beneficial for addressing issues. The technique is reinforced by 'wisdom of crowds' studies demonstrating that, under certain situations, groups may make reasonable decisions. Physicians, nurses, and trainers, among others, have been utilised in Delphi research. The paper's purpose is to address the implementation of the Delphi approach in developing a valid and dependable research design competency-driven Nursing Competency Assessment Scale (NCAS) for Nurses. This study was conducted to get an expert agreement on the different aspects of fundamental nursing abilities that Nurses with more than six months of experience should possess. A considerable investment in hiring, training, and retaining Nurses is allocated; hence, an NCAS competency standard must be developed to organise Nursing Talent. The NCAS produced using the Delphi method is a legitimate and trustworthy scale.
Keywords: Healthcare workforce, Nursing competency; Nursing Competency Assessment Scale (NCAS): Delphi technique; Talent Management

Introduction
India's healthcare business is set to achieve new heights in volume and quality of care. With a population of around 1.2 billion (Census, 2011), India has the most rapidly expanding healthcare industry, providing millions with primary, secondary, and tertiary care. In India, the nursing industry continues to face difficulties in terms of Availability, Distribution, and Retention. India falls behind in health care expenditures, infrastructure availability, and skilled and competent labour force. India has only 0.70 physicians and 1.70 nurses for 1,000 inhabitants (Verma et al., 2016). 2.4 million additional registered nurses are required to fulfil escalating demand. A detailed study and analysis have identified four (4) areas that need attention.

1. Development of Nurses' Human Resources Management System
2. A nursing program focused on skill/competency-based outcomes.
3. Competency-based skill testing for licensing
4. Performance review and management of nurses

Objectives
1. To research and establish a relationship between Talent Management variables and its relationship to competence
2. To validate Competencies for Nursing professionals, and
3. To develop and validate the Competency Scale & Framework for Nursing professionals.

Literature review
Social and healthcare organizations work in a dynamic environment; thus, they must foresee these changes to adapt successfully. The Healthcare Management Institute of Ireland has also made notable accomplishments (Santiago, 2019).

The Royal Dutch Medical Association's Central College for Medical Specialties (CCMS) recently released instructions for upgrading all postgraduate speciality coaching programs. The recommendations offer a clear idea of broad capability domains for all specialities, which should assist professionals in designing training programs (Bleker, 2004). Assessments are vital for instructors, administrators, and nurses to determine the professional ability of nurses and, therefore, their overall gaps in education and development (Hasson & Arnetz,2008).

Lenburg (1999) created the Competency Outcomes and Performance Assessment (COPA) Model based on considerable work with the New York Regents College of Nursing Program (1973-91) and various other organisations, as well as research connected to them. It was a comprehensive yet targeted paradigm that needed the combination of practice-based objectives, correlated learning techniques, and competency implementation evaluation.

In agreement, Ten and Scheele (2007) say, "One can only realise improvements in global health through the development of an educated workforce to elevate health and care for those with the illness. An increase in the attention on capability-based education will be helpful for the preparation of better health professionals".

As the technical and scientific progression rate quickens, gaining, maintaining, and developing professional competence is one of the most significant difficulties for all healthcare practitioners (Sheets,1999).
As per the National Council of State Boards of Nursing (NCSBN), continuous competence is a crucial regulatory concern for nursing boards. NCSBN explains that competence means the utilization of knowledge and the interactive, psychomotor, and reasoning abilities expected for the practice position within the framework of public health in order to have terminology relevant to all practitioners at all levels of practice (NCSBN, 1996).

CAC's last resource is a five-step prototype for the respective practitioner, which comprises regular periodical valuation, the formulation of a customized plan, the execution of a personal plan, the recording of all processes, and the demonstration and demonstration evaluation of competence (Vora, 2022).

Significant factors and relationships identified

1. Competence- Competence is a collection of observable traits and abilities that boosts and enhances the effectiveness or execution of a task. (White,1959).
2. Performance- Job performance is a role's postulated conception or requirements in the workplace. There are two forms of work routine: assignment and contextual. The ability to perform on a given assignment depends on cognitive capacity, whereas performance in a given situation depends on personality (Robertson, 2015).
3. Talent - According to Thorne and Pellant (2006), a gifted person is: "Someone with a greater skill who accomplish tasks with ease and elegance. The individual's chosen proficiency level is then compared to the target level to identify proficiency or skill gaps for each activity and ability. (Meyers, 2013)

Some of the well-known scales that have already been researched: -

1. The Nurse Competency Scale (NCS) is a seventy-three-item scale disseminated into seven categories: (Aydin & Hicdurmaz, 2019).
2. The Six-Dimension (6D) Scale has fifty-two items grouped into six subscales (Schwirian,1978).
3. Competency Inventory for Registered Nurses (CIRN) is the nursing capability context or tool for Chinese registered nurses, which recognised seven categories (Liua, 2006).
4. The Holistic Nursing Competence scale (HNCS) is a seven-point Likert-type scale established by Takase & Teraoka (2011), with thirty-six items.

Significant relationships observed

Along with the list of constructs mentioned earlier, our literature study supported various inter-variable relationships, whose significance and empirical validations are discussed further.

1. Competence & Competency- Competence emphasizes skill sets, such as leadership, time management, communication, and interpersonal skills, among others (Yadav, 2022).
2. Talent Management- ASTD Staff (2007) defines managing talent as "a comprehensive method to enhance human capital that allows an organisation to influence overall results by constructing culture, involvement, abilities, and volume through aligned talent procurement, progress, and deployment processes." According to (Stockley, 2007), skill management is a planned effort to hire and develop individuals with the aptitude and skills to satisfy all business demands.
3. Competency Model: - A competence model is a collection of essential skills and behaviours for optimal work performance. Competence models may be crucial in attaining organisational success when utilised to influence individual work behaviours and professional growth. (Wuim-Pam, 2014).

According to Stockley (2007), talent management is an intentional and purposeful endeavour to attract, train, and retain personnel with the aptitude and skills to meet a company's current and future expectations. Organisations must develop techniques to strengthen and use employees' critical talent management abilities to achieve strategic competitive advantages and continue in business (Imparato & Harari,1994).

Competencies are the knowledge, skills, abilities, and behaviours (KSABs) essential for successful work performance and may be measured or observed (Yadav, 2022). Competence is a specified collection of behaviours that gives a systematic framework for identifying, evaluating, and growing employee behaviours.
Competency management positions talent management around competencies. Competence management aims to assist businesses in understanding the skill profiles of each individual, team, and organisation. It begins with identifying the abilities and duties of workers, collecting their evaluations, and assessing the outcomes. The outcomes are then utilised for training and deploying personnel according to their competencies (Andrews, 2011). Consistently identifying competencies helps tie and integrate Talent Management procedures inside a company since competencies serve as a common denominator (Wuim, 2014).
Because of this occurrence, this study was conducted to recognise essential competencies. This study was conducted by utilising a modified version of the Delphi method to determine the necessary aspects of the NCAS content. The study focused on understanding the Nursing environment and related knowledge, skills, attitudes, and personality traits contributing to the competencies.

Research Methodology
The following section outlines the technique used for developing a reliable and valid NCAS competency model.

Delphi Research Approach: The Delphi method consists of multiple rounds from Round 1 through Round 4. In Round 1, the brainstorming step, discussions are monitored between subject matter experts (SME) consisting of doctors, senior nurses, and nurse trainers. Rounds 2 and 3 increase the level of detail and interactions with SMEs. The analysis of the findings concludes Round 4. While the investigator conducts the survey and establishes dates, it is not easy to anticipate whether 24 SMEs will stick to those deadlines. Consequently, a predetermined amount of opportunities is used to modify statements, i.e., endured and monitored (Sekayi & Kennedy, 2017). As shown in Figure 1, details of the steps were involved in each qualitative round of Delphi.

Round 1: - Free-form brainstorming about the Nurse's Role and Responsibilities.
1. Labelling statements using open coding (Strauss, 1987); this stage involved first sorting the data by labelling short text fragments with descriptive terms.
2. This process becomes increasingly analytic as the researcher evaluates how descriptive codes convey meaning.
3. Creation of a list of sentences using the classifications provided by axial coding involving rephrasing individual remarks to form a group answer.
4. Then creating a list of phrases based on the categories offered by axial coding by rephrasing individual comments to construct a group response.

Round 2: - Showing the list of statements to the SMEs
a. A compilation of narrative comments regarding participant statements: send the collection of reports to each participant via E-mail. Note that all assertions are communicated to all participants, but only a subset of them are provided solutions to each issue. Participants are instructed to leave the remark as it is (if they have no knowledge or nothing to add) or make tiny revisions pertinent to them.
b. The next step is the investigator's tally of alterations (s). The researcher(s) utilise the statements and any modifications to develop a clear and comprehensive report that maintains or slightly modifies the original meaning.
c. The researcher created amended and new statements (s).

Round 3: - Presentations of concluding statements to the panel for approval
a) Send finalised remarks to everyone SMEs for approval via electronic means.
b) SME endorsement of remarks. To label utterances as highly, moderately, or little approved - these designations would each be accompanied by a narrative explanation to ensure that the significance of all rankings is consistent.

Presentation of the Results
a. The final version of the outcomes would be a list of somewhat strongly approved statements by SMEs.
b. Developing criteria for conclusions- There are two potential outcomes for this phase. The first alternative is to choose a minimum endorsement percentage for Round 4 statements. Alternatively, use just those statements that all Round 4 presenters strongly support.
c. A concluding report detailing the selected elements to be included in the Pilot Study. Content validity & Face Validity was carried out after Round 1, Round 2 & Round 3.

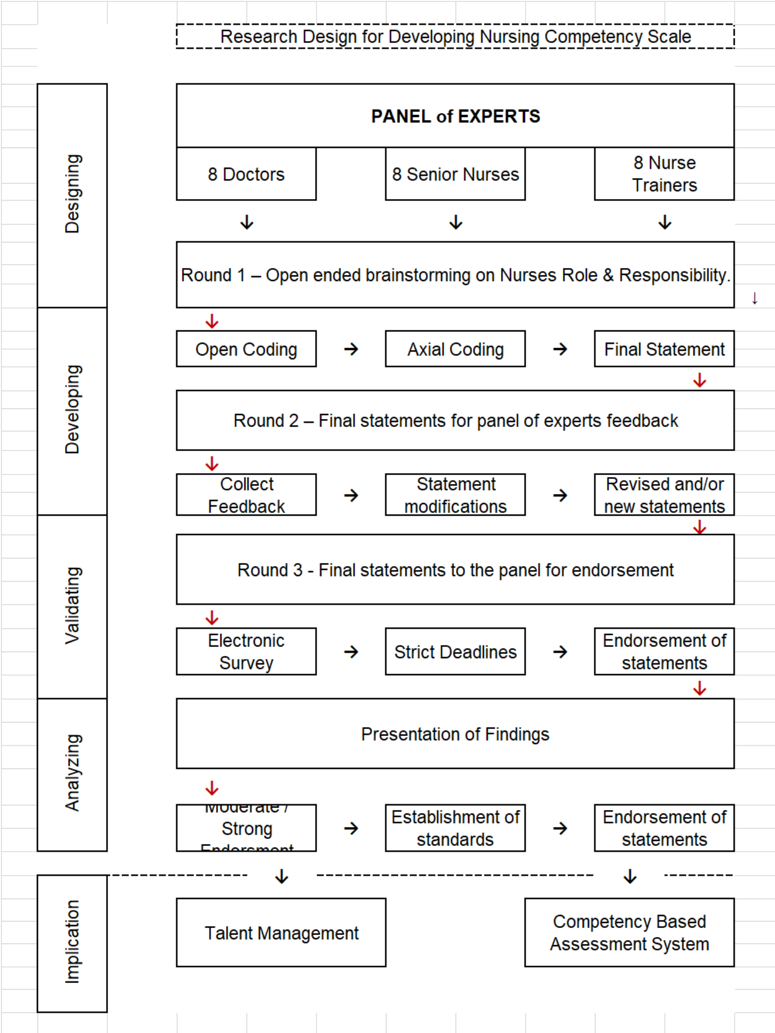

Figure no. 1: Research Design Workflow

Factors affecting Competency & Assessment

Competency is based on a person's behaviour. It tends to find the procedure undertaken to accomplish a particular task or duty. It means that the individual's personality and behavioural attributes are assessed to adjudge the manner of his competency. Competency can be called a combination of competence and an individual's behavioural aspects. It focuses primarily on how a specific task has been performed and not on the standard achieved.

Long-term business success is dependent on a firm's competitive edge. The competitive edge of a firm over similar enterprises in its market or sector enables it to be more profitable or gain a larger market share. A core competency is fundamental to its entire performance and success. A unique skill is any ability that separates an organisation from its rivals. Although a specific skill can be any competency, core or otherwise, a core competency often separates a firm from the rest of the competitors. The particular skills of a corporation can translate these characteristics into a competitive advantage.

Evaluation of Competencies- A competence assessment evaluates a person's abilities concerning their work requirements. In a competence model, these requirements are specified. To be valid, competence models should include just the activities and abilities essential to the role's performance, only some activities the employee performs (which comes from a traditional job task analysis). The evaluation is conducted on the indicated activities and abilities for which a rating is chosen based on how the individual performs the task, which defines their competency. The individual's chosen proficiency level is then compared to the target level to identify proficiency or skill gaps for each activity and ability (Meyers et al., 2013).

As part of its global leadership in nursing, the International Council of Nurses (ICN) produced the ICN Framework of Competencies for Generalist Nurses. Although this framework is intended to be sufficiently global in scope, the role and position of nurses, their educational preparation, occupational, legal, and governmental status, and working conditions vary significantly around the globe. ICN thus proposes using it as a framework for developing new nursing competencies that meet the demands of the nursing workforce in each nation.

Global Competencies Analysis - A detailed, in-depth global analysis of competencies related to Nursing in the Healthcare domain revealed several idiosyncrasies. The local governance, challenges, culture, laws, and healthcare practices gave way to a set of competencies that had local relevance. As seen in Table 1, there are many more individual core, distinct and generic competencies related to different kinds of Nurses. Still, the focus was to research only "generic" Competencies useful for Nurses with more than six months of experience.

The Final Analysis attempts to study all possible unique, distinct sets of competencies and identify generic ones useful for any Nurse across India.

Data Point 1	Data Point 3	Data Point 6
Interpersonal understanding	Helping	Knowledge
Commitment	Diagnostic functions	Interpersonal relationships
Informational gathering	Managing situations	Collaborate with other professionals
Thoroughness	Therapeutic interventions	Practice ethically
Persuasiveness	Ensuring quality	Expand Professional Capacity
Compassion	Work role	Ensure and deliver high-quality nursing
Comforting		Understand needs
Critical thinking	Data Point 4	Support decision making
Self-control	Data Collection	
Responsiveness	Leadership	
	Communication	
	Legal & ethical practice	**Final Analysis**
Data Point 2	Professionalism and implementation	Nursing Care
Clinical judgment	Critical Thinking	Interpersonal Relationship
Interpersonal relationships		Critical Thinking
Planned nursing implementation	Data Point 5	Professsional Development
Evaluation of care	Ethically oriented practice	Compassion
Care coordination	Professional development	Ethical & Legal
Health promotion	Professional Nursing Practice	
Ethical practice	Leadership and Nursing Management	
Professional development	Professional Development	
Continuous learning	Ethical Nursing Practice	
Risk management	Legal Nursing Practice	
Quality improvement		

Table no.1: Global Competency Analysis Data

The Delphi Technique
One of its creators defined the Delphi methodology as a way of obtaining and improving collective judgments' (Dalkey,1969). The Delphi technique comprises the following essential components:

1. A facilitator is responsible for organising the study of Delphi.

2. The assistant assembles a panel of experts with subject matter knowledge.

3. The helper creates a question set with a set of propositions that are rated for agreement by the experts.

4. Using the questionnaire, the facilitator gets replies from the group participants.

5. The assistant provides anonymous feedback to group members regarding how their comments compare to those of the rest of the panel.

6. The group participants may update their questionnaire replies after obtaining feedback.

7. Statistical criteria are employed to identify consensus based on the convergence of responses over questionnaire rounds. (Jorm, 2015).

Consensus and SMEs
Surowiecki (2004) believes that for a crowd to be intelligent, three requirements must be met:

1. Diverse competencies- A diverse collection of specialists will provide higher-quality choices than a homogenous group.

2. Independence- Experts must be capable of making judgments freely so that others cannot influence them.

3. Decentralisation- Skill is possessed by dispersed, independently working individuals.

In addition to the above three seems 'aggregation', that is, there is a system for organising and pooling the expertise of the crowd.

According to Adler and Ziglio (1996), Delphi panel members must satisfy four characteristics. 1. Possess in-depth expertise and familiarity with the research issue, 2. Are dedicated to including 3. Participation in the research process employing the Delphi method, and 4. practical communication skills.

Determining the size of subject matter expert panels
Choosing the size of a Delphi panel is a topic that needs more specific guidelines. However, larger panels will offer more consistent findings. Consider a 10-person forum in which 80% concurrence is required to obtain a consensus. One person's contribution constitutes 10% of the panel and can substantially influence the recommended items. As sample sizes expand, each individual's responses will have less effect, and the results will become more stable. One study on the quality and security of health care used bootstrap sampling to investigate the stability of response parameter estimates. They observed that 23 experts had the most consistent response characteristics. (Akins et al., 2005).

According to studies, panels with at least twenty members are stable. In selecting the panel size, it is crucial to account for predicted panel attrition between survey rounds.

As part of our panel of subject matter experts, we selected twenty-four (24) individuals: - Eight (8) Doctors, Eight (8) Senior Nurses, and Eight (8) Senior Nurse Trainers.

Developing Questionnaires using Coding
Coding in qualitative research consists of procedures that allow acquired data to be processed, classified, and arranged thematically, giving a platform for building meaning in an ordered manner (Williams et al., 2019).

Qualitative research provides opportunities to locate the origin of a phenomenon, investigate potential causes for its happening, codify what the experience of the occurrence meant for those involved, and determine if the incident created a theoretical framework or conceptual understanding of the phenomenon.

Coding is a crucial data organisation mechanism in qualitative research. "In qualitative research, a code is often a word or brief phrase that provides a summative, prominent, essence-capturing, and evocative feature to a subset of language-based or visual data." Initially, coding consisted of a three-part progressive structure: First, Second, and Third level coding, driven by the formula "from codes and categories to the theory" (Saldafia, 2009).

The development of theory arises from the open, axial, and selective coding of gathered data, allowing the researcher to create a more profound theoretical interpretation. This kind of coding gives researchers nuanced access to study informants' thoughts, viewpoints, and responses. Coding permits the collection and analysis of informant data relating to "what people do, also how they do it, and finally why they do it" in a study environment. (Charmaz, 2008)."

Notably, the open, axial, and selective coding scheme provides a cyclical and developing data loop in which the researcher interacts, compares data, and applies data reduction and consolidation strategies. As the coding process advances, its dynamic function and nonlinear directionality enable the identification, codification, and interpretation of essential themes in service of a research study's emphasis and contribution to the linked literature. The circular process is both an art and a science, requiring the researcher to repeatedly analyse and reread the acquired data for a hypothesis to grow (Williams et al., 2019).

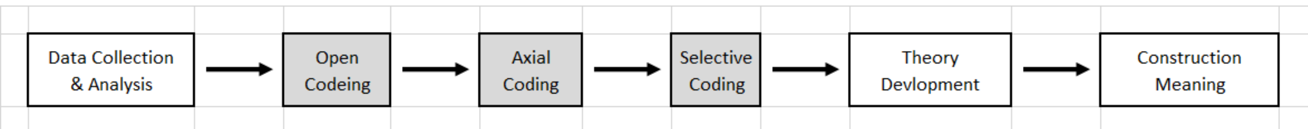

Figure no. 2: Linear Coding Workflow

Open coding is the initial stage of coding. In open coding, the researcher identifies distinct concepts and themes for categorisation.

Axial coding finds its place after open coding at the second level. In contrast to open coding, which focuses on detecting new ideas, axial coding focuses on refining, aligning, and categorising the concepts. With the conclusion of open coding and the transition to axial coding, obtained data may be filtered, refined, and divided into different thematic groups in preparation for selective coding. Axial coding generates core codes by establishing linkages between open regulations. Principal (core) codes are compiled from the most interconnected (or overlapping) open codes supported by substantial evidence. (Strauss & Corbin, 1998).

The third level of coding is known as Selective coding. It enables the researcher to choose and combine categories of ordered data obtained through axial coding into intelligible sentences. "Selective coding builds upon axial coding at a higher level of abstraction by employing acts that contribute to the construction or formulation of the case's narrative." (Flick, 2009).

Round 1 & Round 2

As seen in Table 1, round 1 and round 2 processes and structure assisted in creating "Open Statements."

Round 1: The first round consisted of unstructured brainstorming about the Nurse's Role and duties. A significant amount of early data is sorted by labelling short text fragments with descriptive terms. It is followed by descriptive codes that make sense when combined.

Round 2 required presenting the statements' list to the SMEs or the team of experts. Their feedback sometimes needed modifications to generate a transparent and encompassing statement that maintained the actual meaning or with slight changes. The final step required the creation of revised and new statements.

The linear coding procedure enabled the development of data loops in which interaction with the team of experts resulted in the emergence of data towards a conclusion, which they then shared again for evaluation.

	Narrative Responses	Open Code	Axial Code	Open Statement
1	Patients need to be properly admitted			
	Admissions into the hospital should follow a proper procedure			
	Some sort of visual assessment needs to happen			
	Nurses need to ask questions to walk in patients on their problems	There is a definitive need for some assessment		
	Nurses need to ask their reasons for their actual hospital visit	Assessment needs to be of actual situation and maybe potential issues	Every patient needs to be assessed before admission.	
	Nurses should be making notes on a piece of paper	The information needs to be tracked and maintained	All data needs to be measured, tracked, documented and recorded.	Admitted patients initial assessment by Nursing professional includes assessment of actual and potential needs & problems. It results in a documented nursing care plan for the patient's record
	Before a patient is admitted he should be asked symptoms	There should be a document of records		
	There should be some plan when a patent comes into the hospital			
	There should be a proper documentation of the interaction			
	Every interaction with the patient should be tracked and recorded			

Table no. 2: Coding process towards Open Statement

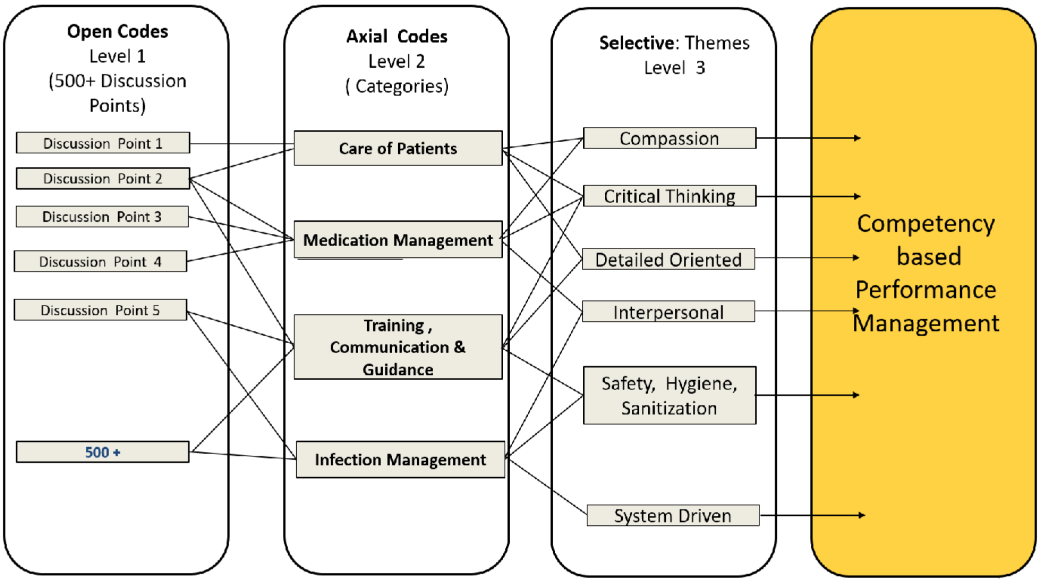

Figure no. 3: Coding Workflow leading to Themes

As seen in Figure 2, as the coding process progresses, its dynamic functionality and nonlinear directivity allow vital themes to be identified, coded, and evaluated in service of the research study's focus and to contribute to the relevant literature. For the theory to advance, evidence and claims were amended, updated, and occasionally deleted by repeated reading and rereading.

Interquartile Range and Quartile Deviation

The interquartile range (IQR) is between the median and the middle 50% of the distribution. It may be calculated by subtracting the third quartile (the median of the upper half) from the first quartile (the median of the lower half).

IQR=Q3-Q1 where:
IQR - the interquartile range
Q3 – the third quartile
Q1 – the 1st quartile

The below-given steps are needed to decide the IQR:
1. Sort the sets of data from smallest up to largest.
2. Determine the values of the third quartile (Q3) and the first quartile (Q1) using the formula for the locator: C = k(n)/4. wherein k is, the quartile and n is the number of values (observations). As a rule of thumb, c
a. If c is the integer, the quartile value is the mean values at c and c plus 1.
b. If c is not the whole number, the quartile value is when c is rounded to the nearest integer.
3. Subtract Q3 and Q1.

					Q3 - Q1	(Q3 - Q1)/2
Nursing Self Evaluation		Median	Q1	Q3	IQR	QD
1	TQ1	4.5	4	5	1	0.5
2	TQ2	4.5	4	5	1	0.5
3	TQ3	2	2	3	1	0.5
4	TQ4	5	4	5	1	0.5
5	TQ5	5	4	5	1	0.5
6	TQ6	5	4	5	1	0.5
7	TQ7	3	2	3	1	0.5
8	TQ8	4	4	5	1	0.5
9	TQ9	5	4	5	1	0.5
10	TQ10	2	2	3	1	0.5
11	TQ11	4	4	5	1	0.5
12	TQ12	5	4	5	1	0.5
13	TQ13	5	4	5	1	0.5
14	TQ14	3	2	3	1	0.5
15	TQ15	5	4	5	1	0.5
16	TQ16	4	4	5	1	0.5
17	TQ17	2	2	3	1	0.5
18	TQ18	5	4	5	1	0.5
19	TQ19	5	4	5	1	0.5
20	TQ20	3	2	3	1	0.5
21	TQ21	5	4	5	1	0.5
22	TQ22	4.5	4	5	1	0.5
23	TQ23	4.5	4	5	1	0.5
24	TQ24	2	2	3	1	0.5
25	TQ25	5	4	5	1	0.5
26	TQ26	5	4	5	1	0.5
27	TQ27	5	4	5	1	0.5
28	TQ28	2	2	3	1	0.5
29	TQ29	4	4	5	1	0.5
30	TQ30	5	4	5	1	0.5
31	TQ31	4	4	5	1	0.5
32	TQ32	5	4	5	1	0.5
33	TQ33	2	2	3	1	0.5
34	TQ34	5	4	5	1	0.5
35	TQ35	5	4	5	1	0.5
36	TQ36	4.5	4	5	1	0.5
37	TQ37	5	4	5	1	0.5
38	TQ38	4.5	4	5	1	0.5
39	TQ39	3	2	3	1	0.5
40	TQ40	5	4	5	1	0.5
41	TQ41	5	4	5	1	0.5
42	TQ42	4.5	4	5	1	0.5
43	TQ43	3	2	3	1	0.5
44	TQ44	5	4	5	1	0.5
45	TQ45	4.5	4	5	1	0.5
46	TQ46	4	4	5	1	0.5
47	TQ47	4.5	4	5	1	0.5
48	TQ48	2	2	3	1	0.5
49	TQ49	5	4	5	1	0.5
50	TQ50	4	4	5	1	0.5
51	TQ51	4.5	4	5	1	0.5
52	TQ52	2	2	3	1	0.5
53	TQ53	4.5	4	5	1	0.5
54	TQ54	5	4	5	1	0.5
55	TQ55	5	4	5	1	0.5
56	TQ56	2	2	3	1	0.5
57	TQ57	5	4	5	1	0.5
58	TQ58	4	4	5	1	0.5
59	TQ59	5	4	5	1	0.5
60	TQ60	4	4	5	1	0.5
61	TQ61	2	2	3	1	0.5
62	TQ62	5	4	5	1	0.5
63	TQ63	5	4	5	1	0.5
64	TQ64	5	4	5	1	0.5
65	TQ65	4	4	5	1	0.5
66	TQ66	3	2	3	1	0.5
67	TQ67	2	2	3	1	0.5

After identifying the value of the median, interquartile range (IQR), and quartile deviation (QD), the following analytical approach is applied. The assertions whose; -

Consensus level is high (when QD is less than or equal to 0.5), and Those whose importance value is high (median value of 4 or higher) are picked, and the others are discarded.

Overall, sixty-five (67) statements were created through the Round 1 through Round 3 process and data was analyzed via the round 4 analysis & these statements were removed: 3,7,10,14,17,20,24,28, 33,39,43,48,52,56,61, 66 & 67. As the final outcome Fifty (50) statements were selected which will then proceed for pilot testing.

Table no. 3: Nursing statements for Self-Evaluation

					Q3 - Q1	(Q3 - Q1)/2
Performance		Median	Q1	Q3	IQR	QD
1	PTQ1	4.5	4	5	1	0.5
2	PTQ2	4.5	4	5	1	0.5
3	PTQ3	2	2	3	1	0.5
4	PTQ4	5	4	5	1	0.5
5	PTQ5	5	4	5	1	0.5
6	PTQ6	5	4	5	1	0.5
7	PTQ7	3	2	3	1	0.5
8	PTQ8	4	4	5	1	0.5
9	PTQ9	5	4	5	1	0.5
10	PTQ10	2	2	3	1	0.5
11	PTQ11	4	4	5	1	0.5
12	PTQ12	5	4	5	1	0.5
13	PTQ13	5	4	5	1	0.5
14	PTQ14	3	2	3	1	0.5
15	PTQ15	5	4	5	1	0.5
16	PTQ16	4	4	5	1	0.5
17	PTQ17	2	2	3	1	0.5
18	PTQ18	5	4	5	1	0.5
19	PTQ19	5	4	5	1	0.5
20	PTQ20	3	2	3	1	0.5
21	PTQ21	5	4	5	1	0.5
22	PTQ22	4.5	4	5	1	0.5
23	PTQ23	5	4	5	1	0.5
24	PTQ24	4	4	5	1	0.5

Table no. 4: Performance Statements for Managers

The succeeding analytical procedure is implemented following the identification of the value of the median, interquartile range (IQR), and quartile deviation (Q.D.). The candidates whose consensus value is high (where quartile deviation (Q.D.) is lesser than or equal to 0.5) and whose importance level is high (where the median value is at least 4) are picked, while the other candidates are discarded.

	Competencies	Median	Q1	Q3	Q3 - Q1 IQR	(Q3 - Q1)/2 QD
1	PC1	2.5	2	3	1	0.5
2	PC2	2	2	3	1	0.5
3	PC3	2	2	3	1	0.5
4	PC4	5	4	5	1	0.5
5	PC5	5	4	5	1	0.5
6	PC6	2	2	3	1	0.5
7	PC7	3	2	3	1	0.5
8	PC8	2	2	3	1	0.5
9	PC9	5	4	5	1	0.5
10	PC10	5	4	5	1	0.5
11	PC11	2	2	3	1	0.5
12	PC12	2	2	3	1	0.5
13	PC13	5	4	5	1	0.5
14	PC14	3	2	3	1	0.5
15	PC15	2	2	3	1	0.5
16	PC16	3	2	3	1	0.5
17	PC17	5	4	5	1	0.5
18	PC18	2	2	3	1	0.5

Table no. 5: Global Competency Analysis Data

Overall, the researchers created twenty-four (24) statements through the Round 1 through Round 3 process, and they analysed data via the round 4 analysis & they removed these statements: - 3,7,10,14,17 & 20. Eighteen (18) statements were selected as the final outcome, which will proceed for pilot testing. The succeeding analytical procedure is implemented following the identification of the median value, interquartile range (IQR), and quartile deviation (Q.D.). The capabilities of which; -The consensus degree is high if the quartile deviation (Q.D.) is lesser than or equal to 0.5 and the median deviation (M.D.) is less than or equal to 0.5.

Those with a median value of 4 or above and a high priority level get picked, while the rest get dismissed. Overall, the researchers selected eighteen (18) competencies through the Round 1 to Round 3 process, and they analysed data via the round 4 analysis & these competencies got removed: - 1,2,3,6,7,8,11,12,14,15,16 & 18. Six (6) competencies got selected as the final outcome, which will proceed for pilot testing.

Results and Discussion

Table1. Results of the Delphi Study: Indicators with High Ratings for Importance and Consensus Ratings

Calculating Interquartile Range (IQR) and Quartile Deviation (Q.D.): These items received a quartile deviation (Q.D.) score of less than or equal to 0.5 and a median value of 4 or above. Following the determination of the median value, interquartile range, and quartile deviation, the following analytical technique categorises things based on the levels of consensus and importance. This study contains three levels of agreement (high, medium, and no contract) and two degrees of significance (very high and low). To assess the degree of consensus, which is high (if the quartile deviation is less than or equal to 0.5), medium (if the quartile deviation is between 0.5 and 1), and no consensus (if the quartile deviation is greater than 1); and the very high importance level (when the median value is at least 4) and low importance level (in which the median value is less than 3.5). This study included aspects with a high degree of relevance and consensus to develop competence and assessment criteria for nurses.

Interpretation: - For a question (Test Item) to be acceptable, the consensus level has to be high as calculated by Quartile Deviation (Q.D.), which should be < or = 0.5. Also, the "Importance level" has to be very high in which the median value should be > or = 4.

Limitations of the Study

Twenty-four professionals, including physicians, senior nurses, and trainers, were selected for this study to serve on the Delphi panel. Though their collective experience is vast, the complexity and vastness of the medical field make the outcomes and actionable items limited in scope. The outcomes of this investigation cannot be generalised among all healthcare domains.

The process of four rounds, the time required for each round, and the long time between consecutive rounds elongate the entire activity. Due to the twelve (12) month period of the information gathering sessions, surveys, and subsequent analysis, the focus of the medical professionals needs to be more balanced.

There was a 20% loss of the original team due to transfers, retirements, and general movement for personal and professional reasons. This loss reduces the deliverables' momentum and quality but was/is unavoidable.

Conclusion

This document covers the research technique used to construct the first version of the Nursing Competence Assessment Scale (NCAS) for healthcare through creating the instrument for the Delphi research procedure. It consists of competence assertions, such as the primary category, competency markers, abilities and competencies. Document analysis, exploratory interviews, Behavior Event Intervention (BEI), and a literature review were performed. Based on the challenging and time-consuming procedure of rounds 1 through 4, the early draft of competency statements is modified. The validity of the NCAS competency standard drafts and measuring items is determined using the Delphi approach. The instrument generated from the outcomes of the Delphi technique study is also evaluated, and healthcare industry professionals validate its contents and face validity. Due to the rigour of the Delphi technique's research method, the resulting study output is valid and trustworthy. This article includes a comprehensive explanation of all aspects, including the recruitment of an expert panel, the production of Delphi questions, and the data analysis techniques used to establish the types of essential nursing competencies that Nurses must possess.

The Delphi technique captures qualitative data efficiently and rapidly from a diverse sample of participants, unrestricted by geography or resources. The researchers may use Google Survey, SurveyMonkey, or other document-sharing technologies to collect and arrange the data obtained throughout each cycle.

Coding helps researchers to discover, organise, and construct theory in qualitative research. Enabling investigators to engage themselves in the data, open, axial, and selective coding play crucial roles in attaining the research objectives of a study. Every stage of the coding technique combines the emerging themes gathered during data collection and progressively refines the components, resulting in the formulation of theory and significance.

In healthcare, using the Delphi method is frequent to answer problems that may not be practicable or practical to answer using alternative approaches. These include instances in which experimental or epidemiologic data are unavailable, the data are inadequate or not immediately pertinent to the topic at hand, the data are substantial but difficult to conclude from, or a concord of values is required. Delphi and other methods of consensus support the approaches of evidence-based medicine. In addition, various pieces of evidence, from individual experiences to organised assessments of epidemiological and probing investigations, can inform expert consensus. The credibility of the expert's evidence is contingent on the sources of knowledge at their disposal. Even when expertise is poor, the literature on the 'wisdom of the people confirmed the validity of group consensual judgments under specific situations. In researching mental health, the Delphi method offers a systematic approach to satisfying these requirements that may be widely adopted.

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DIFFICULTIES FACED BY RURAL DALIT WOMAN LABOURERS AT WORKPLACE-A CASE STUDY OF HARYANA

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ABSTRACT
In the present study, an attempt has been made to discuss the difficulties faced by Dalit (SC) woman labourers at the workplace in the rural areas of Haryana. The present study relates to 2020-21 and is based on a sample of 535 rural Dalit woman labour households. The analysis reveals that more than half (60.57 per cent) started working as labourers when they were less than 20 years of age. Only 12.52 per cent of women labourers have some facilities at the workplace, while a large majority of them, i.e., 87.48 per cent are not provided with any facility. One-third of the respondents, i.e., 37.57 per cent have reported that female labourers are paid less wages as compared to their male counterparts for the same work. About 35 per cent have been discriminated against at the workplace based on their caste. The analysis further reveals that 15.88 per cent of the total respondents faced sexual exploitation. Another 26.92 per cent of respondents faced no such type of harassment at the workplace. However, the majority of the respondents 57.20 per cent gave no response regarding this. This may have been because of saving their chastity in society.
Keywords: Dalit, Women, Labourers, Workplace, Rural
Jel Codes: J15, J16, J31, J71

Introduction

Dalits are still suffering on an economic, social, political and cultural basis. They are discriminated against by society and hence face problems regarding human rights and social justice. The woman belongs to the Dalit community are more vulnerable. They face the battle of three fronts i.e. in the form of being poor, a Dalit and a woman. They face insult at the hands of upper-class women due to the practice of untouchability. The caste system of India divides the communities based on their occupation. Dalit woman labourers play an important role in all income-generating activities to improve society and also in social functioning. Despite such a valuable contribution they face social discrimination. In rural areas, a large number of woman labourers work in the agricultural sector as landless labourers, as domestic labourers for the land owner, in animal husbandry and work in small-scale industries in villages. Most rural women are illiterate. Rural women lack facilities, novelties and self-dependent attitudes. Government policies are not properly applied in rural areas (Kongolo, Bamgose, 2002). The majority of women labourers i.e., 93 per cent work in agriculture and other rural works, and get income on daily basis in the agriculture sector. For the same work and at the same time, men are getting more wages compared to women (Balakrishanan, 2005). Dalit women are discriminated against and exploited for their castes in society. Dalit women are also discriminated against based on gender in the family. Dalit women's social position depends on their education and employment (Natekar, Patil, 2014). Dalit women are charged with the double burden of caste and sexual division of labour and are physically exploited by men from other communities. Dalit women are badly off sections and they have fewer resources for development. They are poor, illiterate, sexually harassed and exploited. They face so many conflicts in day-to-day life (Rai, 2016). Most of the time rural woman labourers were unpaid and less paid in the field of agriculture sector as compared to other fields. It has been found that there is gender discrimination in agricultural work, wages, choice of work and working hours (Kumar, Nafisa, 2017). Women have faced discrimination in education, economics, and social, domestic, political as well as sexual fields (Kumari, 2017). The work participation rate of Scheduled Castes was high as compared to other Castes because they have to accept every type of work without any refusal for their livelihood, due to their economic compulsions. Scheduled Castes and Scheduled Tribes suffered from so many types of discrimination on a social, economic and political basis (Raghunath, 2017). Exploitation and oppression against Dalit women are visible in the form of hunger, malnutrition, diseases, physical and mental torture, rape, illiteracy, ill health, unemployment, insecurity and inhuman treatment (Singh, Vashistha, 2018).

Haryana stood at 5th position among all Indian states with a high Scheduled Caste population. In the census of 2011, the total Scheduled Caste population of Haryana is 51, 13,615 which is 20.17 per cent of the total population of Haryana (GOH, 2018). The economic growth of Haryana is faster than in other states but Haryana has been limelight for its traditions and custom dispute with the freedom of lower caste women. It showed the crimes and exploitation of Dalit women (Pal, 2018). The sex ratio is very low in Haryana; it is a serious matter of demographic imbalance and unfavourable social issues in the future. There are distinctions in sex ratio, literacy rate, and labour work participation in favour of males in Haryana (Nisha, Raj, Kumar, 2015). Economically Haryana is a growing state, but socially it is still backward and patriarchal. Out of the total 21 districts, 19 districts have a sex ratio of less than 880. In Haryana state, the status of women is poor, and the crime against women is high (Parihar, Devi, Kaur, Sharma, 2015). The rural woman labourers need to recover from poverty and improve their economic status and also need freedom from the misuse of the upper classes, which is justified by the Hindu religious Holy Book (Rani, 2017).

Review of Literature
In the villages, there has been a remarkable increase in the number of women going out of the home and becoming workers. They give a great contribution to household income. In Indian society, there is some element that helped to make women independent and fight against injustice and their rights. Women have succeeded to make their social status and survive day by day (Singh, 2014). Demographic data show the Dalit population records a high fertility rate and lower life expectancy compared to the upper-class caste. Dalit women have a higher work participation rate, but low wages paid to them. Underage marriage is a major problem in the Dalit class. Nearly 15-16 percent of girls get married before the marriage age in the Dalit population (Mukherjee, Sabharwal, 2015). The rigor of Dalit women is not only due to their poverty, education and economics but also the exploitation and restriction by the upper classes (Ashalatha, 2013). Rural women are most affected and exploited in rural society. In the present day, globalization and urbanization have shifted rural women to the way of development but they cannot get potential success in society. Rural women are facing different types of social, psychological, cultural, physical and economic problems (Joshi, 2016). Even the Indian government implements various policies to develop the conditions of Dalit women, but Dalit women face a high degree of poverty, gender gap, casteism and socio-economic deprivation (Shahare, 2016). Rural Dalit woman labourers are lives in very poor housing conditions. The income and consumption expenditure is very low. Dalit woman labourers are facing the burden of poverty. Rural Dalit woman labourers have no knowledge or interest in political participation. Rural Dalit woman labourers are working on wages at an early age due to their poor economic conditions (Singh, Dharmpal, Kaur, Kaur, Jyoti, 2019). The socio-economic status of agricultural women workers is very low. Women workers have a low level of housing facilities. The existence of underemployment in the agriculture sector is a major problem for women workers. Low wage rates and gender discrimination in the wage make the income of households very low. Women workers bear the double burden of work inside the house and outside the house (Thresia, 2004). Females from below-poverty-line families are more engaged in domestic work. Female in India is part of the unorganized sector. The trend of female domestic workers has risen day by day due to a lack of education, employment and other vocational skills. Female workers faced multiple problems like health issues, low wages, and mental, physical and sexual harassment at the workplace (Augustine, Singh, 2016). The caste system creates unequal opportunities for work. The social status and economic condition of Scheduled Caste people are very poor. Scheduled Caste has faced discrimination by the upper caste in the villages (Rajpal, 2016). The living conditions of the Dalit women are very poor due to their poverty, poor economic status and lack of education. Dalits are exploited by the upper classes. Dalit women bear a triple burden as Dalit, as poor and as women. The main reason for the exploitation of Dalit women is the lack of awareness of women's rights. Education is the major factor to change the social and economic conditions of Dalit women. Empowering women exclusively attempts to remove gender biases, cultural restrictions, provision of adequate facilities etc (Bakshi, 2017).

Objectives of the Study
In the present study, an attempt has been made to analyze the difficulties faced by Dalit woman labourers at workplaces in rural areas of Haryana. More specifically, the aims are:

1) To estimate the age of opting to work as labourers and facilities available at the workplace
2) To investigate wage discrimination and delay in getting wages.
3) To analyse the caste discrimination and sexual exploitation/harassment faced at the workplace.

Research Methodology
The present study describes the analysis of difficulties faced by Dalit woman labourers at the workplace in rural Haryana. It is a cross-section analysis related to the year 2020-2021 that includes the data related to the workplace problems of the rural Dalit woman labourers in Haryana. The sampling design is selected by the three-stage-stratified sample given as under:
Selection of districts;
Selection of villages; and
Selection of households.

Purposely, Haryana state can be divided into four parts based on geographical factors and natural regions, i.e., Eastern Haryana, Western Haryana, Ambala Plain or Sub-montane Belt and Southern Haryana. For the study, four districts have been selected. Based on random sampling, Sonipat district has been selected from Eastern Haryana, Sirsa district from Western Haryana, Yamunanagar district from Ambala Plain or Sub-montane Belt and Mahendargarh district has been selected from Southern Haryana.

Based on the random sampling method, one village from each development block of the selected district has been chosen. Thus in all, thirty villages have been selected for the survey, eight from Eastern Haryana, seven from Western Haryana, seven from Ambala Plain or Sub-montane Belt and eight from Southern Haryana. Out of a total of 30 selected villages, 535 Dalit woman labour households have been randomly selected and investigated by taking 10 per cent households from the total number of Dalit woman labour households. In the whole sample, 130 households from Sonipat, 140 households from Sirsa, 136 households from Yamunanagar and 129 households from Mahendragarh formed the total sample of 535 households. The study is based on primary as well as secondary data. The secondary data that have been related to districts, development blocks and villages under the study were collected from published and unpublished sources. The main sources of secondary data such as include Census books, Economic Surveys etc. The primary data were collected from the selected villages and households through two types of well-structured questionnaires. One questionnaire was prepared for collecting the facts related to the sampled villages and other for obtaining the facts about the sampled households. Since the majority of the respondents were illiterate, so the questionnaire was filled out by the meeting method.

Primary Data Analysis

As per the data shown in Table 1, out of 535 respondents, more than half (60.57 per cent) started working as labourers when they were less than 20 years of age. The labourers who started their labour work at the age of 20 to 30 years are 28.78 per cent. A very small proportion of the respondents, i.e., 6.17 and 3.55 per cent started working as labourers at the age of 30 to 40 and 40 to 50 years respectively. Even 0.93 per cent of the respondents began to work as labourers after the age of 50 years or above because of their economic compulsions.

Age-group	Haryana	
	Number	Percentages
Less than 20	324	60.57
20-30	154	28.78
30-40	33	06.17
40-50	19	03.55
50 and above	5	0.93
Total	535	100
Source: Field Survey, 2020-21		

Table 1, Age of the Respondents Opting to Work as Labourers

There is no doubt that the basic facilities such as the arrangement of a toilet, canteen, first-aid and other facilities made available to the labourers at the workplace. Table 2 provides the data collected in this regard. Out of 535 respondent woman labourers, only 12.52 per cent of women labourers have these facilities, while a large majority of them, i.e., 87.48 per cent are not provided with any facility. The table further shows that 10.47 per cent of respondents have been provided with a toilet facility at the workplace, while the canteen facility is available to only 5.23 per cent of them. A very small proportion of the respondents, i.e., just 1.68 per cent have the facility of first-aid. Not even a single Dalit woman labourer has conveyed the facility of the creche at any workplace. The field survey has revealed the fact that the respondents, who are availing some of the services at the workplace, are those working in manufacturing units or as a mid-day meal or asha workers and domestic servants. Even under the famous government scheme MGNREGA, there is no proper arrangement for basic facilities such as toilets, crèche, and first aid for working women.

Particulars	Response	Haryana	
		Number	Percentage
Facilities	Available	67	12.52
	Not available	468	87.48
	Total	535	100
Types of facilities (multiple responses)	(a) Canteen	28	05.23
	(b) Toilet	56	10.47
	(c) Creche	0	0
	(d) First-aid	9	01.68
Source: Field Survey, 2020-21			

Table 2, Facilities Available to Rural Dalit Woman Labourers at the Workplace

Table 3 carries the data highlighting wage discrimination among male and female labourers in the rural areas of Haryana. The table shows that more than one-third of the respondents, i.e., 37.57 per cent have reported that female labourers are paid less wages as compared to their male counterparts for the same work. It implies that 62.43 per cent of respondents find no discrimination regarding this.

The respondents have given different reasons for such a type of discrimination in the wage rate. For example, 28.04 per cent have reported wage discrimination among male and female labourers due to the nature of work. Different types of work require hard labour only men can do such type of work. Hence, they are paid more as compared to women. Another 15.33 per cent have stated that due to gender discrimination, men are paid more as compared to women. More than 10 per cent of the respondents believe that men can do all types of work; so they are given higher wages. Lack of mobility among the woman labourers has been another reason as explained by 3.17 per cent of the respondents. Some of the respondents 3.36 per cent gave no response in this regard. Pre-independent Indian society gave no right over immovable property to women. Therefore, women too had been exploited both economically and socially. Though seven decades have passed since India's independence, incidents of caste and gender-based discrimination are often reported (Kumar, 2020). Women are given work which is often unskilled and little skilled. They have to work under very pitiable working conditions. Women workers have very poor bargaining power and that is why they cannot force employers for their rights, which leads to further exploitation (Divyakamakshi, Kalavathi, 2014).

Particulars	Responses	Haryana	
		Number	Percentage
Wage discrimination	Yes	201	37.57
	No	334	62.43
	Total	535	100
Reason for wage discrimination	Male labourers can do all kinds of work	70	13.09

(multiple responses)	Nature of work	150	28.04
	Lack of mobility	17	03.17
	Gender discrimination	82	15.33
	No response	18	03.36
Source: Field Survey, 2020-21			

Table 3, Wage Discrimination among Rural Dalit Male and Female Labourers

Table 4 shows the nature of exploitation the Dalit woman labourers faced in getting their wages. It is evident from the table that 63.18 per cent of respondents do not face any problems in getting their wages, while the remaining, i.e., 36.82 per cent of respondents have reported that they face problems in getting their wages. The main problems expressed by them include delay in payment of wages, extra work without any payment, and commission taken by the contractors/ agents. One-fourth of the respondents express the view that there is a delay in payment of wages, 13.46 per cent of the respondents express the view that they do extra work without any payment and 05.23 per cent of the respondents express the view that they have to pay commission to the contractors/ agents for getting their wages.

Particulars	Response	Haryana	
		Number	Percentage
Exploitation	Yes	197	36.82
	No	338	63.18
	Total	535	100
Types of exploitation(multiple responses)	Delay in payment	140	26.16
	Overtime work without any extra payment	72	13.46
	Commission to agents/contractors	28	05.23
Source: Field Survey, 2020-21			

Table 4, Exploitation Rural Dalit Woman Labourers Faced in Getting Their Wages

The Dalit woman labourers have to even face caste discrimination at the workplace. The so-called higher caste employers often used abusive language for the Dalit woman labourers. Table 5 reveals that 35.70 per cent have been discriminated against at the workplace based on their caste. Half of the respondents 51.21 per cent do not have any complaint, whereas the remaining 13.09 per cent of respondents have given no response in this regard. The table further reveals that 15.88 per cent of the total respondents faced sexual exploitation. Another 26.92 per cent of respondents faced no such type of harassment at the workplace. However, the majority of the respondents 57.20 per cent gave no response regarding to this. This may have been because of saving their chastity in society. This may be because of social issues. In reality, almost all working women are disposed to sexual harassment, irrespective of their status, the types of employment and personal characteristics. They face sexual harassment on way, to educational institutions and hospitals, on transport, at workplaces, at home and even in police stations when they go to file complaints (Tyagi, 2016). Women's experiences in the workplace are shaped by intersections between age, race, gender and class and migration status. If capitalism is overthrown, women could be freed not just from the capitalist society but also from the patriarchy (Lokot, Bhatia, 2020).

Particulars	Response	Haryana	
		Number	Percentage
Caste discrimination	Yes	191	35.70
	No	274	51.21
	No response	70	13.09
	Total	535	100
Sexual exploitation/ Harassment	Yes	85	15.88
	No	144	26.92
	No response	306	57.20
	Total	535	100
Source: Field Survey, 2020-21			

Table 5, Caste Discrimination and Sexual Exploitation/Harassment Faced by Rural Dalit Woman Labourers at Workplace

Findings
The study reveals that Dalit woman labourers have to start work at an early age i.e., more than half (60.57 per cent) of the respondents started working as labourers when they were less than 20 years of age.

As findings show that out of 535 respondent woman labourers, only 12.52 per cent of woman labourers have some facilities at the workplace, while a large majority of them, i.e., 87.48 per cent are not provided with any facility.

The study shows that more than one-third of the respondents, i.e., 37.57 per cent have reported that woman labourers are paid less wages as compared to their male counterparts for the same work.

The study reveals that 35.70 per cent of the respondents have been discriminated against at the workplace based on their caste. Half of the respondents 51.21 per cent do not have any complaint, whereas the remaining 13.09 per cent of respondents have given no response in this regard. Further 15.88 per cent of the total respondents faced sexual exploitation/harassment. Another 26.92 per cent of respondents faced no such type of exploitation/harassment at the workplace. However, the majority of the respondents 57.20 per cent gave no response regarding this. This may have been because of social issues.

Conclusion
The analysis concludes that more than half of the rural Dalit woman labourers started working as labourers when they were less than 20 years of age. They dropped their education in between and started working due to economic compulsions. Government policies must ensure that nobody is forced to leave school in between, and the government must frame policies for the improvement in the economic conditions of the families. The facilities available at the workplace clearly show that the Dalit woman labourers have to work under pitiable

conditions. To overcome this problem, the workplace facilities programmes chalked out by the government should bring all the working places in its ambit. As the study shows that most woman labourers face wage discrimination at the workplace as males are paid more wages as compared to females, an important policy implication is that equal pay for equal work should be implemented more effectively. The respondents have been discriminated against at the workplace based on their caste. Further, the respondents faced sexual exploitation/harassment at the workplace. An important policy implication is that government should implement rigid laws against caste discrimination and sexual exploitation/ harassment.

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EFFECT OF DIGITAL MARKETING ON PHARMACEUTICAL BUSINESS AND ITS IMPACT ON SOCIAL WELLBEING- A CONCEPTUAL REVIEW

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ABSTRACT
The pharmaceutical industry establishing up for incrementing utilization of digital platforms to come to be more privy to the potency of communication however the Pharmaceutical industry has agonized from social solicitousness. Many Advertising or promotional rules restrict the Pharmaceutical industry to work in full gear in digital marketing. Pharmaceutical companies need to follow the sundry rules for marketing the products when expounding their product in promotion. The study compares the effect of digital marketing on the Pharmaceutical business and its impact on social well-being. The research incorporates both positive and negative societal implicative insinuations of digital marketing in the Pharmaceutical field. The study seeks to quantify centrality as a connection between digital marketing in Pharmaceutical and social issues. Surprisingly, the study catches the consequential of Digital marketing in Pharmaceuticals that is not always directly proportionate to its outspread promotion; acceptance of Pharmaceutical digital marketing by society is varied from a traditional one but cannot be supersession. It creates a gap to explore the contribution of Digital marketing to the welfare of society in the context of minimizing healthcare costs. This paper gives insights on the phenomenon of the paramount connection of Digital marketing to be a platform for cognizance & information, Social Media Pharmaceutical Marketing, aid to Salesforce, and Mobile Marketing.
Keywords: Societal well-being, Digital Marketing, social media, e-commerce, and online Pharmaceuticals.

Introduction

There are many platforms where digital marketing has impressed its footprint. It is from an organized section to an unorganized one. Digital platforms made the industry extend the hope for more revenue. Similarly, for the people, it is a kind of information that goes down that customers may choose either of them or wait for alternatives. The Pharmaceutical sector already covers the market through digital platforms across the globe but in India, its presence is very limited. Day by day new innovative technology is emerging however India is still in the primary phases in these contributions.

Majorly our treads in the context of Pharmaceuticals comprise generic medicines, the world sees India as one of the major generic suppliers. The interception of Digital marketing in the pharmaceutical industry is changing the Pharmaceutical and Healthcare industry is more fast paced than the way it is transforming the retail, media, and banking, airline, telecom sector. The world is online and with mobile phones. It expected customers to resume services to supply them straight away enabling them to provide services and information Standards (2019), However, the industry's works do not justify the new technology.

In the digital age, patients rely less on their medical advisers for advice, and can work more efficiently and progressively on self-health. By category of health and fitness available online and on applications and usable for health, Just like the Apple Watch. More than 85 percent of patients confirmed their ability to take responsibility for their health and knew how to turn to online resources to aid themselves Champagne (2015). Further to add, Patients are increasingly alacritous to evaluate a variety of health products and accommodations as they are experiencing ascending costs. In the digital age, such assessments may be the potential for prosperity in the pharmaceutical company's business model. Conventionally, Pharmaceutical industry meetings use to be direct marketing. Doctors are given advertising materials, gifts, or special grants to form a beneficial relationship between the two parties. When these methods were going on, The Company's transition to digital media was seen as more attractive.

Companies like marketing are beginning to use atomizer data from electronic health records to determine treatment options for specific situations,Perlotto (2014). Most electronic health records products are not in the business of selling data to outside parties and follow the structured business model. Many Software like Practice Fusion is available free of charge to doctors, with such contingencies the converted version of the record will be sold to third parties for sale. Marketing organizations purchase this information to provide insight into how doctors select specific medications.

Many Pharmaceutical companies find social sites to promote content rather than discuss it publically. Corporate news coverage includes government approvals and illness awareness, and other matters, Such as the latest data from the government or stats on epidemiology. Like many other industries, less effort is being made to use social media as a stage for the switch over. This is mainly a result of regulatory encounters that the industry has received , Faisal (2018). The path to innovation in digital marketing across medicine is still short. Recently it came to the observation that, on average Companies have a website, especially brands and Electronic-detail. The idea of a digital marketing plan is to order display stands, symposiums, and patient sheets ,Goundrey-Smith (2014) adopting new technology for their business, especially digital technology ET HealthWorld (2015) A study conducted through a survey containing 20 such companiesThe worth of $17 to $18 billion Indian Pharmaceutical industry and their companies are leaving old methods and has found new technology benefited a lot to doctors to get higher relief to medical seekers (Raghavan, 2016) .

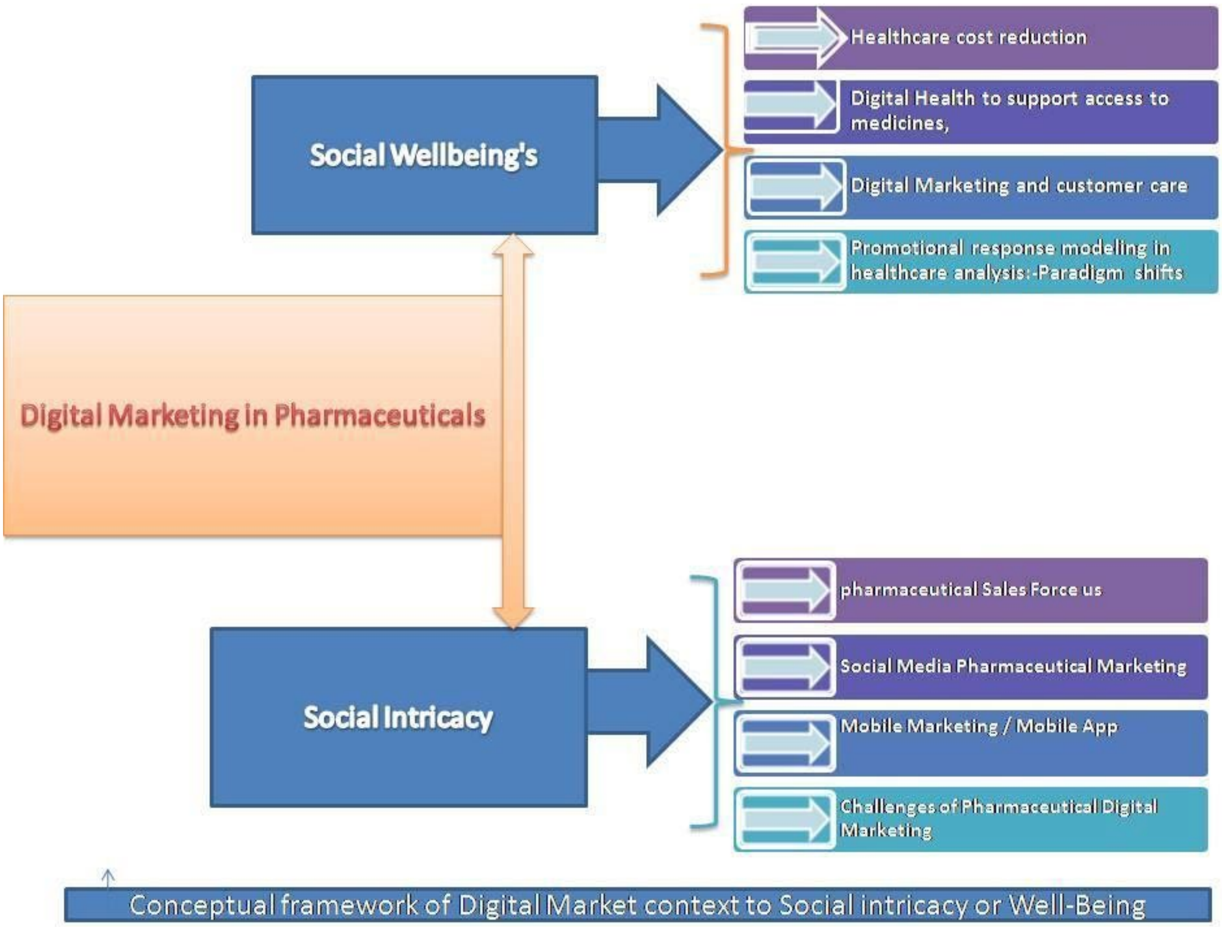

Figure 1 Conceptual Framework of Digital Marketing to Social Intricacy or Well-being (Source Generated by the researcher)

Social Wellbeing
Healthcare cost reduction
Redseer, (2020), online pharmacy enables significant results to provide convenient access to affordable and affordable Covid-19 time medicines. The (Redseer, 2020) about seventy-five percent of consumers% of consumers say that their online pharmacy purchases have either increased or remained the same during the

unlock phase, especially after June 2020, compared to before the COVID-19 period. "The Ministry of Health and Family Welfare, Government of India issues guidelines that support online doctor consultation for effective patient management. Following these guidelines, the Ministry of Health and Family Welfare, Government of India has categorized the drugs into different clusters and clarified the methodology that allows e-consultation about each medical group. The Ministry of Health and Family Welfare, Government of India issues guidelines supporting effective medical advice for effective management (Government, 2021)".Following these guidelines, the Ministry of Health and Family Welfare, Government of India has categorized the drugs into different clusters and clarified the procedures for conducting e-consultation related to each medical group Redseer, (2020). the FCCI report, by 2020, lack of accessibility, availability, unaffordability, and lack of awareness has been identified as the main barriers to accessing the preferred drugs by adopting technology, mainly in the healthcare system, including access to affordable drugs. Consultation, diagnosis with online pharmacy service and its parallel services; nowadays that are difficult to meet and those who live in the place of the report need to consult without having physical contact with them, especially those who live in remote places.

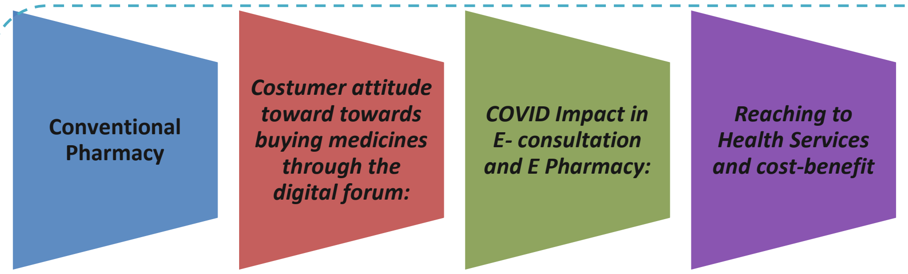

Figure 2 The flow of Healthcare cost reduction (Source Generated by researcher)

"Online/ app-based Pharmacy is emerging as the electronic healthcare system which may have the possibility to increase demand in the future. One of the key factors in this qualitative study has looked into, is the Cost, in this study, whether it is helping to reduce it or not? Figure 2 has a glance atHealthcare cost reductions considering one segment of pharmacy. Deepen interpretation of the interview so I could get help to reach a logical conclusion of this research. The kind of outcome, such as government efforts of encouragement for new entities and how that could help to reduce the cost burden of people. The middle-class segment is the largest in one India, the majority of decisions are taken based on the Middle-class view, however, the many beliefs; it should have right policy/strategy to execute same, in changing the attitude of conventional buying to modern and cost-effective.

Literature Review

The event marked the first introduction of a public-sector electronic logistics management system in Konduri (2018) in collaboration with the WHO report of family planning in south – East Asia. General Directorate of Family Planning of the Directorate of Government of Bangladesh. (2011), which collects aggregated data and provides real-time information on the availability of contraceptives at the sub-district level. (End of Project Report – SIAPS Program, (2016) Electronic logistics enhanced by management information systems Implementation of nationwide web-enabled dashboard Charts, GIS maps, and regional and higher stock level tracking tables subdistrict.

Chaffey, (2021) Sales teams should always expect to convert every prospect into customers. Mainly dedicated marketing training and tools will support the organization to implement data and benchmarking to stay up to date with the latest developments in healthcare implementation strategies. Chaffe also mentioned the Onboarding and Growth Module Guide Company that the company needs to use to make digital marketing great. Follow up on purchases from existing customers to encourage new customers and loyalty and advocacy. Social media is a unique monster in the pharmaceutical industry. Social platforms can provide organizations with a very effective channel to share information and engage in discussions with the public. Social media is raising a red flag due to the nature of health products and the depth of the drug supply chain at major pharmacies, Adams, (2011). IT for prescription and pharmaceuticals enables the storage of structured patient pieces of information, and ease of electronic prescribing, medication, and administration of drugs, as the supply chain automates drug handling and provides tools to understand the efficacy and safety of the drugs in use, Information technology can revamp patient safety, provide high-quality care to professionals and help dispense more drugs to patients, Schofield, (2018). This ability to quickly unravel customer problems and queries builds sellers 'confidence in the buyer's mind and, ultimately, their confidence in the merchandiser (Keillor et al., 1997). Ensure clinicians are involved in the development and evaluation of future mobile health applications for breast cancer patients, caregivers, and survivors, to ensure they are meeting their goals The goal is to provide accurate and accurate health information the most recent clinical guidelines. Additionally, a detailed review of the quality and accuracy of health information in mHealth apps is essential for breast cancer survivors Kapoor (2020).The ecumenical market for mobile health applications was valued at $ 12.4 billion in 2018. And another report states that the market size for mobile health applications is valued at $ 12.4 billion, valued at 11. , $ 47 billion in 2014, and the replication is expected to reach $ 102.43 billion by 2022. With a compound annual magnification rate of 32.5 from 2016 to 2022. One of the most paramount parameters during the marketing of your mobile applicationThe Rise of Mobile Health Apps, (2020).

Objectives of Study
Objective 1 To Access the impact of Digital Marketing of Indian pharmaceuticals considering social well-being.

Objective 2 To Access the impact of Digital Marketing of Indian pharmaceuticals considering Social Intricacy.

This paper builds on the methods used in an earlier review of online/ app-based pharmacy impact India to lower health costs, to undertake a scoping review of the rapidly-growing literature on I) Healthcare cost reduction, II) Digital Marketing and customer care, III) Digital Health to support access to medicines, the paper briefly reviews the Promotional response modeling in healthcare analysis-Paradigm shifts, pharmaceutical SalesForce usefulness and also how these can impact negatively on social well being like Social Media Pharmaceutical Marketing and Social Intricacy, Mobile Marketing / Mobile App, Challenges of Pharmaceutical Digital Marketing

This approach allows these phenomena to be viewed in the context of the societal implications of digital marketing in the field of Pharmaceuticals. Finding a possible solution between these various phenomena is then explored and synthesized to produce a conceptual framework for considering the overall benefit to society through this modern health care. Figure 1Conceptual Framework of Digital Marketing to Social Intricacy or Well-being has been designed to navigate further research.

Research Methodology
Since this is the Review article. the above-studied articles, a conceptual framework has been developed that has been mentioned in Fig.1, Following comprehensive discussions and its finding are incorporated in this paper

Research design
This Research work has been developed through the analysis of secondary information. Secondary data/information has been gathered from a variety of academics and researchers, books that have been released as e-books, articles that have appeared in periodicals and journals, conference papers, working papers, annual reports, and company websites for activity reports and internal newsletters. On the business' website, publicly accessible company-related data is used. For research that is a critical review kind, this is the ideal or accepted practice.

Secondary Data Analysis
Digital Health to support access to medicines.
Digital health technologies were created in various resource-restricted countries. Provide insights from a donor-funded project implementation perspective on practical matters based on recommendations in local contexts and future guidelines. ,USAID, (2015),

To understand focus area like Medicine registration process improvement and capacity building train staff to conduct a transparent and scientific review of medicine registration dossiers in compliance with Good Review Practice, Support upgrading/revising the legal framework (e.g., regulations, guidance, templates) on medicine registration and quality management systems, Streamline the medicine registration process for marketing authorization approval to ensure that it effectively, controls the quality of medicines entering the market and other Focus area like A transparent and efficient medicine data tracking system from the submission of applications to marketing Authorization, A faster medicine registration process because multiple assessors can review different modules of dossiers simultaneously and share findings using Pharmadex, More efficient management of the registration life cycle Registration, amendments, re-registration, postmarket surveillance, and corrective actions taken on quality issues, Konduri (2018).
The level of engagement with users and stakeholders was resource-intensive and required an iterative process to ensure successful implementation. Ensuring user acceptance, ownership, and a culture of data use for decision-making takes time and effort to build human resource capacity. For future United Nations voluntary national reviews, countries and global stakeholders must establish appropriate measurement frameworks to enable the

compilation of disaggregated data on Sustainable Development Goal 3 indicators as a precondition to fully realize the potential of digital health technologies, Konduri (2018).
Digital medicine also has to undergo adequate scrutiny to determine its proper portion, and when it is finally fully identified, it does not only add to the benefits of medical practice. It also guarantees that health care, in general, is improved Gupta, (2017). There are other similar platforms in which the patient is allowed to purchase the drug online and the drug is distributed to their doorsteps that does not matter to work so the patient can visit a doctor. A person does not always need to take sick leave as their medical condition can be assessed remotely while they are suffering from an illness and effective medical assistance is offered accordingly University of Illinois Chicago (2020). Goetz, (2011), Most companies do not have an observatory of digital marketing of applications. Policies are not limpidly defined, acceded upon, and not shared internally. Firm management is required to Set vision, set goals, and monitor the pace of work. Field forces identifying and marketing victors promoting digital farm vision are not customarily found in companies. The issue of rules in every field is essential Close examination before any digital campaign Launched.

Traditional outpatient journey
This service has been divided into three segments of healthcare- Diagnostics, Consultation, and then the pharmacy. in the traditional outpatient journey, it has been observed that healthcare customers have to pass three critical segments to seek health benefits for the patient. which is well described in Figure 3 Traditional outpatient journey

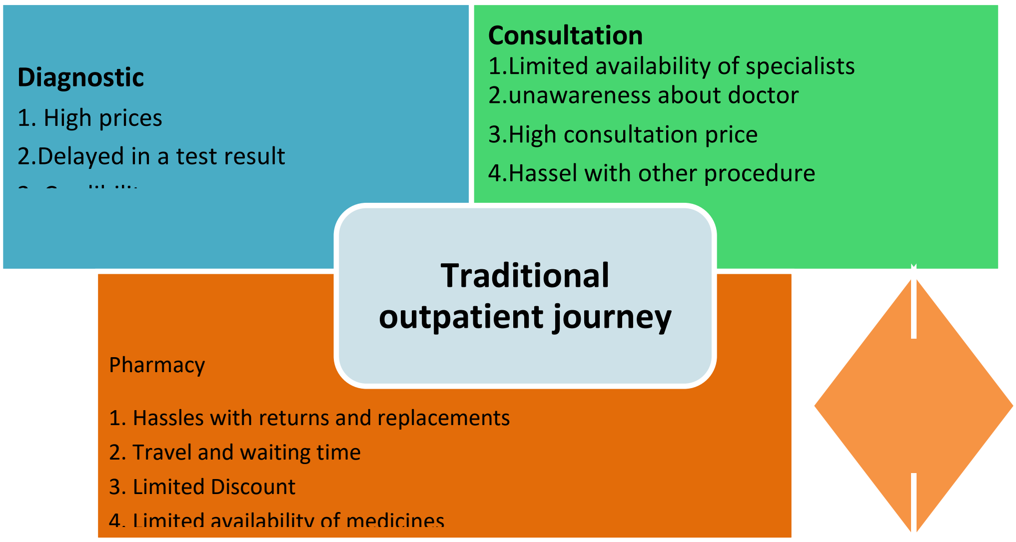

Figure 3 Traditional outpatient journey (Source Generated by researcher)

Electronic Health proposition
It comprises three main components on which the whole system runs, to give you precise information about electronic health propositions in the electronic health care business.a) E- Diagnostics, b) E- consultation and c) E- Pharmacy, figure 4 has very described it.

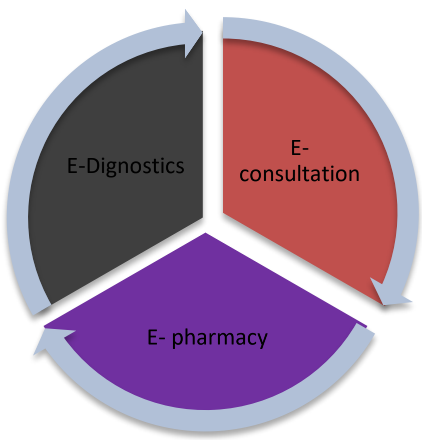

Figure 4 Electronic Health proposition (Source Generated by researcher)

E-Consultation

"Electronic Consulting (" e-Consultation ") asynchronous, consultant, the communication on shared electronic health records (EHR) or web-based platforms. The purpose of e-consultation is to improve access to specialized specialists for patients and providers without visiting a doctor's site Vimalananda (2015)Focusing on the unique selling points of e-consultation in the healthcare department means reducing the wait time that the patient is always concerned about, the department is seen as a service that empowers a new class of tech-savvy healthcare customers. Reducing the main barriers, however, there is also the negative part which is described in Figure 5 E-Consultation.

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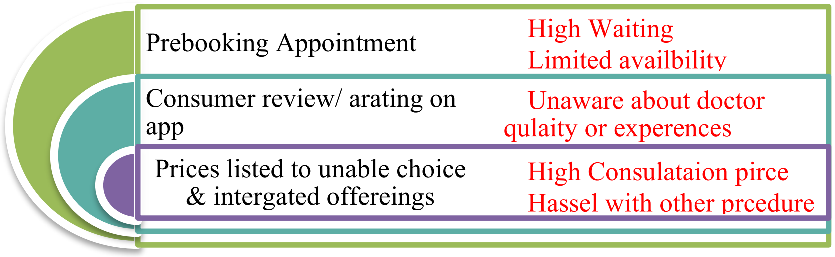


Figure 5 E- Consultation (Source Generated by researcher)

E- Diagnostics

Is not about the virtual diagnosis but to make it easy by using the aid of an electronic platform. It has now spread across the globe, its footprints also seen in India. Services range from the request of diagnosis, collection of the sample, delivering of report Figure 6 E- Diagnostic.

, there is some implication also that have mentioned in the table

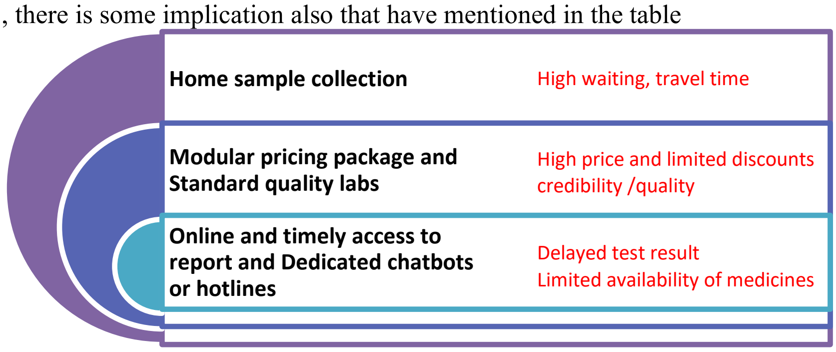


Figure 6 E- Diagnostic (Source Generated by reseracher)

E- Pharmacy

"An e-pharmacy is a pharmacy that runs on the Internet by sending medicines, drugs, and customers. The cyber-world makes everything facile and convenient. Patients can now order medicine from a registered medical practitioner at their doorstep with the avail of the Internet utilizing a medico's prescription. They are an immensely colossal hit and more and more people are opting to utilize them instead of going to the local pharmacy(V. Chordiya & M. Garge, 2020)" . Figure 7 Electronic Pharmacy.

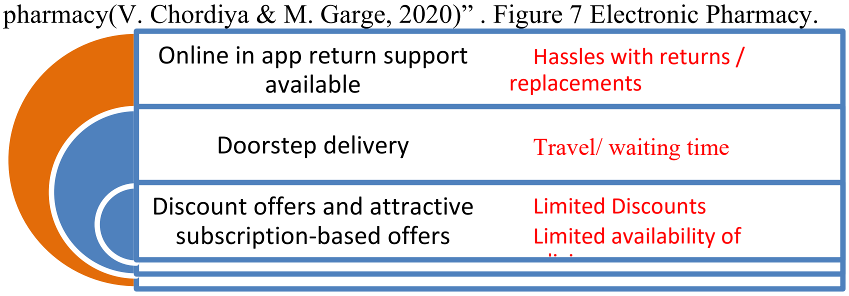


Figure 7 Electronic Pharmacy (Source Generated by researcher)

Digital Marketing and customer care in Pharmaceuticals

Patil, Anute (2021) Digital marketing professionals could make things possible by grabbing maximum attention from the target audiences and helping out your business to convert those into sales. Digital Business is where purchasing and selling upon social media sites.Digital Marketing one of the most prominent systems that pharmaceutical companies nowadays are most adopting to reach the customer in ethical ways, and they find the digital dismantling the importation through digital is the easiest way to do so, digital marketing adopting various streams of the forum through which digital marketing for pharmaceutical can happen. It ranged from search engine optimization, social media marketing, pay per click ads pay per click ads, and Email Newsletters. Digital marketing is more profitable in any field And a less time-consuming method of communication for Consumers compared to traditional marketing. Digital Marketing allows pharmacists to use the data Prescription and create more strategic investments Physician. However, many companies are not yet capable of Integrating digital into a comprehensive business strategy. Looking at the current seniors and challenges like inadequate company vision, A lack of digital mindset, digital difficulty in analysis, stringent rules and regulations.

Promotional response modeling in healthcare

Promotional response modeling in healthcare content is a best-of-breed model, this year has been too much to measure the impact of Promotion Response Modeling (PRM) to cover a wider area and make your research more precise (David Wood, 2015).It's fundamental to advertising behavior on customer behavior (e.g. physician writing) and applied management science in the sales and marketing field. Promotion response modeling has started to be adopted by pharmaceutical companies in India, the main result of which is to understand the behavior of doctors (medical practitioners) for the category of customers for promotional activities. It saves the company time to motivate such customers (prescribers) to register the company's brand. This helps the company give space to the prescribers to choose their brand by discriminating with competing products. Promotional response modeling has a large work area in the pharmaceutical business and its sales need more work on this particular segment.

Social Intricacy

Pharmaceutical Sales force uses

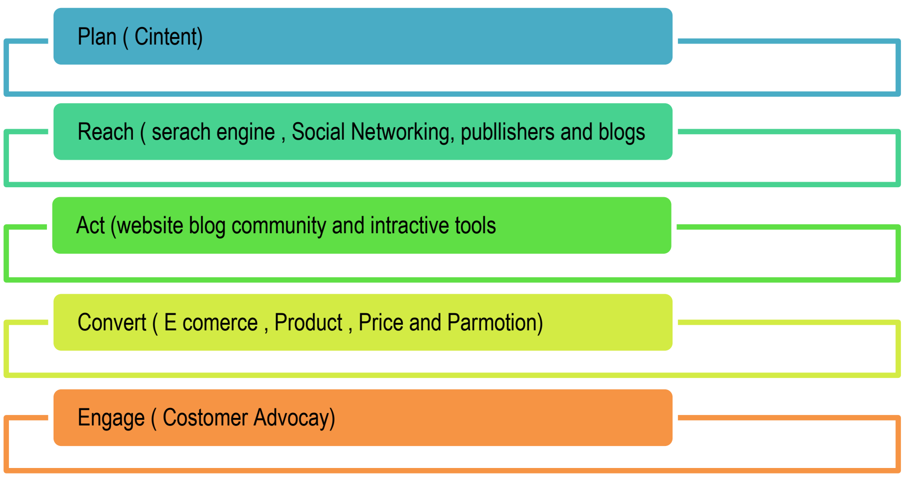
Santosh Upadhyay is a group product manager at Panacea Biotech in 2019, Since there are many tools are available but the real value comes when its aid to the sales representative. Considering today's busy schedule physicians facetime shortages and prefer precise and concise communications.to give an example, oncologist, who is most leading and admirable respectable in

The medical group, Doctor, published a report of the clinical trial. Figure 8 has described the salesforce strategic approach to the salesforce. Sending a digital copy of the article, placing an appointment to discuss the manuscript, creating a microsite, how do you get the relevant traffic to business site, customers are neither searching for a microsite nor are they aware as to whether it exists, Creating navigational communications media to take the customer through the communication flow, create specific videos for specific queries that the customer may have and share them periodically. Even for timekeeping salesforce use a mobile phone rather than wristwatches.

Figure8 Pharmaceutical Salesforce strategic approach to digital Marketing (Source Generated by researcher)

Social Media Pharmaceutical Marketing and Social Intricacy

Social media in the pharmaceutical industry is an implement used to communicate with consumers. However, not all pharmaceutical companies have Facebook pages, Twitter accounts, or YouTube channels. Only a diminutive number of pharmaceutical companies were analyzed live on the three Social media platforms concurrently. The number of pharmaceutical companies analyzed simultaneously on three Social media platforms. It seems that minute pharmaceutical companies have left some Social media platforms behind. This visual examination may not have official guidelines for utilizing the platform, making it arduous to calculate ROI on a single platform. It provides models and methods of innovative concepts that can be replicated in future research. By analyzing the activities of pharmaceutical companies on the convivial networks Facebook, Twitter, and YouTube, they provide the first detailed and personalized assessment of the department of these pharmaceutical companies on the Social network ,Tavares Costa (2019).



Concern for Effectiveness because Of Lack of Control

Twitter and Facebook have become mainstream for individuals and businesses. While pharmaceuticals are experimenting on this channel, the FDA has highlighted the effectiveness of advertising on this channel and whether the increased risk (side effects) does not translate into an actual representation of the risks associated with advertising products Jelovac (2008).

The authors recognize the possibility of two-way communication on social media as opposed to the traditional one-sided approach of pharmacy When the organization can lose control of the content of promotional messages. However, 9 years after the article's publication, the two-way conversations engendered via convivial media are no longer visually perceived as an issue, where transparency and engagement with the public are not just a matter of fact. Laidback but emboldened by the organizations themselvesJelovac (2008).There is a lack of research on the clinical and public health impacts of drug communication, as medical messages have become more prevalent with patients on gregarious media and medicos need to better understand the effects of these betokens. Product promotion. So, whenever a patient learns more about the drugs on their own through gregarious media, the distinction between that patient and the clinic will become pellucid and the medico will be coerced to adopt different convivial media.

It is very important to pay attention to the issue of advertising financial interests on social networks. Although data on the risks of drugs and the benefits of certain keystrokes can be picked up by many Internet users (but not always), it is difficult to determine whether the source is trustworthy or not. Essentially, social media is a blogging and micro-messaging platform, designed for small business-based messaging.

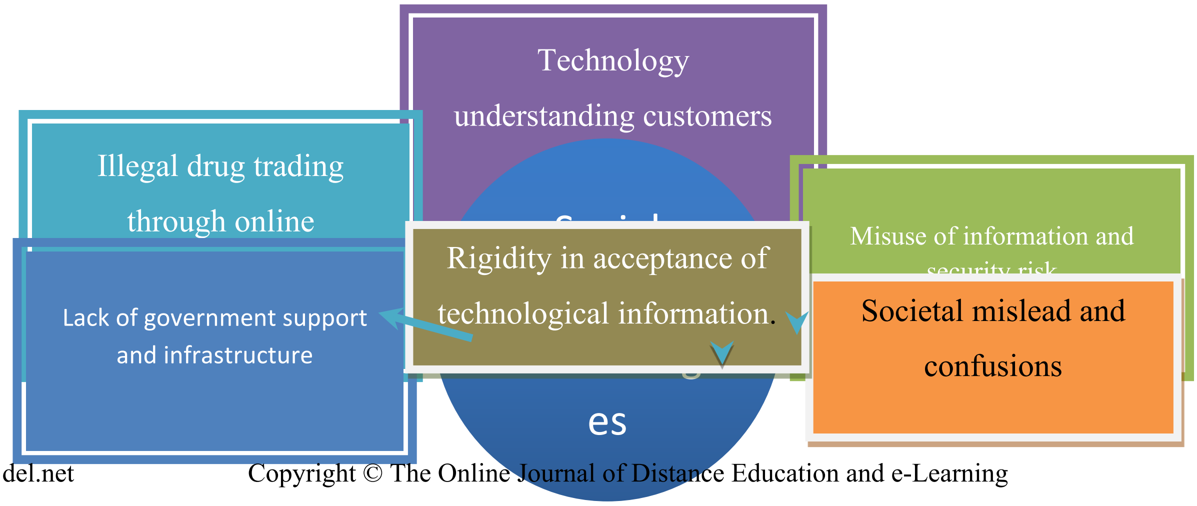
However, the main concern is to ascertain that the authentic information about the perils and benefits is communicated to the patients and not falsified and that the donations made by their organization are concealed. As users of the product.Manufacturers may unethically endorse (learn more about pharmaceutical marketing ethics) blog users, posters, and third-party Twitter users who make statements that flatter and defame claims. negative statements about their products in online discussions.

Digitalization in Pharmaceuticals

Digitalization in Pharmaceuticals has stressed the total productivity in the business, step in Pharmaceutical in Digital Marketing created the prominence of Pharmaceutical in the marketing Noyes, (2014). The pharmaceutical sector was not able to print its footprints due to the steep regulation, however, due to digital marketing; it now extended its limit.

As Pharmaceutical is growing with digitalization, there are some social issues as also heading such as Illegal drug trading online, the less number of customers who can be understanding Technology; Misuse of information if it publicized; if wrong or deliberately misleading information spreads, it may make lots of confusion and anxiety among society. Uncooperative factors were some rigidity in the acceptance of technological information, Lack of government support to make free flow business and lack of infrastructure. This study will help to understand the social intricacy in context to acceptance of digital marketing in the Pharmaceutical business ,Ryan (2020). Figure 9 have explained the major area of social difficulty and challenges.

“In the business environment, it is necessary to be aware of the negative consequences of IT developments such as the emergence of high-tech crime. The abuse of information communication technologies is increasing. Crimes are divided into one where computers are used as a means to commit or as the object of enforcement of criminal activity in the area of illegal use of the internet. Due to increasing sales of counterfeit medicines and posting false information on medicines to mislead the customer it has to be provided stricter control on the internet and social media content, Roblek (2018)”.



Consumer comfort Consumers can without difficulty order medicines from their cell or computer. This can notably help patients who're already sick and don't have any circumstances to exit to find a pharmacy. Customers can reach supplies that can be consolidated via online structures and it is very hard for customers across the country to get drugs. Offline pharmacies can more efficiently hold constrained inventory, coercing customers to request prescriptions from multiple stores. All medication purchases can be tracked for drug abuse and self-medication is opportunely minimized. Drug authenticity Counterfeit capsules can be traced returned to the channel/manufacturer/supplier in opposition to the backdrop of an entire tracking device and stable technology, which makes the marketplace extra obvious and ensures that authenticity is precisely maintained.

Before COVID-19 spread internationally, sixty-seven percentages of humans had been searching online for their fitness signs and symptoms, while about fifty-nine percentages were used to purchase health merchandise to control acute conditions. The parallel increase of adopting generation to monitor consumer health and treat/manage their fitness with non-prescreen merchandise has created an environment where customer fitness care is shifting to the virtual realm.With the speedy and ever-increasing cell access to e-commerce, shoppers aren't just preventing buying self-care. they're also using apps to song fitness metrics, make self-diagnoses, and use cloud-based applications to monitor their health in real-time ,IQVIA Consumer Health (2020).

What COVID-19 carried out has accomplished the already growing fashion, whether or not in online self-care, adopt telemedicine, or are seeking for online recommendation on the recommendation of a health practitioner and pharmacist. An infection that changed into anticipated years ago has now taken place in less than nine months, ET HealthWorld (2015).Sustainability of the Pharmaceutical sector The web pharmacy model will allow present pharmacies to release online operations and get entry to an extensive community of pharmacies and an extensive client base for an extensive set of customers or incorporated on a platform and ensure compiled stock. Mr. Tandon, E pharmacy will reduce the lack of working capital, eliminate waste from the device and increase the fee for the version in the drug store

Misuse of information and security risk

Electronic prescription

This is to replace traditional manual prescriptions and use standard electronic prescription techniques to allow medical professionals to send prescriptions electronically to pharmacists. Countries like the United Kingdom and the United States are trying to implement electronic prescriptions to make them paper-free and hassle-free, To Patients get fast, hassle-free treatment and drugs with the right name without the trouble of messy handwriting of Medical Practitioners. Specifically, patients, have difficulty in understanding the doctor's writings. the rules of the Indian Medical Council, doctors are required to write clearly. Previously, the courts were legally required of medical professionals to complete applications. The current draft rule allows for the direction of written health professionals. Many doctors give you handwritten prescriptions that too intricate to read. This indicted experience sanctions the local pharmacist to understand the text, but in the case of photos and scans, it is arduous to decipher the same from the online pharmacy. This can lead to misdiagnosis and earnest consequences.

Home delivery or Delayed delivery The supply of some drugs may be unexpectedly delayed. There could be plenty of reasons for it, such as traffic, the vehicle has broken down, agitations/strike, weather conditions and many more. It is unknown if this package is unsubscribed. In a country in an area like India, Pakistan has extreme hot or cold weather that can change the product life cycle. And on immediate need cannot be executed at the same time. However, there could be possibilities such as Error giving the wrong medicine. There are cases of carelessness giving wrong medicine.

Counterfeit Drugs

Illegal, unregistered online pharmacies can send counterfeit or outdated drugs. Online sellers are registered and if they are true, verification from regulatory authorities is required to check their authenticity.

Drug Abuse

Misusing prescriptions leading to addiction, resistance, and drug abuse(Reddy, 2019).

Societal mislead and confusions.

There is presently no mechanism in place to verify and to check the authenticity of prescription drugs sent to online pharmacies. These deals are fraudulent because even scammers and fake doctors can prescribe drugs to innocent patients. Some people submit outdated or fake instructions to buy drugs online. The Code of Conduct of the Medical Board of India requires doctors to include a registration number in their rules, but some doctors practically follow such rules. In addition, the information of many registered doctors is not updated in the MCI (

Medical Council of India) and registry. In the United States and some European countries, most medical practitioners prescribe drugs electronically and prepare them directly to pharmacists via electronic transmission such as Email, What's An app, SnapChat, or through social Media (Reddy, 2019)

Rigidity in acceptance of technological information
In addition to its positive impact on the sales process, technology can also help build trust in the buyer-seller relationship. With increasing competition in the market, one has been established. The customer base of any sales organization is growing. Any company that relies on anyway in which the process of developing this relationship can be accelerated has substantial advantages as its primary advertising sales mechanism. Trust is a key determinant for the development of long-term sales relationships.

In terms of technology and attitudes towards sales productivity, major producers point out that technology will make them more competitive and productive. This supports the company's general view that the use of technology is positively correlated with individual sales productivity. Technology allows the seller to communicate more effectively with the customer through interactive and democratic programs, which puts the manufacturer in a position to position an item or in a direct relationship with the customer. Access to information (from purchases and each purchase of a marketing organization) often helps sellers resolve losses quickly.

Trust Issue
The Indian e-pharmacy market continues to be young and consumers are still scared of getting counterfeit drugs. To check the authenticity of the drugs, many players provide commonly asked questions and conduct media campaigns. Shortage of customer support Delivery on time and thank you. While most players offer voice-based customer support, technology plays a key role in overcoming challenges. Chatbots, self-help systems, and technology-based success will enable faster payment/refund processing industries.

Issue of regional languages
Currently most E-Pharmacies offer user interfaces and support systems in English only. As India can be a multilingual society, companies need to enable customers in their linguistic communication to gain in-depth access through apps, customer support, and payment systems. Reach at cities/towns in Tier II and III e-Pharmacy will establish logistics channels in remote cities and towns to gain strong customers and achieve significant growth potential. Logistics investment has already increased to support the e-commerce boom. E-pharmacy will have to tap on increasing logistics bandwidth

Issue of Data Privacy
As the e-pharmacy industry grows, consumer concerns about health records and regulations are expected to increase. Market Player will take strict measures to ensure customer data privacy (E-pharmacy In India Is Winning The Battle Over Traditional Medicines, (2021)

Lack of government support and infrastructure-
Given the economic potential of the Indian market, it is impossible to ignore it. Foreign companies see India as a potential contributor to future sales and increase investment in India accordingly. India's domestic market is expected to bring new fields to the market. However, there are many traditional rules and regulations in which subsidiaries such as a pharmaceutical company and e-pharmacy create many barriers to running your business. Despite being a large Indian pharmaceutical business, pharmaceutical business unions are helpless against the policy of moderate bureaucracy and the rigidity of the right to change business, the new urgent need of contemporary businesses.

Illegal drug trading online
Patients are really at risk because of lack of vigilance, false drugs, and sugar pills, expired, adulterated and contaminated drugs. This encourages fraudulent practices like incorrect dosing. Government and regulatory bodies and courts of law have tried to settle the dispute, but the ascension and attacks of "fake" internet pharmacies are preventing this intervention. The US Food and Drug Administration (FDA) and quite 200 enforcement agencies around the world launched a world crackdown on online pharmacies in 2014, and brought against rule-breakers and shutting down quite 10,600 illegal websites. The Pharmaceutical Crime Program supported by major pharmaceutical companies in 201 pharma, helped crackdown on illegal sites. Only reputable sites like Microsoft, Yahoo, and Google allow authorized online pharmacies to be advertised within the US, through the Verified Internet Pharmacy Practice Sites (VIPPS) program. MasterCard companies with Visa refuse payments at VIPPS-certified online pharmacies. The FDA in Maharashtra has approached the Drug Controller General of India to curb the illegal online sale of medication Desai C (2016).

Illegal and Unethical business practices

There are many allegations against online pharmacies such as Pharmacy, Midlife, 1MG, NetMeds (now owned by Reliance Group), Amazon, Flipkart (part of Walmart), on how to hit the retail pharmacy. With large capital investments from large foreign companies, they can play with 30% -40% discounts on low prices and free shipping.due to the limitations of e-pharmacy, this approach of capital dumping to the cognizance of its unfavorable effects may be extremely adverse to the upbringing and future of the industry. Connectivity and emergency provision for the ultimate mile has been made through pharmacy retailers who additionally provide livelihoods to tens of millions of outlets, their families, and employees.

The growth of the pharmacy has put pressure on pharmacists and retail distributors amid competitive practices such as capital dumping and high discounting, which drive prices up. Pharmacists, including pharmacists and distributors, are the first point of contact for disadvantaged patients in the country. With the financial help of big foreign players/funds, e-pharmacies have started to hamper pharmacy retailers due to unmatched and often insane prices

The pandemic has made it very difficult for retail pharmacies that operate on small margins and the capture of the customer base by e-pharmacies is only adding to the anguish. As the market resumes after the lockdown, many e-pharmacies offer huge discounts on their platforms with discounts of around 30%.To further capture the market, customers with free shipping were given an additional 20% cashback. Effectively, this translates into a big discount of about 40% -45% with free shipping(Praveen Khandelwal, 2021)

Mobile Marketing / Mobile App

In the business environment, it is necessary to be aware of the negative consequences of IT developments such as the emergence of high-tech crime. The abuse of information communication technologies is increasing. Crimes are divided into one where computers are used as a means to commit or as the object of enforcement of criminal activity in the area of illegal use of the internet, Due to increasing sales of counterfeit medicines and posts false information on medicines to mislead the customer it has to be provided a stricter control on the internet and social media content Roblek (2015). Mobile health apps can not only play an important role in alleviating this burden but also provide accessible resources on self-management tools and resources. reason for BC readers.

Mobile Health applications

Figure 10 has described the classification of mobile health applications; this classification is based on healthcare context.

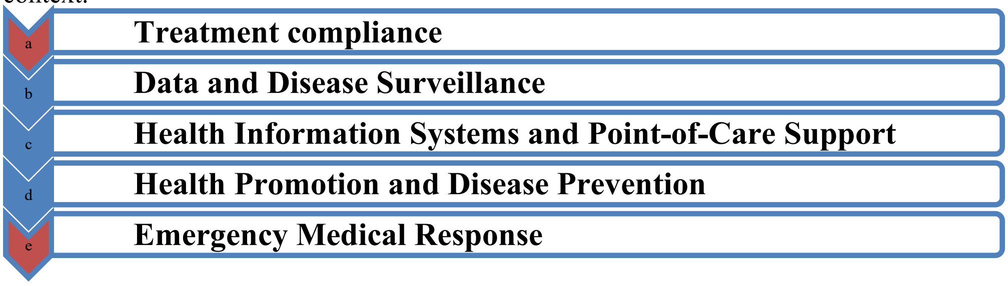


Figure 10 Themes Mobile Health applications *Mobile Health Marketing Strategies*, (2020) (Source Generated by researcher)

Treatment compliance

This means that patients use the mobile app to stick to their dosage patterns. Outbreaks appear to be exacerbated during low- and middle-income countries. Acute illness is a common problem in high-income countries. One of the challenges in this surveillance system is that drugs are not always available in low-resource areas and patients are not able to follow treatment plans properly.

Data and Disease Surveillance

The old and tedious method of manual data acquisition has been replaced by digital, and although it is not entirely clear in terms of error reduction, time and savings, the results look positive. Obstacles in this area include developing efficacious coordination systems for sharing data between different local and ecumenical health information systems and defining rights and guidelines.

Health Information Systems and Point-of-Care Support

In the past, health information systems were only engendered for medicos and emergency care professionals, but now local medicos are joining the public. The incipient era of "telemedicine" can greatly expand the dissemination of information and expertise through utilizer-cordial technologies and systems. The barriers to achieving this vision are the unknown cost, the immensely colossal, facilely accessible support system, and the clinical multifariousness of the incipient contrivance.

Health Promotion and Disease Prevention

SMS is useful not only for public clinics and clinics but also for the distribution of important health education materials. Current barriers to expanding this information approach to education include responsibility, the accuracy of the information, and security risks.

Emergency Medical Response

M-Health This field is the hardest to research simply because of emergencies and nature. However, mobile technology is a useful tool for building quickly in crises. Obstacles include network capacity, infrastructure (traffic and road), especially national restrictions on the location of emergency calls

Challenges of Pharmaceutical Digital Marketing

Digital marketing refers to the use of technology in marketing efforts, including the marketing of goods, services, ideas, information, and advertising through the Internet, display advertising, mobile phones. Marketing data-driven shows show the tricks of marketing, attracting customers, attracting, making them aware, happy, and leading them to online marketing. Many acclaimed authors have cited digital marketing and have not expressed their views as such. this concerning Strauss and Frost "Use of electronic data and applications to design, distribute and implement pricing, distribution, and pricing of ideas to create exchanges that serve individual and organizational objectives". As per the definition of Smith and Chaffey "Achieving marketing objectives through applying digital technologies" , Pradhan(2018). In the last around 4 decades, information technology has affected the work of millions of people. The benefits of automated information processing have led many industries to embrace computer technology. These include routine, repetitive, and monotonous tasks with consistent accuracy; Determining and consistent use of terminology and nomenclature; And Group customization (The ability of information technology to provide services to a large population so that one person can still be unique to each person.).

Online pharmaceutical startups in India are struggling to convert nearly 1 1 billion into order sales. Consumers have not been given the right prescription drugsMore than a moiety of online pharmacy orders received are reluctant due to a prescribing error. Startups that have already faced resistance from offline chemists and come under scrutiny by regulators are now devoting an immensely colossal portion of their investment to inculcating patients about the disease. Rajagopal (2015).

Discussion of the Study

Truncating healthcare costs in pharmaceuticals is a consequential part of digital marketing. literature studies on the cost of public health, after the outbreak of COVID-19 & the lockdown have overboard people's pockets. Many among them lost their jobs, unemployment increased, businesses closed (Nanda Prashant, 2021).however, the impact on health remains very arduous for people. Digital Marketing brings to the platform where an efficacious, equitable, and efficient drug information tracking system can build, that avail in submitting applications to marketing sanctions, to a more expeditious drug registration process because multiple evaluators can review different modules, expediting operations and recuperating losses. The journey of traditional outpatient patients has gone through three critical health accommodations such as diagnostics, counseling, and pharmacy. However, including the electronic health proposal, how the whole system benefits from it is consequential.

Many companies are yet to integrate digital into a business strategy, more study is needed to find the incentives vision, and customer prospects via digitalization, the literature studied in this paper it has engendered more room for the study of customer care and digital marketing such as Gregarious Media Customer care, Content engendering layout, and Conceptions, Customer persona development to adopt brand prescription, Buyer prospect setting, Knowledeing customers such as online CME's (Continue Medical Educations), Sharing Experience content or stories., Running a digital campaign and adhesion program. Sharing goals and tracking them Bernazzani, (2021). Promotional response modeling is a new way to understand marketing insights aauthorsManchanda, P., Rossi, P. E., & Chintagunta, P. K. (2004), who also mentioned modeling approach improves the precision of the physician-specific response parameters significantly

Many healthcare marketers in the support system are examining technology developments to understand that increasing the number of healthcare-specific wearable technologies can help healthcare and pharma companies increase their customers' digital value projections. The market for wearable medical devices is expected to exceed 27 million in two years. Smart Insights Business members are using digital experience learning pathways and more to win, reach and transform more experiences Wright, (2021). There is no straight regulation of promotion for pharmaceutical products as compared to other categories of products. Due to the lack of research on the clinical and public health effects of drug media, medical messages have become more accessible to patients on gregarious media, and Medicos needs to better understand the effects of drugs. these denote that is why it is paramount to adopt Social media as a method of communication for all healthcare and pharma stakeholders. Digitization has now given wings to the pharmaceutical sector. Understanding the sundry works of literature, gregarious difficulties, and challenges remain as connected factors that cannot be ignored. Many factors are explored, from technology to the illicit drug trade. Implement electronic prescriptions that are paperless and hassle-free to make pharmacy and patient life more facile as most of the time doctors ’ inscribing is beyond legibility.

Many areas of concern may not sanction digitization to supersede its traditional platforms, such as the unexpected delay in the supply of certain drugs. Which do a lot with authentic committed time or required time. Some such cases have been found, allegations made by retail chemists that counterfeit drugs can spread an e-pharmacy. Even from consumers, it has been reported that in some cases trust is missing which leads to a lack of customer support in the digitization of pharmacy. There are some language issues, and India is a multilingual society. Bereki,(2019), Digital transformation explodes in terms of both volume and celerity of digital data generation. This aspect can be difficult for businesses as it requires rich data aggregation, efficient analysis, as well as ensuring security and prioritization. Digital transformation has increased the risk of insecurity related to sensitive data such as property rights (IP) or personally identifiable information (PII)..Data Protection in Digital Transformation Endpoint Protector. Mobile apps and mobile marketing have become a consequential factor today as mobile is no longer a telecommunication contrivance but a multi-functional one. Benefits ranging from e-commerce to medical health are now linked to consumer smartphones. Lim Sujong, in the first quarter of 2020, 40% of smartphone sales in India emanated from online channels. Flipkart hosted a moiety of its online sales this quarter. COVID-19 to boost online market sales following the implementation of lockdown and convivial distance measures. Xiaomi was the leading brand in online channels across the country, accounting for 51% of total online sales. The company visually perceived 67% of its total sales go online in Q1, 2020. However, the remaining challenges in digital marketing in pharmaceuticals remain, facilitating a more refined work at work.

Findings

1. There is a positive impact of Digital Marketing of Indian pharmaceuticals considering social well-being.
2. There is both positive as well as negative impact of Digital Marketing of Indian pharmaceuticals considering Social Intricacy.
3. Health care cost, digital Health, customer care, promotion are key factors responsible for Digital Marketing of Indian pharmaceuticals considering social well-being.
4. Sales Force, Social Media, Mobile Marketing,Challenges are key factors responsible for Digital Marketing of Indian pharmaceuticals considering Social Intricacy.

Conclusion

Digital Marketing in pharmaceuticals provides rich sets of insights into improving healthcare benefits in the modern world. Understanding the concept through the micro and macro level has revealed that Digital Marketing will support the health care segment in terms of maximum customer support and care. It has great potential to be able to quantify supply with minimum wastage of time. The conceptual framework expounded in this paper provides an indistinct picture of how health care systems have an immensely colossal benefit over the economic magnification of all the stakeholders in the system of healthcare. It additionally shows how salubrity potentially be amended by the incorporation of digitalization. To truncate the encumbrance on conventional pharmaceuticals, digital pharmaceuticals would have more potential. The conventional pharmaceutical supply chain would become over inventory as keeping all products concurrently is very arduous, especially the product requisite emanates from an outside consultant. Digital Marketing is making those peregrinates supply the right brand to the customer rather than superseding it with another brand. Promotional replication modeling in healthcare is the finding which can utilize salesforce to get maximum output from their promotions.That improvised the peregrination of traditional outpatient patients mainly in diagnostics, counseling, and pharmacy. Pharma companies increase their customers' digital value projections through wearable technology that has a very effulgent future ahead.Social Media becomes a widely accepted tool in all medical fraternity and it is a covenant for customers too.

This paper reinforces the conclusion that concern of conventional pharmaceuticals becomes minimum as digitization can not plenarily supersede the conventional pharmaceutical business. Delay in supply, counterfeit drugs, drug abuse remains some issues to digital Marketing of Pharmaceutical. Incipient security risks that concern sensitive data and privacy remain a key issue in this segment. integrating Multi functionary smartphones at seasonal affordable prices raises the utilizations of it and similarly, it engenders auspicious facilitating infrastructure at an individual level to avail accommodations provided at digital marketing forum. However, comparing the convivial intricacy of the gregarious wellbeing is of much weightage, ergo it makes sizably voluminous healthcare benefits over its issues.

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EFFECTIVENESS OF DIGITAL MARKETING AND COMMUNICATION TOOLS USED BY INDIAN AND FOREIGN ORIGIN PHARMACEUTICAL COMPANIES IN INDIA

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ABSTRACT
In today's digital era, businesses across the globe are leveraging various digital marketing and communication tools to enhance their online presence and reach out to their target audience effectively. Digital Marketing is adopted by every industry for reaching out to their targeted audiences in a timely and efficient manner. Pharmaceutical companies are also using Digital Marketing and communication tools. This study aimed at investigating the usage of various Digital Marketing and Communication tools among Indian and Foreign origin companies. A structured questionnaire was developed to collect responses from Medical representatives. 200 MRs were randomly selected from the social group of all India MR association. Out of these 200 total 157 responses were collected from Medical Representatives of Indian and foreign origin pharmaceutical companies. Analysis showed that there is significant difference in perceived effectiveness of Digital tools used for marketing and communications among Indian and foreign companies. The perceived effectiveness of Digital Communication Tools is greater than that of Digital Marketing Tools among both Indian and International companies.
Keywords: Indian Pharmaceutical Company, Foreign Origin Pharmaceutical Company Medical Representatives, Digital Marketing, Digital Communication tools

Introduction

In today's digital era, businesses across the globe are leveraging various digital marketing and communication tools to enhance their online presence and reach out to their target audience effectively. The pharmaceutical industry is no exception to this trend, and pharmaceutical companies are increasingly adopting digital marketing and communication strategies to promote their products and services. Digital marketing is important for pharmaceutical companies in India as it allows them to increase their online presence, target specific audiences, reduce marketing costs, track campaign performance, and comply with industry regulations. In addition to this digital communication tools are effective for pharma companies as they enhance customer engagement, improve targeting, facilitate collaboration, provide real-time analytics, and ensure compliance with industry regulations. By leveraging these tools effectively, pharma companies can improve their communication strategies and achieve better results. In the Pharma industry, the target audiences for digital marketing are Health Care Providers (HCPs) and engagement is done through sales professionals known as Medical Representatives (MR). The purpose of this research paper is to analyze the digital marketing and communication tools used by pharmaceutical companies.

Objective of the study

- To identify the various digital marketing and communication tools used by pharmaceutical companies.
- To investigate if there exists any difference in effectiveness of these tools among Indian and International companies.

Hypotheses of the Study

H_1- Indian origin Pharma-companies differ in the perceived effectiveness of digital marketing and communication tools than International origin Pharma-companies

Literature Review

When all other industries were using digital marketing strategies in their marketing program pharmaceutical companies were having only websites and very few have recently adopted digital marketing. However pharma companies cannot sell prescription drugs online without prescription. This is, though, the limitation for pharma marketing in extensive use of digital marketing. Some renowned companies have started their social media marketing to respond to consumers' needs, Pfizer, Johnsons and Johnsons are to name a few. Domestic companies are also using digital marketing for special category medicines. (Parekh, 2016 and Bharskar Siddheshwar, 2020)

Almost all pharmaceutical companies are using some or the other digital tools for marketing activities. These tools are being used for giving details of newly launched drugs, conducting webinars and giving other scientific information about the medicines. However the major challenge that these companies are posing is making such tools available at economic costs. Further, unless one calculates the output of such tools in terms of revenue, the justification for implementing such e-infrastructure is difficult for marketers. (Lad, 2017).

Pharmaceutical companies in Pakistan are using Digital Marketing. The purpose of the study was to investigate which tools are being used more frequently by doctors for getting medicine information and also to examine if these digital marketing strategies have any influence on traditional clinical practices. Doctors use WhatsApp more frequently and very few doctors attend weekly webinars conducted by pharma companies. However, despite very few doctors attending webinars, it was found to have a significant impact on how clinical practices are being carried out compared to traditional practices. Though WhatsApp is the highest used social media, its impact on clinical practices was found the least compared to other media. Pharma companies have an opportunity to increase their digital marketing activities. (Jawaid and Ahmed 2018)

Digital transformation process can be evaluated by the framework which uses six dimensions created as an output of the research study. The framework can be used by the executives to analyse their progress on digital transformation with that of other companies within the same industry or any other industry. The framework ultimately helps in identifying the lacuna in the capabilities (Gurbaxani and Dunkle, 2019).

Today's market is super tight competitive, due to advancement of technology and innovations. Even the Pharma industry which has stringent marketing regulations is not an exception. The Pharma industry is also adopting new technologies in order to capture the growing needs of the market. This is especially due to changing behaviour of the millennial generation of consumers. The Pharma industry must innovate the business processes at feasible prices to keep these customers loyal (Erlangga, 2020).

The research focused on analysing the impact of various marketing activities of pharma industries on prescribing practices of doctors. It was found that these activities have significant influence on doctors' prescription practices but the magnitude of influence per activity is significantly different. Customer relationship management was found to have the highest impact (Krunal, 2020).

Covid-19 pandemic had forced almost every industry to transform its processes digitally, so the Pharma marketing also. Covid-19 pandemic imposed restrictions on human movements and social distancing. Thus pharma companies also have to come up with advanced digital practices to reach physicians and thus to needy patients. These digital practices were very useful and proved to be advantageous for individuals and organisations as well. (Khan and Basak, 2021)

Pharmaceutical companies have revolutionised the marketing processes by using extensive digital marketing strategies especially after Covid-19 pandemic. Customers use companies' official websites services significantly. It was surprising to know that web services' usage was more than social media platforms. Most of the companies agreed that webinars were more effective and resourceful for all the stakeholders than any other activities. (Alshaya, 2020)

Responses from senior management persons were collected to examine the impact of digital marketing strategies on growth of pharma companies. Around 400 responses were collected and regression analysis was conducted. The results showed that there is significant influence of digital marketing strategies on growth of the companies. (Agrawal, Mandhanya, 2019)

Digital marketing is helping pharma companies to gain competitive advantage particularly in the over the counter medicine market in North Cyprus. Online survey conducted through 158 consumers of various pharma companies OTC medicines. It was revealed that consumers are well versed with the usages of OTC medicines in regular minor illness. Consumers feel that companies, the government and other stakeholders in the healthcare industry should make appropriate use of digital media to disseminate information about these OTC medicines and their safe and effective use. (Aghaei , Alarsali, 2022)

Research Methods
The structured questionnaire was developed by discussing with the experts in the area and through past literature review. The questionnaire consisted of 3 parts. First part was to understand perception related to Digital Marketing tools being used by companies and the second part was questions measuring the perception about the digital communication tools. Third part was demographic information. In all 12 question items were there in the questionnaire. The questionnaire was circulated through social networking sites to Medical representatives (MR) of the pharma companies. These MRs were selected using cluster sampling methods. Sampling frame for selecting these MR was a Social group on a professional networking website. The group comprised around 800 participants. These participants were from various cities of India. Therefore to make samples true representative of population clusters were formed of different cities. From various states 2 cities were selected and MRs from these cities were selected randomly. The questionnaire was sent to select MRs through the same networking website. Around 200 respondents were approached for filling the questionnaire. However 157 responses were received in completed forms. These responses were analysed in SPSS.

Data Analysis
Reliability of the scale

Cronbach's Alpha	N of Items
.823	12

Table 1– Reliability Statistics

Reliability statistics showed that the Cronbach's Alpha is .823. According to; Tavakol and Dennick 2011, any Cronbach's alpha value greater than 0.7 is an indication that the questionnaire is reliable. Therefore the scale is considered reliable.

Respondents' profile

		Frequency	Per cent
Company	Indian origin	72	45.9
	Foreign Origin	85	54.1
	Total	157	100.0
Whether the use of Digital tools increased post pandemic?	Yes	105	66.9
	No	52	33.1
	Total	157	100.0
City of Respondents	Delhi & Gurugram	20	13%
	Mumbai & Pune	22	14%
	Kolkata & Asansol	23	15%
	Chennai & Coimbatore	21	13%
	Bangaluru & Mangaluru	24	15%
	Jaipur & Jodhpur	23	15%
	Ahmedabad & Surat	24	15%
	Total	157	100%

Table 2- Profile of the respondents

From the profile of the respondents it is understood that around 46% companies were of Indian Origin and rest were of foreign origin. As per 67% respondents, use of digital tools has increased after the Covid- 19 pandemic.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Social media management campaigns can be organized to increase awareness about the company's image and brand among general public and among healthcare professional.	157	1.00	5.00	3.5032	.97812
Digital marketing tools help in effective promotion of pharmaceutical products to health care professionals.	157	2.00	5.00	3.4076	.87673
Digital Marketing Tools help enable engagement with the health care professionals.	157	2.00	5.00	3.3949	.74900
Digital marketing tools help in dissemination of knowledge among doctors about scientific advancement in drugs/ medicines	157	2.00	5.00	3.1210	.89407
Digital Marketing Tools help to provide brand information	157	1.00	5.00	2.9745	1.21396
Overall Mean				3.2804	

Table 3- Descriptive Statistics- Effectiveness of Digital Marketing Tools

This subscale was rated on 5 point Likert's scale, where 1 meant Strongly Disagree and 5 meant Strongly Agree. In the above table the statements are arranged in descending order as per the mean received. The highest mean (3.5) for digital marketing tools was received for statements –'Social media campaigns increased the awareness of a company's image'. Overall mean (3.28) value on 5 point Likert's Scale suggests that Digital Marketing Tools are being perceived as moderately useful by medical representatives.

	N	Minimum	Maximum	Mean	Std. Deviation
Digital communication tools facilitate scientific conversations to help health care professionals.	157	2.00	5.00	3.8662	.87042
Doctors are preferring digital modes of pharmaceutical marketing	157	2.00	5.00	3.6943	.82168
Digital platform enables Health care professionals to virtually connect with the pharmaceutical firm at their convenience and ease.	157	2.00	5.00	3.6815	.81680
Digital communication tools may replace conventional detailing in future.	157	2.00	5.00	3.5287	.78086
Overall Mean				3.6926	

Table 4 – Descriptive Statistics- Effectiveness of Digital Communication tools

This scale was also rated on 5 point Likert's Scale. Here 1 meant Strongly Disagree and 5 meant Strongly Agree. From this table it was observed that the overall mean of the scale (effectiveness of digital communication tools) is 3.69. This is a moderately high value on the 5 point scale.. In other words in Medical Representatives' perception digital communication tools are moderately effective.

Hypotheses testing
H_1- Indian origin Pharma-companies differ in the perceived effectiveness of digital marketing and Communication tools than International origin Pharma-companies

To test this hypothesis one way ANOVA was used.

In the factor tab of the ANOVA dialog box of SPSS, the origin of the company was inserted and in the dependent variable tab variable- effectiveness of digital marketing tool was inserted.

The result is shown here

		Sum of Squares	Df	Mean Square	F	Sig.
DM	Between Groups	13.782	1	13.782	67.162	**.000**
	Within Groups	31.807	155	.205		
	Total	45.589	156			
DC	Between Groups	18.872	1	18.872	120.067	**.000**
	Within Groups	24.362	155	.157		
	Total	43.234	156			

Table 5- One way ANOVA-Effectiveness of Digital Marketing (DM) and Digital Communication (DC) Tools

Significance values were observed to be less than ($p<.05$) 0.05. Therefore we failed to accept the null hypothesis-'H_0- Indian origin Phrama companies do not differ in the perceived effectiveness of digital marketing (DM) and Communication (DC) tools than International origin Pharma companies'. Therefore we accept alternate hypothesis H_1. This indicated that there exists a significant difference in the means of the variables as per the origin of the company. In other words, perceived effectiveness of digital marketing and communication tools differ significantly among Indian and foreign companies.

Conclusion
The result analysis showed that the perceived effectiveness of Digital Communication Tools is greater than that of Digital Marketing Tools among both Indian and International companies. This indicated that in MR perspectives doctors are more open and comfortable for digital communication tools. In covid-19 pandemic era, communication was done digitally only. Since then the use of such tools has increased. However in MR perceptions use of digital marketing tools to impress doctors is moderately effective only. This may be because there are restrictions imposed on direct marketing of drugs to physicians and the common public. Particularly in Indian context MR feel that the relationship with Doctors can only be sustained through in person meeting with doctors in addition to digital communication. It was also found that there is significant difference in perceived effectiveness of Digital tools used for marketing and communications among Indian and foreign companies. Small sample size of the study makes it difficult to generalise the findings. Future studies may conduct a similar study with adequate sample size. Future studies may also investigate which companies are using digital tools more effectively.

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EFFECTIVENESS OF RISK MANAGEMENT IN THE MSME SECTOR: A SYSTEMATIC REVIEW

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ABSTRACT
Enterprise Risk Management (ERM) has come a long way over the past two decades. While the concept has always existed, it has now emerged as an important function in the organizational management matrix. In North America and Europe, studies have been undertaken in the field of Enterprise Risk Management for the sustainability and growth of the MSME sector. Emerging markets and developing countries have also begun empirical research in this field in recent years. Though regarded as the engine for economic growth worldwide, the sector is highly susceptible to risks and is still observed to be vulnerable to business disruptions. In a highly globalized business environment, the impacts of several issues keep hampering businesses; their repercussions span rapidly across continents. In light of the above, this paper is an attempt to understand the effectiveness of ERM techniques deployed by MSMEs so as to avoid business disruptions and achieve their business objectives without deflection.
Keywords:MSMEs, Risk, Enterprise Risk Management(ERM), ERM Practices, Performance

Introduction

The Indian MSME sector has always been an important pillar of the country's economy. Since India's economic liberalization in 1991, the sector has grown by leaps and bounds. Currently, it accounts for nearly 31% of the country's GDP and also accounts for nearly half of Indian Exports. Over the past decade, this sector has always outperformed the overall Indian economy in terms of growth. Still, the sector is not without its own set of problems. Predominantly family owned and conservative-minded, it is struggling to develop a robust business model (Annual Report 2021-22, MSME Ministry, Govt of India).

Growth rarely happens without problems and more often than not, the costs to be paid for growth are irrecoverable. For instance, industrial growth has almost always happened at the cost of the environment, no matter whether the economy is capitalistic or socialistic, rich or poor, developed or emerging. As the developed economies rely more and more on developing/emerging economies for their manufacturing and service-related activities, the technological, economic, and social disparity between them appears to be widening rather than shrinking (Gao, 2001). Needless to say, these factors have also impacted the organizational management scenario to a very large extent.

ERM is now a globally accepted practice across economies for the sustainable growth of businesses. Over the past couple of decades, a lot of research has been conducted all over the world to build successful and sustainable business models among the MSMEs through it. Due to its potential to generate employment at lower costs and its ability to transform the rural economic landscape, governments have always tried to support this sector (Bhatnagar, 2013). Yet, it is observed to be the most susceptible sector to risks as well as business disruptions. As a result, ERM has emerged as an important area of focus for all stakeholders. The key to developing a robust ERM framework is its proper implementation. This research paper is an attempt to identify and review the existing literature pertaining to the effect of ERM practices on the performance of MSMEs.

Objectives of the Study

The main objective of this study is to pinpoint the advantages derived from the effective implementation of ERM as well as the challenges involved in it that are relevant to a broader area of study, viz Effectiveness of Risk Management in the MSME Sector. Overall, the objectives can be listed as:

1. To understand the ERM processes in the MSMEs
2. To study their impact on the ERM practices
3. To identify and review the existing literature pertaining to the impact of ERM on the performance of MSMEs

Research Methodology

This study is based on secondary data and the outputs derived are based largely on the studies undertaken in recent years. As very little research is undertaken in India in this field and also in keeping with the rapid globalization of the MSMEs, studies from abroad obviously form the focus of this study. The major share is claimed by papers from emerging economies in recent years. The biggest advantages of studying recent papers include:

a) They cover recent risks like COVID-19 and Climate Change
b) They give insights into the assessment, evaluation, and treatment with the latest techniques
c) They are recent enough so the issues raised therein are still prevalent

From among 60 odd papers, 30 were selected for their content, topicality, and relevance. I have included papers from North America, Europe, Asia, Africa, and China. Interestingly, the biggest contribution comes from Southeast Asia, Africa, and the Czech Republic with Malaysia, Iran, and China being the biggest contributors from Asia. As a result, the core of these studies is dominated by the norms followed by export aspiring emerging economies as strict regulations dictated by developed economies are more often than not the main reason for MSMEs to engage in ERM practices.

Having selected the papers, the next task was to tabulate them so as to have an overview, thereby giving a snapshot of the literature along with the chronology and relevance. The literature having direct relevance to the topic was categorized with the relevance as High, the ones which address a part of the topic were categorized as Medium and those that formed the context or background of the study were categorized as Low.

Categorization was followed by a detailed study of the literature followed by its analysis. The analysis is aimed at deciphering the effectiveness of ERM practices in the respective researchers' areas of study – both geographical and scholastic. Through this, I have also attempted to follow the evolution of ERM and its effectiveness over the past couple of decades. This analysis is presented in the subsequent chapter followed by the conclusions derived therefrom.

Literature Review

The concept of ERM is relatively new to the Indian MSME sector; hence, very little literature is available on the subject in the academic as well as industrial world. As a result, I have had to rely largely on literature from across the world. I have tried to focus on the ERM practices implemented among the developing countries and as those in the developed economies more or less form the guidelines for emerging economies, I have included the studies therein – spanning across several years - as setters of precedents for the Indian MSMEs.

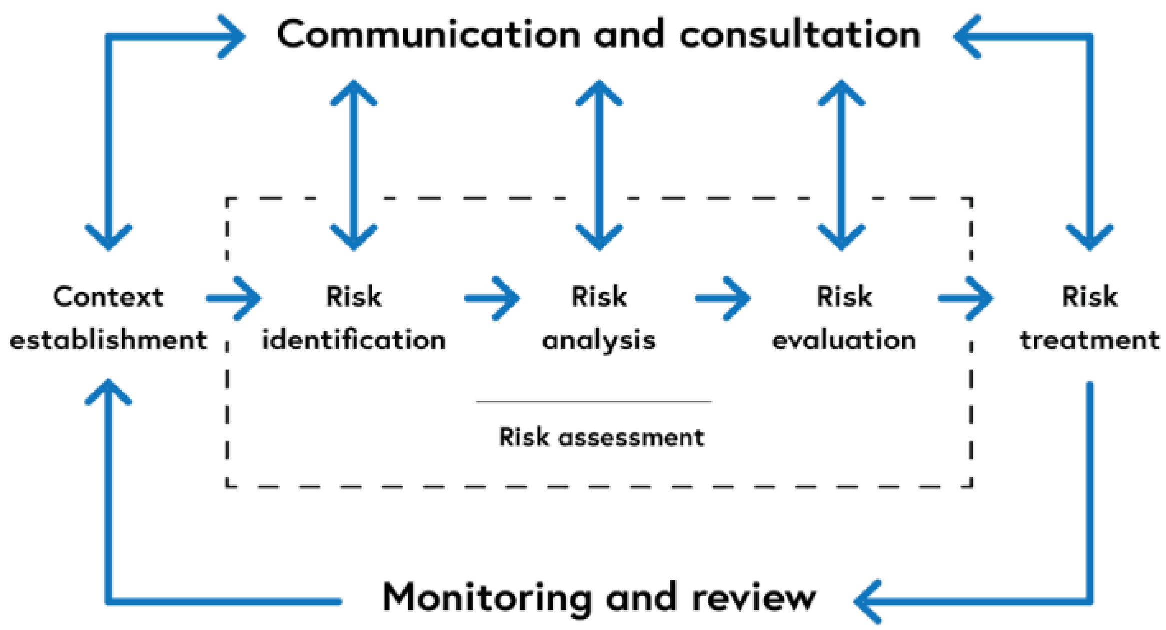
While reviewing the existing literature on this topic, the two most valuable inputs received were:
Firstly, the process should include
i. Planning the review
ii. Conducting the review and
iii. Reporting and disseminating the review (Tranfield, 2003).

I have followed these steps in assessing the existing literature in this field. Due to the limitations in the quantity of comprehensive literature on the topic, I have also covered studies covering parts of the study and have included the relevant contents thereof as references.

Methods of selection as well as exclusion criteria are extremely important for the literature under review. The majority of the literature is from developed countries in spite of developing countries being more reliant on MSMEs for their industrial and economic development (Falkner , Hiebel 2017). On this background, it is not at all surprising that studies have also percolated across emerging economies recently as developing countries are always reluctant to allow their image and the quality of their products/services to suffer.

Enterprise Risk Management (ERM) is an integrated process to predict, mitigate, handle, and reduce the impact of various risks (D'Arcy, 2001). All experts agree that risk is the product of the Frequency of Occurrence of an event and the Severity of its Impact (Henschel, 2008). Lately, there has been a lot of research in ERM in Europe and North America; however, is spite of the crucial role played by MSMEs in industrial, economic, and social development, little research has been undertaken in developing countries toward building a sustainable model for MSMEs' growth and success (Kanu, 2021).
Typically, ERM takes the following form (Figure 1):

Figure 1:Risk Management Process



With the changing nature of risks, the ERM process has also undergone a lot of changes. This obviously is a continuous process as more and more challenges keep emerging every now and then.

Emerging risks are the risks that may develop or are detected anew; these are the risks that are difficult to quantify or may culminate into huge losses. Frequent occurrences of natural calamities & disasters, climate change, product/service liabilities, genetic engineering, and nanotechnology are seen as emerging risks (Kapoor, 2018). Application of Artificial Intelligence, monitoring and managing the Internet of Things, high-risk innovation, vigilance, and flexibility to complement prevention is seen as the major areas to be focussed on in the ERM process over the coming years. Disruption risk, Reputation risk, and Collective risk management due to a networked economy as the emerging areas of focus in ERM. It is also observed that the advent of technology in decision-making and behavioral aspects is a new area of focus related to ERM in the future (Deloitte, 2021). Data-driven risks, the involvement of top management in ERM decision-making, and ever-increasing regulatory compliance requirements have a bigger role to play in organizations (Unnikrishnan, 2022).

As this study concentrates on the effectiveness of ERM in the MSME sector, I have zeroed in on the literature giving insights into that aspect of ERM. I have selected studies that show the evolution of ERM, the implementation strategies thereof, and necessarily depict the effectiveness achieved therefrom.

Thus, the selected literature has rendered a lot of insights into the topic under study. The major gap observed herein is the lack of literature pertinent to the Indian MSME sector.

As mentioned earlier, the purpose of this study is to pinpoint the papers for the broader study in analysing the effectiveness of ERM practices. As the data used are secondary, papers were selected on the basis of the depth of their content, their relevance to this study, and their originality. It was pertinent that the selected literature covers the impact of the ERM process.

In the analysis of secondary data, the biggest hindrance is that the data referred to are usually compiled with a different intention and possibly be just partially relevant to the study undertaken. Their inclusion not resulting in the disorientation of the intended result was seen as an important factor during this study. From the selected

papers, this study has attempted to pinpoint the papers as references for the larger study. At the same time, I have also attempted to find the gaps in the existing research space.
The initial studies in this field presented mixed evidence of ERM being beneficial to a firm's performance. 'No effect' was attributed to the data being noisy, the ERM practices still in a nascent stage, and most importantly, the absence of an ERM performance matrix (Pagach & Warr, 2009). It was observed later that environmental uncertainty, industry competition, size of the enterprise, complexities in product/service, and monitoring by the top management were decisive factors in ERM producing the intended results (Gordon, 2010). Involvement on part of the top management led to palpable improvements in the performance of ERM. It also identified significant gaps in the implementation of ERM on part of the firms and proposed separation of functional risks as regards their assessment, evaluation, treatment, and monitoring. (Di Serio, 2011). Control of unfavourable conditions resulting from exposure to risks, investment in intellectual capital & development of key resources, and focus on innovation was seen as important factors relating ERM to a firm's performance (Jafari, 2011). Effective management of Operational Risks was found to have a positive impact on MSMEs' financial performance (Alrashidi, 2012).

Subsequent studies found that the ERM matrix was maturing and had become more result oriented. Early detection of internal & external issues that might result in risks, responding to changes, and a holistic approach to ERM were seen as crucial factors in an effective ERM and monitoring by top management, firm size, and firm complexity was identified as the key factors towards its success. (Ping, 2015). Effective ERM directly led to the improved performance provided the organizations see risk management not only from a defensive approach but also as a key success factor for the sustainability of earnings and improvement in the overall performance of the business. Here too, higher investment in intellectual capital was found to play a significant role (Hamdu, 2016). Also, failing to attempt to identify and manage the response to risks throughout a firm was observed to have a significant impact on a firm's performance, hence the role of top management is seen as crucial (Callahan , Soileau, 2017). By now, it was an established fact that companies with well-developed ERM systems are both more profitable and are perceived better by financial markets. Companies with unrefined or no ERM systems are found to be less profitable and less appreciated by investors, thereby demonstrating that an incomplete adoption of ERM components has negligible or no effect on firm performance. Moreover, companies with matured ERM systems have lower firm risk and perform better, suggesting that ERM systems contribute to improving operational and strategic decisions as well as reducing direct and indirect costs of risks (Florio , Leoni, 2017). It was at this stage that entrepreneurial skills in ERM came to the forefront, hence it was proposed that an easy and comprehensive risk management process be followed in MSMEs and once again the importance of Risk Identification at an early stage was stressed. Sharing of risks was seen as an important aspect in Risk Treatment along with the other means for it (Madembu, 2017).

In recent years, studies have shifted towards more of an objective-based approach. The importance of managing risks in the global supply chain has also come under the scanner. Mitigation of risks in the supply chain was found to lead directly to an improvement in an organization's performance. It is also seen as an opportunity for MSMEs to have robust growth (Hariharan,2018). As for the comprehensive management of risks, a balanced scorecard was proposed and an organization's response to risks, communication & monitoring, and setting objectives for ERM was seen as a critical factor in it. The internal environment within an organization was found to play a major role in the effectiveness of ERM. The age of a firm seemed to have a significant impact on it (Suttipun, 2018). The emergence of third-world countries as manufacturing hubs led to the holistic implementation of ERM among those economies. Here, the role of financial literacy on the part of entrepreneurs came to the fore as it was found to have a strong correlation with the effectiveness of ERM and hence found to result in a competitive advantage for them in an increasingly competitive business environment (Yang, 2019). ERM adoption helps improve internal decision-making and operational efficiency which leads to improved business performance. However, integrating ERM with the organization's overall functioning and ownership of risks are major obstacles in this process. Hiring qualified staff and responding to changes in the business environment play a major role in this (Adeyele, 2019). Thus, it can be safely said that ERM has a positive and significant effect on SME performance. The objective setting has a significant effect on SME performance, while the internal environment, identification of risks, risk assessment, risk treatment, operational control, information & communication, and monitoring were found to make an insignificant impact. This is largely because ERM in MSMEs is yet to mature compared to larger organizations (Yakob, 2019). Most entrepreneurs usually have an understanding of the risks involved in their respective businesses and the most significant gap exists in amalgamating ERM with the overall functioning. Internal factors including ERM have a positive impact on an organization's performance (Hanggraeni, 2019). In small economies, scarcity of capital and credit facilities, a dearth of skilled workers, raw materials-related issues, poor infrastructure, an acute shortage of manpower with the required skills, and the haphazard use of the latest and dynamic technologies were observed as the barriers to MSME performance. The mitigating factor for this was found to be the techno-financial literacy on part of all the ERM stakeholders (Kalathunga, 2020). The impact of intangible assets and intangible factors on the performance – financial as well as non-financial - of ERM-practicing MSMEs is an interesting factor that cannot be ignored. ERM itself can be seen as an asset for an organization as it is highly organization-specific, not replicable, and not saleable (Saiedi, 2020). It is important to note that ERM's effect on organizational performance depends on the development of risk culture and strategic planning. There is no substantial evidence as of now supporting a linkage among these factors (Kanu, 2021).

Contemporary studies in this area continually concentrate on bridging the several gaps observed by previous researchers. Even for start-ups, it was recommended to have a prior analysis and formulation of their Risk Matrix in advance and to have strict monitoring of the same over the first five years so as to ensure the existence of a sustained business module (Ghazali, 2022). The relationship between internal environments, Monitoring, Event Identification, Risk Response, and Risk Assessment all significantly influenced ERM at a much higher level. The findings indicated that an enterprise's effort in detecting and managing risks has a substantial effect on the performance of SMEs (Ntare, 2022).

Conclusions

Based on the study of selected available literature, many interesting findings have emerged. It can definitely be concluded that ERM does have a positive impact on the performance of MSMEs. There are many significant gaps that entrepreneurs and stakeholders need to bridge so as to achieve their business objectives without deflection.

Broadly, the effective implementation of ERM is observed to result in the following advantages to the MSMEs:

- Sustained business module
- Competitive advantage
- Improved profitability
- Improved operational efficiency
- Better evaluation by financial institutions
- Reduction in direct and indirect cost of risks
- Efficient operational and strategic decision making
- Improved confidence levels among the customers

However, the effective implementation of ERM is a challenging task. The major challenges observed were:

- Entrepreneurs' perception and understanding of ERM
- Lack of skilled manpower
- Identifying and responding to risks
- Integrating ERM with the organization's overall functioning
- Setting functional ERM objectives
- Stringent monitoring of ERM processes
- Technological upgradation
- Detecting Potential Risks

In all, ERM is a well-accepted practice that has evolved over the past decades. It has percolated well across emerging economies and the emergence of new challenges, new markets, and new products have helped the process mature. A large number of gaps continue to exist and will always remain; however, the benefits certainly outweigh the challenges.

This study also had its limitations. Firstly, it is reliant on secondary data, hence the intention of the authors may not match the objective of the study. Secondly, not all the literature covered MSMEs and certainly not all of it covered the MSMEs in emerging economies. As a result, there remains ample room for further studies in this area.

Scope for further study

There is ample room for study in this area. While ERM as a practice needs to be studied, further studies can be undertaken on its impact, the need for guidelines and regulations as regards ERM, and the linkage between ERM and firms' performance can also be studied in detail in the context of the Indian MSME sector. Moreover, the effectiveness of ERM techniques as a whole as well as at the functional level also needs to be studied.

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EFFECTIVENESS OF THE SOCIAL WORK PROGRAMME OFFERED THROUGH OPEN AND DISTANCE LEARNING- A STUDY OF LEARNERS PERCEPTION (WITH SPECIAL REFERENCE TO UTTARAKHAND OPEN UNIVERSITY, UTTARAKHAND, INDIA)

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PURPOSE
In the wake of the new COVID-19 outbreak and resultant lockdowns, education across India has been severely influenced with a huge number of students left out education. During this period, ODL has proved to be very efficient and useful in providing quality education throughout the country and different parts of the globe when people got confined in their homes. It has helped in reaching to the learners with the use of ICT (Information and Communication Technology) and through different means and mode so that learners' time is not spoiled.. This is also reflected in the enrollment ratio which is clearly seen to receive a hike in open and distance learning institution in India during these two years. The main objectives of the paper is to assess learners' views towards effectiveness of social work programme offered by the Uttarakhand Open University, India in the past 10 years and in CoVID times.

Design/Methodology/Approach
Explorative research methodology has been used in the present study. The sample size consists of 200 learners enrolled in the MSW (Master of Social Work) programme of the Uttarakhand Open University, India. The analysis and interpretation of the data has been done on the basis of data collected from the primary and secondary sources.

Findings
It is clearly shown from the current study that learners were satisfied with all the parameters of the social work programme offered by the Uttarakhand Open University. Satisfaction level was high with respect to quality study material, assignments, as well as field work guide book which provide complete information on methodology and description of the field work. Therefore, ODL mode of education has proved to be quite useful and successful in meeting the objectives of social works programme where learners got quality education and opportunities to the learners to attain a professional degree along with their job or other responsibilities.

Keywords: Social Work, Open and Distance learning, Perception, Effectiveness

Introduction

Distance Education a term synonymously used with Open and Distance Learning (ODL), has gained significance over the last few decades in India particularly during the late Twentieth century when first Open University named Dr. B.R. Ambedkar Open University, Hyderabad, was established in 1983 following the establishment of another National University i.e., Indira Gandhi National Open University, in 1985. As far as popularity and acceptability of ODL is concerned, it is increasing continuously. That is why there are fifteen (15) Government Open Universities are already in existence in India. Students of all age groups, even younger generation are getting enrolled in various programmes offered in ODL mode. Programmes are not only of traditional kinds but also new emerging areas are also getting place in ODL. It seems that ODL has immense possibilities and is a powerful means of educating people. The importance of ODL was well realized worldwide during COVID times when the lockdown situations compelled the regular mode based institutions to adopt the various tools, techniques and procedures of ODL system. According to NEP 2020, the GER of our country is still quite low when compared with the developed nations like USA, UK, Germany and target of 50 % GER has been set by 2035. If we want to meet the 50% GER by the year 2035, then in Indian conditions it is possible only if ODL system is used judiciously without compromising the quality of the programme. Continuing, open and distance education was late to pick up speed in India largely due to the initial hesitation to accept these modes of education at par with the traditional classroom-based programmes (K.M. Bahrul Islam, 2021). Both the systems of education in India i.e., regular mode and ODL mode, have been declared at par, yet a lot needs to be done to bring them practically at par particularly on quality grounds although UGC-DEB has framed regulations specific to ODL from time to time in process to enhance the standard of education through ODL.

About the Uttarakhand Open University

Keeping in mind the tuff geographical terrain and needs of the society, The first Open University of the state i.e Uttarakhand Open University was established in the year 2005 as per the in tune with the philosophy of ODL system and with the aim of providing education and vocational skills through distance learning, using the learners' friendly methods of education to ensure flexible and learning by doing. Various new tools and techniques and innovative methods has been used by the University to make Open and distabce learning more attractive and learner's friendly and effective. The main vision and mission of the University is to cater to the educational needs of the target groups to create skilled and knowledge based human resource for speedy upliftment and development of the State. The University aims to impart quality education by maintaining high academic standards. For this purpose, it has radically reoriented itself in view of the rapid changes in the sphere of professional and technical education and has developed a number of new and innovative self-employment/ employment-oriented courses of study. Uttarakhand Open University is especially focusing on the educational needs of women, the tribals and other marginalized sections. It has extended its reach to unreached places and has made its presence felt even in the remotest corners of the state.

Increase/ decrease in the enrolment of learners in the Institution year wise over the last five years

Table-01

2020-21	2019-20	2018-19	2017-18	2016-17
55974	50757	42813	37108	28273

Source; SSR Uttarakhand Open University,2021

The data clearly reveals the increased in the enrollment ratio, this shows that the faith and believe towards Open and Distance learning is increasing among the learners. It is clear from the data that Open and Distance learning follow the practices in accordance with the notion of 'reaching the unreached', 'education at the door-step of the learners', 'life-long learning' and education for those who could not pursue their education through the formal system of education (Table-01). The flexibility and quality of Self-Instructional Learning Material (SILM), skill enhancement courses increase the viability of the Open and Distance learning. ODL emerged as a tool for those who are living in far flung areas but want to continue their education and also for the girl's child who are now able to manage their household chores along with their education. Thus, it is clear that ODL fulfilling the needs of various sections of the societies by providing education at their door step and reaching to the unreached.

Number of learners enrolled from rural areas year-wise over the last five years

Table-02

2020-21	**2019-20**	**2018-19**	**2017-18**	**2016-17**
74344	69554	55998	68142	41656

Source; SSR Uttarakhand Open University,2021

The Uttarakhand Open University is continuously working in the direction to build an inclusive society through inclusive education and it is working hard to increase the Gross Enrollment Ratio (GER) by reaching to the unreached areas of Uttarakhand and by offering various skill development programmes along with the traditional programmes in the remotest areas of hilly terrains of the State of Uttarakhand. The data in table-02 clearly depicts that enrollment numbers from rural areas is increasing day by day, this shows that ODL working in accordance to their motto of reaching to the unreached and providing quality education through various means and modes of education to enhance the overall development of the rural population.

Details of Learners Enrolled From different gender
Table-03

Year	Number of learners enrolled from different genders			Total number of learners enrolled		
	Number of Male learners	Number of female learners	Number of transgender learners			
16-17	20786	20870	0	41656		
17-18	32841	35301	0	68142		
18-19	25897	30101	0	55998		
19-20	31043	38508	3	69554		
20-21	33522	40817	5	74344		

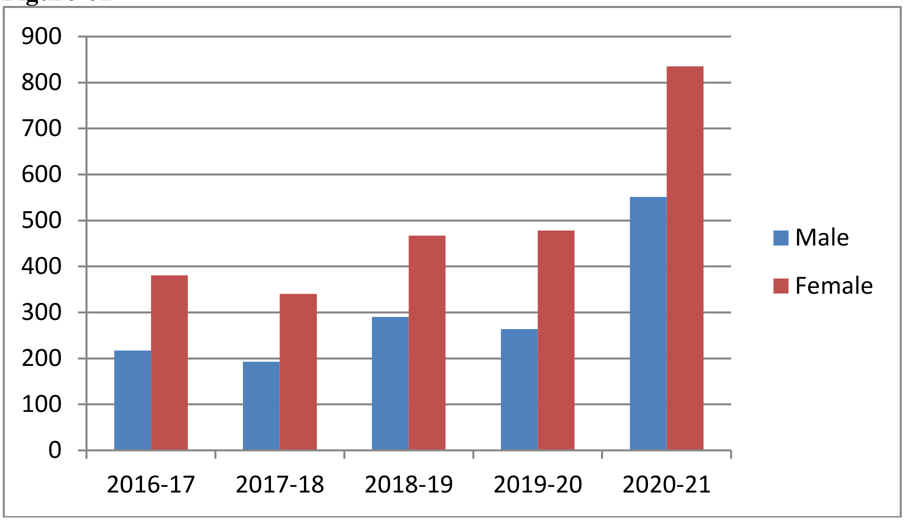
Source; SSR Uttarakhand Open University,2021

The data reveals a very interesting finding that the enrollment ratio of the female is increasing year wise in comparison to male counterpart (Table-03). This shows that's ODL has provided a platform to the female learners to continue their education who left education in between due to various house hold responsibilities and to perform the household chores. This is the first step towards gender equality which is a positive step in the overall development of the female learners. The female learners are also coming forward to take admission in the Master of Social Work programme(MSW) in comparison to male counter(Table-04,Graph-01) . The main objectives of the MSW programme is to provide in hand training to learners in different areas of domain like Medical, HR management, Labour Laws and NGO management so that windows of job opportunities available to them after completing the progarmme. The study reveals that ODL has provided the platform to the learners at their door step to enrolled in different professional programme because of which female are coming forward to fulfilled their dreams by completing the professional course (Table-04,Graph-01). ODL emerged as platform which provides them the wings to fly. Transgender also coming forward to be part of this mission although the enrollment number is very less however ODL has open the ways to everyone to continue their education irrespective of caste, gender and religion.

Table-04
Enrollment Number in Master of Social Work Programme

Session	Male	Female	Total
2016-17	217	381	598
2017-18	193	340	533
2018-19	290	467	757
2019-20	264	478	742
2020-21	551	835	1386

Figure-01



Objectives of study

Covid-19 pandemic has forced the learning process to be conducted online. Hence, the rapidly changing environment encourages the governments, universities, lecturers, and students to adapt the new learning system. Research has consistently shown that one of the most important factors contributing to a student's success is the quality of teaching he or she receives.

The objectives of the study are as follows:

- to assess the learners' view towards the effectiveness of the Master of Social Work programme
- to asess the role of ODL in providing quality education

Review of Literature

Bishnu Mohan Das (2019) in his study found that most of the students of where unaware of the social work programme and its effectiveness. The main objectives of the MSW programme are to trained learners in field work component but in his study, he found that field work component is missing and the supervision is not up to mark. Volery & Lord (2000) found that the beginning of online classes led to various problems for both the communities from teaching and learning, though, the internet is a major technological advancement reshaping society and universities worldwide. The online learning environment varies profoundly from the traditional classroom situation when it comes to learner's motivation, satisfaction, and interaction, as stated in a study in which 385 college students of various disciplines in Nepal were asked about their opinions regarding online classes implemented during COVID-19 lockdown (Aditya and Jha, 2020).

Studies have revealed that Open and Distance Learning provides platform to those who have no access to school / colleges but have zeal to be part of education system keeping in mind their future stake (Paliwal 2019). Paliwal concludes that in the mountain regions where children left the studies in between, the girls child suffers a most in the hilly regions as due to enormous household responsibilities they left their schooling in between. Distance learning evolved as a new way in providing solutions and giving an opportunity to those who want to continue their education through its learner's friendly approach. Distance education apart from formal education also provides opportunities to educators to enhanced their educational capability. (Woodford et al.,2001).

Saumya and Singh (2020) in their study found that majority of the learners enrolled in MSW programme preferred to read printed self-learning materials anyway in country regions however with expanding admittance to Web, students are step by step choosing on the web materials while topping off the confirmation structure. Larger part of understudies tracked down the quality and standard of study materials to be generally excellent. However maximum respondents gave positive criticism about the student support administrations and their growth opportunities, a portion of the students' dealt with issues like no help from the staff, issue in regards to determination of hands-on work boss, late conveyance of study materials, absence of staff individuals at concentrate on focus, far distance of study Center from home. Ongoing technological advances have set out fundamentally more open doors for social work projects to convey training to people who, for various reasons, can't finish a full timetable of grounds-based courses (Coe & Elliot, 1999).

Gagne and Shephered (2001) in their study found little difference in the quality of education received through distance learning versus conventional classroom settings. The study shows that students taking distance learning courses perform as well as students taking courses via traditional methods. Thus, the study confirm that distance education is not less in any points in compare to traditional method of teaching. Distance education, as the name itself indicates, is providing education to the unreached and marginalized sections of the society. The education is offered using various means and modes of social medial like print, audio and video components with flexibility for the learners to learn at their own pace. It provides education to all segment of society irrespective of caste, age, gender and religion. It aims to train people in various disciplines and to develop professional skills in different jobs using a multimedia approach to teaching a distance learner. It is gaining prominence because it reaches a broader student audience, addresses student needs, saves money, and uses principles of modern learning pedagogy (Zarghami and Hausafus, 2002).

Ojo, Olugbenga & Olakulehin, Felix Kayode(2006) in their study, 'Attitudes and Perceptions of Students to Open and Distance Learning in Nigeria' assesses the attitudes and perceptions of distance teaching and learning by students enrolled in the NOUN(National Open University of Nigeria) and of the National Teachers' Institute (NTI) compared to their experiences at conventional universities. One hundred and twenty (n = 120) randomly selected NOUN and NTI students of NOUN were the subjects of the study. The study reveals that that students generally have a positive perception and attitude towards ODL, compared to traditional forms of higher education.

It is clear from the above studies/review of literature that as far as effectiveness of the programmes offered by the Uttarakhand Open University is concern, no study of this sort has been done by any social scientist. Therefore, the need of the hour is to make an extensive and intensive study of the perception of the learners and the effectiveness of the programme as offered by Uttarakhand Open University. This study critically assesses the perception of the learners towards the effectiveness of the social work programme offered by the Uttarakhand Open University, India. Data was collected on participant demographics, attitudes about social work, and levels of knowledge about the profession and reasons for enrolling in the progarmme.

Design/Methodology/Approach
Explorative research methodology has been used in the present study. The sample size consists of 200 learners enrolled in the MSW programme offered by the Uttarakhand Open University, India. The data collected and analysis on the basis of data collected from the primary and secondary sources. The research paper is based on the feedback received from MSW learners of the Department of Social Work, School of Social Sciences at Uttarakhand Open University, India. For data collection, a Google form was prepared and sent to all the learners of MSW through email, WhatsApp, Telegram, and other messaging and social media platforms. The Google form consisted of both closed- and open-ended questions relating to their profiles, assignments, reasons for enrolling in social work programme, quality of the self-instructional learning material and challenges faced by them while pursuing the MSW programme. Responses were received from 200 MSW learners. All the responses were collected in an excel sheet and visualized as charts wherever applicable. The findings are exclusively based on the experiences of learners while pursuing the MSW programme through ODL mode from Uttarakhand Open University,India.

Data interpretation
The responses were analyzed as two groups, firstly the male learners and secondly the female learners. These two groups are further divided into four groups according to their age class i.e. 18-25, 26-30, 31-40 and 41-50. The after effects of the relative multitude of inquiries were contemplated and different assessments and issues raised by the respondents were aggregated, analyzed, and deciphered. The understanding incorporates the underlining reason for the got result, the impacts it raises, and the future expectations and suggestions. The outcomes were contrasted and existing writing and all around talked about.

Result
The observations and discussions start from learners' perception view. These results were then expressed in the form of a discussion focusing on the major aspects of i) preliminary information ii) level of assignments iv) quality of study material and assessment methods and vi) future aspects.

The course modules, structure of the MSW programme offered by the Open Universities was unique, as per the different geographical locations and structures. For example, the Philippines Open University offered the programme to enhanced the skills of BSW students. It is a component of ongoing instruction for career advancement. The goal of the United Kingdom Open University is to give people who work in social care organisations the chance to earn a professional degree without leaving their jobs. (Thomas and Varghese, 2011).

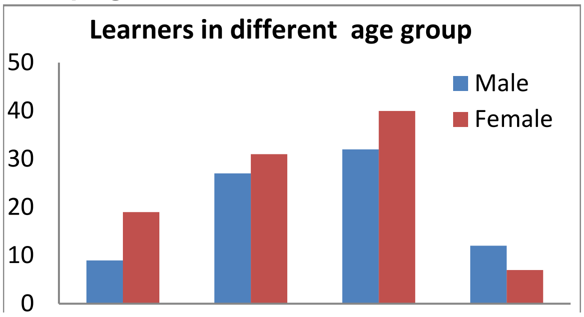
One of the drawbacks of regular mode of education is its accessibility particularly to those who have comparatively disadvantaged position either due to their economic background or due to geographically remote and difficult location. Social work programme offered through ODL mode has greater reach and access due to its flexibility the ability to transmit quality training. Other than this, it provides opportunities to the learners to fullfill their dreams of getting degree while working.

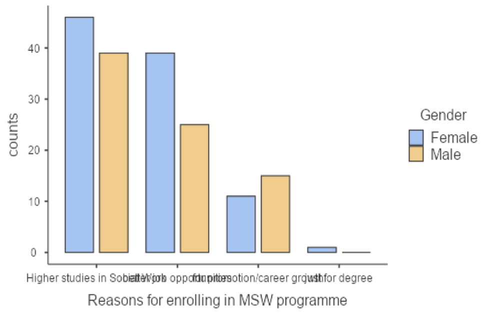
A. Reason for enrolling in MSW Programme

Out of 200 learners 55 % are female learners and 45 % are male learners. Out of which 33 % learners are of 26-30 years, 40% are of 31-40 years and 10% are of 41-50 years (Fig 2). This indicated that ODL courses covers all age groups. 46 female learners and 39 male learners enrolled in MSW programme for higher studies. 64 learners (46 female learners and 39 male) enrolled for better job opportunities and 26 learners enrolled for carer growth (Table 5, Fig. 3).

Fig. 2: Learners in various age groups

Table 5: Frequencies of Reasons for enrolling in MSW programme





B. Satisfaction with study material:

Self-Learning Material is an important medium of imparting knowledge to the learners. Since there is no face-to-face interaction the quality and the content provided in the study material should help in providing a classroom like atmosphere. The material should be self-instructional in approach. The term self-instruction means a guide book which guide learners step by step and direct how to proceed with Self Instructional material and do the self assessment exercises available on the SLM. Maximum learners satisfy with the study material provided by the university. 90 % learners are fully satisfy with the SLM while only 3% are not satisfied (Fig. 4).This shows that University is working on the development of the quality of the status material.

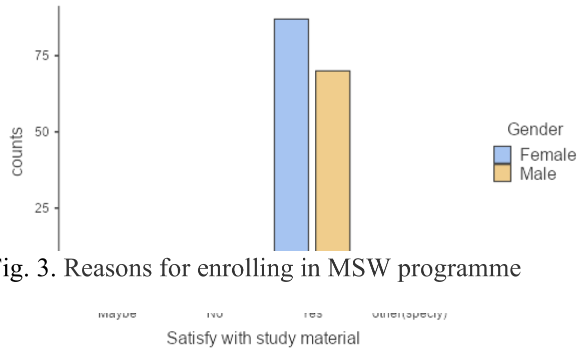


Fig. 3. Reasons for enrolling in MSW programme

C. Learners' perception towards Assignments:

Assignment is task given to the learners to check the knowledge gain by the learners . Assignments can for instance be used to test higher cognitive abilities and the application of specific skills or knowledge. It can mirror the future professional practice. It can be used to assess the integration of knowledge, skills and attitudes (competences). Assignments are given to the learners for their evaluation in ODL system. It is also a part of examination. Learners perception about the assignment shows that 48% learner feels, it's hard for them and 44% indicated assignments are moderate and only 7 % says it's easy for them (Table 6)

Table 6. Frequencies of Perception towards Assignments

Levels	Counts	% of Total	Cumulative %
Easy	13	7.4 %	7.4 %
Hard	84	48.0 %	55.4 %
Moderate	78	44.6 %	100.0 %

D. Satisfaction with the Assessment Process:

Many sorts of assessment exist; subsequently assessment techniques should be modified by the thing is being assessed and the reason for the assessment. It is futile to try and determine how effective our program is? This is why process of assessment should be done prior to any other type of evaluation (Hawe et al. 1990). Our study indicated that 67% learners are Completely satisfied with the assignment and evaluation process, 26% learners are little bit satisfied with the assignment and evaluation process and only 5 % are not satisfied with the evaluation process (Fig. 5, Table 7.).

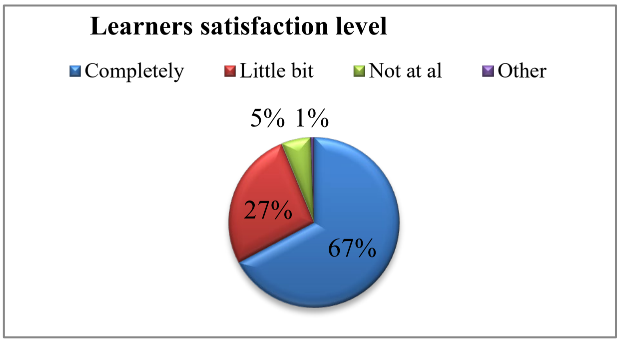


Fig. 5. Learner's satisfactory level

Table 7: Frequencies of Satisfaction with the study material of MSW

Satisfy with the marks of Assignment and evaluation process	Gender	
	Female	Male
Completely	60	58
Little bit	31	15
not at all	5	5
other (specify)	1	0

3.4 % Learners found that the language could be in easier format then the provided one, 11% indicated that there is a need for an improvement, 2.3% are not satisfied with the study material of MSW and 81% learners found that the provided study material of MSW is very good, it fulfills their requirement and good enough for their learning. Comparison between male and female learners indicated that female learners are more satisfied then the male learners (Fig 6 & 7, Table 8).

Table 8: Frequencies of Satisfy with the study material of MSW

Levels	Counts	% of Total	Cumulative %
Language could be in easy format	6	3.4 %	3.4 %
Need improvement	20	11.3 %	14.7 %
No	4	2.3 %	16.9 %
Yes	145	81.9 %	98.9 %
other (specify)	2	1.1 %	100.0 %

Table 8: Frequencies of Satisfy with the study material of MSW

Levels	Counts	% of Total	Cumulative %

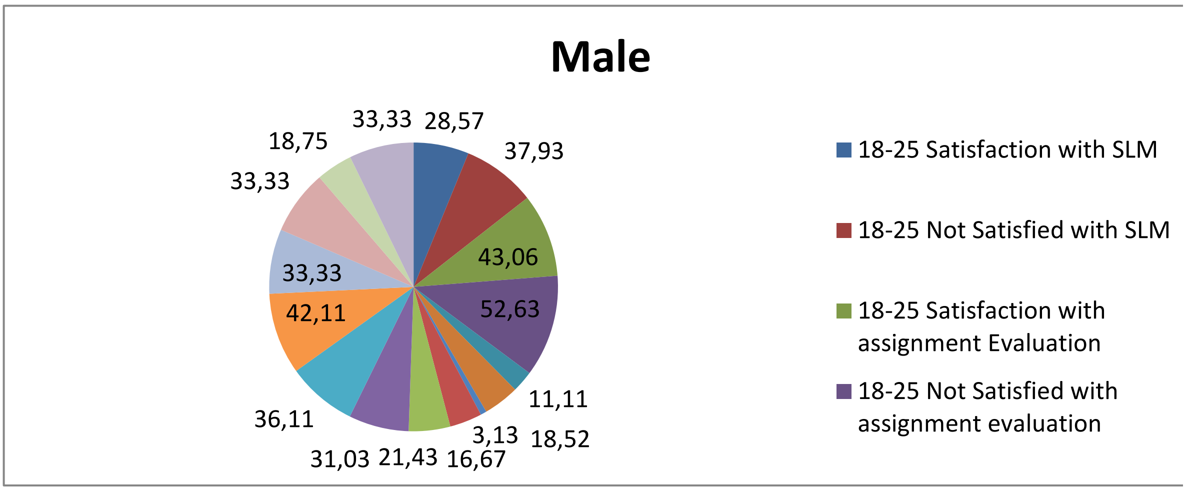


Fig 6. Satisfaction level of male learners

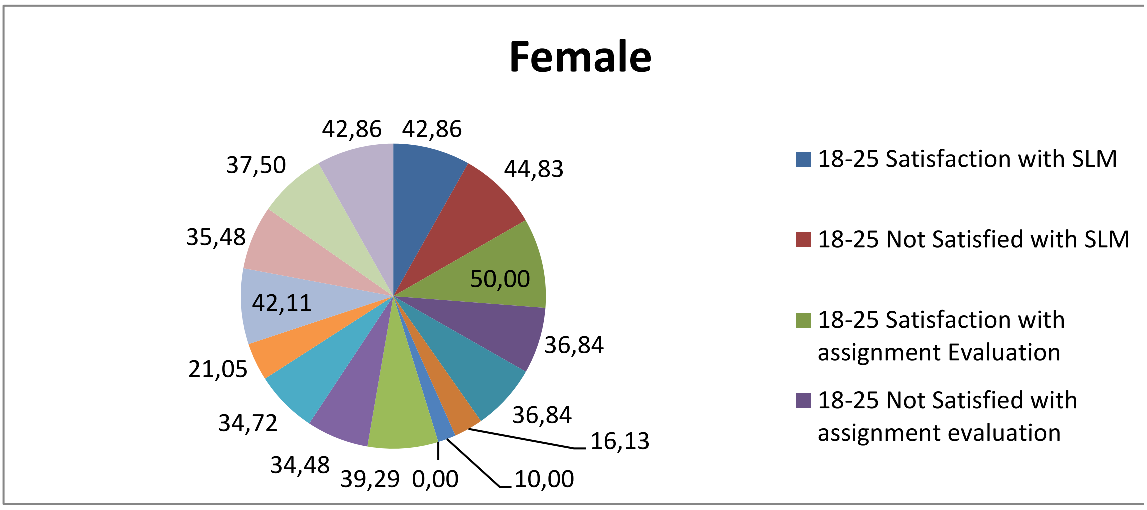


Fig 7. Satisfaction level of Female learners

The data clearly shows that learners were self-satisfied with the all the parameters of the social work programme as offered by the Uttarakhand Open University starting from the assignment to the quality of study material as well with guide book which provides complete description of the field work. Thus, it is clear that ODL provides quality education and opportunities to the learners to carry on their professional degree in pace with their job.

Discussion

Open and distance learning playing a significant role in providing quality and learners friendly education at the doorstep with quality study material to all the sections of the society. ODL provides all sort of facilities to their learners similarly as in the case of conventional method of teaching and learning through different modes of teaching and learning. OLD system of education is one of the effective ways of educating aspiring learners from every corner of world if the quality issues are adequately addressed. With the evolution of new ICT tools and techniques and their integration in ODL has solved the quality issues in ODL to a great extent. In COVID times, majority of the institutions including regular mode based institutions adopted ICT tools and delivered lectures or conducted counselling remotely with a great amount of success. If we could maintain the pace of learning during COVID times, it was possible only because of ODL tools and ICT together. Further, adoption and promotion of ODL becomes more important in Indian scenario because of high population load and also because of cultural, economic and geographic diversity which is limiting for maintaining GER at par with world average. Target of 50% GER by 2035 (NEP 2020) is only possible judicious use of ODL in Indian conditions especially in programmes like MSW.

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EMPLOYEE ENGAGEMENT: A NEW PARADIGM SHIFT FOR WORKFORCE

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ABSTRACT
Employee engagement is now a key factor in organizational growth. In order to gain a competitive edge, business organizations must play a crucial part in luring and keeping the top talent in the sector. Employee engagement has recently got a lot of focus from industry leaders, HR professionals, and research experts. As competition intensified employers recognized the significance of employees to survive and develop in the knowledge economy. In an international setting where constant change is making it challenging to compete, businesses must continue to increase competent employees and productivity. As the only factor remaining to make this happen, employees, this desire to do more is coupled with the mandate to work on employee engagement. Because their performance means to them more than corporate loyalty, engaged employees are more apt to prioritize being able to perform well. Employee engagement has been found to increase when leaders give clear instructions for job performance, giving the workers a feeling of control and clarity over what is expected of them. The purpose of this paper was to identify the essential determinants and effects of employee engagement, as well as the significance of the employee personality traits that assist greater levels of engagement. The main theories of employee engagement were also covered in the report. Every organization is releasing cutting-edge and doable strategies to guarantee that workers are involved to the fullest extent. The strategies, work environment, senior support, career growth, demanding roles, and other variables that affect employee engagement
Keywords: Employee Engagement, Organization, Dimensions, Performance, Relationship, factors, theory, significance.

Introduction

It requires more time, effort, commitment, and investment to improve engagement levels at higher levels and to maintain them. As a result, the employee develops a constructive point of view toward the company and its principles. An engaged employee is aware of the business environment and works well with others to improve efficiency at work for the benefit of the company. The business must encourage engagement, which necessitates a cooperative link between employer and employee. Employee engagement is the emotional dedication an employee has to the company and its objectives (Kevin, 2012). Employee engagement is an emotional state in which workers are enthusiastic, committed, and driven to do their best job. This turns into staff members who contribute their hearts, minds, spirits, and hands to the organization in order to perform at a high level.

Higher or lower levels of employee engagement can have a remarkable impact on a variety of factors, including productivity, ethical conduct, including dishonesty and corruption, customer service, transformation, cost management, and the success or failure of the talent management strategy. It is possible to make a compelling business argument for spending money to raise employee engagement. One of the most recent terms that have attracted enough interest from business organizations in the process of adopting new employee productivity strategies is employee engagement. Even in the unavailability of a common definition and clear conceptualization, business houses have started developing strategies to encourage employee engagement as a result of its rapid rise in popularity (Shanmugam 2012)**.** When employees are engaged and motivated, they are more likely to increase organizational productivity and keep a higher degree of dedication, which increases customer satisfaction. When it comes to employee engagement, revenue, company perception, and business reputation are all on the line. Employee engagement refers to the concept of measuring how satisfied workers are with their jobs, work environments, and performance levels. Because motivated employees are more productive and devoted to their employers, managing high employee morale can be extremely beneficial for any company. High employee engagement levels increase an organization's productivity and success compared to poor employee engagement levels. (Mehta 2013). This study on employee engagement attempted to review different research studies on the topic that were published in a variety of sources. Numerous articles have noted that while workers generally have a high level of engagement, some of them can sometimes seem to be completely disengaged. Numerous studies have concluded that high employee engagement has good cascading effects or associations with employee achievement and the accomplishment of anticipated business goals. The review aims to pinpoint the essential elements and drivers of engagement. The importance of addressing potential critical gaps and engagement drivers would be emphasized. The impacts of numerous interventions on employee engagement are outlined. The current research work has extensively examined the medium of engagement, character traits of specific employees, research in progressive and underdeveloped countries, a bird's eye view of the current investigation areas, and results. Most study findings have shown a direct correlation between highly engaged workers and high rates of execution, low attrition, and presentation of greater productivity. It is acknowledged that employee engagement investigation is still in its infancy and needs in-depth investigation to reveal its important proportions.

Objectives of the study

1. To analyse the key drivers of employee engagement.
2. Models and theories of employee engagement.
3. To evaluate the main effects of employee engagement.
4. To analyse the key factors that influence employee engagement.

Methodology of the study

The method integrates a researcher's past findings and relevant studies to gain insight into the subject under study. Based on the knowledge gleaned from previous ongoing studies and other researchers' points of view on the subject, it methodically outlines the actions required throughout the research investigation.

Literature Review

Defining Employee Engagement

Employee engagement has been defined by Kahn (1990) as “the use of one’s personal by team members in their roles; involvement includes participants using it and showing their own bodies, thoughts and sentiments while they execute their assigned responsibilities". Employee involvement is characterized as a ones’ intellectual and psychological commitment to a business. (Baumruk 20004, Richman 2006, & Shaw 2005). It speaks of how much control workers have over decisions and actions affecting their jobs. (Frank 2004). "Passion for work" is a definition of employee engagement (Truss 2006). Employee engagement is defined as Corporate responsibility and corporate commitment (Robinson 2004). Research consulting firms have described employee engagement as the desire an employee has to contribute to the success of the business even when it is not asked or mentioned in the employment contract (CIPD, 2007). Employee engagement is the potential of some of them to identify the employee to assume company’s possession and work towards the attainment of the goals (PHRPS Research, 2002). Employee engagement, in plain English, is defined as "going the extra mile" (Roffey Park Institute, 2008).

Finally, a variety of researchers, business organizations, and consultancies have offered their opinions on staff engagement. Some of them only considered the benefits the organization would receive when interpreting the idea. Others concentrate on the reciprocal benefit or the depth of the association made among the individual and the organization. The cognitive state of association and output rate of the employees were two other factors that researchers closely examined. By interpreting the levels of participation at the individual, organisational, and departmental levels, the significance of the idea was increased.

Rheem (2017) there are three levels of employee engagement that could be found at mostly every organization i.e. highly engaged employee, engaged employees, actively disengaged employees. It's interesting to note that various researchers have defined engagement in terms of similar components like participation, degree of dedication, devotion, passion, attitude, and employee behaviour (Macey , Schneider, 2008).

Employee Engagement Factors

Important factors in employee engagement include organizational commitment, people's attitudes, commitment, and voluntary and informal behaviours (Saks, 2006). Work involvement and flow are components of employee engagement (May 2004). A person's level of attachment or detachment will affect their level of involvement. A wide range of specialties and their expertise frequently have a substantial impact on many aspects of employee engagement (Kahn, 1990). Engagement is integrated with the concepts of self-expression and self-employment in motivational theories. Employees who are disengaged put forth mediocre outcomes that are more akin to routine than new ideas and interventions. Employees typically find that they are highly engaged in circumstances that are mentally more comfortable and conducive to adequate psychic protection. Career development, leadership, empowerment, and company image are four highly important global relevant variables, which were described by International Survey Research (ISR) in 2004.

The connection between the engagement and meaningfulness, safety, and availability was favourable. (May 2004). Meaningfulness was benefited by job enhancement and position fit. Co-worker rewards and positive boss relationships frequently have an impact on safety. According to the team standards, self-consciousness has a bad relationship with safety. Resources and psychological accessibility have a favourable relationship. Burnout at work typically results in a steady decline in job involvement. (Maslach 2001). Depending on their degrees of engagement, employees frequently like or dislike their workplaces. (Holbeche & Springett, 2003). Employees have been found to display souring extent of emotional engagement when they have certain evidence about their job development, reliability, and accomplishment of their personal goals. Employee and company relationships are based on engagement. (Robinson 2004). When compared to other sectors, non-profit sectors typically show high levels of involvement. (Perrin, 2003).

Due to the generational change in belief systems, employees in the current era have diverged from earlier era practices. Many years ago, the prevalent trend was lifetime employment with the same company, but this is no longer the case with the younger population. They are adamant about joining a company for a brief period, learning from it, and then moving on to another for greater opportunities. Therefore, for improved outcomes, leaders must abandon their autocratic methods of management, promote employee empowerment, and foster a culture of win-win cooperation.

Impact of Employee Engagement

It's a good notion to encourage employee engagement, and it's always linked to the growth and expansion of the business organization. Better employee engagement levels almost always come at a cost, beginning with the best talent being hired and the time and effort put into nurturing and developing that talent (Johnson, 2004). The purpose of this section is to describe the various effects of investing money in order to increase employee engagement levels within the company. Saks (2006) asserts that there are two main categories for engagement: organizational engagement and work engagement. High levels of engagement have a beneficial effect on involvement levels at the individual and organisational levels (Kahn, 1990). Strong employee engagement is positively correlated with anticipated outcomes like customer loyalty and the company's development chances. Earnings per share increase when engagement levels are greater (Gallup study, 2004).

One of the most important new obstacles in the current environment is getting employees interested in their roles in the organization. It is anticipated that the human resources department will need to develop creative interventions to maintain workers' interest in their work. (Johnson, 2004). Employee involvement has become a crucial idea for the financial success of any business organization that develops moral and open systems. (Levinson, 2007). Increased involvement would improve the company's financial health (Baumruk, 2006). A culture that encourages a high degree of engagement is nurtured in order to build a great organization brand. (Martin , Hetrick, 2006). Numerous studies have shown that higher levels of employee engagement result in higher levels of positive outcomes for the company organization. However, most business organizations have not been successful in putting effective engagement systems into place. Around 400 HR professionals acknowledge that putting employee engagement into practice is a major challenge. (Tasker, 2004). Numerous works have shown that higher employee engagement increases employee productivity. (Lockwood, 2007; Wyatt,2007; Balain , Sparrow, 2009). Higher levels of involvement in business organizations would result in successful employee holding and higher levels of organizational commitment (White, 2008; Sonnentag, 2003). Whether workers are effective brand ambassadors for their employers is a topic of general discussion. It's intriguing that many researchers have concluded that highly engaged workers advocate for or interpret the organization favourably (Scottish Executive Social Research, 2007). Disengaged employees are perceived as corporate terrorists because they frequently criticize the company, its leaders, its goods, and potential recruits for employment. (Penna, 2006).

The traits of a highly engaged and aggressive team made up of outstanding leaders and team members serve as the ultimate litmus test for whether engagement systems have been successfully implemented in the organization. The characteristics of a great team include taking the initiative, exerting constant effort, having an effective and efficient work environment, and modelling and exhibiting synergistic behaviour as a result of the role that involvement plays as a catalyst (Luthans , Peterson, 2002; Bandura,1986). Higher employee engagement levels are readily seen in organizations' higher sales, productivity, and profitability (Hewitt Associates, 2004, Towers Perrin, 2007, Crush, 2007). Change is the norm in virtually every aspect of our lives. Organizational change is very common in today's fast-paced, internationally integrated market. It is generally agreed that greater employee participation would help management and important leaders make the necessary adjustments to the company's policies, procedures, and culture. (Green, 2008).
Employees' overall health and wellbeing, which includes their physical and emotional health, are better at work, which is marked by effective leaders, supportive management, and helpful coworkers. (Mauno 2007).

Dimensions of Employee Personality for Higher Levels of Engagement

Employee personality traits and its many facets frequently have an impact on the general levels of employee engagement. Numerous scholars have investigated the relationship between personality traits and engagement. It has been discovered that proactive and autotelic personalities display greater levels of engagement. (Macey , Schneider, 2008). A significant correlation exists between greater engagement and work self-discipline, locus of control and affective commitment (Maddi 1979). Individuals with low levels of neuroticism who are flexible and adaptable by nature and temperament are more likely to demonstrate greater levels of engagement. (Schaufeli, 1996).

Key Drivers of Employee Engagement

Researchers, business professionals, and academics all offer various explanations for the factors that influence employee engagement. There are differences because there are differences in the market environment, industry alliance, size of the business, legal environment, type of rivalry, etc. It is generally acknowledged that there is no one approach that works for all situations when it comes to researching and applying employee engagement. Organizational culture, leadership development, efficient communications, leadership styles, the extent to which trust and respect have been fostered within the organisation, the company's reputation among various stakeholders, and the emotional commitment of its employees all play a significant role in employee engagement (Lockwood, 2007). Additionally, it is frequently noted that the most important elements are those that foster strong coordination and relationships among co-workers, leaders, and management, as well as faith, honesty, the kind of the job, positioning of sole and organizational performance, the presence of good career development opportunities, and the effectiveness of learning and development programs (Conference board, 2006). The working environment and its features, such as varied work processes, job-related challenges, organisational values, the degree of work-life balance, motivation of a strong and formal instruction flow mechanism, reward/recognition system, and effective and dynamic management, are thought to promote greater employee engagement (Glen, 2006). The type of work that workers do, their relationship with their manager, and the amount of autonomy they have as part of their duties tend to have an impact on how engaged they are at work. (Cleland 2008). The key factors influencing employee engagement include having the ability to provide feedback to higher levels of management, having an effective system for consultation and communication, and the ability and level of dedication of managers and leaders. (CIPD, 2007).

According to research from various nations, the most important factor influencing employee involvement is leadership. The behaviour of managers who have an inborn behavioural culture of respecting and showing positive appreciation for the accomplishments of the employees, assigning the exhilarating and demanding work responsibilities to the employees with adequate training, and the sincere concern and fealty of the leaders have been identified as the four universal drivers of engagement related to leadership. (Kenexa Research Institute, quoted by Wayne, 2008).

Employee engagement levels would rise as a result of organizations' sustained commitment to CSR initiatives, which would give the perception that their business is reliable and considerate of societal needs. (Smith, 2007). Additionally, setting personal development objectives for each employee and providing them with the appropriate chances to achieve them would improve the organization's reputation and increase employee engagement. (Robinson, 2007). An effective policy that supports the attainment of work-life balance is positively correlated with higher levels of employee engagement (Lockwood, 2007).

Theories of Employee Engagement

The two-factor theory

It asserts that certain workplace variables affect job satisfaction while other variables, all which function independently of one another, affect job dissatisfaction by Frederick Herzberg. Employee engagement was strongly correlated with employee motivation and happiness, which has a knock-on effect on both. According to the theory, there are two essential job characteristics that affect work pleasure, while other factors can make a person disconsolate at work. Renowned for being a motivator and a hygiene element. Herzberg has outlined the elements that contribute to job pleasure as well as those that will result in job dissatisfaction.

Self Determination Theory (SDT)

The theory of job engagement Researchers Deci and Ryan developed SDT in 1985, which examined the variables affecting employee motivation. The relationship between employee engagement, human behaviour, and self-determination theory is described as existing naturally. The degree to which an employee has control over their own actions and objectives affects the level of employee involvement. It has been demonstrated that the level of engagement significantly affects the pace of production.

Existence-Relatedness-Growth (ERG Theory)
Alderfer formulated this theory in 1969. According to this theory, availability, meaningfulness, and safety were all related to involvement factors. The frustration-regression principle was introduced to explain how employees behave when their current positions don't meet their needs, such as considering coming back to their previous jobs and authorities. According to the ERG theory, a substantial change in motivation levels will result if an employee's needs are not met because they will either advance or regress, depending on their needs.

Job Characteristics Theory (JCT)
In 1980, Hackman & Oldham created the Job Characteristics Theory. The key workplace traits that raise employee motivation levels were conceptualized in this paradigm. JCT theory's central work dimensions—skill variety, task significance, task identity, autonomy, and feedback—are covered in detail. The JCT strongly emphasizes several crucial psychological ideas, such as the significance of employee accountability, meaningfulness, and produced results. It increased the importance of job redesign, which changed the workplace and further impacted employees' motivation, satisfaction, and success.

Path Goal Theory of Employee Engagement
This hypothesis was created by Robert House in 1996. The corporate lifestyle, employee characteristics, and ways of guidance are all explained by this hypothesis. A huge quantity of engagement is responsible for the leadership's impact on the entire organization. Objectives are attained by the productive workplace.

Models of Employee Engagement
Katz and Kahn's Model (1990)
There are three levels of employee engagement, including hiring the employee and trustworthy behaviour, which guarantees that the employee's conduct exceeds the expectations for performance. Additionally, in the current situation of invention, a comprehensive new set of proactive employee behavioural standards is necessary for the accomplishment of organizational objectives.

The Gallup Q12 Survey Model (1936)
Their level of success and level of engagement were closely linked. Some of the employees are engaged, even though the bulk of them are visibly disengaged. The results of the Gallup study show that highly engaged workers are more likely to be devoted, take on responsibility, put forth great effort to accomplish customer satisfaction goals, and uphold high achievement levels. The Gallup model states that when people's requirements are met, their engagement levels will be high.

David Sirota Engagement Model (2013)
This model explains how to establish unbiased systems and policies that support an equity pay matrix based on employees' performance as well as equal chance for career advancement for all qualified employees. It also discusses how to determine the organization's goals and foster great relationships among the workforce.

Robinson et al. Model (2004)
This model stressed the emergence of a work environment that strongly supports each employee's unique behavioural characteristics, such as encouraging involvement and pride in one's work, which improves performance and increases an employee's wealth.

Saks Model (2006)
Social Exchange theory served as the foundation for the creation of this paradigm. There are significant differences between organizational commitment and work engagement. Job characteristics, organizational and supervisor support, rewards, and procedural fairness are all factors that have a significant impact on engagement.

Say-Stay-Strive Model of Engagement (Aon Hewitt) (2001)
This model stressed how six key factors, including work, people, opportunities, total rewards, business practices, and quality of life, shape employee engagement experiences. Say, Stay, and Strive are three crucial engagement results. Business results like talent, operational, customer, and financial outcomes are among the three crucial components for total employee engagement.

Schmidt Model of Employee Engagement (2004)
The model covers the employee life cycle in the company and goes into detail about factors like physical wellness and giving enough resources to encourage work engagement.

Findings

- Strong organizational dedication, attitude, attachment and detachment, voluntary and involuntary behaviours, work involvement, self-expression, self-employment, meaningfulness, safety, and availability will lead to high levels of employee engagement. A positive supervisor-employee relationship, cognitive drivers, emotional engagement, value creation, behavioural engagement, an engaged leadership team, the nature of the work, chances for career advancement, and change management would also contribute to this outcome.
- Two-factor theory, ERG theory, Self-determination theory, Job characteristics theory and Path goal theory were the key employee engagement theories.
- Katz and Kahn’s model, David Serota model, Gallup Q12 survey model, Robinson model, Saks model, Say-Stay-Strive model, Schimdt model played an important role in the conceptual model development for employee engagement.
- Employee engagement significantly influenced the organization's growth prospects in terms of loyalty, high earnings per share, moral and open systems, financial wellness, brand image, favourable outcomes, increased employee productivity, support for positive interpretation, and crucial change management.
- Employee engagement is primarily influenced by cognitive factors, emotional and behavioural engagement, trust and integrity, the nature and characteristics of the work, opportunities for career advancement, and change management.

Conclusion

There is no question that the HR division and the entire business organization are focusing heavily on employee engagement. Performance, contribution, personality, and working styles of engaged workers have changed the organization and led to greater advancements. Engagement takes place at several levels, including the organizational, job, and individual levels. Numerous organizations have implemented the best workplace practices and policies to support their workers' on-going engagement motivation. Experts, stakeholders, employees, and management work together to create and execute effective employee engagement programs. Engaging employees at the highest levels and ensuring that all required interventions will encourage engagement and effective performance is the best way to manage employees and their performance. It is common knowledge that it is challenging to replace a seasoned employee's core skill set.

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ENHANCING NINTH GRADE STUDENTS' PERFORMANCE IN CHEMISTRY THROUGH COGNITIVE STRATEGY

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ABSTRACT
The present study is aimed to investigate how ninth grade students performing academically in the periodic classification of chemistry were affected by their cognitive strategy (mnemonics). For direct investigation, research hypotheses were developed. Pre-test-post-test, randomized, quasi-experimental design was employed in the investigation. For the study, 76 secondary school students from the public higher school in the Salem Education District, Tamilnadu State, were recruited. While the control group received regular instruction, the treatment group's students learned periodic classification utilizing a cognitive strategy. Using Cronbach's alpha approach, the reliability of the chemistry achievement test was calculated and came out to be 0.89. The experimental and control students received the same courses for two (2) weeks. In order to determine how the treatment affected students' performance, data were gathered using a chemistry achievement test. A 0.05 significance level paired sample t-test was used to analyze the data. Results showed that the treatment group taught using mnemonic aids (Cognitive Strategy), performed better on average than their control counterparts, who were trained using the conventional approach. Teachers should use mnemonic devices to help students remember chemistry concepts, as this will facilitate more flexible learning.
Keywords: Chemistry, Cognitive Strategies, Memory, Mnemonics, and Periodic Table.

Background of the Study
Learning the name of an object in the sense of an imprint is completely different from learning the meaning of that name. This last expression implies the attainment of a concept, described previously. Teachers familiarize themselves with the difference between "knowing the name of something" and "knowing the meaning of that name". The student knows a label when he can simply provide the name of a particular object. To know this object as a concept, it must be able to identify examples and non-examples used to denote and delimit classes. The name of a concept is often learned when the concept itself is learned or just before that time (Toit , Kotze, 2009; Al Ghraibeh, 2012). While the task of learning names can be easy for one or two objects at a time, the difficulty increases rapidly when learning different names for many objects or names for many objects at the same time. Such a situation arises during learning when students are asked to name a group of plants, a group of leaves, or all members of the president's cabinet (Lah, 2018). It is fair to say that students who participate in such tasks will memorize names, but this does no harm, and students generally enjoy doing it. In any case, learning labels is a very useful activity. Among other uses, it establishes the basis for communication between learners and teachers or between learners and textbooks.

The teacher's problem in science instruction is to provide tangible examples to explain things that pupils cannot see in order to ensure that they fully understand abstract concepts. Students' ability to accurately portray relationships between abstract notions in symbols, formulas, and graphs appears to depend on their ability to establish links between actual events and abstract phenomena (Johnstone, 2000). Recurrent priming and the creation of connections between tangible circumstances and abstract concepts appear to be crucial in helping students develop their problem-solving skills in science. To use chemistry education as an example, pupils are already familiar with the concept of burning when they cook potatoes without adding any water. This prior understanding could serve as a basis for explaining what transpires during heating (ignoring oxygen): sugar can transform into carbon and tar, among other things. Teachers can help students understand how real-world experiences relate to classroom science instruction and coach them through logical procedures to develop an understanding of and resolve issues relating to the origin of oil. Teachers must encourage the creation of solid connections between knowledge of specific circumstances and abstract concepts when scientific information is delivered over more extended periods of time. Science teachers need to be aware of memorizing techniques that help students efficiently reproduce connections between applicable basic principles and situational knowledge if they are to support students in their learning. The capacity of students to recall this type of "declarative knowledge" not only aids in their comprehension of previously covered content. It might improve students' ability to comprehend the nature of science-related issues.

As issues in science are studied for a longer period of time, teachers must promote and strengthen the connections between understanding concrete situations and abstract ideas. (Walsh, 2022). Teachers must be knowledgeable about teaching strategies that enable students to successfully reconstruct the relationship between pertinent principles and situational information if they are to support students in their learning. A student's ability to understand new and relevant learning material is called declarative knowledge (Schacter, 2007). This makes recall easier. This can improve students' ability to analyse the nature of scientific problems. Over the past few decades, the applications of memory-enhancing strategies have been studied with different grades of students who frequently experience academic failure. These types of strategies have been very effective in improving memory for selected content. The learning of content can often be aided by the use of mnemonic techniques, most of which have been known for many years. This strategy often yields significant improvements in paired associate learning.

Concept of Mnemonics

The fundamental ideas were devised by Greek philosophers over a thousand years ago, and they are still used today in a variety of methods, from easiest acronyms to advanced methods that allow individuals to recall certain concepts and numerals by encoding them into special phrases and words. Modern memory research (Scruggs , Mastropieri, 2000; Bakken , Simpson, 2011; Pals, 2018) has amply demonstrated the effectiveness of mnemonic aids as learning aids in a variety of circumstances, including the memorization of lists of names and things. Previous research (Lubin , Polloway, 2016) believed that these techniques improved memory by taking advantage of natural mnemonic processes such as semantic mapping, visualization, detail coding, and organization. Other studies (Tullis , Qiu, 2021) have provided detailed explanations of the mnemonic technique, its underlying mechanism, and how to use it effectively in a learning context.

There are many different kinds of mnemonic techniques that teachers might implement in their classes. They include verbal mnemonics, visual mnemonics, physical response mnemonics, spatial mnemonics, and linguistic mnemonics. Linguistic mnemonics are peg word and keyword techniques that include associating brand-new ideas with well-known words and/or expressions to aid with memory. Spatial mnemonic is a position and fingering method that involves connecting a new concept with a commonplace, a familiar pattern, and fingers to help remember the concept. A visual mnemonic technique that uses symbolic or pictographic symbols to make connections with concepts. Physical mnemonic is the use of body parts to aid in memory, through movement or physical sensations. Speech methods are used as grouping, semantic organization, or narrative to help students remember concepts.

The important distinction is the difference between single-use and repeated-use mnemonics. Thus, a single-use mnemonic helps to remember a specific event (e.g. the acronym VIBGYOR for remembering the seven colours of the rainbow), while a repeated-use mnemonic is a cue to store different information on different instances (e.g. method of loci and learn a mind map of types of matter). Another division is between organizational and coding mnemonics. Organizational mnemonics provide a structure for unorganized concepts, such as the example above, providing learners with a retrieval plan to memorize all necessary items. While mnemonic encoding involves re-encoding information into a more understandable format.

Mnemonics as a Cognitive Strategy

The connection between working memory and long-term memory mediates the capacity to store and access memory. Working memory is the short-term holding of information that has recently been retrieved or perceived. Although it can be remembered for a long time by using it repeatedly or by using repeatedly effective tactics, it is transient. Although many different factors are associated with memory, declarative memories work best when using mnemonics with memory and active recall. The use of such rehearsal techniques is inevitable when designing learning and teaching methods to retain long-term memory. According to Chun and Turk-Browne (2007), working memory is not considered independent storage. Instead, it is thought to be the manifestation of memories that are sent from long-term memory to other sections of the brain.

Does Mnemonics Go Beyond Rote Memorization?

Mnemonics have been criticised for just serving to improve memorising and failing to support higher-order cognitive abilities like understanding and knowledge transfer. These criticisms can be addressed with two categories of research outputs. First, according to a number of studies (Azmi, Najmi, and Rouyan, 2016; Samuel, 2017; Fasih, Izadpanah, and Shahnavaz, 2018; Pal & Banik, 2014), mnemonics were created solely to improve recall, not to support higher order learning. Although many educators anticipate that their pupils will have a critical, inquisitive, appreciative, and in-depth comprehension of the subject matter. Second, a limited number of studies (Tullis & Qiu, 2021) have argued that memorization can directly support higher learning. For instance, research by Pals (2018) demonstrated that memory performance was enhanced on a vertical connection between the groups receiving treatment compared to the non-treated group.

Objectives of the Study

1. To compare the mean pre-test scores of control and treatment groups.
2. To compare the mean post-test scores of control and treatment groups.

Hypotheses of the Study

H1: There will be a significant difference between the pre-test means of the control group and the treatment group for the periodic table in chemistry.
H2: There will be a significant difference between the post-test means of the control group and the treatment group for the periodic table in chemistry.

Materials and Methods

Based on the objectives of the study, a quasi-experimental quantitative research approach was used. The experimental subjects were divided into two homogenous groups at random: control and treatment. For the study, 36 male and 36 female ninth-graders from a public higher secondary school in Salem, India, were chosen as participants. The G. C. Ahuja group test of IQ was used to confirm the participants' uniformity. The students in the intact classes were then split into a treatment group and a control group based on how well they performed on the intelligence test.

Instrumentation and Experimental Procedure

The techniques and instruments that followed were used to accomplish the study's objectives:

G. C. Ahuja Group Test of Intelligence – the test was devised to meet the pressing demand for a group and was developed by Ahuja (2009) and standardized by establishing reliability (Reliability Coefficient; test-retest method – 0.84 ± 021 and split-half method – 0.974 ± .003) and validity (item and empirical validity). The test is designed to evaluate students' general mental abilities who are between the ages of 13 and 17 and are enrolled in classes VIII through XI.

Pre-test - Before treatment, an 18-item chemistry achievement test (combination of multiple choice, blank-filling, and true/false) was developed by the investigator as a pre-test to ensure the attainment of the periodic classication in chemistry. A pilot group was subjected to the examination. Using Cronbach's alpha formula, the test's reliability was calculated to be 0.89. The general usability of the chemistry achievement test was confirmed by an item analysis. The item analysis shows that all questions of the test had an item difficulty between 0.300-70 and the item discrimination index between 0.30-40

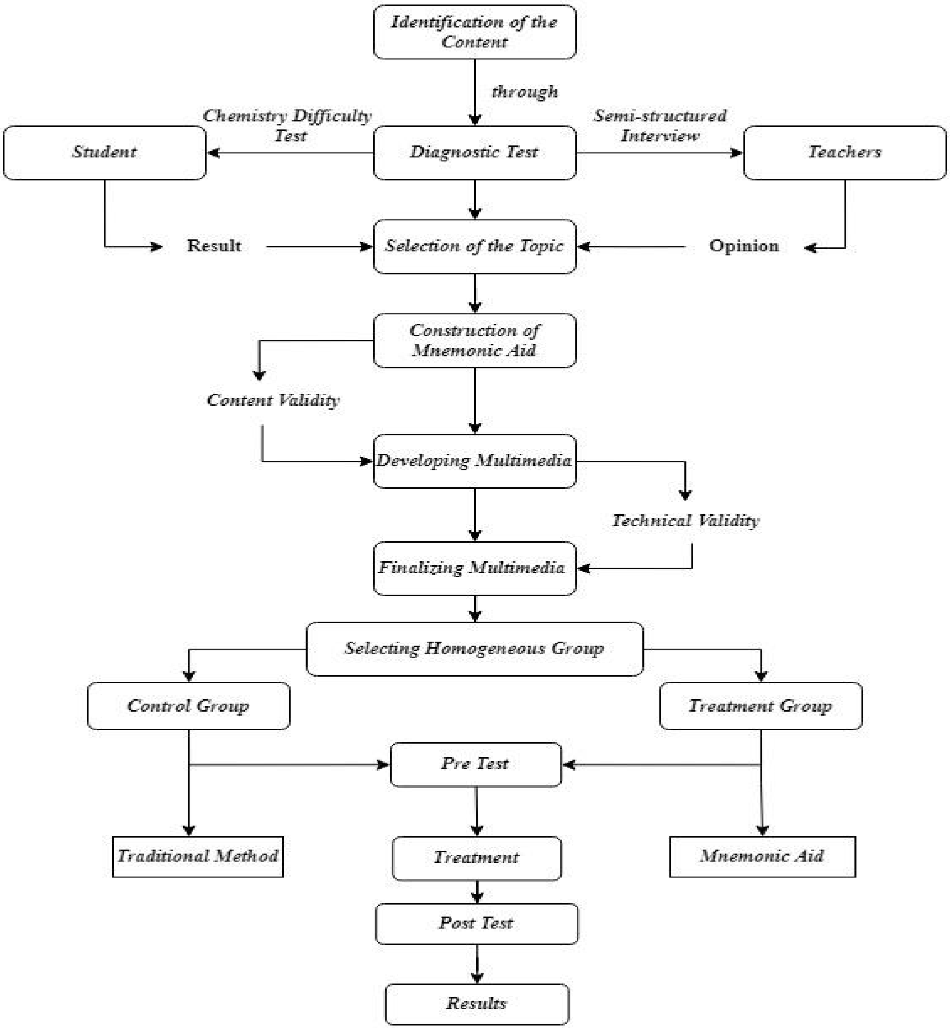

Figure 1. Experimental Procedure of the Study (Devendiran & Hema, 2020)

Item no.	p	r	Item no.	p	r
1	.50	.63	10	.54	.72
2	.36	.54	11	.50	.45
3	.40	.63	12	.50	.45
4	.59	.45	13	.59	.45
5	.54	.36	14	.68	.36
6	.63	.36	15	.40	.45
7	.59	.45	16	.50	.45
8	.46	.36	17	.54	.36
9	.54	.72	18	.40	.34

Table 1. The item difficulty index (p) and the item discrimination index (r) values of the test items

Mnemonic Aid - There are 118 elements in the periodic table. Mnemonic aid is considered essential for all these as it is a bit difficult to remember them easily. In this study, mnemonic aid has been constructed for all the seven series in the periodic table in ascending order of atomic number. A total of 6 sets including two sets for f-block elements were constructed and given to the students. Among these, set 3 (with atomic numbers 51-57 & 72-80) is arranged to remember the elements from back to first, i.e., arranged in order from atomic number 80 to 51. These mnemonics are in story type so they are easy to remember. Also, to improve memory, mnemonics are interspersed with atomic numbers for certain elements at approximately appropriate places which are given for easy understanding and remembering of the elements. For example, in a set - I, the names of the elements from hydrogen to Zinc (atomic number 1- 30) have been constructed as mnemonics as,

> *"Hi (Hydrogen – H)! Hello (Helium – He)! Lithish (Lithium – Li), BBC (Beryllium, Boron & Carbon – Be, B &C) …….."*

In f-block elements, following mnemonics is been developed for the actinides (atomic number 90-103),

"Thora (Thorium - Th), Protogenia (Protactinium - Pa), Uranus (Uranium - U) Neptune (Neptunium – Np) and Pluto (Plutonium – Pu)……….."

Apart from this, separate mnemonics have been created for each of the 18 groups of the elements in the periodic table and the atomic numbers of the elements are included in them. Specifically, for d-block elements (four rows) have been constructed by separate mnemonic For example, the second row of the d block elements are arranged as follows

> *"Yudhika (Yttrium - Y) Zara (Zirconium - Zr) Nia (Niobium - Nb) and Molyb (Molybdenum - Mo) all went to Deccan (Technetium - Tc) theatre……………….*

The mnemonics thus developed were presented to the pedagogical and subject experts and their opinions were sought. The final form was developed with some changes suggested by them. These mnemonics were converted into a video with suitable animations and then technical and content validity were done. It was used for experimental study after carried some changes suggested by the experts. The length of this video package is 00.27.07 hrs. It is also provided to the students as a basic mp4 le to support all devices.

Ethical Procedure and Treatment - The permission of the Chief Educational Officer was sought after ensuring that the school selected for the experiment has the necessary facilities. After getting permission from the authorities the selected students were clearly instructed about the aim of the study. And also assured that all the details collected while experimenting would be kept confidential. We also sought the willingness of students to participate in the study. After all the students in the class agreed to participate as volunteers they were divided into two groups administering an Intelligence Test. It was found that both groups contained about equal amounts of boys and girls. While the students in the control group were taught using conventional methods, the students in the experimental group were taught utilizing mnemonic aids. The class met for 70 minutes each session, four times per week. Within the allotted time for the study, all of the content was taught. The present stage of the study lasted two weeks and involved eight class hours.

Post-test - At the end of the experiment, the chemistry achievement post-test was administered to the two groups to compare their learning achievement.

Results of the Study

Hypothesis- 1: There will be a significant difference between the pre-test means of the control group and the treatment group for the periodic table in chemistry.

Group	Test	N	Mean	Standard Deviation	Mean Difference	t-value	p-value
Control Group	Pre test	36	18.89	4.7	0.08	0.069	.946
Treatment Group		36	18.81	4.9			

Table 2. Paired t-test of pre-test scores

As is seen in Table 2, the pre-test on the achievement of control and treatment groups was compared. In the result of paired t-test, the difference between the achievement of the groups is considered statistically not significant (t=0.069; p=.946). Therefore the two groups do not differ significantly in their Achievement of periodic classication in chemistry. So it is inferred that before the treatment the two groups were more or less the same performance.

Hypothesis- 2: There will be a significant difference between the post-test means of the control group and the treatment group for the periodic table in chemistry.

Group	Test	N	Mean	Standard Deviation	Mean Difference	t-value	p-value
Control Group	Post test	36	54.75	10.12	14.86	5.85	.000
Treatment Group		36	69.61	10.37			

Table 3. Paired t-test of post test scores

As is seen in Table 3, the post-test on the achievement of control and treatment groups was compared. In the result of paired t-test, the difference between the achievement of the groups is considered statistically significant (t=5.85; p=.000). The said difference occurred in favour of the students in the treatment group.

Discussion

The results of this study have demonstrated that mnemonics are more successful at raising students' proficiency in chemistry-related material. The findings showed that mnemonic help outperformed conventional teaching methods in terms of the mean scores. The study proved the value and tremendous impact that mnemonics had on students' achievement, particularly with regard to the periodic table of elements. Because mnemonics effectively create a cognitive architecture for students to remember factual knowledge. Additionally, it would help pupils who might have trouble remembering things in their minds. Additionally, it affects how students perceive new knowledge and determine whether kinds of facts are important or not. Based on the results, it has been suggested that teachers use mnemonic techniques in their instruction to increase students' positive attitudes towards chemistry, and that they train the students to create their own mnemonics. Additionally, it aids in the conceptualization and perception of complex problems. As a result, it encourages creativity, making it possible to develop answers to any given challenge. Research done earlier in the field has shown mnemonics as an important memory enhancement strategy. It is evidenced by the research studies conducted by Akinsola and Odeyemi (2014), Maghy (2015), Anandhi and Raja (2015), and Cecilia, Joseph & Joy (2017) which showed a significant effect of mnemonic aid on academic achievement of various subjects. According to the American psychology students evaluated by Richmond (2011), the results showed that the students who used the mnemonic strategy performed better than their peers in terms of immediate recall, delayed recall, and higher order thinking. Anandhi and Raja (2015) studied that teaching with the mnemonic technique was more effective than the conventional method for teaching science and mnemonic techniques helped in the retention of learned materials. The results of this study can be seen as supporting the studies of Amoli & Karbalaei and Holden. Amoli & Karbalaei (2012) report that learners can improve their ability to remember new concepts over the long term if they use different memorization strategies, such as visual methods containing pictures. Similar studies that support student academic progress and retention were carried out in Nigeria (Adepoju, 2014; Cecilia, Joseph & Joy, 2017; Ntibi & Neji, 2018). Mnemonics is a useful teaching tool for chemistry since they motivate pupils to study the subject. Furthermore, Holden (1999) expressed that learners have to imagine a scene or an image through the mental image that has a strong connection with the concept or things related to them to remember. Students can retain ideas more quickly by exchanging and discussing visual experiences of concepts with one another.

Conclusion

Cognitive strategies boost self-assurance and give students an extensive understanding of chemistry principles and the rationale behind many things. Learners can deepen their understanding of existing ideas and knowledge through cognitive learning. Because of this, when a student acquires something novel, it is added to what they already know and their knowledge is thereby improved. Instead of rote memorising, the technique promotes immersive learning and understanding of new ideas and information. It supports the use of problem-solving techniques in pertinent circumstances and aids in their promotion.

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ENHANCING SECURITY AND ACCESSIBILITY IN ATM CARDLESS CASH WITHDRAWAL TRANSACTIONS WITH SMART CONTRACTS

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ABSTRACT
The widespread adoption of mobile banking and internet banking has led to a need for enhanced security measures in universal banking applications to protect customer credentials. Despite the trend towards cashless transactions, cash withdrawals from ATMs remain a necessary component of banking services. In the cash withdrawal process, there are three key stakeholders: the customer, the payment gateway, and the bank. While national and international payment gateways facilitate transactions between customers and banks, they introduce a centralized third-party that increases the risk of data breaches and other security threats. The aim of this research is to propose a solution that eliminates the ATM card, centralized third-party and instead utilizes a decentralized digital ledger through the use of smart contracts to safeguard customer credentials. A survey was conducted to assess the level of adaptability of the new Smart Contract-based, cardless ATM cash withdrawal system.
Keywords: Cash withdrawal, Data breach, Smart contract, Smart Mobile Banking Application (SMBA).

Introduction

Automated Teller Machines (ATMs) have become an essential aspect of the banking industry, providing millions of people with convenient access to cash globally. However, ATMs are vulnerable to various security threats such as fraud, skimming, data theft, and cybercrime, similar to any financial system. The process of cash withdrawal, when a customer initiates a cash withdrawal transaction, they insert their debit or credit card into the ATM, which verifies the card's validity and the status of the customer's account. Once the customer enters their PIN, the ATM checks the availability of sufficient funds in the customer's bank account, and if available, the cash withdrawal is processed through the payment gateway network. The payment gateway system verifies the transaction credentials and then dispenses the requested amount while updating the account balance to reflect the transaction.

To obtain a credit or debit card, a customer requests one from their bank, which then sends a request to a third-party. The third-party then issues the card to the customer, and it is linked to the payment gateway system. The payment gateway, also known as the third-party, acts as a link between the customer and the bank, processing the transaction securely by communicating the data to the individual bank. This payment processing infrastructure is cost-effective for banks as they do not have to form their payment processing systems. This third-party payment network enables customers to withdraw money from any part of the world, providing one of the primary benefits of including a third-party payment network in the banking system.

Blockchain, the advent of blockchain technology gained traction with the introduction of blockchain 2.0 by Ethereum. While it first gained recognition through the implementation of cryptocurrency systems, such as Bitcoin in 2008, a blockchain is essentially a digital ledger that is distributed and decentralized, enabling transactions to be recorded across a network of computers. This eliminates the need for a central authority and allows multiple parties to reach consensus on the state of a database. Transactions on a blockchain are recorded as "blocks" that are connected together to form a permanent and unalterable chain. This provides a high degree of security and trust in the system. Blockchains have various potential uses beyond cryptocurrencies, including tracking the movement of goods, verifying the authenticity of documents, and facilitating secure voting systems. As noted by Wood (2020), blockchain technology operates as a distributed transaction ledger that is shared between nodes on a peer-to-peer network. Angelo and Salzer (2019) further emphasize that the data stored on a blockchain is shared among nodes on the network. Smart contract code analysis tools also vary with advances in technology. Overall, the implementation of blockchain technology has the potential to transform the way we store and exchange information, conduct business, and interact with one another.

Smart contract, the introduction of smart contracts has significantly expanded the capabilities and applications of blockchain technology. Smart contracts offer a promising future for security in various fields. Essentially, a smart contract is a self-executing agreement that is directly written into a piece of code, and stored on a blockchain network. By allowing for the automation of contract execution, smart contracts can facilitate, verify, and enforce the negotiation or performance of an agreement, especially on blockchain-based platforms.

Pierro and Rocha (2019), ethereum is a decentralized and open-source blockchain platform that was specifically designed to run smart contracts. Transactions on the Ethereum network are completed by miners, who charge gas fees for each transaction.

Li. (2020) further explained that the gas fees charged to customers can determine the speed of a transaction, with the option to choose between fast, medium, or slow. Miners then verify and include these transactions in Ethereum blocks, with the urgency of the work determined by the gas price value associated with each transaction. However, miners are limited by the maximum gas limit per block and can only comprise a certain number of transactions in each block.

Objective of the study

1. To explore the feasibility of using smart contracts in eliminating payment gateways from ATM cash withdrawal.
2. To identify the feasibility and adaptability of the proposed smart contract-based ATM cash withdrawal.

Literature review

Hughes (2019), the impact of decentralized ledger technology has been tremendous across various domains. It has revolutionized the architecture of the internet, introducing new perspectives, techniques, and tools.

Lacity (2018), Erceg (2020), Joo (2021), Rejeb and Bell (2019), Khatoon (2020), Kamilaris (2019), Shah (2022), and Buyukbaskin (2020), have also noted the profound social impact of decentralized ledgers on various fields, including computer science, economics, law, business, tourism, commerce, landing systems, healthcare, supply chain management, finance, government voting systems, e-voting, and many more. This raises the question of how blockchain implementation affects functionality, benefits, and impact across different domains. Moreover, Kemmoe (2020) classifies the advancement work in smart contracts between 2017 and 2020 into four categories: cryptography, access management, social applications, and smart contract structures. This paper aims to discuss the current developments in smart contracts and their widespread utilization.

Yang (2019), a combination of blockchain and smart contracts was implemented into lending systems. This proposed system provides several benefits, including increased security and ease of loan processing, as well as improved supervision and standardization of management behavior. Pustisek (2020) employed a blockchain-based multi-tenant 5G application prototype for a smart grid system. Backman (2017) proposed a blockchain-based 5G network slice broker system aimed at reducing service time and enabling engineering equipment to autonomously and dynamically acquire the necessary slice for more efficient operation. The 5G network lease is executed on a network operator who maintains a record of each transaction in a slice ledger.

Reyna (2018) combining IoT and blockchain can enhance data security across various networks. By utilizing this combination, the scalability of the decentralized system can be improved while ensuring more security. This integration can also facilitate effective device authentication and management. Additionally, the blockchain technology can enhance data integrity, enable micropayments, foster sharing services, facilitate data monetization, enable autonomous device operations, and improve the security of various types of transactions.

Kim (2017) the use of blockchain technology to enable mobile charging of electric vehicles. Meanwhile, Kang (2017) has developed a blockchain-based petaelectronvolt (PEV) charging system that enables energy transfer between electric vehicles in peer-to-peer (P2P) mode.

Zhang (2021) developed an Attribute-Based Access Control (ABAC) framework for smart cities. By utilizing Ethereum and smart contracts, the model is capable of managing ABAC policies, attributes of subjects and objects, and access control.

McCorry (2017) created an ethereum-based Open Vote Network that has been tested on the official Ethereum test network with a cost of $0.73 per voter. The model was able to support up to forty simultaneous voters. Patient data is a valuable asset in the healthcare sector. Duong-Trung (2020) have developed and tested a patient-centered healthcare system that utilizes blockchain and smart contract technology. The system effectively coordinates between doctors, patients, nurses, medical staff, insurance providers, and more, using six different algorithms to synchronize data between system components.

Yang (2021) developed ring signature algorithms. This algorithm helps in securing IoT device data transmission on blockchain networks and performing smart contract transactions while maintaining the anonymity of the initiator. The algorithm hides the unique device and its address on the blockchain network, ensuring the overall security of the process.

Liu (2020) proposes a novel supply chain model based on blockchain and smart contracts to tackle issues in the Supply Chain Matrix (SCM) system. The benefits of using smart contracts in SCM include cost reduction, value enhancement, quicker turnover, easier financing, stronger risk management, and seamless integration with advanced technology.

Buterin (2014) smart contracts and their ongoing implementations have proven to be useful in all domains.
Malavolta (2017) focused on enhancing privacy and concurrency in payments channel networks. Smart contracts have become an essential tool in various domains due to their ability to store data, process inputs, check conditions, and generate outputs. These contracts can be easily implemented on the Ethereum network, providing a convenient platform for their execution. Bogner (2016) developed a decentralized application on the Ethereum blockchain to facilitate the sharing of everyday objects without requiring a trusted third party. Through the use of smart contracts, tool owners could register and retrieve their objects, while renters could rent out the objects of their choice.

Rejeb, Keogh (2021) conducted a SWOT analysis on centralized and decentralized ledger systems for the money supply process. The authors concluded that centralized ledger systems are ideal for recording financial transactions, while decentralized ledger systems are expected to become increasingly significant in the future of finance and may disrupt financial transactions.

Rahmadika (2018) discovered that financial records are currently centralized and are produced, regulated, and maintained by a central authority. On the other hand, Morgan JS (2017) found that decentralized ledgers with smart contracts could help banks maintain secure transaction ledgers.

Xu (2020) found that decentralized ledgers are specific data structures maintained by numerous parties through a consensus protocol, and each party has a copy of the ledger.

Smart contracts have distinct characteristics such as verifiability, distributed nature, and self-enforcing capabilities, which enable them to encode and execute business rules in a peer-to-peer network. With the absence of a trusted central authority, each node in the network has equal power. These features are likely to transform many traditional businesses. In this regard, we propose a model that uses smart contracts for the ATM cash withdrawal process.

Research methodology

1. Analyze the problem: Identify the problems associated with the ATM cash withdrawal process.
2. Understand the new system requirements to address the existing problems.
3. Design new system: Design a system architecture for the smart contract-based ATM cash withdrawal using Smart Mobile Banking Application (SMBA). The design should cover the components, their interactions, and utilizing security features of smart contracts.
4. Smart contract development: Develop smart contracts using a suitable programming language such as Solidity. The smart contracts should include the business logic, security features, and transaction details.
5. Integrating new system with ATM network: Integrate the smart contract-based system with the ATM network. This may involve setting up APIs, network protocols, and other necessary components.
6. Testing and deployment: Test the system extensively to ensure that it is secure, reliable, and efficient. Deploy the system on the ATM network after successful testing.
7. Customer education and training: Educate customers about the new system and train them on how to use it. This step is crucial to ensure that customers can use the system with ease and without errors.
8. To assess the feasibility of a smart contract-based system for cash withdrawal from ATM, our research designed and administered an online questionnaire. The study utilized a random sampling method, where a sample of 150 individuals was selected to participate in the survey. The use of a random sampling method enhances the external validity of the study by ensuring that the sample is representative of the population of interest and increases the generalizability of the study findings.

The current cash withdrawal process requires customers to have an ATM card provided by the bank. These cards are associated with payment gateway networks such as Visa, Mastercard, RuPay, etc. which enable customers to withdraw money from other bank ATMs or third-party ATMs. Our proposed system utilizes a smart contract to share customer data from the ATM to the bank server at a specified timestamp, eliminating the need for a Trusted Third Party or payment gateway. All cash withdrawal credentials are recorded on the public Ethereum blockchain and are implemented as indicated. Both the bank and the customer establish the cash withdrawal terms and conditions. Our goal is to increase transparency and eliminate the need for a payment gateway in the process.

Implementation details
The key difference between a centralized and decentralized ledger is that the latter involves a network of interconnected nodes that simultaneously create and store all data on the ledger. The distributed consensus protocol is crucial in the creation of a decentralized ledger, as it ensures that all nodes on the network agree on a unified transaction ledger without the need for a third party.

To implement a novel smart contract-based cash withdrawal system from ATMs, the following steps are taken:

Step 1: Customers install the Smart Mobile Banking Application (SMBA) on their smartphones, as suggested by Pote (2022).

Step 2: Customers initiate cash withdrawals by answering security questions, reach the nearest ATM, scan the QR code generated by SMBA on the ATM, and receive cash from the nearest ATM, as suggested by Pote (2022).

Step 3: A consensus protocol, such as Proof of Stake (PoS), can be used to generate a smart contract for the cash withdrawal transaction, including all credentials and logic.

Step 4: The data is securely communicated over the network using the AES algorithm.

Step 5: The smart contract is created based on the customer's transaction and stored on the blockchain.

The smart contract is written in Solidity, JavaScript is used in combination to interact with and test the smart contract. Ethereum Virtual Machine (EVM) executes smart contracts on the Ethereum blockchain, and JavaScript is used to create the web-based user interface to interact with the smart contract via web3.js.
Using a consensus protocol prevents a single entity from controlling a blockchain or altering the truth of what should be recorded. To make the data more robust, we are securing it with the AES algorithm, as suggested by Lin (2022). To encrypt data during transmission, AES is used to generate a secret key, which is then used with an AES library to encrypt the data. When decrypting data, the authorized party would need access to the secret key and the same AES library to decrypt the data. It's worth noting that AES provides a high level of data security.

Data analysis
In the realm of cash withdrawal, there exist multiple approaches, including physically visiting a bank, using an ATM, or creating an account with N26, which offers fee-free cash withdrawal without transaction limits and an international bank account number for all transactions, including cash withdrawal through CASH26. Each of these methods has its own set of advantages and disadvantages. Our focus is specifically on withdrawing physical money from an ATM, which currently utilizes a payment gateway system. To address this, we propose an alternative method that employs SMBA for cash withdrawal. Our approach eliminates ATM cards, instead we suggest using SMBA. Before customers can proceed to the nearby ATM and scan the generated QR code to withdraw cash, our proposed model performs thorough customer authentication through security questions. The utilization of smart contracts is a crucial aspect of this method, as it replaces the centralized payment gateway system with a more secure and decentralized solution.

Smart contracts are deployed on a blockchain, which is a distributed ledger that records all transactions in a transparent and secure manner. The blockchain uses cryptographic algorithms to ensure that transactions are encrypted and cannot be altered or tampered with once they are added to the ledger. This provides a high level of security, as it is virtually impossible to hack or manipulate the blockchain without the consensus of the majority of nodes on the network.

The complete logic and complex rules related to ATM cash withdrawal transactions via SMBA are implemented in smart contracts. Smart contracts are transparent and cannot be altered once deployed on the blockchain. This ensures that transactions are executed automatically and without any human intervention, reducing the likelihood of errors or fraud. The decentralized nature of the blockchain also ensures that there is no single point of failure, as the ledger is maintained by a network of nodes rather than a central authority.

The security of smart contract-based ATM cash withdrawal transactions can be validated with the help of, encryption, immutability, and automation. It provides a high level of security that is difficult to achieve with traditional banking systems. The table below shows a comparison of Smart contract-based ATM cash withdrawal transaction and Normal ATM cash withdrawal transaction.

Comparison	Smart Contract-based ATM Cash Withdrawal Transaction	Normal ATM Cash Withdrawal Transaction
Security	More secure due to the decentralized nature of smart contracts	Less secure due to the centralized nature of the banking system
Speed	Faster due to the automatic execution of smart contracts	Slower, especially during peak hours
Fees	Potentially lower due to the lack of intermediaries	May be higher due to fees charged by banks or ATM owners
Accessibility	Less accessible due to the need for a cryptocurrency wallet and blockchain knowledge	More accessible with just a bank account and ATM card
Limits	Potentially higher due to the programmable nature of smart contracts	Limited by predefined withdrawal limits set by banks or ATM owners

Table No. 1: Comparison of Smart contract-based ATM cash withdrawal transaction and Normal ATM cash withdrawal transaction.

After implementing smart contract on blockchain, it became evident that raising customer awareness about the importance of smart contract security is of utmost significance. To explore the feasibility of smart contract-based ATM cash withdrawal, we conducted a survey to investigate customers' attitudes towards withdrawing cash from ATMs. The survey aimed to assess the potential shift from the traditional method of ATM cash withdrawal, which involves the use of ATM cards, to a proposed new method of cardless cash withdrawal.

The survey questions were designed to gauge customers' understanding of ATM cash withdrawal processes and related technological concepts such as smart contracts. The survey aimed to identify the extent of the general public's awareness of these concepts and their perceptions of the security of the current ATM cash withdrawal process. To ensure a comprehensive understanding of customer attitudes, the survey questions were framed in a general manner. The below table shows responses of customers of mixed age and gender.

Questions	Yes	May be	No
Are you satisfied with current ATM cash withdrawal process?	30 %	30 %	40 %
Do you think the current ATM cash withdrawal process is secure enough?	30%	10%	60%
Would you like to have a better secure ATM cash withdrawal process?	90%	10%	Nil
Would you prefer cardless cash withdrawal from an ATM?	97.2%	1.8%	1%
Are you aware of Smart Contracts?	64.5%	5.5%	30.0%
Are you aware about the risk of using Smart Contracts?	53.8%	19.5%	26.7%
Are you aware of the benefits of using Smart Contracts?	62.6%	7.5%	29.9%
Are you willing to adopt Smart Contract-based service for ATM cash withdrawal?	63.7%	12.1%	24.2%

Table No. 2: Customers feedback towards change in ATM cash withdrawal process.

The Table No. 2 presents the responses of a survey conducted among ATM users regarding their satisfaction with the current ATM cash withdrawal process, their perception of its security, their willingness to adopt a more secure process, their preference for cardless cash withdrawal, and their awareness, understanding, and willingness to adopt smart contract-based services for ATM cash withdrawal.

The survey results show that 30% of the respondents are satisfied with the current ATM cash withdrawal process, while 30% are unsure, and 40% are not satisfied. Additionally, only 30% of the respondents consider the current process to be secure enough, while 10% are unsure, and 60% do not consider it to be secure enough. Furthermore, a significant majority (90%) of respondents expressed their desire for a more secure ATM cash withdrawal process, while 10% are unsure and none of the respondents are not interested.

The survey also indicates that “The majority of respondents (97.2%) prefer cardless cash withdrawal from ATMs”, while only 1.8% are unsure and 1% do not prefer it. Moreover, the survey shows that while a significant portion of respondents (64.5%) are aware of smart contracts, a considerable proportion (30%) are not aware, and 5.5% are unsure. Similarly, while a majority of respondents (62.6%) are aware of the benefits of using smart contracts, a smaller proportion (7.5%) are not aware, and 29.9% are unsure. Furthermore, the survey reveals that while a significant portion of respondents (53.8%) are aware of the risks associated with smart contracts, a smaller proportion (19.5%) are not aware, and 26.7% are unsure. Finally, the survey results show that 63.7% of the respondents are willing to adopt smart contract-based services for ATM cash withdrawal, while 12.1% are not willing, and 24.2% are unsure.

The results of the survey suggest that,” A significant proportion of the general public lacks a clear understanding of how ATM cash withdrawal works and are not familiar with Smart Contracts”. It also suggested that customer awareness and education about smart contracts are essential to promote their adoption and trust in smart contract-based services, particularly in the context of ATM cash withdrawal. Additionally, addressing customers' concerns about security and errors is crucial to promote the adoption of smart contract-based services. The findings of this study can inform the development of strategies to promote the adoption and use of smart contract-based services in the financial sector.

Limitations

Smart contracts have a significant drawback in that they are challenging to modify and practically impossible to do so. If an error occurs while developing a smart contract, it can be time-consuming and costly to correct. Moreover, due to the limited number of transactions that a blockchain can process at a given time, it may be necessary to conduct an audit of the smart contract, which can be expensive. While using AES can be helpful, incorporating other security measures such as secure key management and access control will enhance the system's overall robustness.

Although the proposed approach provides a broad overview, implementing a secure smart contract-based cash withdrawal from an ATM may present several technical and non-technical obstacles.

Conclusion

Smart contract-based ATM cash withdrawal transactions offer a more secure, transparent, and cardless alternative to traditional banking systems. The decentralized nature of smart contracts ensures that transactions are tamper-proof and not susceptible to fraud or manipulation. Customers have complete control over their transactions, reducing their dependence on banks or ATM owners. The absence of intermediaries, such as payment gateways, in smart contract-based transactions creates the potential for lower fees, making them an attractive option. Despite the potential benefits, accessibility remains a challenge, and further research is necessary to fully explore the potential of smart contracts in facilitating secure and easily accessible financial transactions. The survey results indicate that the majority of respondents desire a more secure ATM cash withdrawal process, and most of them prefer cardless cash withdrawal from ATMs. However, a significant proportion of the general public lacks a clear understanding of how ATM cash withdrawal works and is not familiar with smart contracts. This underscores the importance of educating the public on the advantages and features of smart contract-based cash withdrawal systems to increase their adoption and overall security. Financial institutions and policymakers can leverage smart contracts to design and implement a more secure and efficient ATM cash withdrawal system that meets the needs and preferences of the general public.

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FACTORS AFFECTING CONSUMER SATISFACTION TOWARDS E-LEARNING APPS –GRADUATE STUDENTS PROSPECTIVE

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ABSTRACT
In today's dynamic environment, it is very essential to have a diverse area of knowledge and even companies prefer candidates having such diverse knowledge. Thus, E-learning apps help you to study more and varied courses especially in your free time at the comfort of your home. E-learning apps are widely used by students to gather knowledge and study various courses of their interests along with their main course of study. These apps also provide with certification providing a proof that the candidate has attended the course and also passed the evaluation of the same thereby building their Curriculum Vitae. This study is basically aimed at evaluating the factors affecting satisfaction of the students for E-learning apps especially with reference to graduate students. For this study, the factors considered are price of the courses, quality of the content delivered and brand. The findings of the study showed that price and brand has very significant relationship with consumer satisfaction towards the E-Learning app while quality of content has a moderate relationship.
Keywords: E-learning Apps, Curriculum Vitae, Price, Quality, Brand.

Introduction
India being a country with the highest amount of population within the age bracket of 5-24 which is also the major age bracket where most of the students complete their overall education, there exists a huge opportunity and potential in the education sector. Even after the pandemic began, education sector is one such sector which did not suffer much as compared to others thanks to the online platforms and E learning apps which kept on the flow of learning.

After the United States, India is the second largest market for e-learning. By 2021, the industry is estimated to be worth Rs 14532 crore ($1.96 billion), with 9.5 million consumers. By 2026, the online education market in India is expected to reach Rs 86007 crores (US$ 11.6 billion.). With the rapid growth of the country and rapid digitalization, this sector has a huge growth in future times to come.

Even today the traditional education system in our country is not flexible enough to accommodate the subjects as per the interest of the candidate. Even if a student is not interested in a particular subject, he is forced to learn that. Also, in many cases the syllabus taught is outdated. This is where the e leaning apps helps you to pursue your learning in the subject of your choice. The courses in such apps are flexible and the course can be done as per the interest of the student, the time availability of the student and along with his regular course of study. At the same time doing courses from such apps enhances your curriculum vittae as it proves that as a student the person is keen to learn, ready to go out of the box or out of the regular course of study to explore a particular area of interest.

The success of such e learning apps depends upon the satisfaction of the consumers and hence it is essential for the e learning companies to focus on the major factors that affect the satisfaction of the consumers and work upon that. This will enable them to increase their market share in the industry. This research paper will help to understand the major factors and its relationship with the consumer satisfaction.

Literature Review
Sun, Yeh (2008) conducted a survey to analyse the critical aspects affecting learner's satisfaction in e- learning. The study showed that the learner's anxiety of using computer, the instructor's approach and attitude towards the course, the flexibility, quality, utility, easiness of use and evaluation diversity are major factors affecting learner's satisfaction. Alqahtani, Mohammad (2015**)** studied the impact of mobile applications on the student performance and satisfaction wherein questionnaire survey was distributed to 118 students for evaluating the

performance and satisfaction of using the “Say Quran” app for learning Holy Quran. The findings proved that there was a positive impact on the student performance and satisfaction of Say Quran mobile application. Liu (2018) studied the facets coaxing fulfilment with smart learning app in China. The research revealed that perceived responsiveness which is the quick response to the user demand and perceived content which is the structure of the text becomes crucial factors affecting end user expectation with e learning app. Mason ,Weller (2000) examined about the factors affecting student satisfaction on a web technology and revealed that the support of their tutor, staff or peer students, the time and effort they have to devote and the expectation of the student of the course and learning style are major factors which affects customer satisfaction for a web course. Chen, Rong & Cong (2020) study on user satisfaction with online education platforms in China during Covid 19 pandemic showed that the user’s personal factors do not have unswerving effect on user contentment while platform accessibility is a major factor influencing user satisfaction.

Alenezi (2020) studied the relationship between the teaching and learning behaviour of teachers and students respectively with the use of e learning tools and materials. The study exposed that more the e-learning materials as well as resources used in an educational setting, the better will be the students' performance and the quality of teaching practices. Rao, Palathil (2020) conducted an analysis of customer sentiments towards EdTech apps to understand online customer reviews on platforms like Google Play Store and also the overall sentiments associated with the EdTech apps. The study found that although there are majority of positive reviews there also exists negative and neutral reviews as well. Time to be spent on the app, the quality of question and its addressal, video are some factors on which the sentiments are based upon. Yagami, Park (2021) conducted a research to analyse learner’s continuance intention for online learning in China through a questionnaire. The study found that facility and course eminence and the teacher student interface have a positive impact on continuance purpose. It also found that the perceived value is one of the major determining factor for the online learner’s retention. Hammouri, Abu-Shanab (2018). Conducted a study to understand the factors affecting student’s satisfaction with e learning in Jordan. The results showed that there are five major factors affecting satisfaction which are the professed comfort of use, alleged usefulness, system excellence, statistics quality and smart machine self-efficacy. The study had limitation such that other factors could also be taken, and this study can be done in future in other geographical areas also to confirm this study. Martín, Fernández-Molina, González-Gómez, (2015) in their study analysed the main components of satisfaction with e learning involving students from Spain. They key findings from the study is that the design of the course, the contents offered in the course, the ability to obtain and see material on the teaching platform, as well as the ability to interact, were important features.

Shahjad, Mustafa (2019) did research in to understand the trend analysis on demand of learning apps. Research found that there are various devices but drastic change came in 2014 when people started using the latest technology and not keen to depend on traditional modes. Author also talked about that now generation is very much active on learning apps as they are more friendly and easy to understand. Munkvold (2016) discuss about the consequences of a descriptive study of free smart educational apps in Norway between September 2015 & March 2016, concentrating on the usage of learning apps for better learning. The learning apps meant for students were based on variety of educational segments, criteria of educational method are the app constructed upon, what glassy of the advanced Bloom’s taxonomy acclimate for the app cover and the countless additional values of the e learning app that can be better way compare to traditional way of teaching.

Garwe (2018) did study to understand the role of using smart devices, learning apps, institution updated websites, word of mouth, radio and other mode of advertisement to market and promote the program to potential students. Existing batch students and alumni can become ambassador to interact with potential candidate and can influence the young talent about the quality and standard of education about the college.

Objectives of Study

1) To study the relation between price and customer satisfaction towards E learning apps for graduate student.
2) To understand the impact of Quality Content and customer satisfaction towards E-Learning apps from graduate student prospective.
3) To examine the relation between brand and customer satisfaction towards E apps.

Hypothesis of Study

H1-There is a significant relation between price and consumer satisfaction with ref to e-learning apps.
H2-There is a significant relation between Quality of Content and consumer satisfaction for E-Learning Apps.
H3- There is a significant relation between Brand and consumer satisfaction with reference to E-Learning Apps.

Data Analysis

A) Demographic Analysis:

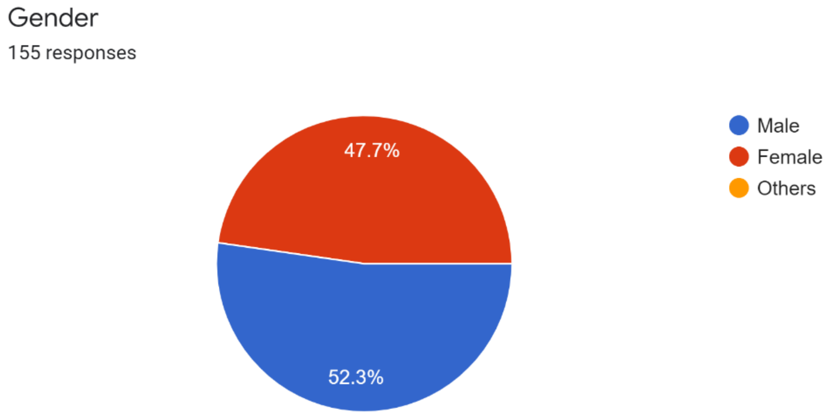

Figure 1 Gender wise description of users

The pie chart shows in the table highlights that out of the 155 users 52.3% i.e., 81 respondents were males and 47.7 i.e., 74 respondents were females.

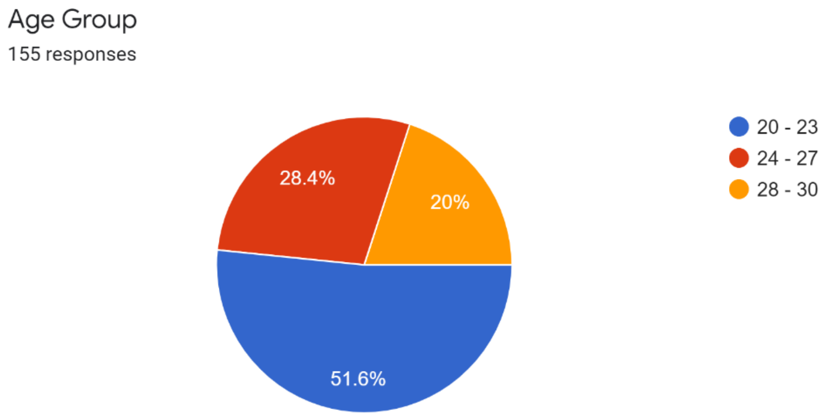

Figure 2. Age Group

The pie chart shows above that from 155 respondents 51.6% i.e., 80 responses were in the age bracket of 20-23, 28.4% i.e., 44 responses were in the age group of 24-27 and 20% i.e., 31 respondents were in the age group of 28-30

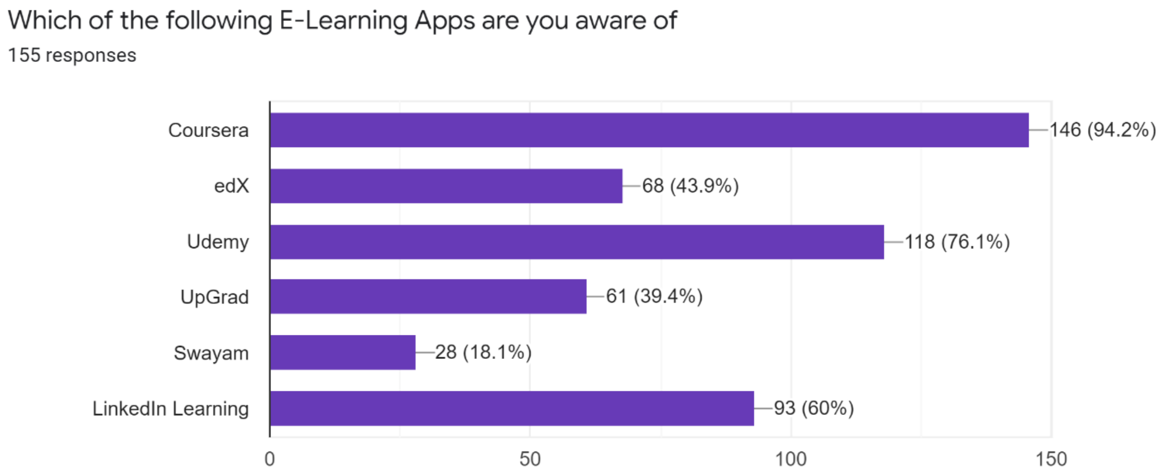

Figure 3 Awareness of E learning apps

The above pictorial description says that majority of the defendants are conscious about Coursera learning app shadowed by Udemy and LinkedIn Learning. Respondents are least aware about Swayam app.

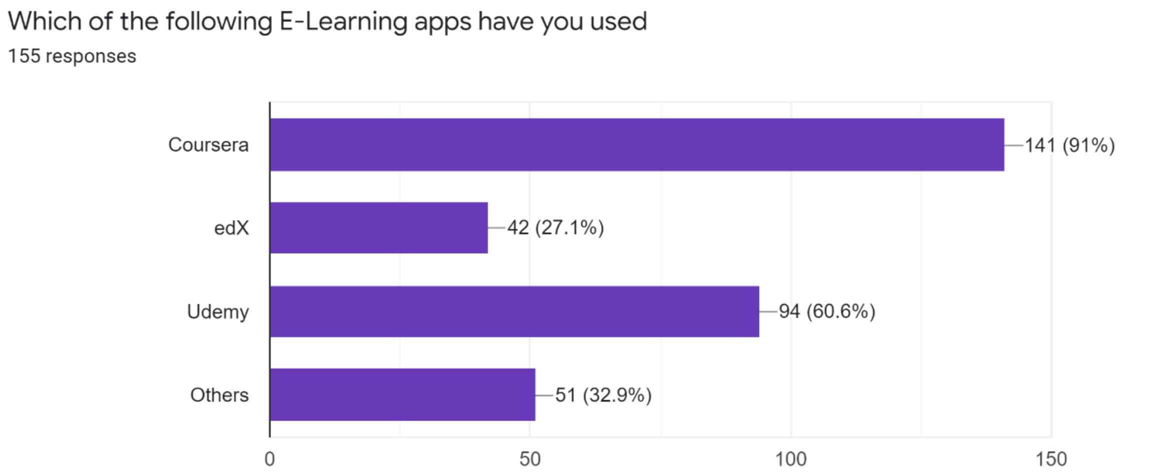

Figure: 4 users of the E Learning Apps

The above chart explains than majority of the respondents have used Coursera E learning app followed by Udemy. edX have the least number of users.

(B) Analysis & Interpretation
The data collected from the each of the independent questions for each variable are summed up and averaged. This was done for the sole purpose of combining responses so that it will be easier for conducting other tests.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Price	.250	155	.000	.795	155	.000
Quality of Content	.203	155	.000	.793	155	.000
Brand	.171	155	.000	.887	155	.000
Satisfaction	.194	155	.000	.881	155	.000

Table no 1 Test of Normality

As the significant value is coming less than .05 so price, quality of content, brand make an impact on customer satisfaction by Shapiro Wilk's Test. ($p < 0.05$). The researcher chose to run a non-parametric test Spearman's Rank Correlation.

H1: - Price have significant relation in increasing the satisfaction level of customer with ref to eLearning apps.

			Price	Satisfaction
Spearman's rho	Price	Correlation Coefficient	1.000	.673**
		Sig. (2-tailed)	.	.000
		N	155	155
	Satisfaction	Correlation Coefficient	.673**	1.000
		Sig. (2-tailed)	.000	.
		N	155	155

Correlation is significant at the 0.01 level (2-tailed).

Table 2 Spearman's Rank Order Correlation

As assessed by Spearman's Correlation, there is strong correlation between price and satisfaction which is 0.673. Also, the significance value (p value) is 0.000 which is less than 0.05 which shows that there is a statistically significant relationship between the two variables that is price and satisfaction level of customer. Hence we accept alternate hypothesis and reject null hypothesis.

H2 **-** Quality of content have positive significant role in customer satisfaction towards E learning apps.

Correlations				
			Quality of Content	Satisfaction
Spearman's rho	Quality of Content	Correlation Coefficient	1.000	.479**
		Sig. (2-tailed)	.	.000
		N	155	155
	Satisfaction	Correlation Coefficient	.479**	1.000
		Sig. (2-tailed)	.000	.
		N	155	155
**. Correlation is significant at the 0.01 level (2-tailed).				

Table 3 Spearman's Rank Order Correlation

As assessed by Spearman's Correlation, there is moderate association among Quality of content and satisfaction which is 0.479. Also, the significance value is 0.000 which is less than 0.05 which indicates that there is a statistically significant relationship between the two variables. As the significant value is in range of acceptance level we accept the alternate hypothesis.

H3- There is a positive significant relationship between Brand of E learning and consumer satisfaction.

Correlations

			Brand	Satisfaction
Spearman's rho	Brand	Correlation Coefficient	1.000	.600**
		Sig. (2-tailed)	.	.000
		N	155	155
	Satisfaction	Correlation Coefficient	.600**	1.000
		Sig. (2-tailed)	.000	.
		N	155	155

Table 4 Spearman's Rank Order Correlation

As assessed by Spearman's Correlation, there is strong correlation between brand and satisfaction which is 0.600. Also, the significance value is 0.000 which comes in acceptable range and indicate that there is a statistically significant relationship between the two variables. So we can say that brand of e learning apps in the market has major role to increase the satisfaction level of customer. Hence we accept the alternate hypothesis.

Correlation Interpretation and results

Spearman's Rank Correlation is used to assess the relation between the variable viz., price and consumer satisfaction, quality of content and consumer satisfaction, brand and consumer satisfaction. One hundred and fifty-five participants were analysed for this study

Initial analysis showed that the relationship between the variables to be linear when the data were not normally distributed, as assessed by Shapiro Wilk's test of Normality ($p < 0.05$) and there were no outliers.

(Hypothesis1) There was statistically significant, strong positive correlation between price and consumer satisfaction, r (155) = 0.673, p = 0.000. Hence, we say that there is a significant relationship between price and consumer satisfaction towards E-Learning Apps

(Hypothesis2) There was statistically significant, moderate positive correlation between quality of content and consumer satisfaction, r (155) = 0.479, p = 0.000. Hence, we say that there is a significant relationship between quality of content and consumer satisfaction towards E-Learning Apps

(Hypothesis3) Its statistically proven that a, positive correlation between brand and consumer satisfaction, r(155) = 0.600, p = 0.000. Hence, we say that there is a significant relationship between brand and consumer satisfaction towards E-Learning Apps**.**

Findings

The survey conducted shows that out of the 155 respondent 52.3% respondents were males and 47.7 respondents were females. The survey conducted shows that out of the 155 respondents 51.6% respondents were in the age group of 20-23, 28.4% respondents were in the age group of 24-27 and 20% respondents were in the age group of 28-30.The study found that majority of the respondents are aware about Coursera learning app followed by Udemy and LinkedIn Learning. Respondents are least aware about Swayam app. The study revealed that majority of the respondents have used Coursera E-learning app followed by Udemy, edX have the least number of users. The study proved that price and brand have a significant and strong relationship and they affect with consumer satisfaction towards E-Learning apps. Quality of Content have significant but moderate relationship with consumer satisfaction.

Recommendations

Price and Brand are the major two factors affecting consumer satisfaction and hence focus has to be given more on these factors along with Quality of Content. From the study it has been revealed that edX has the least number of users and hence it is recommended that company should work to increase its awareness. EdX, one of the company marketing strategy is to focus more on the branding, giving some discount to the users especially the customer who are coming to buy for the first time. Few consumers are aware about apps like Swayam although these apps are made by the Government of India. Hence, awareness should be increased on these apps so that it reaches to maximum students. As per new education policy, students should register in Swayam and get some certification of courses which are under Swayam guidelines. Further Research is recommended using other factors of study and also in other geographical areas. Further research can also be conducted on the impact of these factors on consumer satisfaction.

Limitations

The study is limited to Pune region and only for graduate students as during data collection most of the universities were conducting exams so future research can be done to understand the prospective of post graduate students and more cities can be added to understand the impact of quality of e learning apps in increasing the satisfaction level of students. Further study can be done to understand the parent view as they are the decision maker in this business. So scope of this study can be done to find out the prospective of parent as well as post graduate students with reference to eLearning apps.

Conclusion

The E-Learning industry has gained a great boom especially during this pandemic. But technology and E-Learning is the future even after this pandemic and hence the study of consumer satisfaction towards E-Learning is need of the hour. From this study we can conclude that all the factors namely price, brand and quality of content have a significant relationship with consumer satisfaction. Out of these price and brand have strong relationship while quality of content has moderate relationship.

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FRAMEWORK STUDY FOR SOFTWARE DEVELOPMENT VIA SCRUM, AGILE AND KANBAN

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ABSTRACT
This current research study compares all the three IT methodologies SCRUM, Agile and Kanban for development projects. SCRUM framework is developing projects by dividing bigger development tasks into small development stages known/referred as sprints, whereas Kanban framework is used to schedule the system to manage the flow of work of the software development project solely through visual signals. All three methodologies were examined in this research study to determine their similarities and differences. The study conducted a survey to specify the most preferred methodology by IT professionals based on many parameters in the software development project environment, such as project complexity, levels of uncertainty in the entire project and work load sizes with considerations of various output factors like quality of product, productivity, and delivery of product. The research study shows the flexibility of all the three methodologies, approaching with objectives of Agile, whereas SCRUM methodology has emphasized on the corporation of customers, all the development project teams focus on skills of planning, organization skills, skills of presentation and the review of each module of project that has made it perfect for all new and extreme complex development products of software projects, the involvements of the customers is continuously required, in Kanban methodology it is functioning if in continuous workflow environment within a stable approach towards the software system improvements.
Keywords: Agile, SCRUM, KANBAN, Methodologies, IT professionals.

Introduction
The main focus of any methodology in a software development environment is customers' satisfaction and delivery of a full working product. The agile methodology focuses towards customer's satisfaction through continuous delivery of products in software development projects. The organizations that use or have implemented agile methodology always produce very high quality products and in software development environments. In the software development environment, SCRUM methodology is known as an iterative methodology that depends on principles of agile methods that is included in Agile Manifesto. SCRUM is known as a very light development method in the industry. It provides complete insight of a product and has a capability to adapt quickly, working in small teams; it has tremendous dedicated and very well self-organized teams for software product development. SCRUM methodology has a very strong position which can be seen in terms of visibility, extremely effective processes, and fast phases of development of products, specific roles, collaboration emphasis and mutual understandings among all individuals in all SCRUM teams working for the specific project. Team SCRUM has few roles which are SCRUM master, product owner and team member. KANBAN methodology is known as visual method in software development environment where everything is on the board and that board is known as KANBAN board that shows the entire task of the product to be completed, resources that are required and acquired by the teams and the task completed and pending of each team member is clearly seen on board so the team comes to know who is lacking behind and how to help and motivate them. In the IT industry many organizations have taken advantage of SCRUM, Agile and KANBAN methodologies because it has enhanced the quality and efficiency of the software products. Hence SCRUM is the mainstream of agile methodology in the software development industry. The organizations that have adopted SCRUM, Agile and KANBAN, are gaining extreme benefits in the software development environment, collaboration and correspondence, effectiveness, increased self-confidence in individuals working in a specific team, then improvement in complete groups and product management processes and participation of all the development groups in the organization. In this study, efforts have been made to address the following questions: What are the most influencing factors for the implementation of Agile, SCRUM and KANBAN methodologies from the perspective of the software development environment in the IT industry? Comparisons of Agile, SCRUM and KANBAN methodology?

Literature Review
Callahan (2000), that a tire retailer based in Minnesota, known as Tires Plus specially established a university for organization employees to increase retainer ship rate of organization employees at all stores, to increase organization recruitment and fill managerial and technical positions and improve the employee's performance and career growth.

Mel (2000), the factors that are worthy in employee training sessions and that sessions are constructed on these factors as follows: orientation, management skills and operational skills of individuals to be enhanced. The theories described in this theory are the basic groundwork of any employee development programs of any sectors of industries.

Tore , Torgeir (2008), accepts the requirement changes by users and defines the features of the products by users and developers. The software development team members divide the project's entire tasks into small iterations in order to generate a specific release plan for working phases, which defines each iteration plan to drive their progress. It is famous as agility is extremely flexible and simple.

Ambler (2010), the efficiency of all the resources used to create the product and the needs of every team to provide value to the owner are clearly prioritized in software development. By utilizing several techniques, this strategy aids in the elimination of all waste. It also entails the selection of all essential elements for a product and their timely delivery in small quantities in a functional form.

Moran (2014), its emphasis is on workflow development speed and efficiency, and it depends on trustworthy and prompt feedback from stakeholders to the development team. This approach consistently emphasizes the power of individuals and small teams to make decisions, which has improved the efficacy and efficiency of all operations. All agile initiatives use the DSDM methodology as a standard. It indicates organizational knowledge that increases focus on product quality and risk management.

Mike (2014), achieved enormous popularity in the creation of agile software because it serves as a protective shell for a variety of techniques that other agile methodologies allow. To classify and prioritize all system functionality in a product backlog and sprint backlog, the Product Owner collaborates closely with the SCRUM Master and developers who are SCRUM team members.

Waters (2014), this approach, which has evolved and matured since its inception, provides a thorough foundation for planning, scaling, executing, and managing agile processes. It is based on a few guiding principles, including the need for business collaborations with stakeholders, integrated testing, continuous delivery, focused and empowered teams, and active involvement of story users. SCRUM, Lean Software Development, Dynamic Systems Development Method (DSDM), and XP are a few popular techniques..

Werner, Tytkowska & Bach (2015), approaches based on incremental-iterative programming, the device that enables project teams to develop software using the Agile methodology, and the reason Scrum technique is utilized.

Sikender (2017), DevOps as a cease-to-cease automation in growing and turning in software programs. Even though agile software program improvement methodologies are an increasing number of common, many businesses have discovered that they have now no longer reached a common launch rate, largely due to the diverse departmental capabilities in silos.

Gerbman (2000), all of the goals of individuals and employee’s development programs that will deliver the organization's mission and assist workers in learning the organization's culture and work ethics. Williams (2007), Agile methodologies is collection of evolutionary and iterative methods, based on the typical iterative enhancements processes of software projects. Wilfried ,Vogelzang,Jan & Driel (2019), two views that argue about Scrum technique, undertaking control frameworks and promising candidates. First of all its functions are defined, finally related with 6 famous scaffolds from motivational literature.

Objectives

1. To understand the similarities and differences among the three methodologies Scrum, Agile and Kanban in the software development environment.
2. To measure the level of satisfaction of the IT professional, organization and customers when the three methodologies Scrum, Agile and Kanban are used in software development projects in IT organizations.
3. Advantages and Disadvantages of three methodologies Scrum, Agile and Kanban.

Research Methodology

For the research investigation, both qualitative and quantitative methodologies were employed. Primary data for this study was collected using survey questions that were designed for data gathering. The participants or respondents were required to respond to 12 questions, and the questions related to how individuals and IT organizations used the SCRUM, Agile, and Kanban approaches. Before completing the questionnaire, the respondents had enough time to understand it and ask any questions they might have had concerning the study or the questionnaire. The 200 responders who were targeted were both individuals and staff members of IT firms. The study's response rate was 100% throughout.

SCRUM Methodology
Product Backlog
The SCRUM product backlog is a list of all things that needs to be done within the project.

SCRUM product backlog replaces the traditional software requirement specification (SRS) artifacts. Items in SCRUM product backlog can be user centric examples in the form of user stories. The owner of SCRUM product backlog is SCRUM Product Owner. SCRUM product backlog is a living document and all entries are estimated.

Sprint backlog
The activities in Sprint backlog are entered from SCRUM Product Backlog and Sprint backlog activities should be completed in the period of the sprint as committed by the SCRUM team. Sprint backlog tasks have to be estimated on a per hour basis in order to track progress and remaining efforts. Sprint backlog is a living artifact and is updated on a daily basis. There is a Sprint task board for the team to see their progress on daily bases.

SCRUM Burndown chart
The SCRUM burn down chart is a displayed chart showing the completed work per day against the projected rate of completion for the current project product release date. The main purpose is to enable the project to deliver the expected product within the estimated schedule. It also provides quick visualizations for reference.

SCRUM Roles are PRODUCT OWNER, SCRUM MASTER, and SCRUM team.
Product Owner
SCRUM framework, central role is SCRUM Product Owner. SCRUM Product Owner performs two roles of classic product manager and project manager. SCRUM Product Owner represents the end customer or we can say he/she is a customer representative and also represents stakeholders and takes care of them. SCRUM Product Owner is responsible to maximize the profit of the product by ensuring the right work is done at the right time. SCRUM Product Owner maintains the product backlog and works very closely with the SCRUM team. No one else is allowed to instruct the SCRUM team to work from a different set of priorities. Many SCRUM Masters can report to a single SCRUM Product Owner and different teams SCRUM Product Owners working on the same project can report to the Chief SCRUM Product Owner that is selected by the management for the dedicated project.

SCRUM Master
SCRUM Master ensures that the SCRUM team adheres to SRUM theories and SCRUM practices and rules. He/she helps the SCRUM team members and is responsible for removing obstacles from their way to complete the development of the product. SCRUM Master guards the SCRUM team from all the external requests and disruptions in the project. SCRUM Master is a part of the SCRUM team and has a role as servant – leader for the SCRUM team. He/she is responsible for managing the process. SCRUM Master is the only responsible person to conduct the daily scrum meetings and sprint planning meetings for the team members. SCRUM Master maintains the sprint backlog and all the required documentation.

SCRUM Team
SCRUM team is a collection of dedicated individuals working together to achieve a single goal dedicated to their team to deliver the requested and committed product on time in given increments. The SCRUM team includes 5 to 7 people in a particular SCRUM team. All members follow a common goal and adhere to the same norms and rules and show respect to each other in the team. SCRUM Team members can be Programmers, testers, user experience designers, etc. Every team player in the SCRUM team contributes their best for each sprint as they are responsible for failure or success of the product that they are responsible to deliver. Different kinds of teams are there, like component teams and feature teams.

Agile Methodology
Agile methodology is used to manage huge projects in software development environments by breaking down into several phases of a product. This methodology always includes constant collaboration with stakeholders of the specific project and continuous improvement at every phase of the project. As the work of the project begins

the team cycle starts with the process of planning, executing, and evaluating. Continuous collaboration plays a vital role for both team members and stakeholders of the software development project.

Principles of Agile

1. Individuals and interactions among teams are more important than processes and tools.
2. Software that works is more important for the team over comprehensive documentation of the software project.
3. Customer collaboration is more important over contract negotiation of the project.
4. Responding to continuous changes over following a plan of a software development project.

3 C's of Agile

1. First C of Agile methodology is user story that is in raw format, inform of **Card**. User's stories are always handwritten and manually informed of index "cards" to maintain them small and sweet. User Story basic standard format has only 3 basic components that are; as a [user type], I want [goal] so that I can accomplish [business value]. Card is merely a placeholder.
2. Second C of Agile methodology known to the world is **Conversation**. The second C is required to obtain all of the Card additional information. It is used to foster the incremental and continuous processes of collaboration among the agile teams and project stakeholders in order to develop a shared understanding of the problems and potential solutions for developing projects.
3. Third C of Agile methodology stands for **Confirmation**. The acceptance criterion captures all of the essential requirements of the user's story to translate them all into the test criteria so that the team knows when the user story has been successfully delivered.

Kanban Methodology

Kanban came from a Japanese word: 看板, which means billboard or signboard. Kanban method origin came from lean manufacturing methodology, which was introduced by the Toyota Company Automotive Production System in the late 1940s when the company implemented a production system known as just-in-time, which only objective was of producing according to the customers demand and identifying each and every possible raw and semi raw material shortages within the production lines of the company units.

Microsoft organization engineer David J. Anderson who had realized how this methodology that is devised by Toyota Company can become a process applicable to any type of organizational processes. Then Kanban came into existence by David J. Anderson. In a software development environment the main goal is to provide a visualization process management system which helps in decision-making about what, when, and how much products to produce. Kanban methodology is used in software development environments with other methods and frameworks such as Scrum in combination.

Kanban Board

Kanban is a visual methodology of PM that is used to monitor all assignments and minimize all the shortfalls in a developing software product. Kanban methodology heart is the **Kanban board** that can be in a physical or digital form for the team.

Kanban board is a board where phases of the developing software project are divided into columns. Tasks are written down on cards by the team members that progress from one column to the other, until the entire task is completed.

Kanban board has increased the transparency in any project as it visually clarifies what tasks need to be completed and where tasks are being piled up. The board visualizing aid has made it easier to delegate all the resources where they need to go and try to reduce all inefficiencies in the project.

Definition of Workflow (DoW)

DoW identifies all of the key components of Kanban method workflow, like which units of the project are moving through the board, what have "started" or has "finished" tends to means, and how long that should really take for an item of a product of current project to proceed through all the columns on the Kanban.

Work in progress (WIP) limits

WIP limits could be set by teams inside a column, then groups of columns or even on the whole board of Kanban. It indicates that a column which has a WIP limit of four cannot have far more than four cards in it at a particular time. In the case of just four, the team must complete all four tasks in that column before adding new ones. Work In Progress limits aids in identification of bottlenecks in the project's production process.

Impact of SCRUM, Agile and KANBAN methodologies on IT organizations, Employees and Customer Satisfaction

ROI

ROI for a SCRUM or Agile product project is calculated by the total revenue generated from a specific product versus the expenses of the sprints required to develop that specific product of a project. Scrum, Agile and Kanban methodologies have very high potential to generate return on investment (ROI) much faster than all the traditional development methodologies, as working software products can be delivered to the right source of consumers at the right time as the markets need all over the world . SCRUM Agile and Kanban the dedicated teams develop various types of features in the product that are translated into major sources of growth in revenues of any IT organization in the industry.

Employee

SCRUM, Agile and Kanban methodologies have improved individual's performances and have increased the team morale and team performance and have made workload less on each team player of a specific team in software development environment and has increased employee retention rate in organizations that have implemented these methodologies. SCRUM methodology has taught team ethics to employees in IT organizations that have adopted SCRUM methodology. Kanban methodology has taught teams to deliver products faster to customers and proper use of resources as everything is on visual display on the Kanban board.

Customer Satisfaction

There are many known metrics that are used to measure customer satisfaction of software products. Net Promoter Score (NPS) is one of metrics which measures if the users would recommend the software product to other users or do nothing or recommend against using it. Hence using a stable customer satisfaction metric and therefore it should measure for every release and then it indicates whether the SCRUM teams are meeting their end goals to provide value products to customers.

Data Analysis

Does your organization practice SCRUM/Agile/Kanban Methodology?

Opinion	**Respondents**	**Percentage**
Yes	128	64
No	72	36
Total	200	100

Table 1: Organization practice SCRUM/Agile/Kanban Methodology

Sample Standard Deviation, s	39.597979746447
Variance (Sample Standard), s^2	1568
Population Standard Deviation, σ	28
Variance (Population Standard), σ^2	784
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean ($SE\bar{x}$):	28

Table 2: Mean and Standard Deviation of organization practice SCRUM/Agile/Kanban Methodology

64% of the respondents have said yes that their organization practices SCRUM/Agile/Kanban Methodology and 36% respondents have said that their organization does not practice SCRUM Agile/Kanban Methodology.

Are you a part of the SCRUM/Agile/Kanban team?

Opinion	Respondents	Percentage
Yes	128	64
No	72	36
Total	100	100

Table 3: Are you a part of SCRUM/Agile/Kanban team

Sample Standard Deviation, s	39.597979746447
Variance (Sample Standard), s^2	1568
Population Standard Deviation, σ	28
Variance (Population Standard), σ^2	784
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SEx̄):	28

Table 4: Mean and Standard Deviation of SCRUM/Agile/Kanban team

64% of the respondents have said yes they are part of the SCRUM/Agile/Kanban team and 36% respondents have said that they are not part of the SCRUM/Agile/Kanban team.

Have you attended SCRUM meetings like daily sprint meetings, sprint review meetings and sprint retrospective meetings?

Opinion	Respondents	Percentage
Yes	48	24
No	152	76
Total	200	100

Table 5: Have you attended SCRUM meetings like daily sprint meeting, sprint review meeting and sprint retrospective meeting

Sample Standard Deviation, s	73.539105243401
Variance (Sample Standard), s^2	5408
Population Standard Deviation, σ	52
Variance (Population Standard), σ^2	2704
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SEx̄):	52

Table 6: Mean and Standard Deviation of attending SCRUM meetings like daily sprint meeting, sprint review meeting and sprint retrospective meeting

24% of the respondents have said yes they have attended SCRUM meetings like daily sprint meeting, sprint review meeting and sprint retrospective meeting and 76% respondents have said that they have not attended SCRUM meetings like daily sprint meeting, sprint review meeting and sprint retrospective meeting.

What role do you play in the SCRUM team in your organization?

Opinion	**Respondents**	**Percentage**
SCRUM Product Owner	4	2
SCRUM Master	4	2
SCRUM Team Member	40	20
None of the Above	152	76
Total	200	100

Table 7: Role you play in SCRUM team in your organization

Sample Standard Deviation, s	70.085661871741
Variance (Sample Standard), s^2	4912
Population Standard Deviation, σ	60.695963621974
Variance (Population Standard), σ^2	3684
Total Numbers, N	4
Sum:	200
Mean (Average):	50
Standard Error of the Mean (SEx̄):	35.04283093587

Table 8: Mean and Standard Deviation of role you play in SCRUM team in your organization

2% of the respondents have said they are SCRUM Product Owner and another 2% of the respondents have said they are SCRUM Master, 20% of the respondents have said they are SCRUM team members and rest 76% of the respondents have said they do not play any role in SCRUM teams.

SCRUM Product Owner and SCRUM Master play an important role while handling the project?

Opinion	Respondents	Percentage
Yes	152	76
No	48	24
Total	200	100

Table 9: SCRUM Product Owner and SCRUM Master play an important role while handling the project

Sample Standard Deviation, s	73.539105243401
Variance (Sample Standard), s^2	5408
Population Standard Deviation, σ	52
Variance (Population Standard), σ^2	2704
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SE$\bar{x}$):	52

Table 10: Mean and Standard Deviation of an important role while handling the project

76 % of the respondents have said yes SCRUM Product Owner and SCRUM Master Play an important role while handling the project and 24% of the respondents feel that SCRUM Product Owner and SCRUM Master do not play an important role while handling the project.

Have you ever used Kanban tools like Jira, Click Up, Asana, Trello, Smartsheet and many more?

Opinion	Respondents	Percentage
Yes	68	34
No	132	66
Total	200	100

Table 11: Have you ever used Kanban tools like Jira, ClicUp, Asana, Trello, Smartsheet and many more

Sample Standard Deviation, s	45.254833995939
Variance (Sample Standard), s^2	2048
Population Standard Deviation, σ	32
Variance (Population Standard), σ^2	1024
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SE$\bar{x}$):	32

Table 12: Mean and Standard Deviation of having used Kanban tools like Jira, Click Up, Asana, Trello, Smartsheet and many more

34% of the respondents have said yes they have used Kanban tools like Jira, Click Up, Asana, Trello, Smartsheet and many more and 66% of the respondents have said no they have not used Kanban tools like Jira, Click Up, Asana, Trello, Smartsheet

Does Kanban software tools enable IT professionals to visualize, organize, and manage work in the most efficient way**?**

Opinion	Respondents	Percentage
Yes	200	100
No	0	0
Total	200	100

Table 13: Does Kanban software tools enable IT professionals to visualize, organize, and manage work in the most efficient way

Sample Standard Deviation, s	141.42135623731
Variance (Sample Standard), s^2	20000
Population Standard Deviation, σ	100
Variance (Population Standard), σ^2	10000
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SEx̄):	100

Table 14: Mean and Standard Deviation of Kanban software tools enable IT professionals to visualize, organize, and manage work in the most efficient way

100% of the respondents have said yes that Kanban software tools enable IT professionals to visualize, organize, and manage work in the most efficient way.

Are you a part of the Agile team in your organization?

Opinion	Respondents	Percentage
Yes	60	30
No	140	70
Total	200	100

Table 15: Are you a part of agile team in your organization

Sample Standard Deviation, s	56.568542494924
Variance (Sample Standard), s^2	3200
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	4
Sum:	100
Mean (Average):	25
Standard Error of the Mean (SEx̄):	40

Table 16: Mean and Standard Deviation of Agile team in your organization

30% of the respondents have said yes they are part of the Agile team in their organization and 70% respondents have said that they are not part of the Agile team in their organization.

Do you know 3c's of agile methodology**?**

Opinion	Respondents	Percentage
Yes	200	100
No	0	0
Total	200	100

Table 17: Do you know 3c's of agile methodology

Sample Standard Deviation, s	141.42135623731
Variance (Sample Standard), s^2	20000
Population Standard Deviation, σ	100
Variance (Population Standard), σ^2	10000
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SEx̄):	100

Table 18: Mean and Standard Deviation of 3c's of agile methodology

100% of the respondents have said yes that know 3c's of Agile methodology.

Do you think SCRUM/Agile/Kanban Methodology is beneficial for employees and IT organizations?

Opinion	Respondents	Percentage
Yes	200	100
No	0	0
Total	200	100

Table 19: Do you think SCRUM/Agile/Kanban Methodology is beneficial for employees and IT organizations

Sample Standard Deviation, s	141.42135623731
Variance (Sample Standard), s^2	20000
Population Standard Deviation, σ	100
Variance (Population Standard), σ^2	10000
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SE$\bar{x}$):	100

Table 20 : Mean and Standard Deviation of SCRUM/Agile/Kanban Methodology is beneficial for employees and IT organizations

100% of the respondents have said yes that SCRUM/Agile/Kanban Methodology is beneficial for employees and IT organizations.

SCRUM/Agile/Kanban Methodologies do not compromise on Functionality, Time, Budget and Quality**?**

Opinion	Respondents	Percentage
Strongly Agree	150	75
Agree	50	25
Disagree	0	0
Strongly Disagree	0	0
Total	200	100

Table 21: SCRUM/Agile/Kanban Methodologies do not compromises on Functionality, Time, Budget and Quality

Sample Standard Deviation, s	70.710678118655
Variance (Sample Standard), s^2	5000
Population Standard Deviation, σ	50
Variance (Population Standard), σ^2	2500
Total Numbers, N	4
Sum:	200
Mean (Average):	50
Standard Error of the Mean (SE$\bar{x}$):	50

Table 22: Mean and Standard Deviation of SCRUM/Agile/Kanban Methodologies do not compromises on Functionality, Time, Budget and Quality

75% of the respondents have said that they strongly agree and 25% of the respondents have said that they agree with SCRUM/Agile/Kanban Methodologies does not compromises on Functionality, Time, Budget and Quality

Do you think SCRUM/Agile/Kanban Methodologies provide complete customer satisfaction and customer retention?

Opinion	Respondents	Percentage
Yes	200	100
No	0	0
Total	200	100

Table 23: Do you think SCRUM/Agile/Kanban Methodologies provides complete customer satisfaction and customer retention

Sample Standard Deviation, s	141.42135623731
Variance (Sample Standard), s^2	20000
Population Standard Deviation, σ	100
Variance (Population Standard), σ^2	10000
Total Numbers, N	2
Sum:	200
Mean (Average):	100
Standard Error of the Mean (SE$\bar{x}$):	100

Table 24: Mean and Standard Deviation of SCRUM/Agile/Kanban Methodologies provides complete customer satisfaction and customer retention

100% of the respondents have said yes that SCRUM/Agile/Kanban Methodologies provides complete customer satisfaction and customer retention.

Key Findings

1. From this study and sample survey it was found that SCRUM, Agile and Kanban methodology benefits employees and IT organizations in the IT industry all over the world.
2. It is observed that the SCRUM and Agile methodology increases customer satisfaction rate and customer retention rate.
3. It is observed that the SCRUM methodology delivers products in time and is cost efficient for the given products.
4. The study has found out that SCRUM, Agile and Kanban methodology does not compromise on Functionality, Time, Budget and Quality of the product.

Advantages

SCRUM

1. SCRUM improves customer's satisfactions for organizations as it reduces the turnaround time.
2. Quality of product is increased by this methodology.
3. SCRUM methodology is extremely quick and can adapt to changes very easily and frequently.
4. SCRUM methodology has a nature to expect and accept the changes that come on the way of software development period.
5. It estimates the perfect development time for creating products and its cost effect.
6. Keep the project schedule on time.
7. It has an ideal nature of rapidly changing and accumulating requirements by the project customers.
8. This methodology always lists the top features and the next features in the form of product backlog and sprint backlog.
9. It never changes the schedule of any sprint.
10. In this methodology work proceeds and completion are more logically done through Definition of Done (DoD).

Agile

1. Customer satisfaction is the highest priority of agile methodology.
2. Changes in requirements are welcomed at any time of the development phase of the product.
3. It focuses on continuous delivery of valuable software products and quality deliverables of products.
4. Collaboration is a mantra.
5. Working modules/phases of software products is the primary measure of progress in agile methodology.

Kanban

1. Kanban methodology approach is extremely easy to implement. Hence there is no need for learning complex new tasks or either of putting the entire team through a training program.
2. Kanban methodology style of task management has been proven to work in different industries. This methodology is commonly used in software development environments and it can also be excellent in areas such as marketing, finance and healthcare too. It was first used in the automobile industry by the Toyota organization.
3. The Kanban board can be customized
4. Collaboration among team members is a huge challenge that all businesses need to face up across organizations in this modern world. Right set of tools can help your organization to do this, and Kanban methodology style of working is one of the greatest examples of something of this type, where everyone can see where their own tasks fit into the overall workflow of the project and who is waiting on output to carry out their own jobs. Impact of any member in the team falling behind can be easily seen.

Disadvantages

SCRUM

1. In this methodology documentation has become very minimal.
2. Dedication of all the team members in all SCRUM teams is extremely important.
3. SCRUM methodology's most essential need is teamwork.
4. If SCRUM team members do not cooperate well with each other, then each and every sprint in software development projects will face failures.

Agile

1. It is less predictable.
2. It needs more time for communication, collaboration and commitment.
3. It lacks necessary documentation for the project and this may lead to misunderstandings and difficulties down the road of development.
4. In this methodology, who isn't on board of the organization project then it can put an negative impact on the quality of the project.
5. Agile Methodology has a less-structured nature this means the projects can easily fall off track of the original scope of the project.

Kanban

1. Kanban methodology can be less useful in a dynamic setting.
2. In this methodology the board of Kanban does not indicate the time frames involved in completing the team tasks. Simply moves across the board from first column to second and then to the next, with no deadlines when the product or modules of the product need to be completed by the team.

Comparative Study

Parameter	**AGILE**	**SCRUM**
Definition	It is a project mindset that takes an iterative approach towards the accomplishments of a task or a project. Agile is an umbrella term	Scrum is one of the most popular Agile Frameworks used by project managers in the IT industry. Scrum is a framework that helps how one manages the task of a project end to end
Principles	Requirement changes are welcomed, delivering working modules of software frequently, always promoting sustainable development and Customer satisfaction,	Self-organization, as the Scrum processes relies on different individuals, Collaboration, Value-based prioritization, Time-boxing, iterative development
Methodology	This methodology is an iterative approach to software development	In this incremental builds are delivered to the end users every two to four weeks.
Prioritizes	Focuses on the requirements of a project	Focuses on Value-based
Collaborations	Collaboration between all the members of various cross-functional teams	Sprint planning, Daily sprint meetings and retrospectives
Alternatives	Waterfall	Kanban, Extreme programming and Crystal
Client satisfaction	Agile methodology motive is always to satisfy consumers by delivering valuable software products on a consistent basis	Scrum methodology works on the delivery of working modules of software product by end of the sprint by Definition of Done(DoD)

Table 25: Agile VS SCRUM

Parameter	**KANBAN**	**SCRUM**
Pillars	Effective, efficient, predictable	Transparency, adaptation, inspection
Roles	No roles defined	Scrum master, product owner, and development team
Delivery cycle	Continuous product delivery	Sprint cycle lasts one to four weeks
Tools	Jira Software, Trello, Asana, Kanbanize, SwiftKanban	Jira Software, Axosoft, VivifyScrum,
Artifacts	Kanban board	Product backlog, sprint backlog, product increments
Change policy	It can be incorporated any time	Not planned during sprint meeting

Table 26: SCRUM VS Kanban

Parameter	AGILE	KANBAN
Focus	This methodology processes focus consistent communication	Kanban forces smaller sprint lengths to divide items to fit within sprint boundaries
Dependency	Board of Story	Board of Kanban
Iterative Development	This methodology processes allow iterative development	This methodology processes does not allow iterative development
Visual checking	This methodology doesn't support for visually inspection for work in progress	This methodology visually checks all works in progress
Planning	Planning the sprint can consume the team's time for a day	To get started it needs very less organization set-up changes
Goal	Continuous integration, development, and testing are the goals of the Agile methodology approach.	The goal of the Kanban methodology approach is to enhance the overall team process.
QA	It has nothing to do at the early stages of a product hence it is overworked at the end stages of the product.	It is involved in every stage of product development to test the product under development on a regular basis.

Table 27: Agile VS KANBAN

Conclusion

The study has stated the different benefits of the SCRUM, Agile and Kanban methodology in the IT industry and the benefits for the employees of the IT organization and the benefits over the other traditional methodologies or models. The study has also proved through the survey of 200 respondents that SCRUM and Agile methodology is very beneficial for customer satisfaction and retention and reduces the project budget and time and delivers only working valuables or full functionality products in IT markets and other markets of the world. KANBAN visualizes the entire workflow of the product which is extremely easy to learn and understand and it has a smaller cycle time that delivers product features very fast. In The IT industry it is experienced that KANBAN and SCRUM methodology needs very less set-up changes of an organization and time to get started for any software development. Further studies or research can be carried on SCRUM, Agile and Kanban methodologies and other different methodologies available in the IT industry to boost the functionality and quality factors of products and its development in the IT industry.

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GREEN ACCOUNTING: ENVIRONMENTAL SUSTENANCE FOR INDIAN ECONOMY@75

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ABSTRACT
Green Accounting, also known as environmental accounting, is an emerging accounting concept in India. India has completed its 75 years of independence and could see rapid growth in all sectors and is one of the fastest developing countries with a GDP of 8.7% in FY 2022. But analysing from environmental protection and green accounting point of view, India is still a blossoming bud, where there is no stable policy framework and guidelines yet, in spite of all the initiatives by Government of India. Globally, one strategy that is gaining traction is "green accounting," which involves adjusting national accounts to account for the value of nature's products and services. The green accounting concept needs a straightaway action with a clear road map with proper norms and create awareness among the organisations and society for effective implementation of this accounting concept. Therefore, this paper will focus on the current scenario of green accounting in India and the sustainable goals to be achieved for environmental and economic sustainability.
Keywords: Green Accounting, Environmental protection, Sustainable goals, Economic sustainability, Government of India.

Introduction

In this rapidly growing world, every aspect is getting updated and digitized, the value for all the products is in the sky and organizations are making huge profits, but unfortunately the organizations are not much keen on the ecosystem or the environment from which they are extracting a quiet lot of resources. Environmental changes are a global problem that requires a global solution that has the potential to slow down economic growth. Although modern business entities are directly or indirectly involved with the environment in such complex ways that they also have an impact on their surroundings and are dependent on this environment for their very existence, financial reporting measurements of business entities only concentrate on the traditional accounting data and ignore the accountability of nature resources.

Green accounting the term was first brought into common man use by Economist MR Peter Wood in the 1980s. In India, this concept was voiced by Mr. Jairam Ramesh -Former environment minister, Government of India. The system of Environmental-Economic Accounting (SEEA) is an International statistical framework that includes the economy and the environment together and indicates the importance of the environment on the economy. SEEA is described as a satellite system by the United Nations System of National Accounts. Green accounting is a tool for the future and long-run survival of an organization, if this accounting form is ignored by the organization it will lead to a scarcity of natural resources and any business cannot be successful by side-lining the environment and eco-system. Looking into the Indian economy, the GDP which depicts the economic status of the country shows that the country's economy is growing and has reached 8.7% (US$3.05 trillion) GDP in the FY 2022. But by observing the prime benchmark indicators which are considered for the calculation of GDP, we could observe that the environmental factors and green accounting are not included in prime indicators. This shows that in India the green accounting concept is still in the infant stage and if it is delayed to implement the sustainability of the nation will be moving downwards. But on the other end, there are environmental accounting and environmental protection initiatives taken by the government of India and striving to achieve sustainable goals.

Review of literature

(Gola, Gupta & Dharwal-2022) Environmental accounting is a concept which includes the environmental sources for all the business but in India the green accounting is still in the creation stage, and to analyse the awareness of green accounting among organisations two major reporting standards that is IFRS and GRI is taken into consideration and finds out that GRI standards gives more relevant framework for disclosing non-financial parameters of the organisation.

(Raju-2018**)** India environmental accounting is not widespread and there is no clarity or transparency in the policy framework. And all parameters are not considered for environmental sustainability. The majority of businesses include information about their environmental initiatives in their annual reports, but this is only a minimal practice because it does not include information about the financial implications or the company's policy regarding the costs associated with the environment. This is because it is unable to estimate the financial value of both the environmental assets and liabilities, and it may be difficult to fully integrate all environmental data with the current accounting system at the micro level.

(Agarwal, Kalpaja -2018) Creating awareness among organizations, employees and the general public is very important. And also, strict rules should be implemented by the government against organizations who don't implement green accounting.

(Kiranmai , Shwetha-2018) If corporations ensure to maintain a positive relationship with ecological resources it will help organisations to have a long run efficiently. But the developing country is still lagging back to address two issues that are environmental conservatism and economic development.

(Malik , Mittal-2015) Green accounting practices are still in the preliminary stage in India and they cannot be successful until and unless the common people are educated about this concept. It is the right time for corporations to take up proper action and give ample number of details in their final financial statements.

(Jayanthi-2015) There should be more empirical research in this field so that we can evaluate each company's or organization's environmental performance using the green accounting system. Globally, one strategy that is gaining traction is "green accounting," which involves adjusting national accounts to account for the value of nature's products and services.

(Ligi -2014) Green accounting as an ongoing activity and this accounting is not only supported by environmentalists but also a global corporation. And also states that green accounting will add value to the environment and natural resources.

(Farouk, Cherian & Jacob-2012**)** There is a need to concentrate on green accounting and how their needs are to be valid and feasible critical theoretical policy prescriptions. In the case of emerging and under developed nations, their socio-economic conditions are significantly different as are the corporate motives for doing social and environmental accounting. Even if projects are very profitable and effective, accountants and managers might not accept the fact that they won't be allowed if they violate important ecological functions.

(Heba , Yousuf-2010) Environmental accounting, and exploring techniques that can be used in environmental reporting are main point of concern here. Environmental reporting not only helps businesses better understand their social duty, but it also gives the government a way to monitor how they are treating the environment.

(Rout-2010) Incorporating traditional accounting systems will not give accurate results as it fails to consider environmental factors. Thus, implementing green accounting will strongly contribute towards building a sustainable nation.

Research gap

After verifying the available literature on green accounting in India, no research confines the goals to be achieved by India to achieve sustainability in the economy and successfully implement green accounting.

Research question

Identify the goals to be achieved to meet sustainability in the economy and to successfully implement green accounting by India.

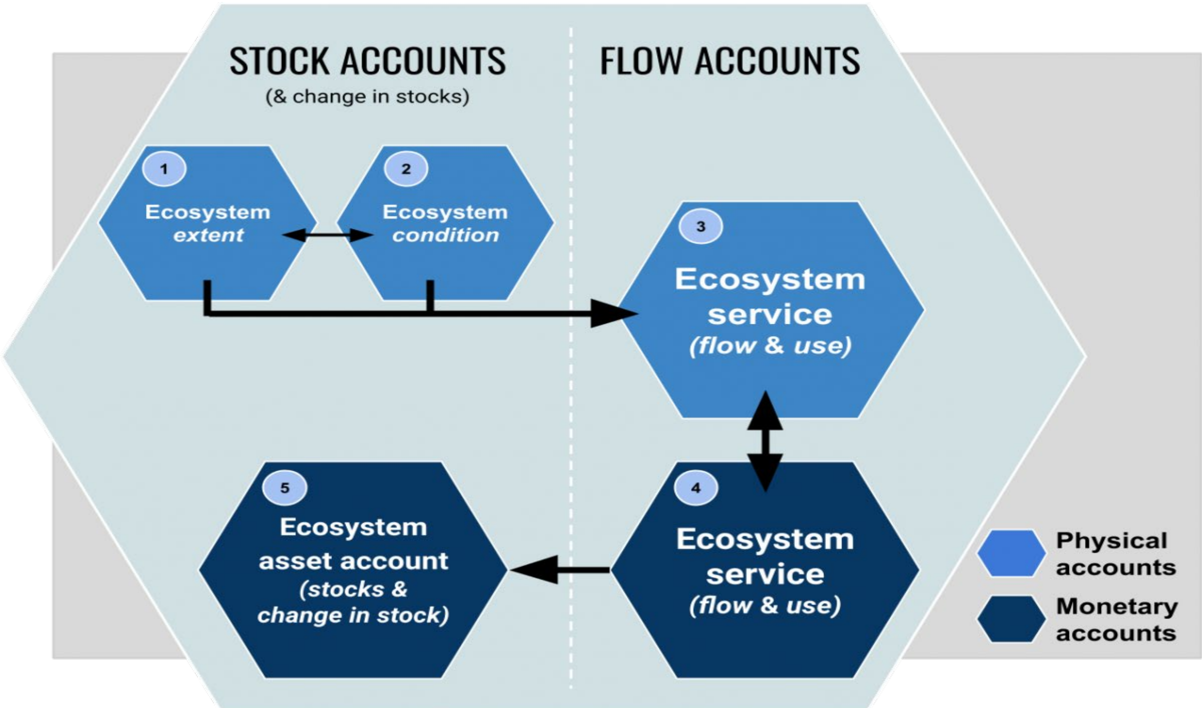
Objectives

- To study the current scenario of green accounting in India
- To identify the goals to be achieved for ensuring sustainability in the economy and effective implementation of green accounting in India
- To suggest strengthening the green accounting practices in India.

Research Methodology
The data collected are secondary data for this study, gathered from various research papers, journals, and Government websites.

Green accounting-current scenario in India
Green accounting is a process that cannot happen with fortnight planning. It needs a lot of attention and involves a planning process, as there are a lot of parameters to be analysed, and observed before implementing and framing a guideline.
Now looking into the Indian scenario in the year 2011 the National statistical office (NSO) under the Ministry of Statistics and Programme Implementation (MOSPI) framed an expert committee under the chairmanship of Prof. Sir Partha Dasgupta, Frank Ramsey Professor Emeritus of Economics, University of Cambridge, UK for advising on the implementation of “Green National in India”. The committee submitted a report in 2013 and recommended adopting and following SEEA Framework in a phased manner. The following figure 1 illustrates the phases of the SEEA framework:

Figure 1: Ecosystem Accounts
Source: https://seea.un.org/ecosystem-accounting
So, considering the recommendation of the expert committee, the first layer of SEEA the asset accounts published in the year 2018 called Envi Stats India and MOSPI has MOSPI has implemented a five-year strategy for accumulating green accounting in India-2022-2026 which will follow the SEEA structure.



And there are many initiatives taken by the Government of India under the Ministry of statistics and program implementation to transform green accounts in India:

- The Economics of Ecosystems and Biodiversity (TEEB)
- Biodiversity Finance Initiative (BIOFIN)
- India Business and Biodiversity Initiative (IBBI)
- Natural capital accounting and valuation of ecosystem services (NCAVES)

Despite all these initiatives taken by the Government of India but still the studies confine that due to a lack of framework and guidelines the implementation of green accounting in India is still a blossoming bud.

Goals to be achieved by India for sustainability in the economy
A multidisciplinary country like India with the second largest population in the world has seen tremendous growth in technology, economy, GDP, imports and exports, and so on. At the same time, there are certain Goals to be achieved by India for ensuring sustainability in the country and to contribute globally. Before understanding the sustainable goals to be achieved by India for sustainability in the economy, let's have a glance

at the contribution and expenditure done by the government of India and organisations in the form of CSR for the environment and biodiversity.

NCAVES (Natural capital accounting and valuation of ecosystem services) , one of the major projects led by MOSPI, analysed the expenditure made by the government for environmental protection from 2012-13 to 2016-17.

Financial year	2012-13	2013-14	2014-15	2015-16	2016-17
Gross Domestic product (GDP)	99,44,013	1,12,33,522	1,24,67,959	1,37,71,874	1,53,91,669
Total Government expenditures (Current prices)	23,67,444	26,40,163	29,50,715	33,90,734	37,16,655
Total government environment protection expenditure (current prices)	1,366	2,296	1,656	1,791	1,545

Table 1: Expenditure on environmental protection by the Government of India (INR in crores)
Source: NCAVES_INDIA_Report_Jan2116112101605301612372985451.pdf

At the same time the biodiversity related expenditure is also estimated in first set of biodiversity expenditure review exercise from 2012-13 to 2016-17 and it is calculated as follows:

Indian's total domestic biodiversity expenditure = Central government (biodiversity attributable expenditure) + State Government and union territories (Nominal) + Biodiversity share in Corporate social responsibility (CSR) + Expenditure under externally aided projects (grants and loan) real

The above method is used for calculation of biodiversity expenditure and we can see the rise in attributable biodiversity expenditure is increasing from 2012-13 to 2016-17 and even few of the organizations are showing interest towards implementation of green accounting and contributing towards safeguarding biodiversity. Table 2 will give us a clear picture of India's biodiversity expenditure.

FY	Central Government		State Government and UT's		Corporate social responsibility (CSR)		Externally aided projects	
	Total biodiversity expenditure	Biodiversity attributable expenditure	Real	Nominal	Potential CSR expenditure	Biodiversity share in CSR	Real	Nominal

2012-13	89221	15195	28648	30921			812	1392e
2013-14	92480	15707	28160	32275	15245	453	896	1642
2014-15	92632	16148	21298	25224	16412	487	875	1652
2015-16	128891	25390	23726	28681	17784	528	859	1756
2016-17	136587	27717	27040	30142	18343	545	845	1831

Table 2: India's Biodiversity expenditure from 2012-13 to 2016-17(INR crores)
Source-NCAVES_INDIA_Report_Jan21161121016053016123729854 51.pdf

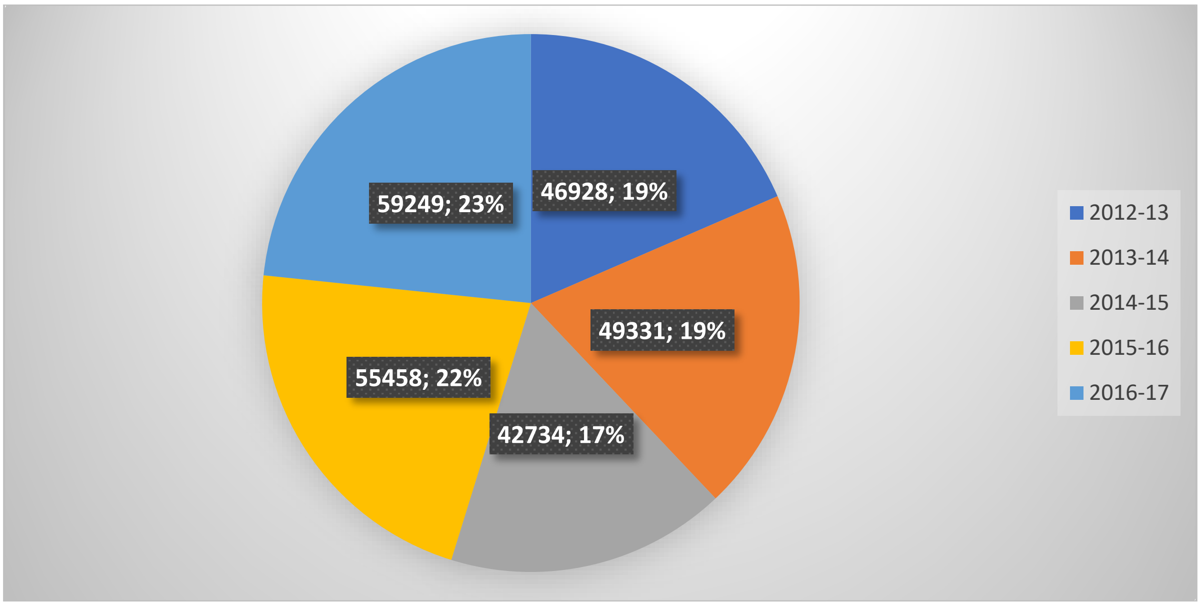


Figure 2: India's total domestic biodiversity expenditure
Source-Self

Therefore, analysing the above statistics indicates that the progression towards environmental protection by the government.

Now focusing on goals to be achieved by India for ensuring sustainability in the economy, the United Nations members in 2015 adopted a "Sustainable Development Goals" which should be completed by 2030 with a blueprint for the betterment of people and the planet. These are also considered global goals that apply to developed and developing countries. The following are the 17 SDG's.

Figure 3:Sustainable Development Goals,
Source: https://education.nationalgeographic.org/resource/sustainable-development-goals

Environmental goals to be achieved by 2030 for a sustainable economy

- To improve water quality by reducing pollution, eliminating dumping and excretion of hazardous chemicals into the water, and increasing safe recycling.
- By 2030 industries to adopt environmentally sound technologies and industrial processes, with all countries in their respective capabilities
- Special attention towards air quality, waste management, sustainable management, and use of natural resources
- Increase substantially the share of renewable energy in the global energy mix
- Double the global rate of improvement in energy efficiency
- Considerably to reduce waste generation through prevention, reduction, recycling, and reuse.
- By 2030, improve progressively in resource efficiency, consumption, and production and endeavour to decouple economic growth from environmental degradation.
-

Impact of the study

- This article has deeply analysed the current scenario of green accounting in India.
- The study identifies that there are efforts made by the Government of India to ensure effective environmental accounting through various projects and Envi stats Publication.
- Table 1 and 2 show the expenditure involved in environment protection and biodiversity safeguarding.
- Figure 2 analyses the total domestic biodiversity expenditures from the year 2012-13 to 2016-17.
- This article identifies the environmental goals to be achieved by 2030, to ensure sustainability in the economy.
- Overall, this paper has studied green accounting and current scenarios and thrown light on various environmental goals to be achieved.

Suggestions

- Green accounting and its implementation can efficiently be implemented when there is a standard framework and policy framed.
- After analysing various reports issued by the MOSPI-GOI it is clear that there are initiatives taken up by the government but it should also focus on educating and training the organization.
- Strategic planning is very much essential to ensure sustainable development by 2030.
- A strict regulatory framework should be set up for mandatory implementation of green accounting.

Conclusion

Green accounting is still in the infant stage in India irrespective of initiatives by the government, and few companies are taking it as a part of CSR activity and are unable to show it in their accounting system as there is no particular format or framework for recording. And looking at sustainable goals a clear roadmap is to be built up for achieving the goals within the period set and creating awareness among organisations and public will also bring tremendous changes in green accounting implementation. Therefore, this paper concludes by stating green accounting should be compulsorily adopted by all organizations for environment and economic growth and to achieve sustainability in the nation.

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IDENTIFICATION AND COMPARISON OF FREQUENT STEPS FOR EVALUATING AND DESIGNING ONLINE ADMISSION SYSTEMS USING DATA MINING IN R AND WEKA REFERRING TO PROFESSIONAL PROGRAMMES

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ABSTRACT
A human being can achieve many things based on education; hence education is inseparable. After the pandemic, in education use of Online Admission System is the need of an hour. It is also one of the Emerging Economies. This research paper lists different Professional Programmes where Online Admission Process is used and provides guidance for understanding various key terms used in admission process by University Grant Commission in India. The authors have concentrated on Evaluation and Standardization throughout the study of the system. Paper evaluates admission processes of 46 organizations conducting online admissions for professional programmes in different universities of Maharashtra and for standardization Indian Institute of Technologies admissions are considered. The paper identifies and compares frequent steps for evaluating any online admission system using the scientific approach of Data Mining in R and WEKA using Apriori and FP-Growth algorithms. The author proposes that frequent steps are necessary requirements for admissions growth in any educational organization.
Keywords: Online Admission System (OAS), Professional Programmes, Data mining, R, WEKA, Apriori algorithm, FP-Growth algorithm

Introduction
Activity which admits students to universities is Admission,(Helms,2008).University's or Institution's existence is only because of student admissions. Using offline admission procedures it is difficult to manage large volume admissions. In pandemic situations Education is the field where everything from admissions till result, used Information and Communications Technology (ICT). College admission has become extremely competitive hence students and colleges should keep pace with the latest technology. Using web technology, online admission systems Colleges and Universities are competing to get quality students, (VIGNESH, 2014) (Gifford, 2005). Using the Internet all steps of the admission system are carried out to offer an accurate, transparent, simple and fast admission process to society is the Online Admission System. Technology shows its positive impact in the admission process from Playgroup admissions to Ph.D., doctoral admissions in the current scenario. Growth of use of online admission systems in India is the main reason to do research work in this domain by the researcher.

This paper uses the scientific approach of data mining which becomes the basis of identification of frequent steps for evaluating Online Admission Systems using the scientific approach of Data Mining in R and WEKA with reference to professional programmes.

Literature Review
Historical development and changes in different Professional Educational sectors in India like Agriculture, Engineering and Technology, Medical and Health sciences, pharmacy, Management, Education, Law, Applied Sciences and Social Sciences, (Pawar, 2013).

History of Engineering admissions in India and a comparative study of online (off campus) counseling process to the admission of undergraduate engineering and technology courses in the various state of India like Haryana, Uttar Pradesh, Madhya Pradesh, Odisha, West Bengal, Kerala, Rajasthan, Gujarat, Maharashtra and at IIT and AIEEE is done. It explains why there is a need for online counseling as the number of institutions is increasing every year. So, the Ministry of Human Resource and Development had decided that from 2002 admission of engineering courses should use online procedure, (Bhuria, 2013).

There is a need to evaluate information system's functionality performance because organizations are using IT in their work processes for increasing efficiency and effectiveness of resources. Evaluating any Information

System should include evaluation of hardware, software, computer networks, data and human resources, (Platiša, 2009).

Digital University Framework under which services are provided to students, university, and affiliated colleges. It explains benefits achieved and how efficiency can be improved. It also gives an idea of how software is deployed. It lists project management activities involved in a project. The article gives server infrastructure details of MKCL. It finds how technology is helpful in various stages of admission and how admission data will be beneficial in later stages such as generating attendance sheets, I-cards, Exam Hall tickets, Results (Sawant, 2006).

Government of Maharashtra's initiative in providing e-Governance in (12) twelve Universities using MKCL 's digital university framework which is beneficial to students, Universities, and affiliated colleges for higher Education. It lists all facilities provided to students using E-suvidha. Under E-suvidha the student gets information about various Programmes, courses offered by the Universities. Similarly, they get information about syllabus, timetables, exam timetables, center, venue, and hall tickets which can be downloaded. Different applications for Statement of marks, Verification, Revaluation, Convocation, Bonafied and Migration are also available. Information about job opportunities is also available. It saves a lot of money, time, and effort for the student. It displays a list of affiliated colleges under universities, which will be helpful for students at the time of making decisions for admission, (Kulkarni, 2012).

North Maharashtra University at Jalgaon is using technology in various phases of its operations like providing e-Suvidha for students for admissions using MKCL's OASIS framework for affiliated colleges, Online staff approvals, affiliation, Online Ph.D. Process, SAP ERP implementation for internal administration. With the use of technology accuracy, efficiency and transparency was achieved by the university in admissions, affiliation, approval, and examination process. The state-wide Online Admission system solution made available by Maharashtra Knowledge Corporation Limited is adopted by universities and it has provided an opportunity to affiliated colleges in attracting students from all corners of the state, (Chaudhari, 2013).

Mining is used for discovering interesting relations between variables in large databases. Introduction to database and data mining concepts with particular emphasis on data analysis is provided. The concepts and techniques cover classification, prediction, association, and clustering and are presented with examples, (Han, 2006).

The association rule mining as a vital component of data mining attracts much attention. Discovering association rules is at the heart of data mining. Association Rule Mining is the process of finding interesting correlations, frequent patterns, or associations among sets of items in the transaction databases, relational databases, or other information repositories. An association rule is an expression in the form of X⇒Y, where X and Y are sets of items called item sets and intersection of X and Y is null. The portion of the rule to the left of the implication (⇒) is known as the antecedent (X), whereas the right side of the implication is known as the consequent (Y). A rule may contain more than one item in antecedent and consequent part. Association rule mining tends to produce a large number of rules. The goal is to find the rules that are useful to users. There are two important basic measures for association rules: Support and Confidence. Usually, thresholds of support and confidence are predefined by users to drop those rules that are not so interesting or useful. The two thresholds are called minimum support and minimum confidence, respectively (Kaur, 2013).

WEKA is a data mining system containing a collection of machine learning algorithms for data mining tasks. The algorithms are applied directly to a dataset. WEKA implements algorithms for data preprocessing, classification, regression, clustering, association rules; it also includes visualization tools. WEKA is open-source software issued under the GNU General Public License. It provides step by step procedure for analysis using WEKA Explorer preprocessing, classification, clustering, association, attribute selection, and visualization tools. Apriori and Fpgrowth algorithms are used, and analysis is obtained (Svetlana, 2004).
Examples of various data mining functionalities in R and case studies of real-world applications are presented in the book (Zhao, 2014).

Objectives of the study
Researchers in this paper will try to achieve following research objectives:
1. To study various key terms used in the Online Admission System domain.
2. To determine scope of study and identify the Professional Programmes used for study.
3. To identify the online admission steps based on which evaluation of the Online Admission system can be done for identified professional programmes.

4. To identify frequent steps in the online admission Process using Data Mining.
5. Do comparative study of data mining approaches, Apriori and FP-Growth in R and WEKA.

Research Methodology

Keeping in mind the aforesaid objectives, this research has used a hybrid research approach consisting of survey, design and creation.

Survey: To acquire relevant admission process information, survey of websites, review of prospectus of different organizations involved in the admission system was conducted. Experts and stakeholders in this field were interviewed.

Design and Creation: It includes analysis of online admission systems used in the current context by organizations conducting professional programmes in Maharashtra. Study has identified the frequent steps used in the Online Admission system.

Scope of Study

To conduct work on research objective one **to study various key terms used in Online Admission System domain**, here researcher is concentrating on finding meaning of keywords such as Professional council, Professional Programmes, Programme, Qualification, Professional Education, course, Non-Professional Programmes.

Secondary Data Analysis: Keywords / Key Terms Definitions in Online Admission System Domain

Professional Programmes key word consists of two words, profession, and programmes. According to the Oxford dictionary, a *profession* is a job requiring special training and a formal qualification. *Qualification* is a degree awarded by a university. After completion of a **Program** Degree, Diploma Certificate is awarded depending on for which program student has taken admission. Example: Faculty of Management will consist of BBA, MBA, PGDBM and Ph.D. programmes. *Universities are* established according to the UGC Act. *Professional Education* is the higher formal education and training given to an individual so that he or she can perform effectively and efficiently in their profession. University offers a wide range of programmes from the short-term certificate level up to the research and doctoral level.

Thus, degrees in above mentioned fields are considered as Professional Programmes. Many times, there is confusion between the programme and course so let us clear that also

According to the UGC "Programme consists of a group of Courses." Example: the BCA Programme will consist of DBMS, C-Programming, Java courses.

To carry out work on research objective two to determine scope of study and identify the Professional Programmes to be used for study, the following flowchart is prepared

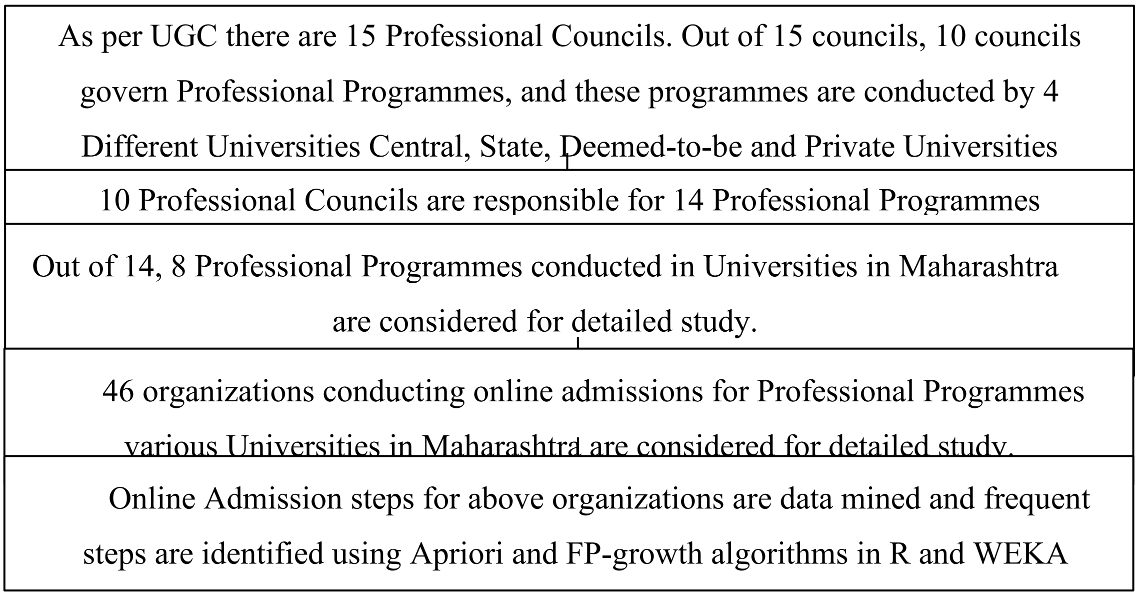

Figure 1 Flowchart to decide scope of study

Source: Prepared by the Researcher

Overview Of Online Admission Systems Used By Different Universities.
Following are University types in India, controlled by the University Grant Commission. (University Grant Commission New Delhi, 2023).

Central University or Union University: It is a university established or incorporated by a Central Act. It is under the Department of Higher Education in the Ministry of Human Resources and Development.
State University: A university established or incorporated by a Provincial Act or by a State Act. They are run by the state government of each state.

Deemed-to-be University: An Institution Deemed to be University, commonly known as Deemed University, refers to a high-performing institution, which has been so declared by Central Government under Section 3 of the University Grants Commission (UGC) Act, 1956. Autonomy is granted to them by the Department of Higher Education.

Private University: A university established through a State or Central Act by a sponsoring body viz. A Society registered under the Societies Registration Act 1860, or any other corresponding law for the time being in force in a State or a Public Trust or a Company registered under Section 25 of the Companies Act, 1856. But they are not allowed to have off-campus affiliated colleges.

Differentiation between Professional and Non-Professional Programmes
Following Table 1 is being used to distinguish between which Programme to consider as

Professional and which is not Professional (University of Pune, 2012). The same is considered for analysis.

Professional Programmes	**Non-Professional Programmes**
1.Engineering/ Engineering and Technology	1.Arts
2.Pharmacy	2.Fine Arts
3.Management	3.Mental, Moral Social Sciences
4.Architecture	4.Degrees in Social work,
5.Law	5.Communication and Journalism
6.Education	6.Commerce
7.Physical Education	7.Home Science
8.Computer	8.Science (excluding Applied and computer science courses)
9.Applied courses in science like Bio- Informatics, Bio-Technology, Health Sciences, Environmental sciences.	
10. Electronics	
11. Medical, Dentistry, Homeopathy, Unani, Nursing, Physiotherapy	
12.Audiology and Speech Language Pathology	
13. Agriculture	
14.Animal and Fishery Sciences	

Table 1 Professional and Non-Professional Programmes
Source: University of Pune, (2012),” Procedure for Transcript. University of Pune.” http://unipune.ac.in

Professional programmes considered for research work professional councils.
As per UGC there are 15 Professional Councils established by Act of Parliament that control accreditation and coordination, set, and maintain standards for higher Education and offer grants to UG programmes. (University Grant Commission, 2022).

The Table 2 prepared by researchers below summarizes the professional council responsible for admissions, rules for different U.G or P.G programmes for which they are Statutory or Regulatory bodies.

Sr. No.	Professional Council	Professional Programme it governs
1	AICTE (All India Council of Technical Education, 2022)	Diploma or B.E. / B.Tech. / M.E. / MTech/ M. Pharm / M. Arch MCA and MBA, Applied Arts, Hotel Management and Catering Technology
2	Medical Council of India (MCI INDIA, 2022)	M.B.B.S. /M.D./PG Courses in Medicine
3	DCI (Dental Council of India, 2022)	B.D.S./M.D.S./PG Courses
4	Central Council Medicine (CCIM)	B.A.M.S./B.S.M.S./B.U.M.S./Postgraduate and Post Diploma courses in Ayurveda
5	Central Council of Homeopathy (CCH)	B.H.M.S. / M.D.(Homeopathy) and other courses
6	Indian Nursing Council (INC)	Auxiliary Nurse and Midwife/ B.Sc. (Nursing)/ M.Sc. (Nursing) etc.
7	PCI (Pharmacy Council of India)	D.Pharm/ B. Pharm
8	ICAR (Indian Council for Agricultural Research)	U.G./P.G. Programmes in Agriculture,
9	Council of Architecture	B.Arch. / M. Arch.
10	National Council for Teacher Education (NCTE)	B.Ed./M.Ed.
11	Bar Council of India (BCI)	L.L.B./ L.L.M. / 5-year Integrated Law programme
12	Distance Education Council (DEC)	Distance mode Programmes M.B.A., M.C.A., B.Ed., M.Ed., Diploma / Degree Engineering etc.
13	Rehabilitation Council	Postgraduate
14	National Council for Rural Institutes (NCRI)	Post graduate diploma in rural development and various programmes for Gandhian basic education which are based on agriculture, handicrafts etc.
15	State Councils of Higher Education (SCHE)	Programmes designed according to needs of the society, priorities, and expectations higher education;

Table 2 Professional Councils and respective Professional Programmes Governed
Source: Prepared by the Researcher

Primary Data Analysis:
Professional Programmes governed by ten (10) Professional Councils are considered for study. Out of all Professional Programmes, eight (8) Professional Programmes are selected which are conducted by Universities in Maharashtra under the study are as follows.

1. Engineering and Technology Programmes
2. Management Programme MBA
3. Management Programme MCA
4. Health Sciences Programmes whose admissions are through CAP and authority is DMER. For all the above, the process is one process under Programme Health Sciences. (DMER, 2022).
5. Pharmacy Programmes

6. Education Programmes
7. Agriculture Programmes
8. Law Programmes

Forty-seven organizations conduct admissions of professional programmes considered for study
Standardization: IITs (Indian Institute of Technology) Online Admission process considered as standard.

Evaluation: For evaluation 46 Organizations that conduct online Admissions are considered (Pant, 2016).

Admission steps derived from study of all forty-six organizations mentioned above
For research objective three to identify the online admission steps based on which evaluation of Online Admission systems can be done for identified professional programmes, careful examination of admission steps in above mentioned organizations following admission steps are identified by authors in Table 3 below.

Step No.	Description
S1	Whether student can get all admission information from website
S2	Use Dynamic Website
S3	Use Static Website
S4	Candidate must or can apply online for Entrance Exam
S5	Through static websites Entrance Exam Form for Admission is available to download from the website.
S6	Traditionally, candidates get Entrance Exam Form from the Admission office of organization in person or by post.
S7	From Mobile App candidate can apply
S8	Other Entrance Exam's score is also considered for Admissions
S9	Audio-Video is used to provide help on website demonstrating the Form Filling Process
S10	Screenshots of form are used to provide Help to fill the Entrance Exam Form
S11	Textual information is used to provide help for filling online Form
S12	Offline Prospectus
S13	Every Applicant applies Online gets Application ID or Username and Password
S14	Payment of Admission Fees should be done before Form Filling
S15	Credit or Debit card used by candidates to pay fees online
S16	Net banking is used by candidates to pay fees online.
S17	E-challan of specific banks is used by candidates to pay Fees online.
S18	Demand Draft is used by Candidate to pay Fees
S19	Cash is used by Candidate to pay Entrance Exam Fees or Admission Registration
S20	Required information to be filled in the Form
S21	Upload Photograph Signature Thumb Impression
S22	Selection of Exams city date and schedule online
S23	Person with disability will be provided with help
S24	Corrections in the Filled form if any, online by paying specified fees within specific schedule
S25	Through Own login candidate can download exam’s Hall Ticket
S26	Through email candidate can download exam’s Hall Ticket
S27	Through Post or Courier student receives Hall Ticket

S28	Rectification of discrepancies if any in admit cards is done online
S29	Rectification of discrepancies if any in admit cards is done offline
S30	On specified day and schedule candidate appear for Entrance Exam at respective Exam Centers
S31	Flexible More than one time on different dates Entrance Exam takes place
S32	Online Conduction of Entrance Exam
S33	Offline Conduction of Entrance Exam
S34	Display of Answer key and image of response (OMR) sheet of each candidate is. available on website
S35	On website student can see the result or Merit List
S36	Offline Result or Merit List Entrance Examination displayed on Notice board
S37	Online Score card can be downloaded
S38	Dispatched to permanent address score cards
S39	Online Grievances in Result or Merit List can be submitted online from website by paying specified fees within specified schedule
S40	Offline Grievances in Result or Merit List can be submitted online from website by paying specified fees within specified schedule
S41	Online Option or preference form filling
S42	Offline Option or preference form filling
S43	Online Submission of candidates Admission Confirmation
S44	Offline Submission of candidates Admission Confirmation
S45	Online Institute Confirms admission of a student.

Table 3 Different steps used in Online Admission Systems
Source: Prepared by the Researcher

Frequent admission steps derived in R data mining tool using Apriori algorithm.
For research objective four Identify frequent steps in online admission Process using Data Mining, following research work is conducted. Researchers identified that many admission steps are common. Common steps that are frequent steps are verified using data mining technique's association rules. So, researchers have used the APRIORI algorithm to find frequent steps and association rules in admission processes (Han, 2006).

Procedure followed to find frequent online admission steps using Apriori algorithm in R
Using R data analysis software and its APRIORI algorithm in arules package used to mine frequent steps in processes with confidence = 0.8, support = 0.53, target frequent. Twelve (12) frequently occurring steps are found by researchers. R is installed on windows.

Data of admission steps for R
Following sequence is used for Data Mining in R (Hahsler, 2015).

1. Steps for admission used by mentioned above 47 organizations are listed in Table 2 below. They are numbered as S1 to S43.
2. Example organization1 used S1, S2, S4, S9, S13, S15, S20, S21, S22, S24, S25, S30, S35, S37,
3. S39, S41 and so on for other organizations. Details of Data are as shown in Table 3 below.
4. Using if rules related columns (admission steps) are combined.
5. Excel file converted to csv (comma separated values)
6. Appropriate commands are given in R.

Set of commands in R used for analysis
Following are details of commands used in R.
1. Set directory where csv file is stored using > getwd () get working directory.
2. In R use Arules package using command library(Arules)
3. Read the csv file using > d1 <- read.csv("onlydata1.csv")
4. Give command to find frequent steps by giving some restrictions using appearance = list(restrictions)
5. g1<-apriori(d1,parameter=list(support=0.53,minlen=10,target="frequent"),

appearance=list(none=c("OptionorPreferenceForm=0","ScoreCardsavailable=0","SubmitGrievances=0","Correctionsform=0","Staticsite=0","AdmissionConfirmationbyinstitute=0","Dynamicsite=0","UsernameadPassword=0", "uploadPhotographSignatureThumbImpression=0")))
6. Get output using > inspect(g1)
7. Output twelve steps are identified.

Frequent admission steps in R
Thus, from the above output twelve frequent steps in online admission systems are S1, S2, S4, S9, S13, S15, S20, S21, S22, S25, S30, S35.

Frequent admission steps derived in WEKA data mining tools using Apriori and Fpgrowth
The following procedure is to be followed to find frequent online admission steps using Apriori and FP-growth in WEKA. Researchers have worked to find frequent items in the WEKA Data Mining tool, using FPGROWTH and APRIORI algorithms.

Steps used for data mining.
Steps for admission found for all forty-seven organizations which are listed in Table no.3 and 4
1. They are numbered as S1 to S43
2. Using if rules related columns (admission steps) are combined.
3. In Weka data of organizations is to be converted to ARTF file.
4. Appropriate steps are used in Weka.

Data of admission steps for Weka
ARFF File used in WEKA is @relation wekadataoas.

Output in Weka for Apiori
After Running in output is in Apriori with conf:(1)
Scheme output showing weka. associations. Apriori -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -. 1Relation Name is wekadataoas. Instances used are forty-seven. Attributes are 18. 10 Best rules found as
1. S9 ==> S1 2. S1 ==> S9 3. S4 ==> S1 4. S1 ==> S1 5. S20 ==> S1 6. S30 ==> S1
7. S4==> S9 8. S15 ==> S9 9. S20 ==> S9 10. S30 ==> S9
So Frequent admission steps identified by Weka using Apriori are six S1, S4, S9, S15, S20, S30

Output in Weka for Fpgrowth
After Running output in FPGrowth is
Scheme output showing Weka.associations. FPGrowth -P 2 -I -1 -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1. Relation Name is wekadataoas. Instances used are 47. Attributes are 18.
FPGrowth found 338 rules (displaying top 10) with <conf:(1)> lift:(1) lev:(0) conv:(0)
1. S9 ==> S1 2. S1 ==> S9 3. S4 ==> S9 4. S30 ==> S9 5. S20 ==> S9 6. S15 ==> S9
7. S4==> S1 8. S30 ==> S1 9. S20 ==> S1 10. S15 ==> S1
So Frequent admission steps in WEKA using FP-Growth are eight as S1, S4, S9, S15, S20, S25, S30, S35.
Frequent steps for online admissions are verified. Both results are the same.

Comparisons between Fp-growth and Apriori in Weka and R data mining tools Table of Comparison Findings
For research objective four do Comparative study of data mining approaches Apriori and FP- Growth in R and WEKA. Table 4 prepared by authors below shows comparison between Fp-growth and Apriori algorithms for association mining for different parameters and in WEKA and R Data Mining Tools.

Sr. No.	**R Apriori Steps**	**Weka Apriori Steps**	**Weka Fp-Growth Steps**	**Description**
1)	S1	S1	S1	All info
2)	S2			Dynamic site

3)	S4	S4	S4	Apply for entrance
4)	S9	S9	S9	Help is available
5)	S13			Username and Password
6)	S15	S15	S15	Payment of Registration fees
7)	S20	S20	S20	Fill Form
8)	S21			Upload Photograph Signature Thumb Impression
9)	S22			Selection of Exams city date and schedule online
10)	S25		S25	Receipt Admit card
11)	S30	S30	S30	Conduction of Entrance Exam
12)	S35		S35	Display of Result on website
13)	12	6	8	Frequent Steps Identified
14)	same	same	same	Complexity is same in all algorithms
15)	Speed is less		Speed is more	Speed is less in APRIORI but only 47 rows.are data mined

Table 4 Comparison between FP-GROWTH and APRIORI in R and WEKA
Source: Prepared by the Researcher

Findings from data mining

1. Key terms used in Online Admission System domain such as Professional council, Professional Programmes, Programme, Qualification, Professional Education, course, Non-Professional Programmes are defined and explained in paper.
2. Scope of study selected eight Professional Programmes, which are conducted by Universities in Maharashtra for study.
3. Forty-five online admission steps are identified based on which evaluation of Online Admission systems is conducted in above study.
4. Twelve (12) frequent steps are proposed as steps in admission systems which are required if any online admission system is to be designed.
5. Table 4 shows comparison between Fp-Growth and Apriori algorithms findings from study.

Above are research objectives achieved and the findings are listed below

A. As data consists of only 47 rows, speed of computing is not considered, but from theoretical data FP-Growth is better than Apriori.
B. Frequent steps identified in FPGROWTH 8, in APRIORI 6 and in R Using APRIORI 12.
C. After careful study of the above frequent steps identified in data mining, a generalized sequence is proposed for any online admission process as follows.

1. On website a student should get all information of admission(S1)
2. For Admissions, he or she can apply online using the dynamic website. (S2)
3. For Entrance Exam, he or she can apply online using dynamic website (S4)
4. Help in the form of video or screen shots or text must be present while filling out online forms for admission. (S9)
5. Applicant receives username and password. (S13)
6. Online students should Pay Fees. (S15)
7. Online student should be able to fill all fields required in Online Admission Application (S20)
8. Applicants on websites upload photographs, signatures, and thumb impressions online. (S21)
9. Applicants can choose the Entrance Exam's city, date, and schedule online. (S22)
10. Candidates receive an Admit card or Hall Ticket online. (S25)
11. The entrance exam is there. (S30)
12. Online applicants can check the entrance exam result or Merit List on the website. (S35)

Conclusion

The paper provides a scientific base for identifying frequent steps and concludes with a presentation of 12 steps for any online admission system to be designed or evaluated. These findings will be helpful for stakeholders who want to evaluate their existing Online Admission Systems, third parties who are involved in Online Admission Application development, design and deployment and students and parents who want to apply online for admissions. They will also understand the key terms used for admissions in India.

In future association rules between admission steps can also be identified using data mining. In future researchers will work in the education domain for examination systems, teaching learning where Data mining can be applied, and results can be drawn which will be helpful.

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IMPACT AND EFFECTIVENESS OF ONLINE TEACHING METHODS AND PEDAGOGY

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ABSTRACT
Covid has brought a paradigm shift in the mindset and in the approaches used especially in the area of Teaching Learning. Traditionally only classroom teaching was considered the most effective mode of teaching but the virtual mode of delivery has become the need of the hour. The present study focuses on the evaluation of various e-Learning methods and finding their impact & effectiveness on the type of subjects like Practical subjects which involve hands on expertise. Virtual learning paves the way for delivering sessions to many students at a time so the benefits of online teaching are more than its drawbacks as per the responses of the research conducted. Online teaching has helped both students & teachers to connect at long distances, have Flexibility, Reduction in infrastructure-associated tasks, and increased collaboration. However, the disadvantage of online teaching is the lack of Personal connection with the student. So the concept of blended learning is the best suitable option for the optimum utilization of all resources and justification for the subject content delivery.
Keywords: Education, Teaching, E-learning, Online Learning, Virtual Learning

Introduction
Post Pandemic the new word added to the dictionary is the "New Normal" and yes the new Normal in the education sector is the blend of Online & offline learning as both have their own Pros & Cons and the academicians should take the optimum advantage of both modes. Before Covid, no one would have ever thought that teaching could be done so efficiently using various online tools. The education sector adapted it so quickly using various tools like Zoom, Google Meet, Teams, in-house developed software etc. The benefits of online teaching in colleges are that multiple trainers can collaborate, Breakout rooms for discussions, Polls, Chat and Q&A, Live quizzes etc. Nowadays taking feedback through Google forms has become so easy and faster than the printed feedback forms that were taken earlier.

Even though it has been a big shift from classroom teaching to online teaching during pandemic, it has been adopted smoothly by all academicians, institutions and colleges for various student training programmes and Faculty Development Programmes (FDP) etc. But as time progressed the institutes concluded that the attention of students in the classroom was much more than in virtual classes as in online teaching attendance was there but attention was not there. The academic results during online exams also went high despite various measures used by universities to prevent unfair means. The knowledge gained by students in online teaching is dependent on the student so we can say that the effect of online teaching is more dependent on the learner than the teacher.

Research objectives:
1. To find out the impact of Online Teaching on students & teachers
2. To evaluate various Online Teaching Pedagogy
3. To compare &contrast the impact of Online teaching Learning

Research Methodology
This research study follows the quantitative method for analysis of, impact and effectiveness while learning online mode of pedagogy. A questionnaire is formed and circulated in the form of Google Forms amongst postgraduate MBA and MCA students. The response was recorded on a scale where strongly agree is maximum on the scale and disagree is minimum on scale. The sample size is consisting of 200 students' responses. This survey was undertaken in the month of January 2023. The questionnaire was distributed to the participants in the Google form with a consent form stating that the information provided will be used for publication purposes.

Literature Review
Galang, Encarnacion (2020) collected teacher and student responses and checked for the effectiveness of E-Learning in their institute and they tried to find how e-learning affects teaching styles and learning styles and the significant difference between teachers- students in their perceptions of E-Learning. The E-learning portal which started in 2017 is a big hit in the institute. From admissions to tutors, plans are managed through an online portal. These courses offer blended and centred learning. Basim (2022) carried out the study to find an inclusive approach for finding the impact of a pandemic on education, reviewing it and what changes occur in the shift from online to offline. The offerings from virtual pedagogy and online pedagogy are also studied. Because of the sudden change due to the pandemic, the main focus was to check digitization's positive and negative aspects from a student's perspective. With qualitative research, the usefulness and the things needed in the process of e-learning are further discussed and studied. Due to the Covid outbreak, Wang (2021) carried out the survey in the form of a network questionnaire. The target students were from one of the medical universities. To get authentic data this university was chosen as this university has a whole semester of online teaching experience. This questionnaire was distributed among 500+ students and collected data were processed using SPSS25.0. For the structural equation model and to analyze the data, AMOS24.0 was used. Influence of learner's previous e-learning experience and their current behavior checked by this structural model.

In a recent study, Rahim (2021) highlighted the effectiveness of online learning in the paper titled "The Effectiveness of online teaching and learning tools". For this study chosen participants were upper-level accounting students from US. The methodology used was quantitative and qualitative. During the midterm, students were contacted and provided with a survey to know their thoughts on different online components of the course. The design of the survey was designed in such a way, that it would capture students' perceptions regarding the discussion boards, virtual teams, virtual office hours and non-interactive tools textbook reading, and practice quizzes. To find the answer to the question "What is exactly the experience of students during lockdown", that is to assess how university students experienced offline to online teaching after the closure of campus due to the COVID-19 pandemic, Almendingen (2021) followed mixed methods of explorative study. For 2- and 12 weeks researcher collected the data from students in Public Health Nutrition through questionnaires. The conclusion of this study was, even though the sudden shift from offline was challenging but students adapted to the new changes. This study provides the exact perspective of students after a sudden lockdown.

Zheng , Bender (2021) with a quasi-experimental design carried out a survey. 482 pre-doctoral students from a U.S dental school were participants. Students were assessed for the topic "effectiveness of online courses during a pandemic" post and pre-pandemic. With the survey they carried out, they stated that 80% students have adapted it so well that they would like to continue with online learning. This study was the first one in dental education for checking the online performance of students. With descriptive qualitative analysis, Nartiningrum & Nugroho(2020) focused on challenges, suggestions, and needed materials during online learning. They collected data using a survey with 92EFL learners from two classes of English course. Few participants were interviewed further for their opinions about teaching learning beyond the classrooms.

Darius , Gundabattini (2021) conducted an online survey to find the effectiveness of online teaching-learning as it helped a lot during the pandemic. This survey helped to find out the effectiveness of online teaching–learning for university and college students. a survey conducted for 450 students among university and college students from different universities and colleges helped to conclude that, pedagogies like PPTs, quizzes, student version software, video lectures by faculty, a conducive environment at home, interactions by the faculty during lectures and online materials provided by the faculty promote effective online learning. A different light on pedagogy was flashed by Sona ,Mathur (2022) on students' perceptions. They feel that it's high time for teachers as well to update themselves to be able to cope with the change in the teaching pedagogies. Under exploratory research, they gathered data from 365 participants and analyzed it. A structured questionnaire is used to find out the perception of students who are new to online teaching pedagogies by teachers. Jin , Lin (2021) studied the paradigm shift from traditional learning to online learning during a pandemic for Chinese students. Those participants who have the experience of switching from offline to online learning were considered here. The formal survey was carried out for these participants after the pilot test. Due to cost-effectiveness, and rapid response time, online data was collected. A total of 800+ responses were collected from different universities and colleges. After the results of the studies, online learning was like a turning point for university management. Students also choose online options for learning because of convenience, safety and service quality.

In a recent study, Zakaryia , Khaled (2021) conducted two Google surveys of fifty faculties and 280 students to find out their perception of online learning. These students were from undergraduate and postgraduate levels. As a result, participants felt online learning was useful as the easy-to-use online platform was provided and they were trained enough to attend it online. Thus, both participants were satisfied with using the online platform. Zhonggen (2021) has undertaken a study to identify the influence of demographic variables and personalities on online learning outcomes during the COVID-19 pandemic. The mixed-design research method was carried out to analyze both quantitative and qualitative data. This data is obtained from the semi-structured interview and two scales. Two variables used for the study were the dependent variable and independent variables. To set the relationship between variables, linear regression analysis is used. Results show that extroverts and women prefer physical classrooms to online learning. Learners with strong personality traits and males felt online were the best learning method.

Analysis and Results
A total of 204 students from the Management stream (MBA and MCA) participated in the survey. There were 50.8% male students and 49.2% were female. Maximum participants in the survey were from age group 25-30 as shown in Figure 1 and Figure 2.

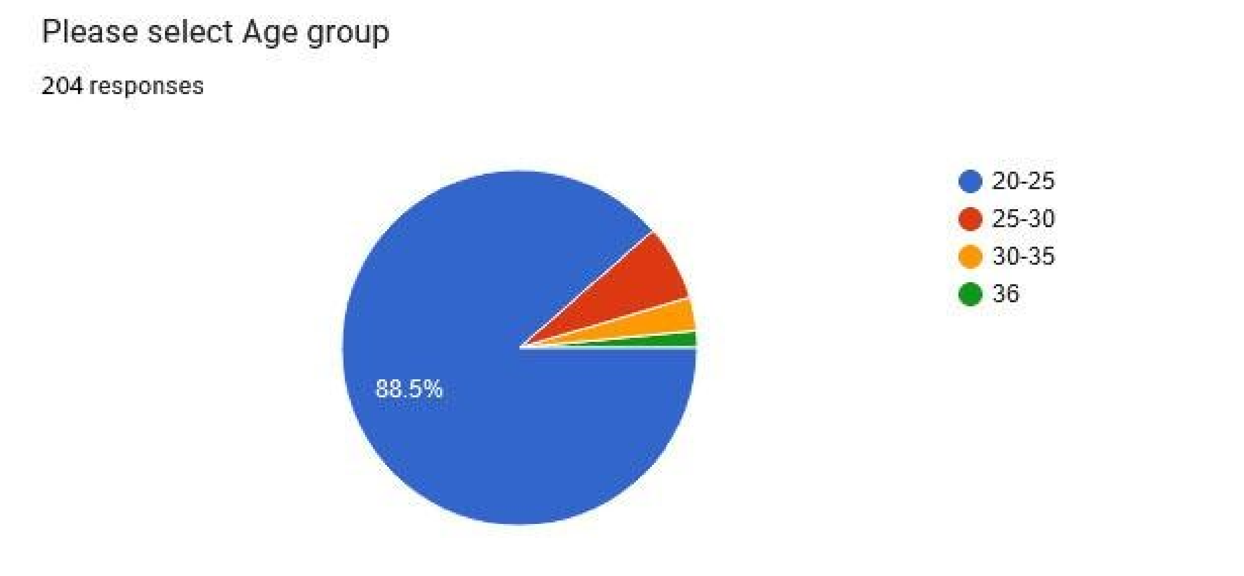

Figure 1: Age group

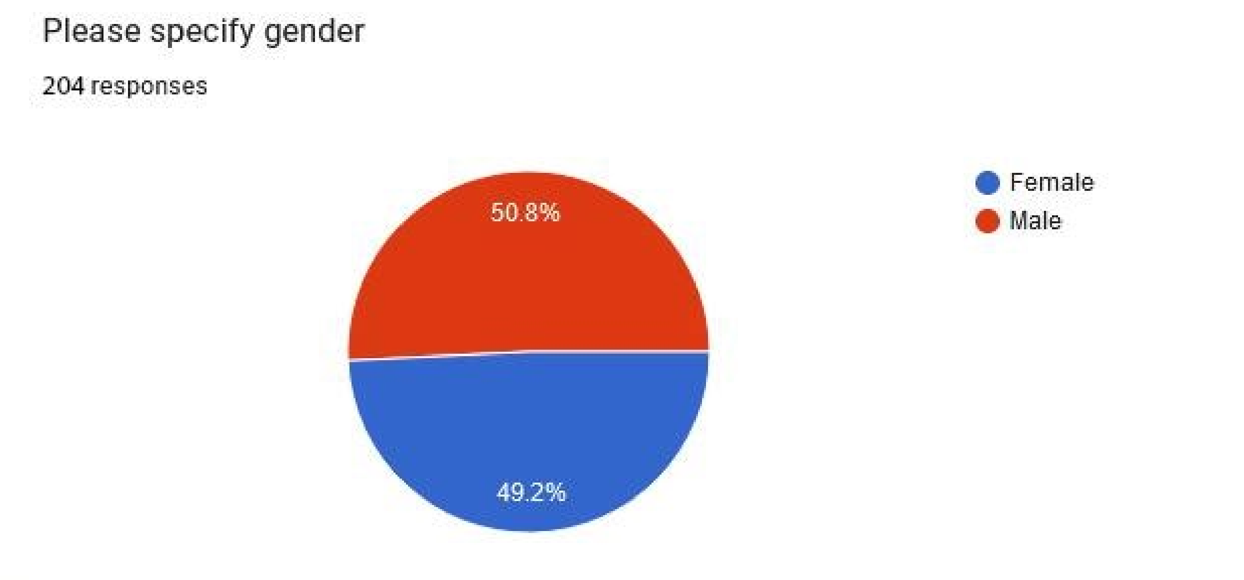

Figure 2: Gender of student

Following Figure 3 shows that (47.8%) of students responded that they felt E-learning provides comfort and convenience in their studies.

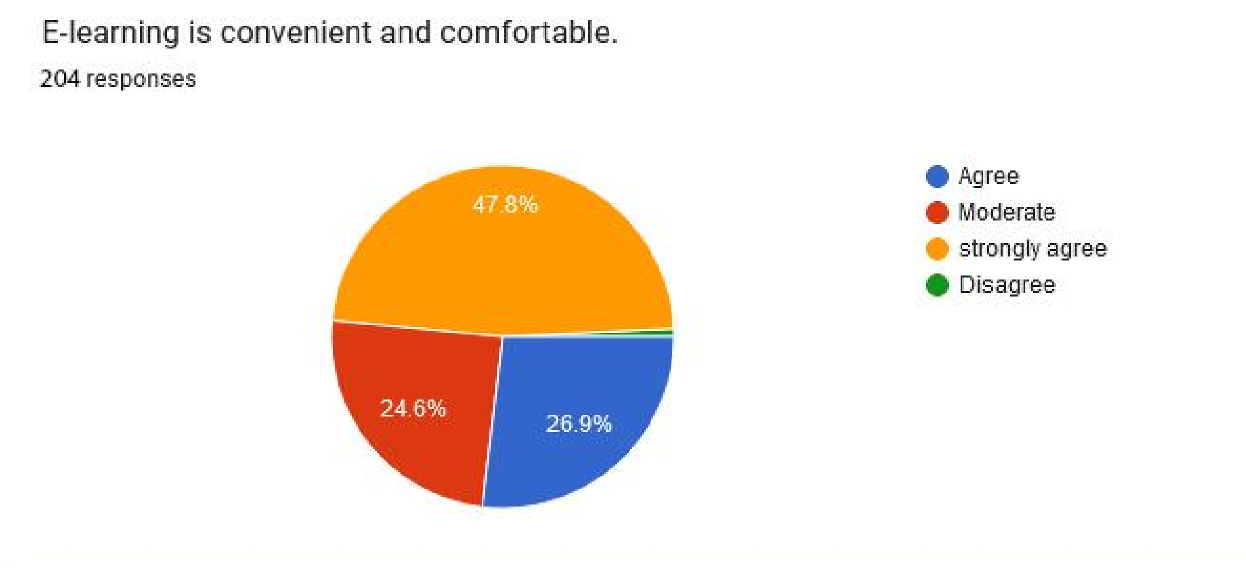

Figure 3: students' view on the Comfort & convenience of e-learning

Following figure 4 shows that (44.8%) of students responded that E-learning assessment increases their knowledge.

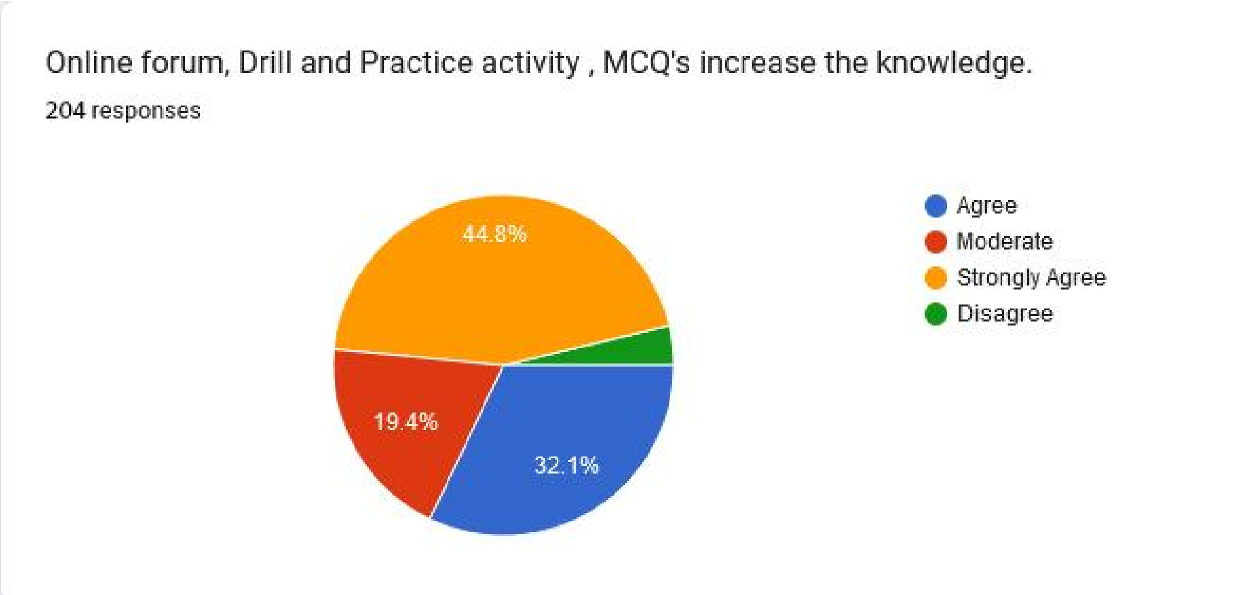

Figure 4: Different online options to gain knowledge

As shown in Figure 5, the (47%) of students are agree that E-learning tools help them in enhancing their academic performance.

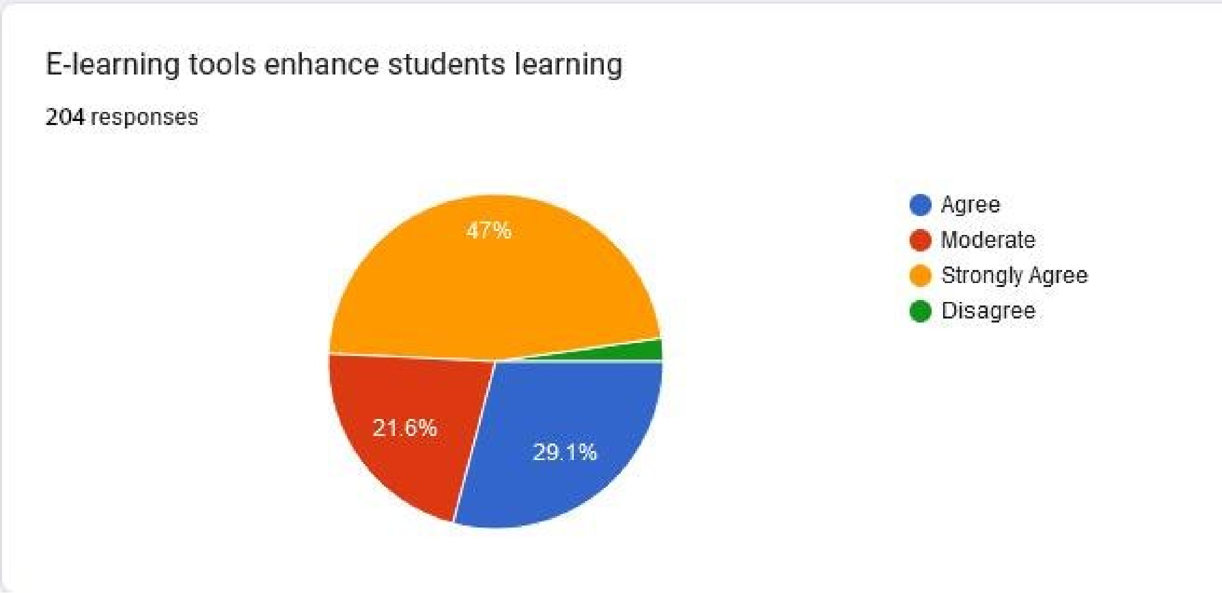

Figure 5: Contribution of e-learning Tools in enhancing students learning

Figure 6 shows (51.5%) of the students responded that E-learning provides time flexibility for their studies.

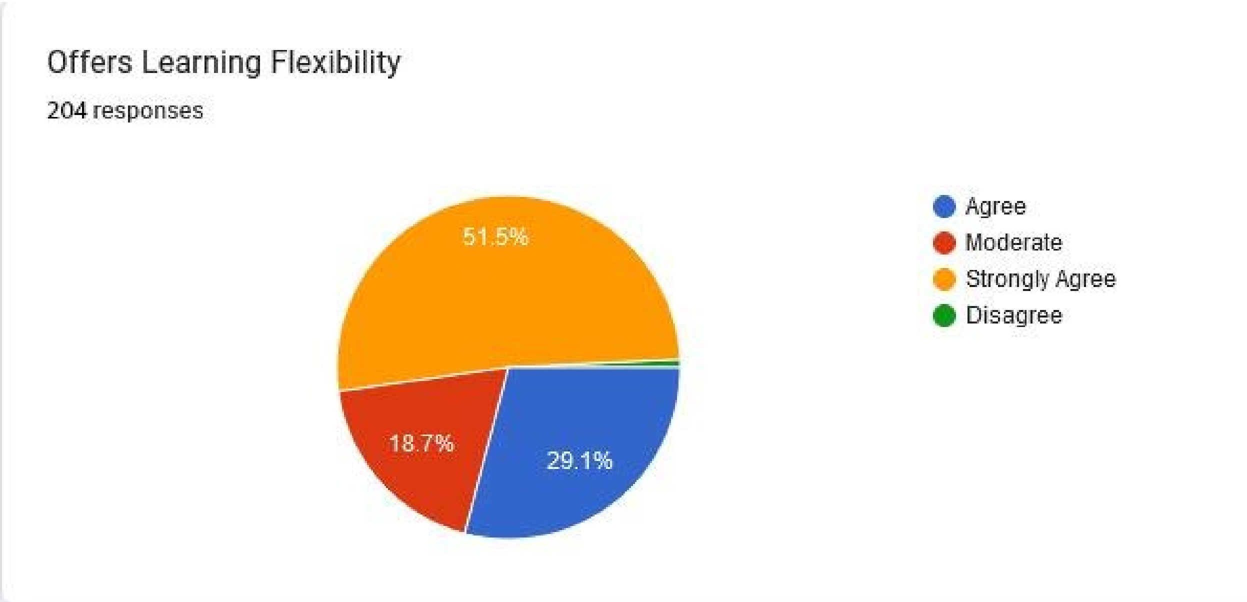

Figure 6: Flexibility offered while online learning

Following Figure 7 depicts that (51.5%) of students responded that the E-learning motivates students' in gaining knowledge.

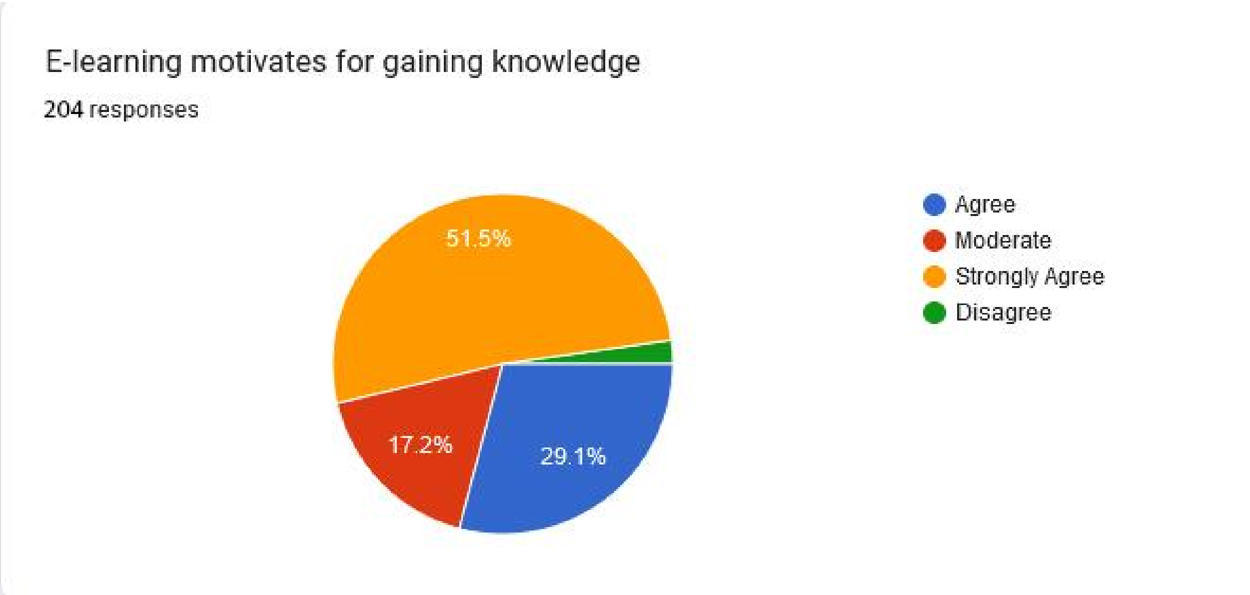

Figure 7: Contribution of e-learning to Motivation

Figure 8 shows that (47.8%) of students responded that there was the quick response for queries.

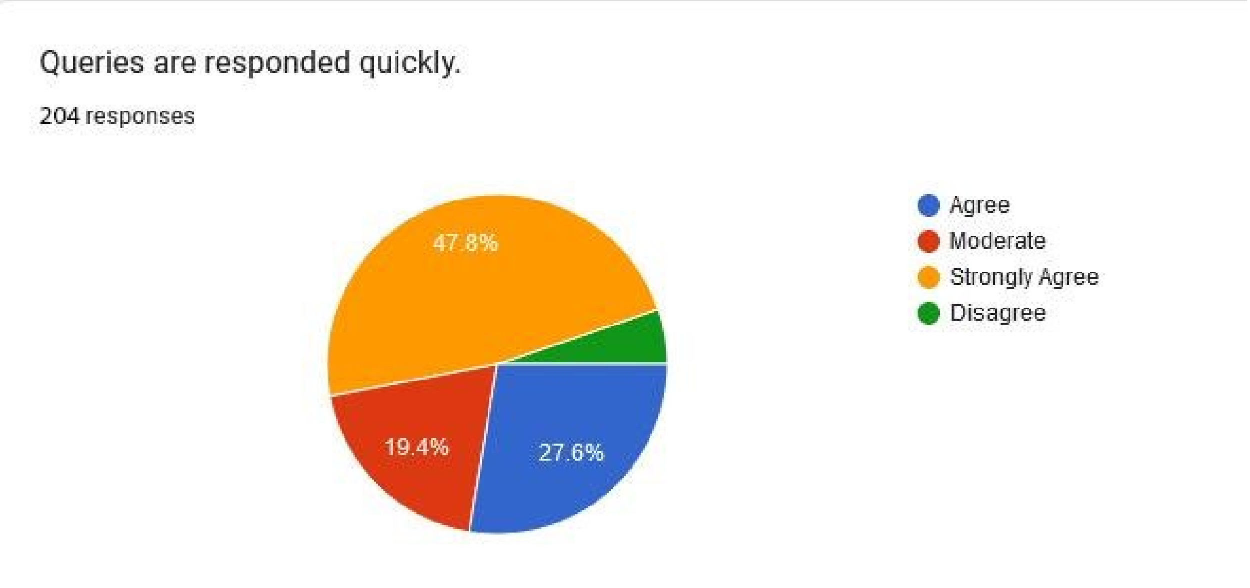

Figure 8: Quick responses for queries

Figure 9 shows that (60.4%) of students responded that because of online learning their travel time was reduced.

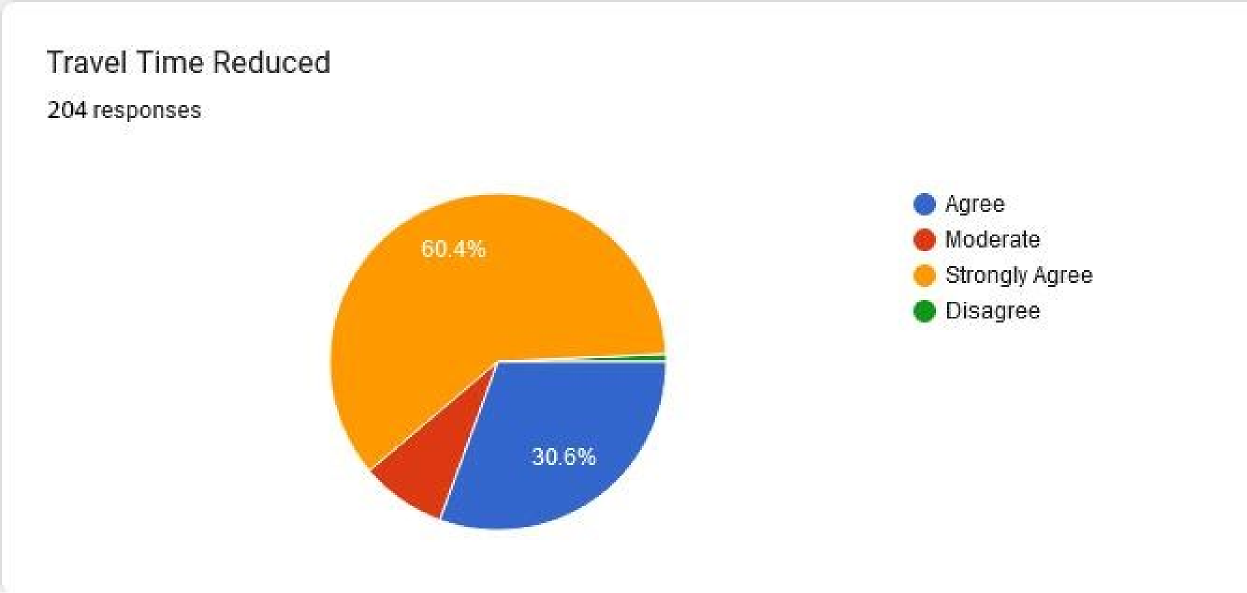

Figure 9: Travel time

Figure 10 shows that (53%) of students responded that there was ease of use while using different pedagogy

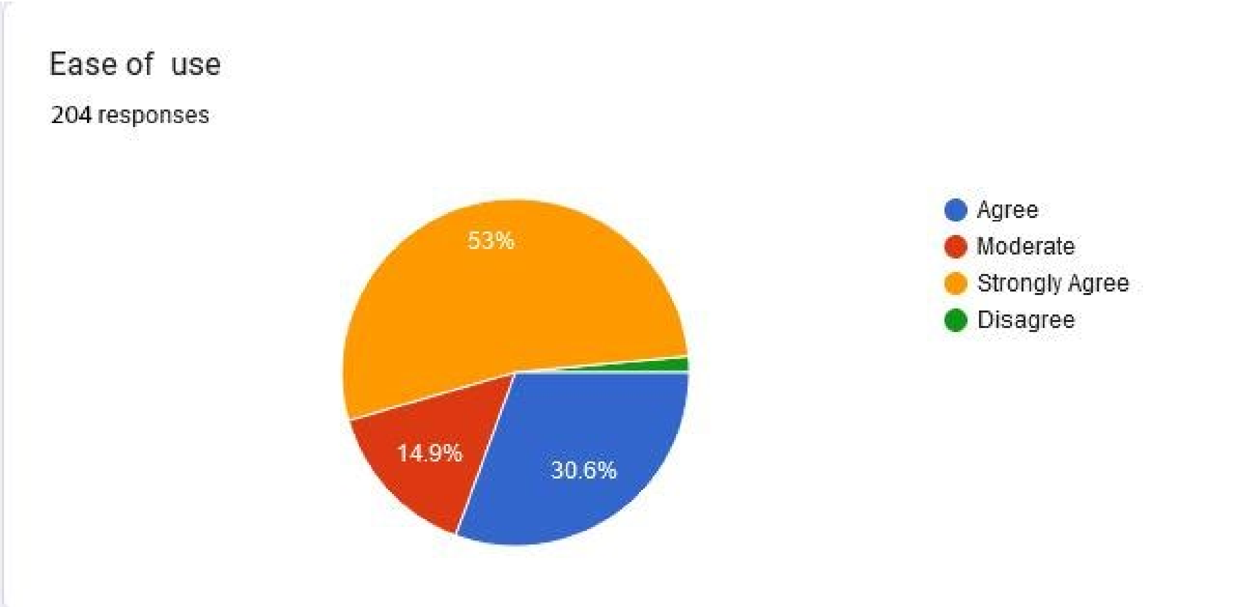

Figure 10: Easiness while e-learning

Conclusion

Online teaching with effective pedagogies has been proven as the best method of learning during the Covid-19 pandemic. With the analysis of 200+ responses, this study concludes that there is a positive and effective impact of online E-learning pedagogy. About 50% of respondents strongly agree that E-learning provides comfort and convenience in their studies. About 44.8%of students responded that E-learning assessment has increased their knowledge. E-learning tools helped in enhancing academic performance according to the opinion of 47% of students. 51.5% of the students felt that E-learning provides time flexibility for their studies. 51.5% of students responded that the Contribution of e-learning increases students' Motivation in gaining more knowledge. 47.8% of students responded that there was a quick response to their queries from the instructor. Online learning helped to reduce their travel time 60.4% of students felt and 53% of respondents felt that there was the ease of use while learning online. As about 50% of respondents strongly agree with all the questions, the benefits of online teaching are more than its drawbacks. Online teaching has brought a positive impact and helped academicians and learners to connect at long distances, have Flexibility, Reduction in infrastructure-associated tasks, and Increased Collaboration.

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IMPACT OF CHATBOTS ON CONSUMER DECISION MAKING PROCESS FOR FASHION APPARELS IN INDIA

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ABSTRACT
The purpose of this research is to explore the impact of Chatbots on the consumer decision-making process for fashion apparel in India. With the increasing demand for personalized shopping experiences, many e-commerce companies are turning towards Chatbot's to provide efficient and effective customer service. Chatbots have the ability to communicate with customers in a conversational manner, making the shopping experience more personalized and interactive. This research aims to investigate how Chatbots are influencing the consumer decision-making process for fashion apparel, and whether they are leading to increased customer satisfaction and sales for fashion e-commerce companies in India.
The research methodology involves a quantitative survey of Indian consumers who have shopped for fashion apparel online in the past six months. The data will be analyzed using descriptive statistics and regression analysis to identify any significant relationships between Chatbot usage and consumer behavior. The findings of this research will provide insights into the effectiveness of Chatbot's in the Indian fashion e-commerce market, and their impact on the consumer decision-making process. The study will also contribute to the understanding of the role of technology in shaping consumer behavior in the fashion industry.
Keywords: Chabot's, Consumer Decision-Making, Fashion Apparel, E-commerce, India.

Introduction

The fashion industry has witnessed a significant shift towards online shopping in recent years, with more and more consumers opting to purchase apparel through e-commerce platforms. This has led to an increased demand for personalized shopping experiences that cater to the unique preferences of individual customers. To meet this demand, many fashion e-commerce companies in India are turning towards Chatbot to provide efficient and effective customer service.

Chatbots are computer programs designed to simulate conversation with human users, and they can be used to provide personalized recommendations, answer customer queries, and guide customers through the purchase process. This research aims to investigate the impact of Chatbots on the consumer decision-making process for fashion apparel in India, and whether they are leading to increased customer satisfaction and sales for fashion e-commerce companies.

The study will provide insights into the effectiveness of Chatbots in the Indian fashion e-commerce market and their potential to shape consumer behavior. This research will be useful for fashion e-commerce companies in India looking to improve their customer service and provide a more personalized shopping experience for their customers.

Literature Review

Ahmad , Lefebvre's (2019) the authors found that chatbots have the potential to enhance customer experience by providing quick and personalized responses. However, there is a need for improvements in chatbot design, personalization, and privacy to fully utilize their potential. Consumers expressed concerns about the lack of human interaction and the security of personal information shared with chatbots. The study suggests that incorporating user feedback and improving chatbot functionality can lead to a more positive consumer experience.

Anderson , Strickland (2019) The authors argue that a well-designed chatbot can lead to increased customer engagement and sales. They emphasize the need for a conversational and intuitive chatbot design that can build customer trust and provide a positive user experience. Additionally, they suggest that chatbots can also benefit businesses by reducing labor costs and improving the efficiency of customer service.

Buettner , Buettner's (2020) Examines the impact of chatbots on customer experience in retail. Through a survey of 199 participants, the authors found that chatbots can enhance customer satisfaction, reduce wait times, and increase engagement. However, customers may still prefer human interactions in certain situations, such as complex or emotional issues. The study suggests that businesses need to balance automation and human interaction to provide a positive customer experience.

Chatterjee's (2020) The author highlights the benefits of AI in areas such as product design, supply chain management, and personalized recommendations. However, there are concerns about the ethical implications of using AI and the need to protect consumer privacy. The study suggests that businesses need to address these concerns and ensure that AI is used in a responsible and transparent manner.

Chen , Chen's (2018) Success factors in chatbot design , that natural language processing, user feedback, and chatbot personality can enhance the effectiveness of chatbots. They argue that continuous improvement and monitoring are necessary to ensure chatbots remain effective and useful for customers.

Jung , Chung's (2020) the authors found that perceived usefulness, ease of use, and trust are important factors influencing consumer acceptance of chatbots. The study suggests that retailers can improve chatbot adoption by enhancing chatbot performance and addressing privacy concerns. They also suggest that chatbots can be particularly effective for routine inquiries and customer service tasks.

Katti ,Bawa's (2020) The authors discuss the benefits of chatbots in areas such as customer service and marketing. However, they also note the challenges of chatbot design and the need for businesses to balance automation and human interaction. The study suggests that chatbots can be particularly effective for providing personalized recommendations and improving the efficiency of customer service.

Lu , Lin's (2020), the authors found that fashion involvement moderates the effect of chatbot usefulness and ease of use on consumer acceptance. The study suggests that retailers can enhance chatbot adoption by targeting fashion enthusiasts and providing personalized recommendations based on fashion preferences.

Wang, Han (2020) the authors examine the state of e-commerce in China, its rapid growth, and the challenges that the industry faces. They discuss the unique characteristics of China's e-commerce market, such as the dominance of mobile commerce and the prevalence of social commerce, and explore the opportunities that arise from these trends. The authors also identify some of the key challenges facing e-commerce in China, including intense competition, regulatory pressures, and issues related to logistics and supply chain management. They provide insights into how firms can navigate these challenges and succeed in the Chinese e-commerce market.

Yoo., Lee, & Kim (2020), The authors first provide an overview of chatbot technology and its potential benefits, such as increased efficiency and personalized service. They then review the literature on customer experience and identify key factors that influence it, such as perceived usefulness, ease of use, and satisfaction. The authors also conduct a survey of customers in the apparel industry to assess their perceptions of chatbots and their impact on customer experience. The results suggest that chatbots have a positive effect on customer experience, particularly in terms of perceived usefulness and satisfaction. The authors conclude with implications for firms looking to implement chatbots in their customer service strategies.

Objectives for the research paper

The objectives of the research paper on the impact of Chatbots on consumer decision-making process for fashion apparel in India are:

1. To identify the extent to which Chatbot's are being used in the fashion e-commerce industry in India and the reasons for their adoption.
2. To examine the influence of Chatbots on the consumer decision-making process for fashion apparel in terms of factors such as purchase intention, product satisfaction, and loyalty.
3. To investigate the relationship between chatbot usage and consumer behavior in the context of fashion apparel e-commerce in India.
4. To explore the factors that contribute to the effectiveness of Chatbots in the Indian fashion e-commerce market, such as the quality of conversation, accuracy of recommendations, and ease of use.
5. To assess the impact of Chatbots on the overall customer experience in the fashion e-commerce industry in India, and the implications for customer retention and loyalty.

6. To provide recommendations for fashion e-commerce companies in India on how to optimize the use of Chatbots to improve the customer experience and increase sales.

By achieving these objectives, the research will contribute to the understanding of the role of Chatbot's in the fashion e-commerce industry in India and their impact on the consumer decision-making process, as well as provide practical recommendations for fashion e-commerce companies on how to effectively use Chatbots to improve their customer service and sales.

Scope of the study

The scope of the study on the impact of Chatbots on consumer decision-making process for fashion apparel in India includes:

- The study will focus on the Indian fashion e-commerce industry, including both local and international brands that operate in India.
- The research will be limited to the use of Chatbots in the fashion apparel category, and will not include other categories such as accessories, beauty products, or home decor.
- The study will include consumers who have shopped for fashion apparel online in the past six months, and who have interacted with Chatbots during their online shopping experience.
- The research will primarily use a quantitative research methodology, including survey-based data collection and analysis.
- The study will explore the impact of Chatbots on the consumer decision-making process, including factors such as purchase intention, product satisfaction, and loyalty.
- The research will also investigate the effectiveness of Chabot's in the Indian fashion e-commerce market, and their potential to shape consumer behavior.
- The study will provide practical recommendations for fashion e-commerce companies on how to effectively use Chatbots to improve their customer service and sales.

By focusing on the Indian fashion e-commerce industry and the impact of Chatbots on the consumer decision-making process for fashion apparel, the study will provide valuable insights into the role of technology in shaping the customer experience in the fashion industry. The research will be of interest to fashion e-commerce companies, marketers, and academics interested in consumer behavior and technology in the Indian market.

Based on the objectives and scope of the study, the following research design was adopted for the sample size of 230 respondents.

1. Research Method: The proposed research design will be a quantitative research methodology, using a survey-based data collection and analysis approach.
2. Sampling Technique: The sample population will consist of Indian consumers who have shopped for fashion apparel online in the past six months, and who have interacted with Chatbot's during their online shopping experience. The sampling technique will be random sampling, using a database of customers from fashion e-commerce companies in India.
3. Sample Size: The proposed sample size is 230 respondents, which is determined using the sample size calculator with a confidence level of 95% and a margin of error of 5%.
4. Data Collection: The survey will be conducted using an online questionnaire, which will be distributed to the sample population via email or social media. The questionnaire will be designed to gather data on the respondents' demographic characteristics, their usage and perception of Chatbots, and their decision-making process when purchasing fashion apparel online.
5. Data Analysis: The collected data will be analyzed using descriptive statistics and regression analysis to identify any significant relationships between chatbot usage and consumer behavior. Descriptive statistics such as mean, median, and mode will be used to analyze the demographic characteristics of the sample population. Regression analysis will be used to investigate the relationship between chatbot usage and the dependent variables, such as purchase intention, product satisfaction, and loyalty.
6. Ethical Considerations: The research will adhere to ethical guidelines, including obtaining informed consent from the respondents, ensuring data confidentiality, and avoiding any harm or discomfort to the respondents.
7. Limitations: Limitations of the study include the potential for sampling bias due to the reliance on self-reported data, and the possibility of response bias due to social desirability or other factors that may influence the respondents' answers.

Overall, the proposed research design aims to provide valuable insights into the impact of Chatbot's on the consumer decision-making process for fashion apparel in India, using a quantitative research methodology and a sample size of 230 respondents.

Data Analysis for the Research Study
For a sample size of 230 respondents, the following table shows the responses to the relevant questions in the questionnaire:

1. Gender and frequency of using chat bots: We can use a chi-square test to determine if gender has a significant effect on the frequency of using chat bots for fashion apparel purchases. The null hypothesis is that there is no significant association between gender and frequency of using chat bots, while the alternative hypothesis is that there is a significant association.

2.

	Male	Female	Total
Rarely or never	25	36	61
Sometimes	44	45	89
Very frequently	27	53	80
Total	96	134	230

Table .No.1 Gender & Frequency of Respondents using Chabot's

Using a chi-square calculator, we obtain a chi-square value of 9.17 with 2 degrees of freedom and a p-value of 0.0104. Since the p-value is less than 0.05, we reject the null hypothesis and conclude that there is a significant association between gender and frequency of using chat bots.

2. Education level and accuracy of chat bots: We can use a one-way ANOVA test to determine if education level has a significant effect on the perceived accuracy of chat bots in providing fashion recommendations. The null hypothesis is that there is no significant difference in accuracy ratings among different education levels, while the alternative hypothesis is that there is a significant difference.

	High school or less	**Some college**	**Bachelor's degree or higher**
Mean	3.45	3.72	4.1
Standard deviation	0.81	0.88	0.76
Sample size	80	87	63

Table 2 Education Level and Accuracy of Chatbots

Using a one-way ANOVA calculator, we obtain an F-statistic of 12.01 with 2 degrees of freedom and a p-value of 4.4e-06. Since the p-value is less than 0.05, we reject the null hypothesis and conclude that there is a significant difference in accuracy ratings among different education levels.

3. Frequency of using chatbots and satisfaction with purchase experience: We can use a t-test to determine if there is a significant difference in satisfaction ratings between respondents who use chat bots very frequently and those who use them rarely or never. The null hypothesis is that there is no

significant difference in satisfaction ratings, while the alternative hypothesis is that there is a significant difference.

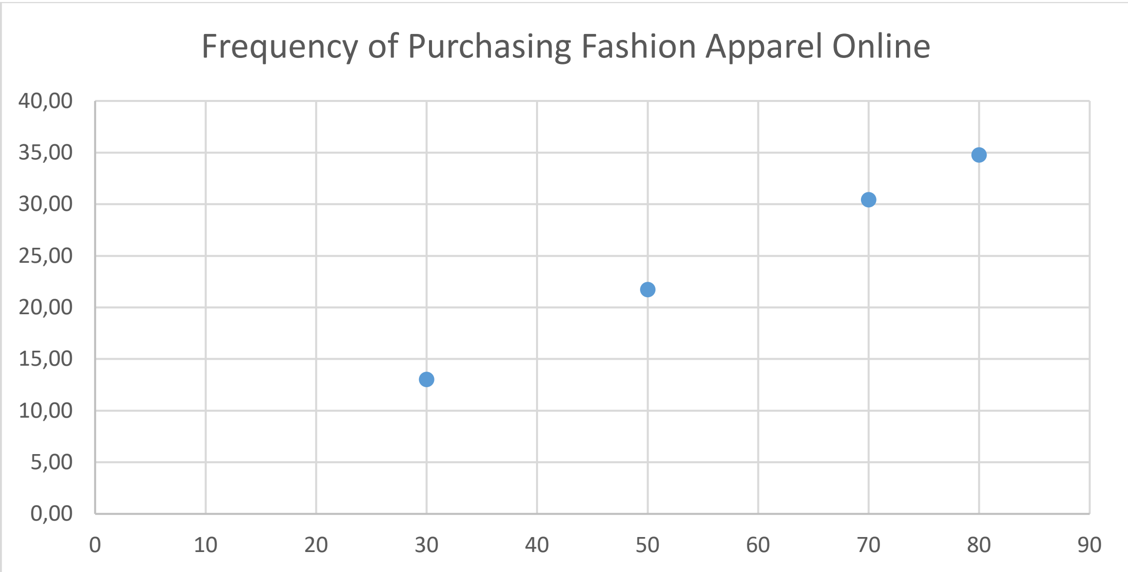
4.

	Rarely or never	**Very frequently**
Mean	3.54	4.07
Standard deviation	0.89	0.79
Sample size	61	80

Table 3 Frequency of using chatbots and satisfaction with purchase experience

Using a t-test calculator, we obtain a t-value of -5.54 and a p-value of 3.3e-08. Since the p-value is less than 0.05, we reject the null hypothesis and conclude that there is a significant difference in satisfaction ratings between respondents who use chatbots very frequently and those who use them rarely or never.

Table 4 Frequency of Purchasing Fashion Apparel Online



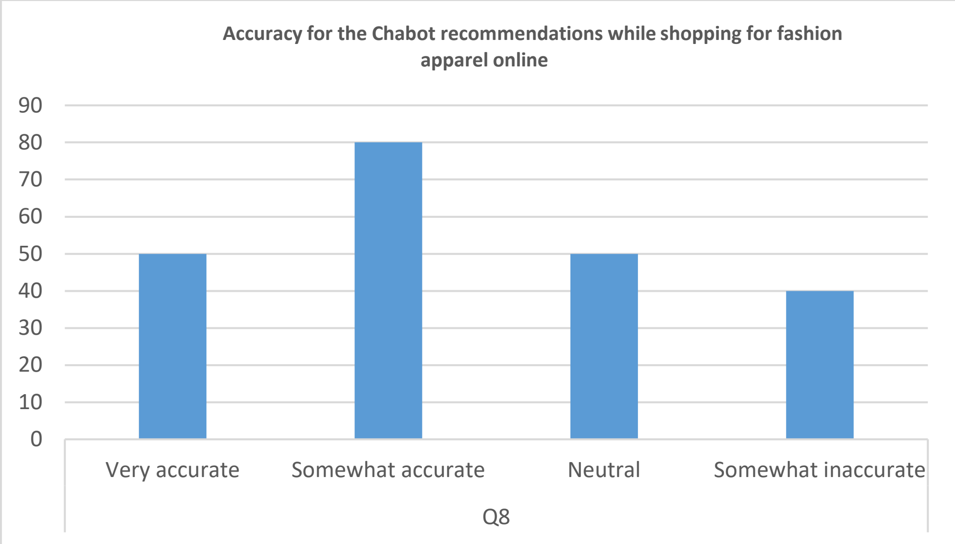
Graph.1 Frequency of Purchasing Fashion Apparel Online

On conduction of survey with a sample size of 230 participants on the Frequency of Purchasing Fashion Apparel Online, it was found that 13.04% of the respondents very frequently purchased online,30.43 % of the shoppers sometimes purchases online,34.73 Rarely purchased online and 21.74 % never purchased online.

4.Accuracy for the Chabot recommendations while shopping for fashion apparel online

Parameters	Number of Respondents	Percentage
Very accurate	50	21.73%
Somewhat accurate	80	34.78%
Neutral	50	21.73%
Somewhat inaccurate	40	17.39%

Table 5 Accuracy for the Chabot recommendations while shopping for fashion apparel online



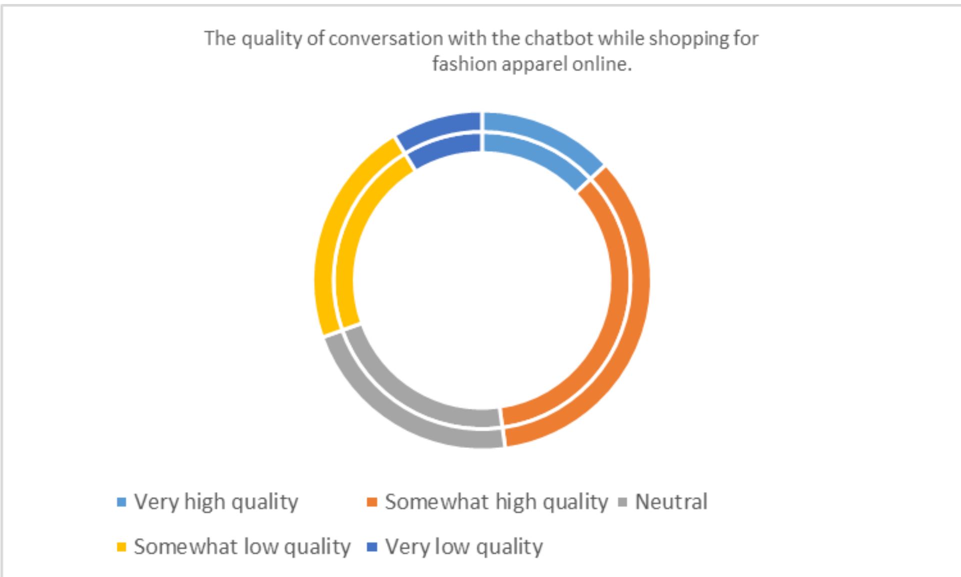
Graph 2 Accuracy for the Chabot recommendations while shopping for fashion apparel online

Interpretation

On conduction of survey with a sample size of 230 participants on the Accuracy for the Chabot recommendations while shopping for fashion apparel online it was found that 21.75% buyers felt it very accurate, 34.78 % buyers felt somewhat accurate,21.73 percent buyers felt Neutral and 17.39 % buyers felt somewhat accurate.

Parameters	No of Respondents	Percentage
Very high quality	30	13.04
Somewhat high quality	80	34.78
Neutral	50	21.74
Somewhat low quality	50	21.74
Very low quality	20	8.7

Table.6 The quality of conversation with the chatbot while shopping for fashion apparel online.



Graph .3 The quality of conversation with the chatbot while shopping for fashion apparel online.

Interpretation

On conduction of survey with a sample size of 230 participants on The quality of conversation with the Chabot while shopping for fashion apparel online it was found that 13.14% said very high quality conversation with chat bots,34.78% said Somewhat high quality, 21.74% said neutral, and 21.74% also said Somewhat low quality and 20% said low quality.

Based on the analysis of the data, here are some key findings and suggestions for the study:

Findings

- Females are more likely to use chat bots very frequently for fashion apparel purchases compared to males.
- Older respondents generally report higher satisfaction levels with chat bots, but the correlation between age and satisfaction is weak.
- Respondents with a bachelor's degree or higher report significantly higher accuracy ratings for chatbots compared to those with a high school diploma or less.
- Respondents who use chat bots very frequently report significantly higher satisfaction levels compared to those who use them rarely or never.
- Respondents are most likely to purchase shoes through chat bots, followed by clothing and accessories.
- The most common reason for using chatbots for fashion apparel purchases is to save time, followed by convenience and personalized recommendations.
-

Suggestions

- Retailers should consider the different usage patterns of chat bots by gender when designing and promoting chat bots for fashion apparel purchases.
- Retailers should focus on improving the accuracy of chat bots for all education levels, but especially for those with lower education levels.
- Retailers should promote frequent use of chat bots to enhance the purchase experience for fashion apparel purchases.
- Retailers should prioritize the development and promotion of chat bots for shoes, clothing, and accessories.
- Retailers should emphasize the time-saving and convenience benefits of chatbots, while also highlighting their ability to provide personalized recommendations to enhance satisfaction.

Overall, the study suggests that chatbots can be an effective tool for fashion apparel purchases, particularly for certain types of items and for customers who use them frequently. Retailers can benefit from promoting the time-saving and convenience benefits of chatbots, while also emphasizing the personalized recommendations that they can offer. Additionally, retailers should consider different demographic factors such as gender and education level when developing and promoting chat bots to enhance their effectiveness

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IMPACT OF COVID – 19 PANDEMIC ON CONSUMERS' BUYING BEHAVIOUR

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ABSTRACT
It is quite natural on the part of the human beings to act out a changed, sometimes weird buying behavior when they are exposed to a critical situation like COVID-19, a pandemic. During the initial stage of this pandemic, people demonstrated unusual buying behavior such as hoarding grocery items, toiletries etc. The reasons for this type of behavior could have been 1) the risk of getting infected by the virus and the resultant quarantine, 2) global disruptions in the supply chain due to the closure of factories caused by a complete lockdown. These behavioral changes have also reflected in their choices concerning the products/services, buying patterns, spending money etc. This pandemic has also changed the peoples' lives in terms of the way they shop, travel, work and ensure their physical wellbeing. These changes have a long lasting impact on the way the companies used to design the products, services and engage with the customers in the future. The present paper is an attempt towards understanding the consumer's buying behavior during COVID -19 pandemic concerning i) the buying patterns in terms of quantity, frequency, timing etc. and ii) the preferred retail outlet(s) for buying CPG and the reasons for the same.
Keywords: Consumer Packaged Goods (CPG), COVID-19, Pandemic, supply chain, Buying Behaviour

Introduction
The consumer's buying behavior varies based on the environment and the situation in which they find themselves. The earlier research studies on the consumers' behavior suggest that it is a complex component of a human life and dynamic in nature.

Consumer buying decision making process that includes the following stages:
1. Need recognition
2. Information search
3. Evaluation of alternatives
4. Purchase decision
5. Post purchase evaluation

This was evident in the initial stages of the COVID-19 pandemic. The COVID-19 pandemic has a global impact on many industries across the world which also includes the Consumer Packaged Goods (CPG) industry. The CPG industry has experienced significant disruptions over the past few months due to complete lockdown, paradigm shift in consumers' spending habits, product choices etc. (E & Y, 2020). COVID- 19 has also affected the consumers' behavior in the following manner (McKinsey 2020)

a) **Change in consumers' spending and the category of products being bought by them:**
Because of this crisis situation, many people have either lost their jobs or have reduced income. As a result of this, the people at large have cut down their spending on non-essential products and are focusing more on buying essential products such as grocery items, health and hygiene related products etc.
b) **Online platforms are preferred by the consumers for buying the products:**
Due to the outbreak of the COVID-19 pandemic and the subsequent restrictions on the people's movement, most of the customers have resorted to online platforms for buying the products of their choice.

c) **Increased customer patronage to the companies who have healthy and hygienic packaging of their products:**
Due to the concerted and focused efforts of the government, companies and society, people have started buying the products which are healthy and hygienic.

d) **Trial of new brands and outlets by the customers:**
In this pandemic situation, the supply chain of certain products has got disrupted. As a result of this people were not able to find their preferred brands at the outlets near to them. This has led to the trial of new brands and outlets by the customers.

The pandemic situation has a deep impact on the businesses world over thereby affecting the world economy. The businesses were shut and the global supply chain also got disturbed by the prevailing situation. This has led to the loss of jobs for many and for others their earnings have decreased. In addition to this, it has also made people change their spending patterns on the various products. It was during this time, people revisited their priorities in respect of the products they were buying earlier.

The pandemic situation has seen a variety of unusual consumer behavior that made them spend more on essential commodities and cut down expenses on the luxurious and non-essential items. The major behavioral changes can be seen in the brand preferences, hoarding of essential commodities, family budgets and increased spending on health and hygiene related products. The uncertainty and unpredictability caused by this pandemic situation, forced the consumers to postpone some of their intended purchases and spend only on the required items to sustain themselves.

This situation has led to the sudden rise in the contact and touch less sales and delivery channels. The food and beverage industry has experienced increase in their online sales. The holiday/special occasion shopping season also got affected by the pandemic situation.

Review of literature

Rogers , Cosgrove (2020) found that the COVID-19 pandemic has led to the disruptions in the supply chain of the products in the market, human lives in terms of physical safety, changes in behavior, mobility etc.

Forbes (2017) found that survival psychology acknowledges the fact that individuals may undergo behavioral changes due to unpleasant events such as natural disaster, healthcare crisis, accident, terrorist attacks etc.

Loxton, Mary, Scarf, Truskett, Sindone and Baldry (2020) found that in the current scenario, these behavioral changes have resulted in panic buying, changes in purchasing habits and investment decisions

Miri (2020) found that the world has seen a number of epidemics that broke out in the recent past such as Ebola, SARS and Swine Flu.

Torre (2019) found that these epidemics have impacted human behavior in terms of consumer behavior and health risk mitigation behavior. Such health crises have severe macroeconomic implications for the policy makers, businessmen, people at large etc.
Singh, Sreenivas (2020) found that the same gets reflected in loss of jobs, pay cuts, uncertainty and sluggishness.

Donthu, Gustafsson (2020) commented on the observation on the deaths which the World Health Organization has reported that over four million deaths are due to Covid-19. Economies have also been severely affected due to this situation.

Sheth (2020) found that there is a paradigm shift in consumer preferences in respect of the purchases they make. Off late, it has been observed that more people are going for online purchases through websites of the concerned company or the e-retailers such as Amazon, Flipkart, Myntra, Ajio. PayTM Mall etc.

Brem (2020) found that it is necessary to study consumers' behavior in the crisis situation caused by the outbreak of COVID-19 pandemic and it may have affected their marketplace behavior. The insights developed through this study will help the companies to formulate marketing strategies so as to tide over the difficult situation.

Abdel (2021) found that the pandemic situation has led to the rapid advancements in the technology that facilitates the business activities. The same can be seen in the buying, selling and making the payments through digital platforms.

Dahlhamer, Tierney (1998) defined the term “disruptive event” is a situation that leads to profound changes regarding the unit analyzed. The Pandemic situation has thrown a serious challenge to the businesses world over. The same can be mitigated through upside down marketing strategies.

Pan (2020) found that some natural disasters are carefully monitored, and their arrival and intensity can be anticipated (e.g., hurricanes). The anticipation of such events induces an unprecedented, at times bizarre behavior on the part of the people at large. It consists of stockpiling the basic necessities, prioritizing the spending on the items to be purchased.

The people at large have started adapting to a new normal and the intricacies therein in terms of their consumer packaged goods (CPG) purchase behavior, spending habits etc. In response to these changes, the CPG industries have also started working on re-aligning their marketing strategies for meeting the needs of the customers effectively.

Objectives of the study

1. To study the buying preferences of the customers of consumer packaged goods (CPG) or fast moving consumer goods (FMCG) during this pandemic situation.
2. To understand the customers’ preferred outlets for buying these products.
3. To find out the reasons for their patronage to such outlets.

Research Methodology

1. Universe/ Population: Consumers of packaged goods.
2. Sample size: 200
3. Sampling technique: Convenience sampling
4. Sources of data: Primary and secondary
5. Data collection tools/instruments: Structured Questionnaire

Scope of the study

The present study shall focus on the buying patterns of the customers in terms of quantity purchased, frequency of buying the consumer packaged goods (CPG) and the day and time of such purchases. The study also aims at understanding the preferred outlets for buying CPG and the reasons thereof. The study shall be restricted to the City of Pune.

Hypothesis

H0 - The buying preferences of the customers are not influenced by the pandemic situation.

Data analysis and interpretations

Out of 200 questionnaires circulated for the collection of data, 17 questionnaires were not returned by the respondents and 9 questionnaires were partially filled. Therefore, the total number of questionnaires that were considered for the data analysis are 200-26 =174.

1. Respondents were asked to tell which types of products were purchased more by them during this pandemic situation. Following options were given to the respondents to choose from:
    - Food and beverages, and toiletries
    - Health and hygiene related products like sanitizer, disinfectant sprays, disinfectant wipes and masks etc.
    - Luxury or expensive products such as branded cosmetics, designer clothes, jewelry etc.

They were further asked to select the options as applicable. A Multiple Response Analysis in SPSS (version 27) was used to analyze the data.

Types of Products Purchased More During Covid-19 Pandemic				
		Responses (Multiple responses)		Percent of Cases
		N	Percent	
Types of products purchased	Food, beverages and toiletries	110	40	63
	Health and hygiene related products such as sanitizers, disinfectants wipes, masks etc.	104	38	60
	Luxury or expensive products such as branded cosmetics, designer clothes, jewelry etc.	61	22	35
Total		275	100	158

Table 1. Types of products purchased more during the COVID 19 Pandemic

From the above frequency distribution table it can be seen that out of 275 YES responses 40 % accounted for food, beverages and toiletries, 38 % accounted for health and hygiene related products and 22 % accounted for luxury or expensive products.

Hence, it is concluded that there is a paradigm shift in the buying preferences of the customers during Covid – 19 Pandemic.

2. Respondents were asked to tell from where they bought the CPG or FMCG products in this pandemic situation. Following options were given to the respondents to choose from:
    - Nearby retail outlet
    - Retail store
    - e-retailers like big basketer, Grofers, Jio Mart etc.

They were further asked to select the options as applicable. A Multiple Response Analysis in SPSS (Version 27) was used to analyze the data.

Preferred outlets for buying CPG or FMCG products during the COVID- 19 Pandemic				
		Responses (Multiple Responses)		Percent of cases
		N	Percent	
Preferred outlets	Nearby retail outlet	127	43	73
	Retail store (through home delivery)	101	34	58
	e-retailers like big basketer , Grofers, Jiomart	70	23	40
Total		298	100	171

Table 2. Preferred outlets for buying CPG or FMCG products during COVID – 19 Pandemic

The frequency distribution table shows that out of 298 YES responses 43 % accounted for nearby retail outlets, 34 % accounted for retail stores and 23 % accounted for e-retailers.

Therefore, it is concluded that most of the people were preferring nearby retail outlets for buying CPG and FMCG products during the pandemic time.

3. Respondents were asked to tell about the reasons that made them buy the CPG or FMCG products from a specific outlet in the pandemic situation. Following options were given to them to choose from:
   - Convenience and safety
   - Availability of varied range of products
   - Reasonable price
   - Attractive offers

Further to this they were asked to select the options as applicable. A Multiple Response Analysis in SPSS (Version 27) was used to analyze the data.

Reasons that made the customers to buy CPG or FMCG from a Specific Outlet During Covid- 19				
		Responses (Multiple Responses)		Percent of cases
		N	Percent	
Reasons of buying from a specific outlets	Convenience & personal safety	141	40	81
	Availability of varied range of products	92	26	53
	Reasonable price	119	34	68
Total		352	100	202

Table 3. Reasons that made the customers to buy CPG or FMCG from a specific outlet during COVID -19 Pandemic

From the above frequency distribution table it is evident that out of 352 YES responses 40 % accounted for convenience and personal safety, 26 % accounted for availability of varied range of products, 34 % accounted for reasonable price.

Hence, it is concluded that convenience and safety is the major reason for buying CPG or FMCG products from a specific outlet.

Testing of hypotheses
Hypothesis 1
H0 – The buying preferences of the customers are not influenced by the pandemic situation.
Ha – The buying preferences of the customers are influenced by the pandemic situation.

Statistical Test: Chi Square
Level of significance: 0.05

		Observed N	%	Expected N	(O-E) Residual	Chi Square	DF	Critical Value of X^2
Food and beverages	Yes	110	63	87	23	12.16	1	3.841
	No	64	37	87	-23			
	Total	174	100					
Health and hygiene related products	Yes	104	60	87	17	6.64	1	3.841
	No	70	40	87	-17			
	Total	174	100					
Luxury products	Yes	61	35	87	-26	15.54	1	3.841
	No	113	65	87	26			
	Total	174	100					

Table 4. Testing of Hypothesis

From the above frequency distribution table and test statistics, it can be seen that out of 174 respondents 63 % accounted for food, beverages and toiletries, 60 % accounted for health and hygiene related products and 35 % accounted for luxury products.

Since, the calculated Chi-Square values are greater than the critical value of X^2 the null hypothesis is rejected.

Findings

1. During the pandemic situation, people gave more preference to food, beverages and toiletries (40%) which was followed by health and hygiene related products (38 %). The purchases of luxury products were either avoided or deferred for the time being. Therefore, it is concluded that, there is a paradigm shift in the buying preferences of the customers during the Covid-19 Pandemic.
2. This study also revealed that the nearby retail outlets (43 %) were the most preferred outlet for purchasing the Consumer Packaged Products (CPG) during the pandemic situation.
3. From the study it was found that convenience and personal safety (40 %) was the major reason for patronizing a specific outlet for buying the CPG products.

Conclusion

In the pandemic situation, the executives around the world are facing serious business challenges due to the outbreak of COVID virus. These challenges can be seen in terms of sharp decline in the customers' demand, changes in the regulatory norms, disruptions in the global supply chain, recessionary trends in the economy etc. Therefore it has become imperative for all the commercial organizations to find ways for regaining the lost ground. In doing so, concerted efforts in the form of suitable marketing strategies will help them a lot.

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IMPACT OF DIGITIZATION ON BANKING PRACTICES; A CASE STUDY OF KALYAN JANATA SAHAKARI BANK

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ABSTRACT

Co-operative banks are an important segment of the overall banking structure. As in India, as far as digitalisation is concerned, cooperative banks are still lagging. The technological development has changed the approach of the people towards banking transactions. Nowadays, people prefer to complete banking transactions without physically going to the bank. There are digital banking options such as E-Banking, M-Banking which has made life easy and comfortable both for the banking customers and bank staff.

The pandemic affected the business as well. All the economic activities have been closed down in a host of countries. Generation of income and consequently the purchasing power of citizens fell drastically within a short span of time. 'Urban co-operative banks appear to have been particularly impacted by the second wave of Covid-19." The RBI said in its financial stability report.

Under such circumstances, there was a need to develop information technology tools for the cooperative banks. But due to the impact of the second wave of Covid-19, the same has not been done to that level as it was expected by the cooperative banking customers. As compared to the same, private and foreign banks have offered better options to their customers for digital banking.

It also affected the quality of banking services offered by UCB's in India. Most of the services due to lockdown and Covid-19 protocols were being offered through online mode and customers' entry were being restricted in the bank. This gave rise to upgrading online (E-banking) services which was a big challenge for most of UCB's in the said region as these are still struggling and competing with private and foreign banks for the same.

The present study talks about such issues and challenges faced by Urban co-operative banks especially in case of KJSB (Kalyan Janata Sahakari Bank) during Covid-19 phases and an analysis based on the opinion of the KJSB staff on the digital banking services offered during the phases of pandemic.

Keywords: Co-operative banks, Covid-19, RBI, Banking services, KJSB

Introduction

India along with different parts of the world is being affected drastically due to the impact of Covid-19 (A virus from corona family was identified first during November – 2019 in China – According to the sources). According to various studies, it has been proved that the virus has impacted the lives of major sections of the society, but it created opportunities for few new trends too in the society.

For example, digital banking options as offered by various banks. It includes the banking services through online mode and covers E-Banking, M-Banking options. All types of banks such as Government, Private or foreign were successful in offering multiple digital banking options for their customers. In the same line, cooperative banks in India were also supposed to offer to be in the competition. Various cooperative banks have tried to upgrade their digital banking options and to be at par with other banks. But few succeeded. The reasons for their failures can be: -

1. **Limited capital base:** Most of the cooperative banks operating in India have limited capital base which is coming from the banking customers converted into shareholders by subscribing in the share capital of the bank. But this subscription is very nominal. Therefore, cooperative banks find it difficult to upgrade their digital banking technologies.
2. **Untrained staff:** The banking staff working in cooperative banks are mostly untrained. Due to limited training sessions and low qualifications/experience, it seems difficult for the cooperative banking staff to cope with the technological development and offer the same nature of banking services digitally to their customers.
3. **Uneducated customer base:** in case of cooperative banks, mostly the customers are less educated or technologically sound. As most of the customers who can understand and use digital options prefer to

have their bank accounts in government, private or foreign banks. Only those customers who are unable to open their bank accounts in such banks due to some reasons are coming to cooperative banks. Thus, such customers are very much comfortable with the traditional banking options.

4. **Flexible banking hours:** Some of the cooperative banks offer flexible working hours such as during evening time or on Sundays. Therefore, it is easy for the customers to go to the bank and complete their banking transactions rather than opting for digital banking options as available through bank websites or mobile applications. Such customers can visit the bank during their comfort time.

With the start of this pandemic from early days of the year 2020, the banks started operating as per the standing instructions of the Government of India. For the purpose of study, the pandemic phases are grouped as per following: -
First phase – March- 2020 to July- 2020(1st Wave of Covid-19)
Second phase – August - 2020 to Feb - 2021
Third Phase – March - 2021 to June – 2021(2nd Wave of Covid-19)
Fourth Phase – July 2021 to December – 2021
Fifth Phase – January -2022 to till date. (3rd Wave of Covid-19)

During the above different phases of the Covid-19 pandemic, the banking services in general and specifically in the case of co-operative banks have got affected drastically. For this purpose, the case study of Kalyan Janata Sahakari Bank (KJSB) is being taken for the study purpose.

The people who were having their accounts in this bank were not getting the opportunity to physically visit the bank to do their banking transactions. Due to the Covid-19 protocols and other safety measures, the customers were allowed to visit the bank in limited numbers and also through a token/coupon system.

Following were certain general observations made during these phases with respect to the working and operating of co-operative banks under study.

1. The banks were operating for a limited number of hours during the official working time and allowing a limited number of customers to physically visit the bank after following all the necessary Covid-19 protocols.
2. The banks under study were encouraging their customers to go for online banking options through its web portal or m-banking applications.
3. Certain services like passbook printing and customer inquiry were being restricted during the 1st and 3rd Phase as mentioned above due to the 1st and 2nd wave of the pandemic.
4. The retail customers approaching these banks were supposed to wait in a long queue because the gate keeper was allowing only 4-5 customers to go inside at one time and once 4-5 customers were coming out then another lot used to enter.
5. In banks also, generally half the total strength of staff were allowed to report on duty on one day and therefore, so many services which were specifically handled were not being provided by the bank.

Literature Review

Jindal , Sharma, (2020) using the descriptive approach through a questionnaire targeting consumers in the city of Bulandshahr in India, looked at evaluating the role of online banking services in fighting the Covid-19 pandemic, the results of study showed that online banking has an important role in fighting the Corona pandemic and that people who use online banking services feel more secure under the conditions of the spread of the virus. Thus, technology has not only gone beyond the daily need, but has become a need for life and a sense of security, and online banking services are required by every banking institution to preserve people's lives.

Shihadeh. (2020) analyzed the relationship between consumer behaviour and the use of online banking services in daily life, by collecting information from World Bank's 2014 Global Findex Database, and found that the use of online banking services is linked to several factors: the educational level of individuals, age, gender, income level. And that the use of online banking services is still low in the countries of the MENAP region, and that individuals who have a high level of education are more likely to use online banking services.

Kushnir , Hevorhyan, (2020) on Ukrainian banks using the descriptive approach, which found that banks forced to work in uncertain conditions and to organize ways and procedures for working with customers under difficult conditions during the imposed quarantine period, and banks must provide remote services to customers, which in turn is an appropriate solution and safe for both the bank and its customers. Ramya T J (2016) in her study “A

Study on Customer Satisfaction towards Private Banks with special reference to Mysuru City " The banking industry has an incredible growth in the Indian market. The doorway of new technology has made a lot of changes in the Indian banking sector.

Dauda , Lee, (2015) analysed the adoption of the technology approach for customers and its impact on the development of online banking services in Nigerian banks by a random utility model using discrete choice models. What this study found was that banks, to achieve a competitive advantage, should provide smart and practical online banking services.

Rahi (2015) research findings show customers are more loyal towards those banks who are facilitating internet banking services. Also, a good brand image builds relationships between banks and customers and enhances the customer loyalty toward the bank. He also concluded that those banks that are giving the internet banking services to their customers, loyalty of those customers are more towards the banks.

Mathur (2014) in his article “Customer’s Trends towards Public and Private Sector Banks”. Now 'Anywhere Banking' and 'Anytime Banking' have turned into a reality. Banking activities have increased enormously with a clear change in way of life and techniques especially in the field of lending, from wholesale to retail character. Nirmaljeet Virk and Prabhjot Kaur Mahal (2012) carried out a study on customer satisfaction in public and private banks of India. Private Bank managers maintain better personal relationships with customers than the public bank managers and this factor determines the customers’ satisfaction to a large extent.

Joseph , Shani (2008) in their book entitled, “Changing Role of Banks – A Global Perspective” have discussed the attitude of the customers towards banking services like time taken for opening saving account, time spent for depositing cash and withdrawal, satisfaction of customers and problems of customers. Aurora and Malhotra (1997) studied the level of customer satisfaction and marketing strategies in both private and public sector banks in India. It revealed six factors of customer satisfaction in public sector banks viz, routine operations, price, situational environmental technology and interaction.

Research Methodology
Statement of Problem
The Pandemic has affected almost every segment and every industry drastically but the effect on banking services is partially good and partially bad. Through online banking services. Both the customers and the banks have got another option of providing the banking services but the same is with so many challenges. Certain banks like foreign banks, private banks were able to face the challenges and made online banking an easy option. But this is not the case with co-operative banks.
The present study talks about the initiatives and steps taken by KJSB with regard to Digitization of its Banking services and its impact on retail banking as per the opinion of the KJSB Bank staff of few branches within KDMC (Kalyan-Dombivli Region) region.

Objectives of the study
- To understand and explore the various Digital Banking services as offered by Urban Co-operative Banks in general.
- To evaluate the nature of banking services offered during different phases of pandemic.
- To analyse the alternative digital banking options offered by KJSB (Kalyan Janata Sahakari Bank)
- To offer suggestions based on findings of the study.

➢ Hypothesis
On the basis of above-mentioned objectives, the present study aims to test the
Following hypothesis:
Hypothesis - 1
H0: There are no significant preferences for Digital banking services for the banking staff of the bank under study.
H_1: There are significant preferences for Digital banking services for the Banking staff of the bank under study.

Hypothesis - 2
H0: The digital banking services as offered by KJSB have not impacted positively on the lives of mean staff of the banks under study.
H1: The digital banking services as offered by KJSB have impacted positively on the lives of mean staff of the bank under study.

➢ Research Design
▪ For the purpose of Research, Data is collected through
a) Primary Data source b) Secondary Data source
▪ For the purpose of study and analysis the banking staff including clerks, Cashiers, Managers, Peons etc. of selected branches of KJSB are being covered under the survey.
▪ Primary Data source **-** 25Bank Staff from 4 Branches namely 1. Kalyan-west (Adharwadi Branch) 2. Kalyan -west (Bail Bazar Branch) 3. Kalyan – East (Netivali Branch) 4. Kalyan – East (Malang Road Branch), are being selected based on 'Convenience Sampling' technique. Responses are collected through structured questionnaires consisting of close ended multiple-choice questions.
▪ For Secondary data source- Annual Reports, Minutes of Meetings of KJSB- Kalyan Janata Sahakari Bank, Web Resources, Research Publications, Text books & reference books are being used.
▪ The Data collected from respondents are tabulated and analysed through charts/graphs.
▪ The collected data is also analysed by using a statistical diagram & T-Test(Paired samples for means).

For Bank staff
1. Kalyan-west (Adharwadi Branch) 08
2. Kalyan -west (Bail Bazar Branch) 07
3. Kalyan – East (Netivali Branch) 06
4. Kalyan – East (Malang Road Branch) 04
Total 25

Scope of the study
The study is confined to the survey on Digital Banking Services as offered by KJSB (Kalyan Janata Sahakari Bank).

The analysis is based on the responses collected from the Bank staff of the bank under study.

Limitations of the study
Even though reasonable care has been taken for collecting information and doing analysis, the present study is having certain limitations, too.

1. The study is confined to the KJSB (Kalyan Janata Sahakari Bank) with respect to 4 branches located in Kalyan-west and Kalyan-east region only.
2. The study is done based on the responses collected from 25 Bank staff only.

Data Analysis & Findings
1. Demographic Profile of the Respondents

Gender	**No. of Respondents**	**Percentage (%)**
Male	10	40.00%
Female	15	60.00%
Total	**25**	**100.00%**

Table 1: Gender (Source:- Primary Data)

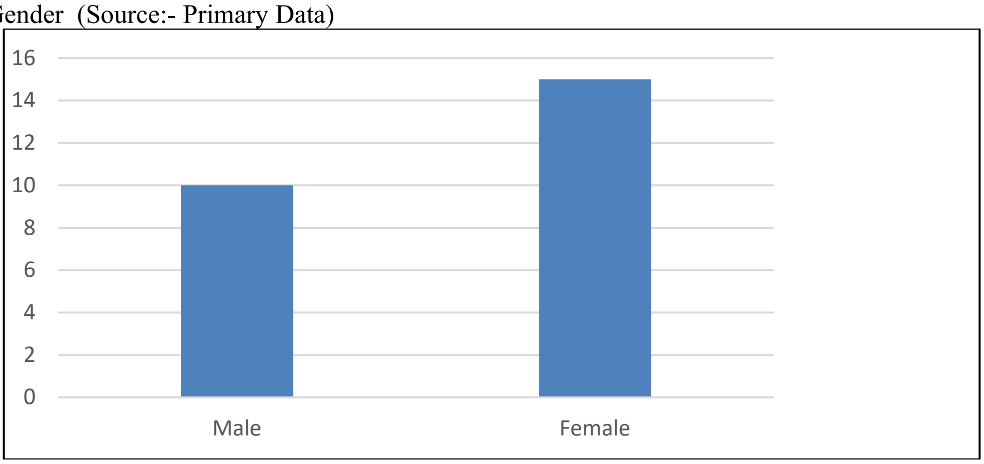

Figure 1: Gender of the Respondents

Interpretation: - Out of total respondents, 10 respondents (40%) are male and 15 respondents (60%) are female. Due to the nature of respondents as bank staff, no. of female staff is more as compared to the male.

Marital status	No. of Respondents	Percentage (%)
Single	09	36.00%
Married	15	60.00%
Divorced	01	04.00%
Total	**25**	**100.00%**

Table 2: Marital Status (Source :- Primary Data)

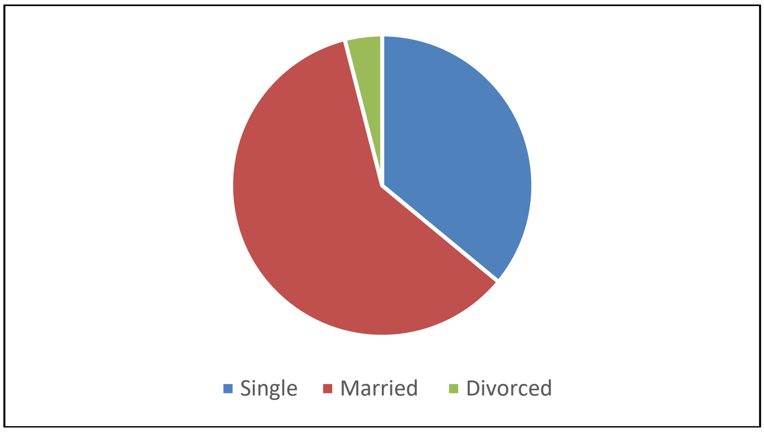

Figure 2: Marital Status of the Respondents

Interpretation: - Out of total respondents, 09 respondents (36%) are married, 15 respondents (60%) are unmarried and 01 respondent (04%) is divorced. No. of unmarried respondents are highest.

Education	No. of Respondents	Percentage (%)
SSC & Below	02	08.00%
Diploma	04	16.00%
Graduate only	05	20.00%
PG only	04	16.00%
CAIIB	04	16.00%
JAIIB	06	24.00%
Total	**25**	**100.00%**

Table 3: Education (Primary Data Source)

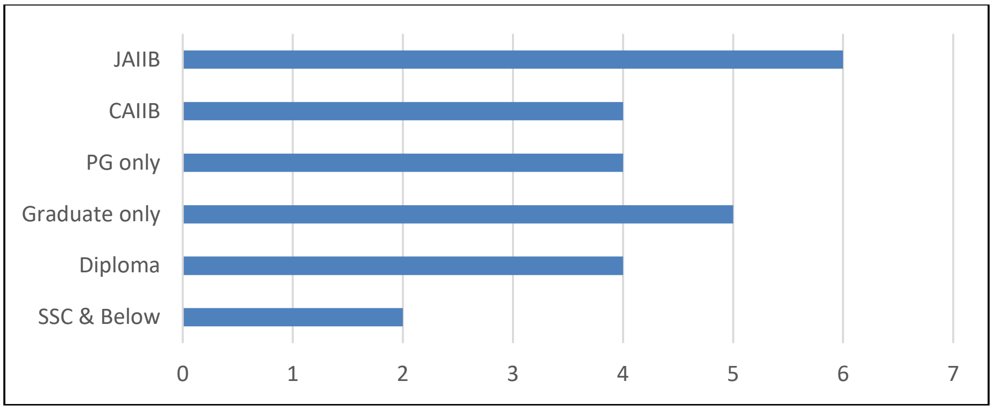

Figure 3: Education of the Respondents

Interpretation: - Out of total respondents, 06 respondents (24%) are qualified with JAIIB, 05 respondents (20%) are Graduate only. 04 respondents (16%) are having PG only and the same number is for CAIIB & Diploma respectively. Below SSC and equivalent are only 02 (08%)

Occupation	No. of Respondents	Percentage (%)
Cashier	07	28.00%
Clerk	05	20.00%
Reception/Inquiry	04	16.00%
Manager	04	16.00%
Peons	03	12.00%
Security Person	02	08.00%
Total	**25**	**100.00%**

Table 4: Position in the bank (Primary Data Source)

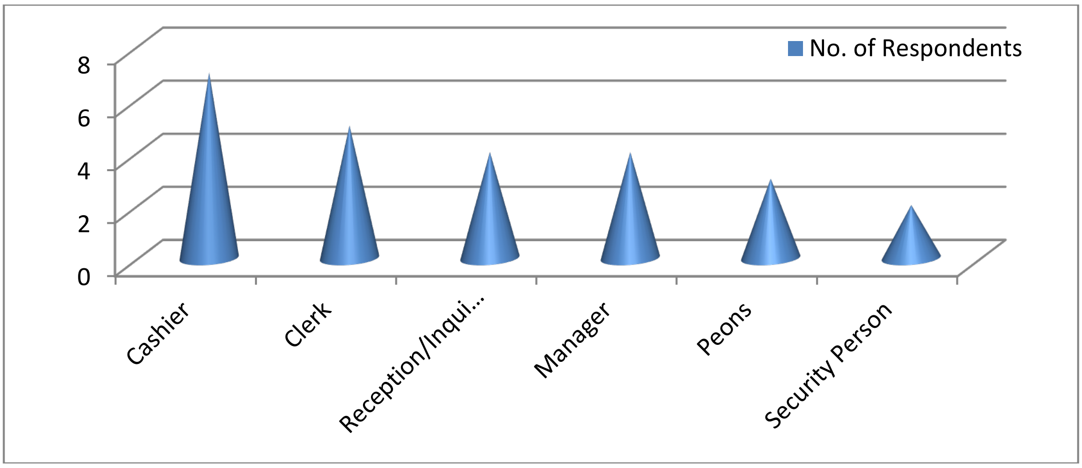

Figure 4: Position in the Bank

Interpretation: - Out of total respondents, 07 respondents (28%) are cashier, 05 respondents (20%) are Clerk only. 04 respondents (16%) are at reception and the same number is Manager respectively. 03 (12%) are peons and 02 (8%) are security persons.

Online banking Product	No. of Respondents	Percentage (%)
Yes	19	76.00%
No	05	20.00%
Can’t Say	01	04.00%
Total	**25**	**100.00%**

Table 5: Provided by Bank for Digital Banking options (Source: - Primary Data)

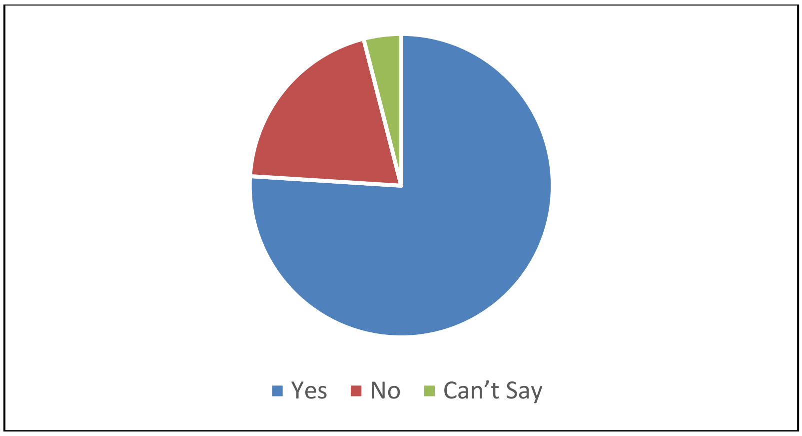

Figure 5: Whether Training is provided by Bank for Digital Banking options

Interpretation: - Out of total respondents, 19 respondents (76%) are trained for digital banking options, 05 respondents (20%) are untrained for the same. 01 respondent (4%) is unable to say whether training is provided by the bank or not as he is security person and probably training may not be required in his case but he is not sure because it's a small cooperative bank.

Response Type	No. of Respondents	Percentage (%)
Yes	13	52.00%
No	12	48.00%
Total	**25**	**100.00%**

Table 6: Do you prefer customers to go for digital banking options? (Source:- Primary Data)

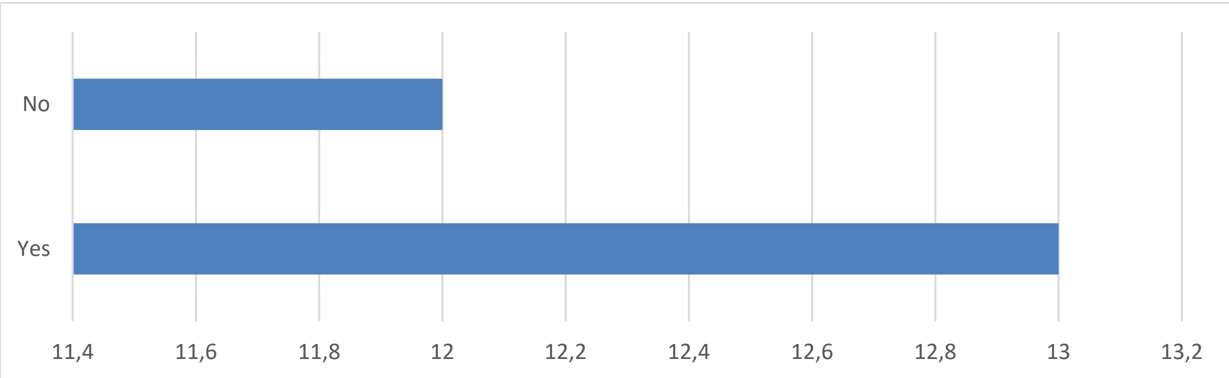

Figure 6: Do you prefer customers to go for digital banking options?

Interpretation: - Out of total respondents, 13 respondents (52%) are in favour of the opinion that customers should go for digital banking options. 12 respondents (48%) feel they should be using the traditional banking options only.

Awareness about	No. of Respondents	Percentage (%)
E-Statements	06	24.00%
Mobile Alerts	05	20.00%
Both	12	48.00%
Don't Know	02	08.00%
Total	**25**	**100.00%**

Table 7: Do you feel the customers have awareness on E-statements/Mobile Alerts for transactions (Source: - Primary Data)

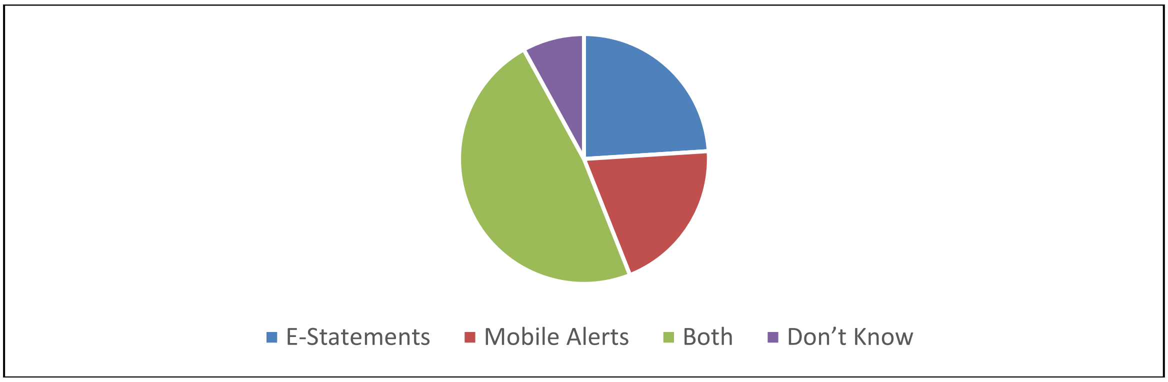

Figure 7: Do you feel the customers have awareness on E-statements/Mobile Alerts for transactions

Interpretation: - Out of total respondents, 06 respondents (24%) are in favour of the E-statements and 05 respondents (20%) are in favour of Mobile Alerts. 12 respondents (48%) are in favour of both the options of digital banking. 02 respondents (8%) are not having any idea or any opinion regarding the E-statements or Mobile alert option is known to the customers.

Response Type	No. of Respondents	Percentage (%)
Yes	16	64.00%
No	09	36.00%
Total	**25**	**100.00%**

Table 8: Do you prefer to accept & process loan applications online? (Source:- Primary Data)

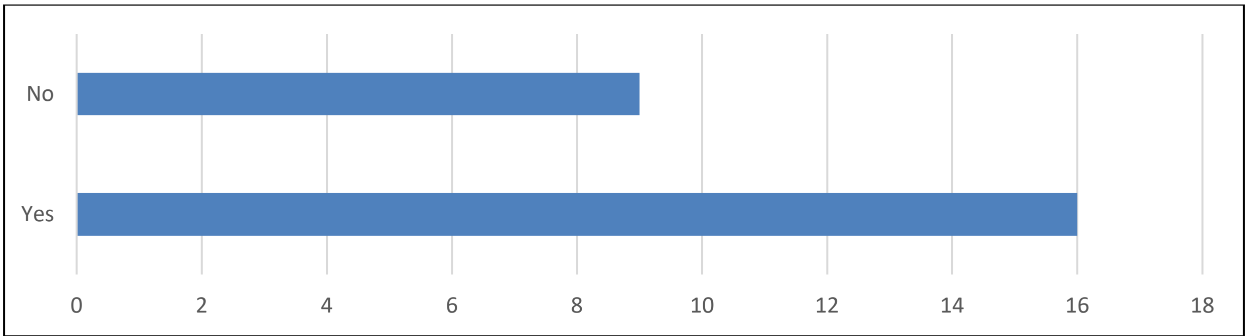

Figure 8: Do you prefer to accept & process loan applications online?

Interpretation: - Out of total respondents, 16 respondents (64%) prefer to accept and process loan applications through online mode. 09 respondents (36%) still prefer to accept and process loan applications through traditional mode only.

Response Type	No. of Respondents	Percentage (%)
Yes	15	60.00%
No	10	40.00%
Total	**25**	**100.00%**

Table 9: Would you like to offer most of the banking services through online mode to the customers? (Source: - Primary Data)

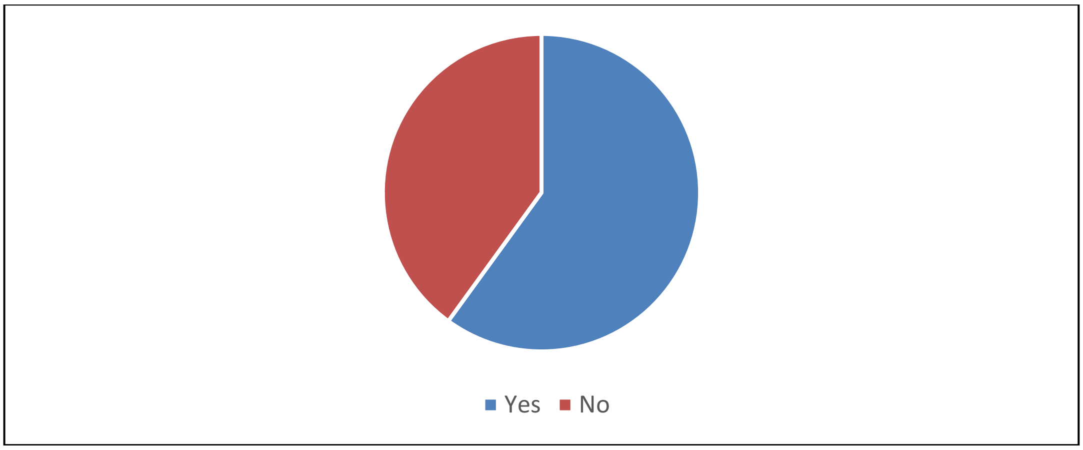

Figure 9: Would you like to offer the most of the banking services through online mode to the customers?

Interpretation: - Out of total respondents, 15 respondents (60%) prefer to offer most of the banking services through online mode to the customers whereas 10 respondents (40%) don't prefer to offer most of the banking services through online mode.

Response Type	**No. of Respondents**	**Percentage (%)**
Yes	17	68.00%
No	08	32.00%
Total	**25**	**100.00%**

Table 10: Do you prefer the customers to be only using digital options to pay or receive money? (Source: - Primary Data)

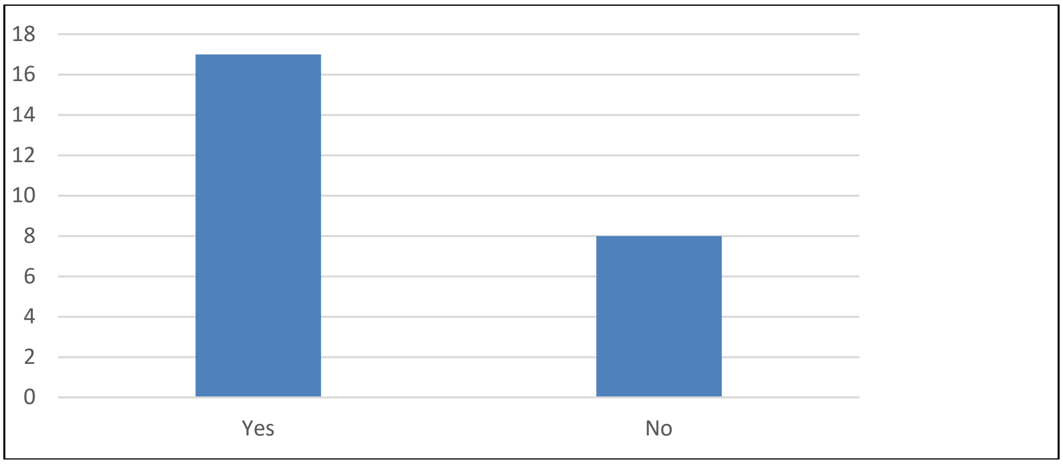

Figure 10: Do you prefer the customers should be only using digital options to pay or receive money?

Interpretation: - Out of total respondents, 17 respondents (68%) prefer that customers should be only using digital options to pay or receive money whereas 08 respondents (32%) prefer not to offer digital options to pay or receive money.

Examples of changing trends of banking services	**Yes**	**No**	**Total**
E-Banking services	12	13	25
M-Banking services	16	09	25
Customer Call Centres for Inquiries	19	06	25
E-Deposits and withdrawals	18	07	25
E-statements & sending mobile alerts	15	10	25

M-Loan Applications	16	09	25
Other banking services through online mode	14	11	25
Offering online bank account opening services	12	13	25

Table 11: Do you feel comfortable towards Digital Banking Options as offered by your bank to the customers? (Source: - Primary Data)

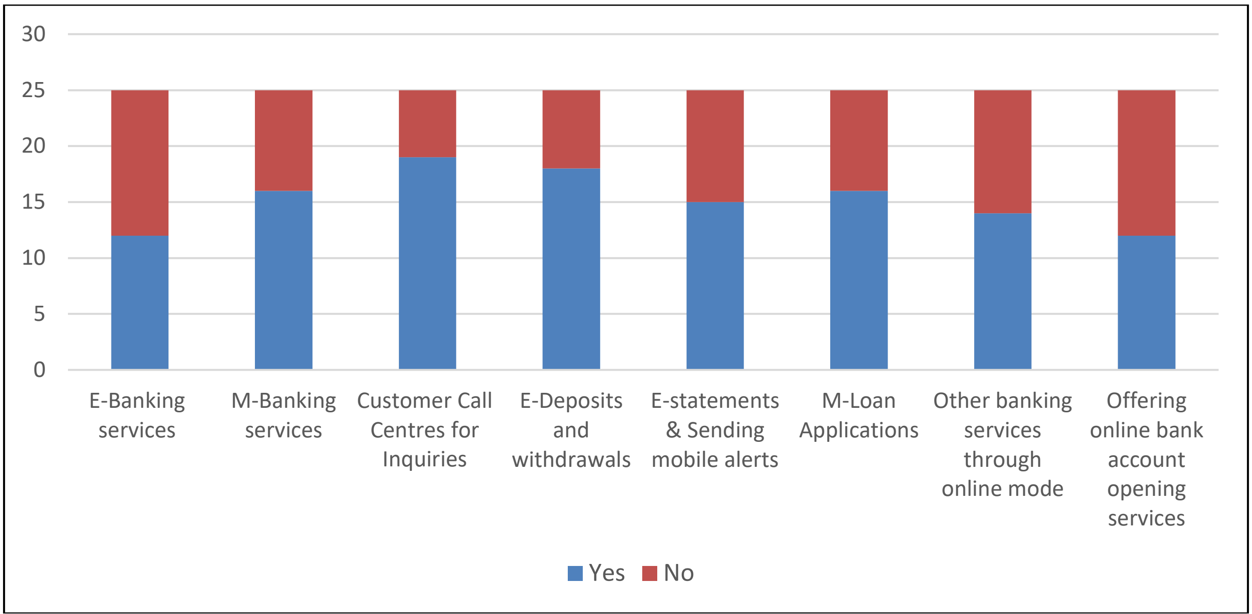

Figure 11: Do you feel comfortable towards Digital Banking Options as offered by your bank to the customers?

Interpretation: - Out of total respondents, 19 respondents prefer customer call centres, 18 respondents for E-deposits and e-withdrawal options, 16 respondents for M-loan applications through mobile app and 15 respondents for E-statements and mobile alerts features. 16 respondents prefer M-Banking options and 12 respondents prefer E-Banking options.

Conclusions on graphical analysis for the responses of retail bank customers under study:

1. The graphical analysis for demographic profile of the bank staff respondents shows that most of the respondents are female, married, having education level graduate with JAIIB and working on the position of Cashier.
2. More than 75% of the total bank staff have attended the training session for the digital banking options and prefer the customers using digital banking options.
3. Survey results show that 12 Bank staff out of total 25 respondents feel that customers are made aware of E-statement and M-Alert options. Majority of the bank staff out of the total respondents feel that the bank loan applications should be accepted and processed through online mode.
4. Out of total 25 respondents, 15 bank staff feel most of the banking services should be offered to the customers through online mode.
5. 17 bank staff out of the total respondents feel that the payment and deposit options should be offered to the customers through online mode.
6. The overall analysis of the survey of bank staff shows that most of the bank staff are having strong preference for the online banking services rather than traditional banking options.
7. The Analysis shows that Most of the Bank staff prefers to offer Digital Banking options such as Customer Call Centres for Inquiries and E-Deposits/AND-Withdrawals to the customers.
8. The Analysis shows that most of the bank staff don't prefer to offer other banking services such as utility services through online mode.
9. The average bank staff prefers to offer E-Banking, M-Banking, E-Account opening and E-statement/Mobile Alert options digitally to the options.
10. The Analysis shows that very few bank staff prefer to offer M-Loan applications to their customers.

Testing of Hypothesis-1
H0: There are no significant preferences for Digital banking services for the banking staff of the bank under study.
H_1: There are significant preferences for Digital banking services for the Banking staff of the bank under study.

Digital Banking options	Later Responses from same sample	Earlier Responses from same sample
Do you prefer to accept & process loan applications online?	10	15
Would you like to offer most of the banking services through online mode to the customers?	15	10
Do you prefer the customers to be only using digital options to pay or receive money?	17	08

Table 12: Effectiveness of awareness and relationship development activities for Digital banking services (Source Compiled by the researcher)

t-Test: Paired Two Sample for Means		
	Variable 1	**Variable 2**
Mean	16	9
Variance	1	1
Observations	3	3
Pearson Correlation	-1	
Hypothesized Mean Difference	0	
Df	2	
t Stat	6.062178	
P(T<=t) one-tail	0.013074	
t Critical one-tail	2.919986	
P(T<=t) two-tail	0.026148	
t Critical two-tail	4.302653	

Table 13: Testing Results for Hypothesis 1

Inference: From the above analysis, it appears that p-value is less than 0.05 (the 5% significance level), therefore it can be concluded that most of the bank staff respondents have strong preference for the digital mode of banking options. And so, null hypothesis as above is rejected.

Testing of Hypothesis-2
H0: The digital banking services as offered by KJSB have not impacted positively on the lives of mean staff of the banks under study.
H1: The digital banking services as offered by KJSB have impacted positively on the lives of mean staff of the bank under study.

Examples of changing trends of banking services	Later Responses from same sample	Earlier Responses from same sample
E-Banking services	12	13
M-Banking services	16	09
Customer Call Centres for Inquiries	19	06

E-Deposits and withdrawals	18	07
E-statements & sending mobile alerts	15	10
M-Loan Applications	16	09
Other banking services through online mode	14	11
Offering online bank account opening services	12	13

Table 14: To check the comfort level towards changing trends of banking services
(Source: Compiled by Researcher)

t-Test: Paired Two Sample for Means		
	Variable 1	**Variable 2**
Mean	15.25	9.75
Variance	6.5	6.5
Observations	8	8
Pearson Correlation	-1	
Hypothesized Mean Difference	0	
Df	7	
t Stat	3.050851079	
P(T<=t) one-tail	0.009280478	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.018560956	
t Critical two-tail	2.364624252	

Table 15: Testing Results for Hypothesis 2

Inference: From the above analysis, it appears that the p-value is less than 0.05 (the 5% significance level), therefore it can be concluded that most of the bank staff respondents feel strongly comfortable with the digital banking options. And so, null hypothesis as above is rejected.

Final conclusions

1. From the above overall analysis, it can be finally concluded as most of the bank staff feel comfortable and prefer to go with online banking services.
2. Most of the bank staff prefer the options of E-deposits and E-withdrawals and opening of E-bank accounts. Also, for most of the other digital banking services.
3. Most of the bank staff prefer the online loan application & processing option.
4. As far as other banking services are concerned, most of the bank staff under this survey prefer online mode only.

Findings

1. It appears from the survey that the majority of the KJSB - bank staff covered under this survey prefer the online banking services rather than traditional banking services.
2. Most of the respondents prefer the services like E-deposits and E-withdrawals, E-statements and Mobile Alerts, E-loan application and processing.
3. As compared to the traditional banking services, most of the KJSB bank staff got acquainted with the online banking options during the different phases of Covid 19.
4. Due to the adoption of online banking options, various banks whether private, government, foreign including co-operative banks were being forced to upgrade their online banking infrastructure/resources.

Suggestions

1. It is being suggested based on the survey that the co-operative banks need to develop their banking infrastructure more so as to provide best online banking options to its customers.
2. The co-operative banks need to conduct workshop/training sessions either through online mode or hybrid mode for their staff as well as customers who are still not very comfortable with online banking options.
3. The retail customers are also required to contact their bank customer care centre for any such technical problems while attempting for online banking options.
4. The co-operative banks are also being advised to upgrade their web portals and put multiple options for online banking and other allied services.
5. The banks are advised to develop online options for making payments or deposits by the retail customers from anywhere and anytime.

Scope for further Research

1. With respect to the research on the same line, further research can be extended for Nationalised, Private or any foreign bank operating in India.
2. The present research is done as per the responses collected from few bank staff only, the same research can be further extended as per the responses of bank customers.

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IMPACT OF EMOTIONAL INTELLIGENCE IN INCREASING EMPLOYEE ETHICS TO ENHANCE PERFORMANCE

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ABSTRACT
Emotional Intelligence (EI) is a key element that is accountable for determining success in an organization's effectiveness and life in general by playing an important part in ethical decision making. Emotional Intelligence is gaining traction as organizations are having increased work requirements which require employees to adjust and deliver better quality of work by means of high ethical measures and values. This research focusses on how an emotional intelligent person can make the right decision which is in favour of the organization and self as well, thus improving the overall performance of employees. The objectives of this paper are to comprehend the connection between an EI, ethics and job performance, to research the connection between EI, ethics, demographics and job performance and to suggest how employees can enhance their emotional intelligence and ethics levels to improve performance.
The respondents' data have been collected from 115 employees from different sectors and was analysed through Pearson Correlation. Purposive Sampling technique a nonprobability sampling method was used to select the respondents. As per this study findings, there exists a strong relationship between emotional intelligence, ethics and performance. Furthermore, since significance value is less than .05 for EI, Ethics and Performance there exist significant correlation between Gender and EI, Ethics and Performance. Results indicate that emotional intelligence and ethics have a positive effect on job performance of employees.
Keywords: Emotional Intelligence, Employee, Ethics, Performance, Workplace

Introduction

With the increase of competition and global integration of economies, organizations are now faced pursuing corporate profits and benefits. Many times, it gets difficult for top management and individual employees too to comply with the set ethical standards. There is very often an ethical dilemma faced, leading to ethical compromise for the sake of competitive advantage. The concepts of ethics comprise of business ethics, work ethics and organizational ethics. It can be pointed out that business ethics refer to how an organization conforms to the code of conduct of ethical norms during commercial activities. Organizational ethics and work ethics refer to how an employee performs in a work situation in accordance with ethical norms. Work ethic is set to be the fundamental root of professional ethics. It allows individuals to resolve inner conflicts, environment related disagreements while enhancing performance and job efficiency. The need to evaluate the dimensions of emotional intelligence (EI) on an international front is becoming the need of the hour. However, this does not lessen or devalue the role of Intelligence quotient (IQ). It has been discussed that an individual's performance is not determined by IQ but majorly by EI. There is also proof that the ability to feel, ponder and decide is the collaborative effort of both emotional and cognitive thinking as individuals who tend to ignore emotions are very short-sighted. Two of the three mental states—cognition and affect, or intellect and emotion—must be combined in order for there to be emotional intelligence (EI). The capacity to recognise, manage, and assess emotions is referred to as emotional intelligence. While some academics contend that emotional intelligence is an inborn trait, others contend that it can be learnt and increased.

Emotions seem to be inherent to a logical process of ethical conclusion, so it's crucial not to disregard them but to integrate them in the process, leading to enhanced ethical behaviours. The ability to make ethical decisions is thought to be significantly influenced by emotional intelligence, a crucial factor in predicting overall success in life. Often EI is viewed as the replacement of intellect however it is merely the combination of both that leads to overall performance success. A huge awakening of the existence of unethical conduct in companies have led many scholars to explore this area of research. Employees with high levels of emotional intelligence are more likely to be able to express their emotions in productive ways and understand the emotions of others they work with, which improves collaboration and productivity. Being weak is not a requirement for emotional intelligence. Being able to use one's emotions to guide decision-making in the heat of the moment and exercise better self- and other-control is a new kind of intelligence. We may think more creatively and use our emotions to solve difficulties when we have emotional intelligence. There is definitely some overlap between general intelligence and EI. The necessity for employees to have a solid grasp of ethical behaviour that allows them to examine the influence of their behaviour and activities on corporate organisations and towards society is becoming more and more important. According to studies, emotional intelligence traits can promote self-regulation and manage disruptive behaviours by having a knowledge of others' thoughts and feelings. Emotions are viewed as crucial contributors to ethical decision-making in organisations, and ethical competence is a key tool for dealing with moral issues in corporate ethics. Individuals with high emotional intelligence are better at analysing their own feelings as well as other people's behaviour, and they utilise this knowledge to inform their decisions and actions. Therefore, they may be more inclined to use emotional intelligence to steer themselves towards ethical cognition and behaviour. Individuals would benefit from having this skill in order to recognise moral actions and the morality of others. As a result, those with high emotional intelligence would be better able to control their emotions and respond to other people's actions with less aggression and more ethically. When the culture and condition of the organisation change, emotional intelligence enables employees to adapt to their surroundings and make decisions that are advantageous to both the organisation and their personal lives.

This study aims to pinpoint the demand for integrating emotional intelligence into the ethical decision-making process. The behaviours linked with emotional intelligence may be realistically implemented to improve and boost the productivity of the employee. Employees with emotional intelligence are capable of excelling in all areas. It can be argued that EI plays a crucial role in moral judgement. This is an art, and with practice we might learn to use emotional intelligence to master the art of decision-making, which might improve performance.

The current study advances knowledge of the relationship between the influence of emotional intelligence on ethical competence as well as how these factors can improve performance. This study reveals that in a business scenario, the utilization of feelings/emotions can be sincere or just a means to an end to achieve the intended objective of the organization which could lead to overall enhanced job performance. Finally, it may be said that emotional intelligence has been shown to be a good indicator of ethical competence, hence boosting worker performance. Therefore, organisations need to think about how emotional intelligence may mesh with ethical competence and offer valuable insights into the area of growing social concern.

Literature Review

Ferrell, Skinner (1988) refers to top management in order to execute notable reforms, must apply and impose ethical policies of the organization. Ethics in the workplace have been associated with numerous ineffective actions with negative financial implications for organizations such as high absenteeism, deteriorated quality of work, vandalism, theft, destruction of property, intentional losing of time, angry behaviour, as well as behaviours consisting of lawlessness, criminality and action deviation.

Salovey, Mayer (1990) have expounded and explained in their book how EI can be seen as the capability to evaluate one’s own feelings as well that of others, along with the ability to differentiate as well as take charge of an individual's behaviour, actions and thoughts. The capability to comprehend and take charge of one’s own emotions/feelings as well understand and take charge of another’s emotions/feelings is known as Emotional Intelligence (EI). While some scholars claim EI to be an inborn trait many others believe it can be nurtured and strengthened.

Goleman (1995) in his book popularized the term Emotional Intelligence and why it matters over IQ. EI refers to the competence that is able to identify, express emotions, distinguish, combine, monitor as well as control positive and negative thoughts in one’s self and in others.

Salovey, Mayer (1997) devised an EI Model with dimensions. This model consists of sub- dimensions of capabilities of skills that together comprise the various areas of Emotional Intelligence. More specifically this EI Model involves the abilities to:

Perceive Emotions	Recognize dishonest behaviour
	Distinguish between positive and negative emotions
	Perceive emotions of others through facial clues, tone & behaviour
Facilitating Thought through Emotions	Emotions prioritize thoughts to important information
	Generate emotions to help judgement and memory
	Using emotions to empathize with others
Understanding Emotions	Recognize cultural differences and diversity
	Appraise emotions that may elicit emotions

	Ability to label emotions
Managing Emotions	Successfully managing other's emotions
	Engage with only required emotions
	Evaluate plans to control, reduce or increase emotional response

Table No. 1: Salovey & Mayer EI Model Dimensions

Solomon (2000) pointed out that the need for emotional intelligence is a very crucial factor for organizational success and efficient performance leading to an improved working climate. Another key element is that as an organization's system apex is Ethics, an important part is contributed by emotions towards the building and combination of considerations connected to future benefits. From early research emotions were referenced from an ethical point of standpoint. The study also states that the perception of ethical behaviour is built on an individual as well as others behavioural perceptions, EI is familiarly associated with achievement perceptions as well as ethics. The authors additionally draw attention to the fact that prior studies and theory both hint to a connection between emotional intelligence and emotional well-being. Emotional well-being involves a happy mood and strong self-esteem; emotional intelligence includes the capacity to comprehend and regulate emotions.

Davies, Stankov & Roberts (1998) stated that assessment, employment and control of emotions is vital in awareness, attitude and ethical functioning. Therefore, emotional intelligence and the workplace ethics are depending on the intellect and emotional involvement of the human conduct and organization on whole. The study contends that the measurement limitations of its tests limit the status of the emotional intelligence notion. The dependability of measures based on consensus scoring was poor. The study findings offer debatable proof of the existence of a distinct Emotion Perception component, which (perhaps) denotes the capacity to keep track of the emotions of others. This element is more limited than what is suggested by the current emotional intelligence models.

Fraedrich (1993) said it is crucial to understand the connection between EI management and the employees' ethical attitude and behaviour as it is against lack of transparency, authorization, self – justifying communication and mediocrity of the masses as emotions and ethics have always been historically and synchronically inter-connected. He stated that ethics affects the way individuals make decisions in their life. Ethics has been also called as moral philosophy and stems from a work in Greek meaning 'Ethos'. This refers to spirit, habit and or disposition. It also broadly covers the stated dilemmas: How can an individual live an accomplished life; our rights and responsibilities; just and unjust behaviour; right and wrong language and moral decisions of what is good and bad. Ethics stands for a group of principles which seeks to explain that which is acceptable and a compilation of rules how human behaviour is directed through which accomplishment of this, is the crux where fairness is reposing. His research discusses that human behaviour with the outcome of right and wrong is ethical. We must always remember that ethics is a part of true values which every individual must incorporate in their respective lives and every organization has the duty of promoting ethical behaviour in internal and external conditions. Within organizations there is an ever-rising number of ethical dilemmas. This is due to the dynamic, volatile and complex business environment where employees' have unethical attitudes and behaviours, chasing after short term gain while ignoring the long-term adverse impact on the organization.

Baker, Hunt, & Andrews (2006) studied the replacement of intellect however it is merely the combination of both that leads to overall performance success. A huge awakening of the existence of unethical conduct in companies have led many scholars to explore this area of research. The researchers also express the important part held by organizations in the society and country as a whole where ethical and unethical behaviour are present as individual's integrate and involve them.

Fang (2006). The society is also getting alert with regards to business dealings and multiple organizations are enforced to reevaluate their ethical standards, influenced by borderless competition of a global market. Because of their importance and positioning within the management horizon, the themes of this research were established as being Emotional Intelligence, Ethics, and Success. Individual ethics have been shown to be a predictor of emotional intelligence.

Lysonski, Gaidis (1991) discusses that ethics of business always does not indicate any special element of ethics but rather a general application in all organizational activities both within and outside. By examining how they responded to moral quandaries in a variety of ethically troubling scenarios, the ethical tendencies of the participants were assessed. These conundrums included paternalism, conflict of interest, physical environment, coercion and control, and personal integrity. For business education and future study, conclusions are reached.

Terpstra, Rozell, & Robinson (1993) discusses how a person who transgresses owns up to their irregularities, many times as explanation for their behaviour was an obligation for success, in an environment somewhat few or nothing ethical. This study also examines the connection between the impression of unethical pro-organizational behaviours among co-workers and the theory of social information processing. From a theoretical development and research standpoint, this study adds to and broadens previous research on unethical pro-organizational behaviours. It also offers management ideas for businesses.

Mesmer-Magnus, Viswesvaran, Deshpande & Joseph (2010) discussed how one undiscovered element that can have a seriously positive impact on ethical behaviour as well as strong ability to make decisions is emotional intelligence. They also pointed out that no research has explored the Emotional and ethical connection. According to the authors that an emotionally educated person is less prone to utilise immoral methods to strive towards success.

Morgan (1993) studied how a predictor element of work performance and job contentment led to life gratification. Past research has depicted those infringers have deviated from the set conduct, engaging in unethical behaviour because simply they wish to attain success or maybe to keep pace with their colleagues who are also resorting to these unethical activities.

Grover (2005) studied how a particular grade of each person will be well linked to unethical implementations that are required precursors of achievement. Every manager deals with the complex, morally ambiguous situation of lying occasionally. Although people occasionally intentionally lie for their own gain, competitive and social pressures often lead to business lies. People differ in their particular predisposition to lie in similar circumstances, nevertheless. Only a few people lie when confronted with mildly divergent expectations, in contrast to the vast majority of people who lie when bargaining. There are suggestions made for managerial action intended to have a good impact on honesty.

Schutte et.al (2002) in the study pointed out how people who are having greater levels of intelligence, are generally more successful while dealing with other people, achieving high deliverable results, as being fierce through the use of focussed behaviours, leading to increased self – esteem development as stated by. Moreover, individuals with high self- respect and esteem have a greater recognition of their individual self-worth and tend to perceive that it's possible to be successful at their own uncertainty.

Objectives of the Study

1. To comprehend the connection between an EI, ethics and job performance.
2. To research the connection between EI, ethics, demographics and job performance.
3. To suggest how employees can enhance their emotional intelligence and ethics levels to improve performance.

Hypothesis

H0 - Emotional Intelligence, Ethics and Performance are not significantly correlated.
H1: Emotional Intelligence, Ethics and Performance are significantly correlated.

Research Methodology

The respondents for this study consist of 115 employees from various sectors. Purposive Sampling technique was used to select the respondents. The questionnaire was tested for its reliability. As the value of Cronbach's Alpha is higher than .7 hereby stating that it has an acceptable internal consistency. Hence, the questionnaire used is reliable.

Cronbach's Alpha	N of Items
.805	18

Table No 2: Reliability Statistics

Data Analysis

		Frequency	Percentage
Age	21-25	55	47.83
	26-30	9	7.83
	31-35	12	10.43
	36-40	16	13.91
	41-45	17	14.78
	46-50	6	5.22
	Total	115	100
Gender	Female	44	38.26
	Male	71	61.74
	Total	115	100
Annual income	less than 3 lakhs	40	34.78
	3-6 lakh	18	15.65
	6-9 lakh	14	12.17
	9-12 lakh	17	14.78
	12-15 lakh	20	17.39
	more than 18 lakhs	6	5.22
	Total	115	100
Highest Education	Graduation	33	28.70
	Post-graduation	58	50.43
	PhD	24	20.87
	Total	115	100

Table 3: Profile of the Respondents

It was observed that most of the respondents were 21-25 old, male, with post-graduation as their highest education and having less than 3 lakh annual income.

The respondents are required to give their responses extending from high to low level of competence: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1).

	N	Mean	Std. Deviation
I recognize how my feelings affect my performance	115	4.289	1.0652
I consistently act ethically at work	115	4.1402	0.9854
I use my organization's core values in making decisions	115	4.1325	0.9354
I show sensitivity and understanding towards others' perspectives	115	3.9854	0.9865
I am skilled in influencing others	115	3.8564	0.9854
Valid N (list wise)	115		

Table No 4: Descriptive Statistics- EI Scale

From the table it is observed that the highest mean (4.28) was recorded for the statement- ‘I recognize how my feelings affect my performance’. However, since the standard deviation is high, we cannot generalise this observation.

	N	Mean	Std. Deviation
I am clear about my personal values of what is right and wrong	115	4.4123	0.5029
I will be uncomfortable to carry out a job task that I felt was wrong	115	4.3421	0.51246
My peers seem to be less concerned about ethics than I am	115	4.3215	0.59357
I am willing to compromise my personal values to achieve my organisation's expectations	115	4.2321	0.49869
I am confident that I understand the values of my organization	115	4.1243	0.56049
Valid N (list wise)	115		

Table No 5: Descriptive Statistics- Ethics Scale

The highest mean 4.41 was recorded for - 'I am clear about my personal values of what is right and wrong' and the lowest mean 4.12 was found for - 'I am confident that I understand the values of my organization'.

	N	Mean	Std. Deviation
I focus on positive aspects of work instead of negative ones	115	4.3102	1.2315
I actively participate in all activities at work	115	4.2254	0.8465
I am able to carry out my assigned tasks effectively.	115	3.1124	0.7864
I keep in mind the work result I need to achieve	115	3.0546	0.8254
I come up with creative solutions for new problems	115	2.9854	0.6845
Valid N (list wise)	115		

Table No 6: Descriptive Statistics- Performance Scale

The highest mean 4.31 was received for 'I focus on positive aspects of work instead of negative ones. Few employees were of the opinion that they come up with creative solutions for new problems.

The data was analysed with Pearson Correlation In order to explore the relationship of demography on EI, Ethics and Performance, ANOVA test was utilized.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
EI	Between Groups	3.121	1	3.121	14.355	.000
	Within Groups	24.566	113	.217		
	Total	27.687	114			
Employee Ethics	Between Groups	3.297	1	3.297	10.881	.001
	Within Groups	34.234	113	.303		
	Total	37.530	114			
Performance	Between Groups	3.297	1	3.297	18.782	.000
	Within Groups	19.834	113	.176		
	Total	23.130	114			

Table No 7: Inferential Statistics - Gender and EI, Ethics and Performance

Since ANOVA table value is less than table value 0.05 ($p<.05$) there is a significant relationship between gender, EI, Ethics and Performance.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
EI	Between Groups	.587	3	.196	.801	.496
	Within Groups	27.100	111	.244		
	Total	27.687	114			
Employee Ethics	Between Groups	.414	3	.138	.412	.744
	Within Groups	37.117	111	.334		
	Total	37.530	114			
Performance	Between Groups	.807	3	.269	1.338	.266
	Within Groups	22.323	111	.201		
	Total	23.130	114			

Table No 8: Inferential statistics - Age and EI, Ethics and Performance

Since ANOVA table value is less than table value 0.05 ($p<.05$) there is a significant relationship between age, EI, Ethics and Performance.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
EI	Between Groups	.083	1	.083	.338	.562
	Within Groups	27.604	113	.244		
	Total	27.687	114			
Employee Ethics	Between Groups	.275	1	.275	.835	.363
	Within Groups	37.255	113	.330		
	Total	37.530	114			
Performance	Between Groups	.229	1	.229	1.132	.290
	Within Groups	22.901	113	.203		
	Total	23.130	114			

Table No 9: Inferential statistics -Education and EI, Ethics and Performance

Since ANOVA table value is less than table value 0.05 ($p<.05$) there is a significant relationship between education, EI, Ethics and Performance.

		EI	Performance
EI	Pearson Correlation	1	.929**
	Sig. (2-tailed)		.000
	N	115	115
Employee Ethics	Pearson Correlation	.704**	.649**
	Sig. (2-tailed)	.000	.000
	N	115	115

Table No 10: Correlation between EI, Ethics & Performance

Since Significance value is less than .05 ($p<.05$) we failed to accept null hypothesis that there is no significant correlation between EI, Ethics and Performance. Thus, we accept alternate hypotheses. The correlation between EI, ethics and performance is very strong since the correlation coefficient is greater than .7.

Findings

The findings of this study are listed as below:

1. There exists a strong corelation between EI, ethics and job performance.
2. There is a significant relationship between age, EI, ethics and performance.
3. There is a significant relationship between gender, EI, ethics and performance.
4. There is a significant relationship between education, EI, ethics and performance.
5. EI and ethical decision-making have a favourable impact on enhancing an individual's job performance.
6. The degree to which an employee promotes responsibility, quality, self-discipline, and a sense of teamwork in the performance of their duties determines whether or not they have good work ethics and their emotional intelligence level.

Conclusion

It is evident that emotional intelligence (EI) has a favourable effect on raising employees' ethical standards, which in turn helps to boost performance as a whole. Organizations can increase the ethical quotient of employees by increasing the emotional quotient first. In this study ethics is seen as a strong predictor to success hereby adding to the extended life satisfaction element. This study reveals that in a business scenario, the utilization of feelings/emotions can be sincere or just a means to an end to achieve the intended objective of the organization.

Emotions are a huge part of ethical decision making and an organization's culture can play a huge role to further the emotional intelligence of employees as this could have a direct impact on their ethical decisions.

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IMPACT OF INVESTORS' BIASES ON DECISION MAKING SKILLS OF WOMEN INVESTORS IN EQUITY SEGMENT

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ABSTRACT
It is said that Indian investors' investments run on sentiments hence this paper aims to identify the impact of Investors' biases on decision making skills of women pertaining to Equity segment. Equity is supposed to be a long-term investment for mobilization of savings from the investors' pocket to investments in corporates. As equity is a long-term investment it involves elevated risk but also ensures high returns in the form of capital appreciation. In the current times when females are also earning handsome money through their ventures, they are also looking for a long-term investment in the form of Equity. The objective is to analyze the impact of behavioral biases on decision making skills of women when it comes to long term investment in Equity. The opinion of women investors was collected through a 5 pointer Likert Scale on the impact of Investors' biases on Decision Making Skills of Women Investors in Equity Segment. The author used Linear Regression model to build this logical framework. The study revealed that the impact of investors' biases on decision making skills of women investors in Equity segment is statistically significant and it reconfirms that the personality traits are responsible for decision making process be it in general parlance or in case of investment decisions. This study has tried to analyze, the impact of behavioral biases on investment decision making of women investors because this investor segment is risk averse and equity investment comes with an inherent risk and hence investors tend to take support of their investment biases to take a decision. And the result has proved this assumption as statistically significant. The study is unique because the researcher selected the investment segment.
Keywords- Investor bias, Equity segment, Decision making abilities, Women investors, Regression,

Introduction
The Indian economy offers various investment alternatives to the investor to invest their money and reap the benefits out of it. The conventional avenues are Bank deposits, Post office deposits, gold, precious metals, antics etc. and Capital markets and other allied avenues are considered to be the modern one. Every investment opportunity comes with a tradeoff of risk and return, conventional avenues of investment possess less risk compared to the modern avenues, but it also offers a very less return. The problem with the lesser return is that sometimes it does not even cover the rate of inflation and hence the real return is as good as zero. On the contrary modern avenues might be riskier but offers a handsome return to the investor. The investor these days are coming out of the mindset of not taking any risk and they are more inclined towards the modern avenues of investment. Long-term equity investments are more stable in terms of risk variation faced by the investors after investing into stock market and hence this investment is preferred over others. Female population forms a larger part of the investors' population these days and females tend to make investments for long term. Most of the broker have confirmed that they have suggested Equity investments to their female clients as they were looking for a long-term investment and a substantial capital appreciation through their investment. Hence the aim of the paper is to understand the impact investors' bias on decision making skills of women investors in equity segment. Researcher has referred to substantial amount of research work before setting the premise that the decisions an investor takes are influenced by his/her investment bias in larger number of trades. These biases hinder the ability of an investor to take rational decisions while investing, which may lead to losses at times. The idea behind this paper is to confirm the claim of the researcher and help investors through this literature to understand the implication of such biases.

Equity Sector in India
Recently, Equity has grown into an important vehicle to increase the savings manifold eventually. Investors especially who come from earning class and prefer to take risk to have more capital appreciation compared to other avenues choose equity as their investment vehicle. Equity is one of the substantial parts of the capital structure of corporations and hence it also carries a weightage of higher returns. Equity shareholders are considered last in the hierarchy of the returns, but their returns are not decided beforehand and hence it is likely that the retained earning corporates have after paying taxes and preference dividends goes in the pocket of equity shareholders. As per the financial norms the goal of corporates is to maximize the shareholders' wealth that can be achieved by an increase in the returns of equity shareholders. This provides the motivation to the shareholders to move to the equity segment if they wish to sacrifice their current money to earn long-term high returns. NSE started trading in the equities segment (Capital Market segment) on November 3, 1994, and within a short span of a year became the largest stock exchange in India in terms of volumes transacted. NSE is ranked as the third largest stock exchange globally in terms of number of equity trades, as per World Federation of

Exchange (WFE) Report – 2019 (source- https://www.world-exchanges.org).Equity segment consist of Equity shares and Preference shares and there are 1867 equity shares are available for trading in the equity shares as on date (13/04/2023, source- https://www.nseindia.com)

Equity sector in India has shown enormous growth over a period of time, and the reasons are several, to name a few- a. Investors have started SIP plans in equity, b. Various mutual funds also invest heavily in the equity area, c. Equity offers different classes of companies like small cap, mid cap and large cap and that helps the investor to decide his area of investment etc.
This trend of investing in equity has increased the trading volume in the equity segment resulting in its expansive growth. This paper has tried to capture this segment considering the growing importance of this sector in Indian Economy.

Review of existing literature
Shefrin (2003) frame dependence indicates that an investor makes decisions that are influenced by the information being accessed. It also indicates that how the information is presented is more important than what information is presented. Desigan, Kalaiselvi, and Anusaya (2006) have highlighted several reasons for women investors not investing in MFs as they are not aware of investment options and procedures, risk involved, and grievance procedures. Women lack the understanding of the technicalities of the market procedures that act as a hindrance for them to invest in Mutual Funds.

Mittal, Vyas and Verma (2008, 2009) indicated that Indian investors are prone to behavioral biases when it comes to investing for the long term. Long term decision making is essentially done after thinking through considering all the parameters that is where the bias comes in picture. Thaler (2008) mental accounting is one of the processes whereby individuals code, categorize, and measure financial outcomes, but this accounting lacks the infrastructural support hence may not be practical while it comes to the allocation. Luong, Thi Hua Ha, Masomi and Ghayekhloo (2011) have found out that factors such as overconfidence, loss aversion and mental accounting and herding were found to be the factors affecting investment decisions. These factors essentially tweak the decision of an investor.

Rick (2011) The aversive response replicates the critical role of negative emotions to loss such as fear and anxiety .Gino, Sharek and Moore (2011) reported that when people possess a great deal of illusion of control, and they underestimate things or hints suggested or provided by the investment experts or analysts they may not achieve the desired results. Kahneman (2011) In overconfidence bias there lies a situation where investors' feel that they understand all the nuances of the market and possess expertise in all aspects of investment. These individuals are called the overconfident professionals. These people feel that their investment can never go wrong.

Sreedevi, Chitra (2012) have demonstrated that personality traits of investors influence the individuals while making the decisions and these traits also strongly influence them to decide the method of investing. Vyas, Moonat (2012) The MF companies should design their schemes after the careful study of investors' decision making and switching behavior. Singh (2012) has observed that investors' attitude towards investment is affected by their gender, income, qualification, and personality traits. Lim, Qadri, Shabbir, Qureshi Rehman and Hunjra (2012, 2014) Investors' decision making has been found positively affected by psychological factors.

Lingesiya, Kengatharan (2014) explained the herding effect in financial markets identified as the tendency of the investors to follow others' actions. Steele, Stefansson (2015) loss aversion indicates people's tendency to strongly prefer avoiding losses to acquiring gains. Aversion to loss is an extraordinarily strong emotion. George, Chandran (2016) observed that satisfaction on returns was significantly related to the period of investment. Sindhu, Rama Krishna and Reddy (2017) demonstrated in their study that demographic variable age was significantly related with the safety of investment. Vijayalakshmi (2017) has found out that there is a meaningful relationship between risk and return for individual and portfolio investment.

Objectives of the study
1. To analyze the impact of Investors' biases on decision making ability of women investors in equity segment.
2. To understand the framework behind Investors' biases.

Hypothesis of the study
H0- There is no significant effect of investors' biases variables on the decision-making skills of women investors pertaining to equity segment.

H1- There is a significant effect of investors' biases variables on the decision-making skills of women investors pertaining to equity segment.

Research Design

Data- The data was collected through a structured questionnaire to gather information from 300 working females from Pune City. The working females mostly belong to the IT Sector and a part of the respondents is a class of self-employed women. The category of financial dependent women avoided to confirm the validity of the data. Hair, Anderson, Tatham and Black (1998) proposed that with quantitative research a minimum of 100 respondents should be considered to conduct the statistical analysis. Data is collected in the academic year of 2022-23.

Sampling- Convenience sampling and Snowball sampling techniques used to select the respondents from the population of Working women of Pune City. As the researcher wanted to pursue the study related to Equity segment, it was necessary for researcher to choose the respondents from the frame of investors who knows about this segment and trade in this segment and hence convenience and snowball sampling was considered for data collection.

Data Sources- The research is exploratory in nature and the data collected is primary in nature. The data is collected through a structured questionnaire which is formal and unconcealed in nature. The questionnaire consists of three sections- Demographics, Investment Biases, Decision making factors of women investors.

Statistical Tools- Researcher has used SPSS as the primary software for statistical analysis. The analysis is done two parts- 1. Reliability analysis with the help of Cronbach's alpha test 2. Regression analysis to find out the impact bias variables on decision making attributes.

Research Framework - The conceptual framework of this study is displayed in the figure appended. The figure ascertains the impact of the investors' biases on women investors' decision-making skills pertaining to equity segment. The author has considered seven (7) investors' biases which are: Confirmation Bias, Frame Dependence, Herding, Over Confidence, Illusion of Control, Mental Accounting, and Loss Aversion. All these investors' biases variables found to have played important roles in determining women investors' investment decision-making attributes such as achievement, deliberate decisions, emotional Involvement, Risk Bearing, Routine, Long term benefits. The decision-making attributes are considered after considering the studies by previous researchers.

The investors' biases variables are considered based on numerous studies. Confirmation bias was proposed by Peter Wason which indicates that investors have their own opinions or pre-conceived notions. Seeking information or opinions that supports their ideas or pre-conceived notions and ignoring information that is contrary to their pre-conceived notions is confirmation bias (source-https://www.miraeassetmf.co.in).

Frame dependence indicates that an investor makes decisions that are influenced the information is accessed (Shefrin, 2003). While making investment decisions, investors are likely to be more influenced by how the information is brought to their notice than what is the content of the information. Lingesiya, Kengatharan (2014) explained the herding effect in financial markets is identified as the tendency of the investors to follow others' actions. These are the kind of investors who believe that some people have more expertise in the market and trading strategies and hence they should be followed while taking investment decisions. Then comes the next bias, which is exactly opposite of herding, in this situation investors' feel that they are the 'Know it all' persons and they have expertise in all aspects of investment. These individuals are called as the overconfident professionals (Kahneman 2011).

Investors' Bias

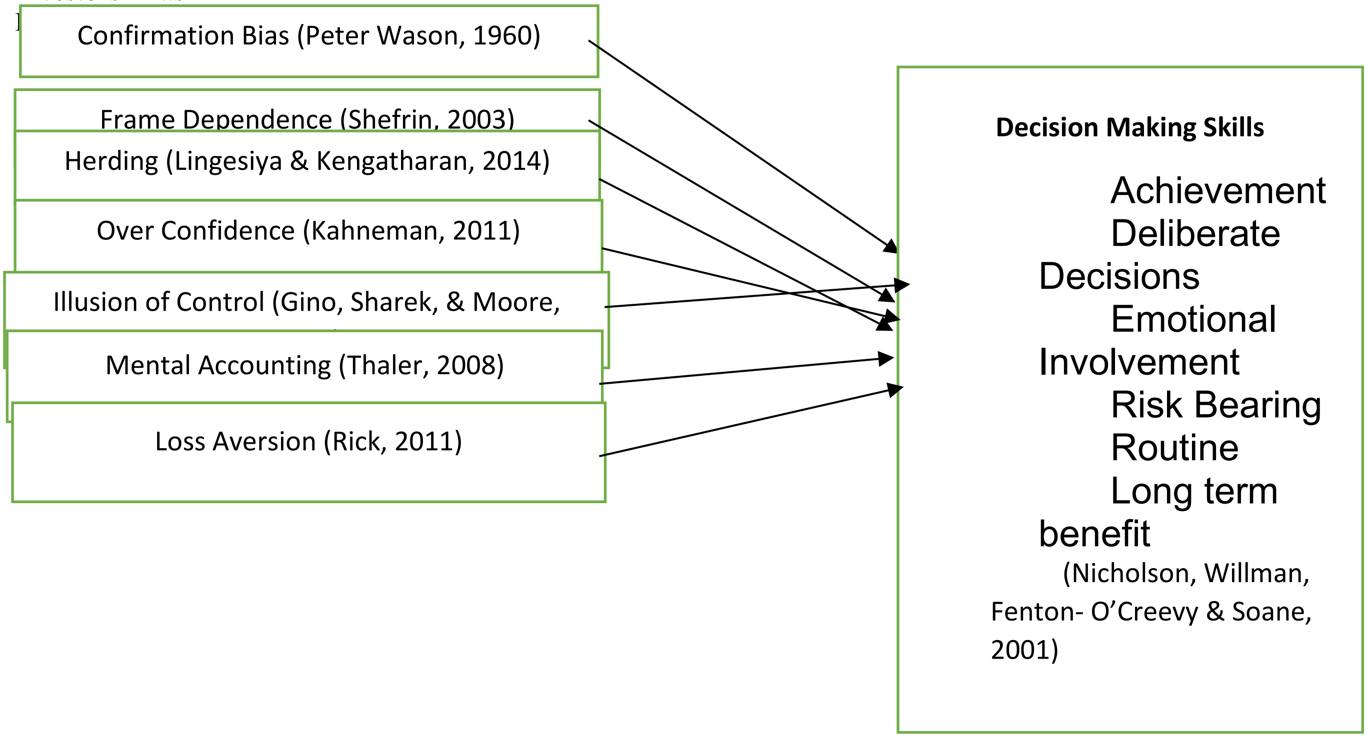

Figure 1- Conceptual Framework (Source- generated by the researcher)

Kahneman in his studies reported that a little amount of knowledge about some investments may lead to higher amount of investment propositions. However, this may not end up in giving desired results or earnings. Kahneman described this overconfidence as 'the most significant of all biases. Gino, Sharek, and Moore (2011) reported that when people possess a great deal of illusion of control, and they underestimate things or hints suggested or provided by the investment experts or analysts they may not achieve the desired results. These investors have the tendency to overestimate their talent to control their actions.

Mental accounting is one of the processes whereby individuals code, categorize, and measure financial outcomes (Thaler, 2008). But this is also an issue as this account lacks the infrastructural support of real-time allocations of funds. In decision theory (Steele, Stefansson, 2015), loss aversion indicates people's tendency to strongly prefer avoiding losses to acquiring gains. Aversion to loss is an extraordinarily strong emotion. The aversive response replicates the critical role of negative emotions to loss such as fear and anxiety (Rick, 2011).

Data Analysis

Descriptive Analysis-

Age	Number of Respondents	% of the respondents
21-30 years	75	25
31-40 years	94	31.33
41-50 years	91	30.33
51-60 years	40	13.33

Table no- 1 Age composition of the respondents

Interpretation

Majority of female respondents comes under the age group of 31-40 years. Around 31.33% of the respondents belong to this age groups while in other 3 categories of age group approximately 68.67% percent females are consolidated.

Education	Number of Respondents	% of the respondents
Graduate	186	62
Post Graduate	86	28.667
Doctoral Candidates	28	9.33

Table no 2- Education composition of the respondents
Interpretation

Majority of female respondents comes under the educational category i.e graduation. Out of total respondents 62% of the respondents are holding a degree. The respondents are either holding an engineering degree or technical diplomas equivalent to technical degree. 28% of the female are post graduate and are required to acquire those degrees essentially because of the appraisal policies of the organization they are working in.

Annual Income Level	Number of Respondents	% of the respondents
<5,00,000	74	24.667
5,00,000-10,00,000	88	29.33
10,00,000-20,00,000	93	31
>20,00,000	45	15

Table no 3- Income composition of the respondents

Interpretation
Above table shows that approximately 85% of the female respondents are earning in the bracket of 4,50,000-20,00,000. While only 15% of the female respondents are earning more than 20,00,000.

Investment Tenure till date (In years)	Number of Respondents	% of the respondents
0-5	84	28
5-10	104	34.667
10-15	79	26.333
15-20	33	11

Table no 4- Investment tenure of the respondents

Interpretation
Above table shows that 28% respondents are investing for last 5 years, while approximately 35% respondents are investing for 10 years. 26% females are investing 10-15 years and 11% female respondents are investing for 15-20 years. This composition is absolutely suitable for the study conducted.

Occupation	No. of respondents	% of respondents
Salaried IT employees	264	88
Self-employed	36	12

Table no 5- Occupation of the respondents

Interpretation-
Above data shows that 88% of the female respondents are salaried employees in IT Company while only 12% of the respondents are elf employed.

Reliability Testing

The author has started reliability analysis with Cronbach's alpha test to establish the validity of the end results. In exploratory studies the end results are based upon the primary data collected, in any case if there is a discrepancy in the primary data it percolates in the results and then the generalization of the results becomes statistically insignificant hence reliability test was conducted first on the data.

Cronbach's Alpha	No. of Items
0.716	37

Table no 6- Reliability Statistics

Interpretation

The reliability coefficient is 0.716 indicates the reliability of the dataset. As per the statistical norms the value of Cronbach's Alpha should be at least in the range of 0.6-0.8. The resultant here lies in the same range that indicates and establishes the reliability of the dataset.

Hypothesis Testing

Multiple regression analysis is used by the researcher to fit a model for each of the variables of decision making skills of women investors, which are, achievement, deliberate decisions, emotional involvement, risk bearing, routine, long term benefits based on women investors' biases- confirmation bias, frame dependence, herding, overconfidence, illusion of control, mental accounting, loss aversion.

Particulars	Variables	Attributes of Decision-Making Skills					
		Achievement	Deliberate Decisions	Emotional Involvement	Risk Bearing	Routine	Long term benefit
Investors' Biases	Conformation Bias	0.112	0.172	0.251	0.119	0.105	-0.189
	Frame Dependence	0.136	0.162	-0.132	0.144	0.125	0.258
	Herding			-0.082	-0.079		
	Overconfidence	0.198	0.190	-0.094	-0.0113	-0.183	0.164
	Illusion Of control	0.173		0.196			
	Mental Accounting	0.156		0.261	-0.125		
	Loss Aversion		-0.179		0.158		0.163
	R Square	0.542	0.669	0.583	0.326	0.432	0.621
	F	28.654	34.309	32.289	16.128	17.281	30.006
	P value	0.000	0.000	0.000	0.000	0.000	0.000

Table no.7- Coefficient Regression Models

Interpretation

As significant correlations were observed among the independent variables, the problem of multicolinearity might have arisen. Hence, researcher decided to go for stepwise regression to avoid the problem. Multiple regression analysis was done on the data through SPSS software to determine the effect of the independent variable (investors' biases variable) on the dependent variables (Decision making skills variables).

Findings

In the above table there are 3 significant values that need to be interpreted for the understanding of the outcome. The value of R Square (Coefficient of Determination), F value and the P value. Coefficient of determination will help to understand, the magnitude of impact of independent variable on dependent variable, F value will help to understand the 'Fit of the model' and lastly, the P value will help to understand whether the hypothesis is accepted or rejected.

The models for all the decision-making attributes are significant at 1% level of significance ($p<0.01$) as all the p values are less than the level of significance considered. The level of significance is 1% for the most accurate model building. Hence, we must reject the null hypothesis which means, there is a significant effect of investors' biases variables on the decision-making skills of women investors pertaining to equity segment.

Now if we look at F value that indicates the 'Fit of the model' indicates the substantial value for every bias having impact on decision making attributes in the appended table. As per the thumb rule if the model needs to be 'Fit' model the F value should at least be more than '4'. Herein the F value is significantly high for each variable considered. This indicates that the regression model is logically explainable.

The R-square value for the model for attribute Achievement is 0.542 that indicates that investors' biases collectively have 54 percent impact on this attribute. It also indicates that investors' bias explains 54% variation for achievement attribute. The investor bias 'Overconfidence' has the highest impact on the variable achievement, followed by illusion of control and mental accounting.

The R-square value for the model for attribute Deliberate Decisions is 0.669 that indicates that investors' biases collectively have approximately 67 percent impact on this attribute. It also indicates that investors' bias explains approximately 67% variation for deliberate decision attribute. The investor bias 'Overconfidence' has the highest impact on the variable achievement, followed by confirmation bias and frame dependence.

The R-square value for the model for attribute Emotional Involvement is 0.583 that indicates that investors' biases collectively have 58 percent impact on this attribute. It also indicates that investors' bias explains 58 % variation for emotional involvement attribute. The investor bias 'Mental Accounting' has the highest impact on the variable achievement, followed by confirmation bias and illusion of control respectively.

The R-square value for the model for attribute Risk Bearing is 0.326 that indicates that investors' biases collectively have 32 percent impact on this attribute. It also indicates that investors' bias explains approximately 32 % variation for risk bearing attribute. The investor bias 'Loss Aversion' has the highest impact on the variable achievement, followed by frame dependence and confirmation bias, respectively. This attribute has less impact on investors' bias.

The R-square value for the model for attribute Routine (mundane decisions) is 0.432 that indicates that investors' biases collectively have 43 percent impact on this attribute. It also indicates that investors' bias explains 43 % variation for routine attribute. The investor bias 'Frame dependence' has highest impact on the variable achievement, followed by confirmation bias.

The R-square value for the model for attribute Long Term benefit is 0.621 that indicates that investors' biases collectively have 62 percent impact on this attribute. It also indicates that investors' bias explains 62 % variation for long term benefit attribute. The investor bias 'Frame dependence' has the highest impact on the variable achievement, followed by overconfidence.

It can be observed from the values in the appended table that Overconfidence and Frame dependence has an overall positive impact on all the attributes barring long term benefit in confirmation bias and emotional involvement in frame dependence case. The rest of the responses have mixed impact positive in some attributes while negative in some attributes.

The overall analysis supports researcher's assumption that the investors' bias has a substantial impact on decision making attributes of women in equity segment.

Limitations of the Study

It was not easy to define the population of the respondents, researcher has considered only financially independent women in this study but later it was found out some financially dependent women also invest in this segment, which leads to the conclusion that the financial positions of women investors are variable in nature. The research is focused on Pune City that too women who are either self-employed or working in IT Sector, hence the findings will have geographical variations in other parts of globe. The questionnaires were sent to more than 500 women investors for inclusivity but only 300 of them have reverted hence this study cannot be generalized for a larger population. Lastly this study is conducted in AY 22-23 and thus the result may vary with change in time.

Conclusion

Researcher in this study has tried to recognize the impact of biases of investors on the decision-making skills of women investors' specific to the investment in equity segment. The study reveals that there is a direct effect of investors' biases on the decision-making process. As they say, "Indian markets are driven by the sentiments," researcher was able to prove it partly here. Biases are nothing but strong emotions which drive you to do a specific thing even it might seem illogical to others. This study can be taken further to do a confirmatory analysis using SEM to ratify the impact of biases on decision making abilities of women. Further focus could also be given on the impact of such biases while making portfolios through equity shares. This study can be done on male as well as female respondents. Also, a comparative study of impact of biases on decision making skills of female respondents and male respondents can also be conducted. These studies would be more effective if conducted in different geographical areas under different financial environments.

Research Implication

The regulatory bodies like SEBI and their ancillaries should make effective provisions to arrange a systematic planned program to sensitize and educate women investors, to reduce the inappropriate investment decisions taken by them based on biases. With proper knowledge and ability to interpret the data available in the market women investors can reach to more fruitful decisions and can reap more benefits through long term investment in equity segment.

If the women investors' get good return in turn, they will be tempted to invest more in the scrips which will enhance their confidence and the liquidity in the market as well. This will certainly act as a multiplier effect (John Maynard Keynes, 1929) for the economy.

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IMPACT OF SUSTAINABILITY ON SOCIAL MEDIA

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ABSTRACT
Sustainability is a widely used concept in sustainable development and management of resources. Technology has broadened the concept with progress in human life and increased the use of technology. The research is aimed to discuss the various contexts of sustainability in terms of using social media. Social media has a large scope to spread worldwide and tremendously has changed day-to-day life. As the issues concerned with daily life are shared and discussed on social media, it has transformed the way of expressing thoughts and opinions on these issues. The researcher must highlight the impact of sustainability on social media content that is now used for spreading awareness, business growth, and social activism. The purpose of the paper is to put the concept of sustainability in different contexts by studying the contribution of social media to sustainable development.
Keywords: Social media, Sustainability, Economic sustainability, Sustainable development

Introduction
A quality to sustain is sustainability which can continue over a period. Recently, the concept of sustainability is more expressive beyond the management of natural and environmental resource issues. It is extended as part of the social sciences as a sustainable development that is allied with multiple natural, political, social, or economic phenomena in diverse ways. A new Digital decade recently introduced social media to communicate directly with people and characterized by fast and dependable contact. While considering the best accessibility to these patrons, establishments have countless benefits due to being in touch with potential consumers. Businesses promoting their products, offers, and services through social media acknowledge their customers' preferences, to relate their offers directly. It allows studying the market needs in reasonable ways than conventional marketing strategies that are considered too high. Social media is widely accepted for marketing purposes due to the transparency, competence, and openness of businesses towards their customers. Digital technology has given a new world of exposure for businesses employing social media to capture new target customers and turn their interests into imminent customers. (Ballestar, 2020)

Today, sustainability is not restricted to organizational growth but is further extended in terms of current as well as future generations. However, sustainability issues in different sectors like companies' development, governance, and social and environmental sectors are considered for sustainable development. These issues refer to related factors such as the consumption of natural resources and pollution in environmental issues. Similarly, other issues can be defined for measuring and comparing sustainable performance. Sustainability issues in management and the board of directors are emphasized with governance. However, these factors like environmental, social, and governance (ESG) are crucial in supporting strategies and corporate social responsibility (CSR) in sustainability. Therefore, the paper is purposed for studying sustainability on social media in perceptive of ESG factors.

Role of Social media
With the emergence of modern technology, these are redefined for social media in the context of interactions on social media. New digital technology tends to increase the use of social media in current and future generations that have a significant impact on the community and society as multiple groups and their sustainability performance are linked with social as well as ecological development. The research also aims to find equality and new challenges outlined using social media that have an impact on social and environmental accounting with interactions between companies and their followers on social media. (Ballestar, 2020). Thus, with digital transformation, the impact of sustainability considers the performance on social media concerning the challenges tackled by businesses and organizations as well as society.

Sustainability in Social media

The sense of sustainability has emerged as a new concept with different perceptive, also for social media. The role of social media is highlighted in their practice to promote sustainability. A social or economic context of using social media together with an ecological context changes the meaning of sustainability. Businesses develop policies and actions that should be socially equitable to contribute to economic growth. While their responsible actions are impacting sustainable development positively with diligent management of the environment. However, issues in strengthening and growing their sustainability entail strategy for the success and operability of the businesses. Therefore, sustainability is a crucial factor in long-term financial and competitive benefits. (Dongre, 2020)

Sustainability in economic, environmental, and social issues powers social media interactions. This paper discusses the ability of social media technology to change behaviours and business performance as well as a transformation of social interactions to reach communities across the globe. These factors of sustainability force the people to participate in influencing or disallowing decisions of governments and corporations that may impact them. Social media helps in such situations as environmental issues in terms of changes, resources' availability and uses, and the impact of business on the environment. Thus, social media provides space and means for connecting people with these challenges and active environmental groups. In this way, the impact of sustainability on the beneficial tool of social media is highlighted in this research to study its contribution to the economic, environmental, and social development of society. (Engelin, 2020)

Research Reviews

Sustainability is explained in a different context in several studies highlighting the role of innovative technology. The researcher showcases different studies on sustainability on social media. Many organizations have taken a lead to evaluate the impact of sustainability on social media interactions and their performance. The meaning of sustainability is explained in some studies that are further extended from the natural and environmental issues related to resources and their sustainable management. The study analyses the use of social networks like Facebook, Twitter, YouTube, etc. by people with different perspectives and extents of knowledge. (Lee, 2021)

Social Media provides a platform for communication, discussion, and expression of different issues, views, and opinions. The use of social media is extended to businesses, and organizations with the transformation of people's interaction from shopping to emails, education, and a business tool. It offers ease of connectivity, exchange of ideas, and sharing of information about the world around us. It plays a significant role in the endorsement of awareness of specific issues, and businesses commercial as well as encourages communication in communities or individuals. It is associated with various ideas, thoughts, services, products, and cultures shared on social media across the world. Although sustainable development includes individuals, the public as well as several groups, organizations, and governments with a unified and universal approach and spread at the local as well as global level; social media plays a vital role to cultivate such sustainable development through potential knowledge and advanced technology. These development programs are effectively motivated and committed to acquiring success using social media like Facebook, YouTube, or Twitter which are equally favourable to accessing user mind space. They provide interactive forums like working groups, religious or cultural groups, associations, and institutions for youth to inform people through direct calls or interactive social networking. (Lee, 2021)

The study also analyses social networks for the taxonomy of the network including their dynamics and most relevant conversations and their spread worldwide. Conversations on social media are studied for feelings and perceptions and according to the use of the concept, are rated positive or negative to evaluate whether topics related to either formal fields, like scientific research, or sustainability strategies followed by agencies and organizations. Natural language processing is used to highlight clustering areas practising the concept of sustainability and the sentiment of social media conversations. It explains the fact that social networks have distinctive characteristics depending on the topics and the relationships. While the network includes content with the words "sustainable" or "sustainability" and re-sent content is analysed, it shows the spread of content regarding sustainability within the social network including many micro-communities that are not intricately connected. Earlier studies used modern technologies and software for in-depth analysis from different perspectives. The study explains that social media is powerful and more effective than other costly and time-consuming traditional processes that lack the momentum and spontaneity of digital conversations. (Leo, 2016)

Another study on social media sustainability performance drives attention to sustainability issues intensifying environmental, social, and ethical concerns. Modern digital transformation is fostering public and private organizations to adopt recent technologies like social media for their operation to gain substantial benefits associated with social media. The increasing importance of social media, such as Twitter, Facebook, and YouTube made the creation, sharing, and exchange of information among several stakeholders easier. These are investors, suppliers, consumers, employees, public powers, or non-governmental associations gradually demanding development companies and strengthening CSR practices. However, CSR and sustainability are so closely related and are often considered equivalent concepts. Correspondingly, social media benefits the augmentation and communication of CSR practices and improvement of the environmental accounting counting sustainable performances with a competitive advantage. As ESG issues are related to sustainability, their significance among CSR practices is a crucial factor that follows reframing the company's identity with codifying the new identity to build a supportive organizational culture. This, in turn, affects the social as well as economic sustainability of companies' performance. Consequently, CSR is the responsibility of businesses for their impacts on society and their strategy impacts on social, environmental, and ethical concerns.

Specific indicators like Sustainability key performance indicators (KPIs) are important in business strategies as well as to assess social, economic, and environmental performance. Improvement in performance and strategic efficiency and sustainability projects need significant investments and sustainability performance management. These performance indicators uncover potential opportunities and evolve faster than other indicators. ESG practices and non-financial performance has positive relations, while ESG and financial performance relation is unclear or positive in some studies. Therefore, sustainability in ESG practices alters the social media interactions between companies and followers. The study highlights the use of social media and its effect on organizations' sustainability performance indicating the impact of digital technologies like social media on social and environmental issues en route to the sustainability perspectives. (Martínez, 2020)

In the Digital era of technological advancement, social media platforms, such as YouTube, Facebook, Twitter, Instagram, and LinkedIn provide a way of communication and enter the daily lives of people for social interaction and information exchange. Additionally, the use of social media entered several fields including entertainment, culture, economy, business, politics, education, etc. These fields are associated with social and economic sustainability. Social media benefits opportunities for businesses and offers new ways of communication with their users to collaborate, create, or receive feedback. Another active advantage of social media includes marketing as products and services of companies have reformed the way towards social media marketing. Therefore, a study on sustainability highlights the role of social media in the growth of businesses as well as improvement in communication strategies. (Martínez, 2020)

Kaplan and Haenlein (2016) conducted a literature review that examined the impact of social media on sustainability communication in the higher education sector. The authors reviewed various studies that explored the use of social media platforms, such as blogs, Twitter, Facebook, and YouTube, in promoting sustainability initiatives and engaging stakeholders in higher education institutions. The review revealed that social media can be an effective tool for promoting sustainability-related content, engaging stakeholders, fostering collaboration, and raising awareness about sustainability issues in higher education. The authors also highlighted the challenges and risks associated with the use of social media in sustainability communication, such as managing online reputation, ensuring the accuracy of the information, and addressing potential negative impacts. The review concluded that social media has the potential to play a significant role in advancing sustainability in higher education, but further research is needed to better understand its impact and effectiveness. (Kaplan, 2016)

Carroll and Shabana (2010) conducted a literature review that examined the concept of corporate social responsibility (CSR) and its relationship with sustainability and social media. The authors reviewed various studies that explored the business case for CSR, including how CSR initiatives can impact a company's financial performance, reputation, and stakeholder relationships. The review revealed that CSR can have positive effects on a company's performance and that social media can play a role in communicating and promoting CSR efforts. The authors discussed the potential of social media as a tool for engaging stakeholders, disseminating CSR-related information, and fostering transparency and accountability. However, they also pointed out the challenges and risks associated with using social media for CSR communication, such as managing stakeholder expectations, ensuring authenticity, and addressing potential backlash. The review concluded that social media can be a valuable tool for integrating sustainability and CSR into business strategies, but further research is needed to better understand its impact and effectiveness in this context. (Carroll , 2010)

The research study by Mikyoung, (2017) employed an online experimental design with 285 college students as participants. The findings revealed that in the case of organic brand-related UGC, recommendations from close friends resulted in higher information-sharing attributions and lower monetary-gain attributions compared to recommendations from celebrities. However, there was no significant difference in causal attributions based on source type when the UGC was sponsored. Moreover, the study identified that both information-sharing and monetary-gain attributions played a mediating role in the effects of source type and content sponsorship on brand attitude and intention to comply with the recommendation. This study contributes to the limited body of research on the effectiveness of celebrities as a source of brand-related UGC and further expands our understanding of source effects by examining the relative effectiveness of close friends and celebrities as sources of product information. Additionally, the findings highlight that the effectiveness of source type may be contingent on whether the brand-related UGC is sponsored or not, shedding light on how source type influences the effectiveness of brand-related UGC. (Mikyoung 2017)

In their research paper, Smits and Mogos explore the influence of social media on business performance by analyzing organizational capabilities. Using a mixed research approach that includes qualitative analysis through interviews and quantitative analysis through a survey of 60 employees at SponsorPay, a start-up in the online game advertising industry, the authors find that the utilization of social media enhances business capabilities and overall performance. Notably, the impact is not solely attributed to a single social media tool, but rather to the successful integration of six social media tools into an effective ecosystem that facilitates coordination between internal and external business processes. This highlights the significance of leveraging multiple social media platforms for achieving business success while maximizing organizational capabilities. (Smits, 2013)

The research paper conducted by Pop, (2020) investigates the relationship between social media and consumers' motivation and intention to purchase green cosmetics, utilizing the Theory of Planned Behavior (TPB). The study finds that social media plays a crucial role in shaping consumer attitudes, subjective norms, altruistic and egoistic motivations, and ultimately, their intention to purchase green cosmetics. These findings highlight the significance of implementing effective communication strategies on social media platforms to enhance consumer motivation and intention to purchase environmentally-friendly cosmetics, offering valuable insights for marketers in the cosmetics industry targeting environmentally-conscious consumers. (Pop, 2020)

The research paper authored by Murwaningtyas, (2020) investigates the impact of celebrity endorsements on attitudes toward advertisement and intention to purchase organic cosmetics through Instagram. Drawing upon the Theory of Planned Behavior, the study collected data from 200 respondents via Google Forms on Instagram. Utilizing Structural Equation Modeling for analysis, the findings revealed a positive association between celebrity trustworthiness, expertise, and attractiveness with attitude toward advertisement and intention to purchase organic cosmetics on Instagram. Moreover, the results indicated that attitude toward advertisement serves as a partial mediator between celebrity trustworthiness, expertise, attractiveness, and purchase intention. This research underscores the significance of celebrity endorsements on social media in shaping consumers' attitudes and purchase intentions in the realm of organic cosmetics.

Objectives of the Study

I. To study the role of social media to cultivate sustainable development through potential knowledge and advanced technology.
II. To assess the effectiveness of sustainable development initiatives promoted through social media.
III. To examine the role of social media users while promoting sustainable practices and sharing information to raise awareness.
IV. To identify challenges and opportunities in integrating sustainability into social media strategies.

Research Methodology

The researcher is aimed to study sustainability since the term is comprehensive of organizational growth, extended to current generations and future generations. The researcher explains digital technology with the emergence of social media and discusses its sense to practice sustainability. The study on the impact of sustainability is purposed for highlighting social media use in the context of economic, social, and environmental factors. The researcher analysed numerous studies on social media impacted by sustainability in the digital age. The significance of social media in sustainable development is considered by various organizations and sustainability performance is considered for the strategies while focusing on the social media benefits. The study also put the need for social responsibility in the CSR of organizations and its relationship with social media.

Some of the benefits of social media are studied for the enhancement of business indicating sustainability performance. Thus, many advantages of social media like time, cost, and effectiveness are compared with other traditional practices. The researcher discussed marketing strategies in social media as well as social well-being for the sustainable development of society. The study explains how various social media platforms encourage the active participation of users in environmental issues. The opportunities provided by social media are studied in the context of the impact of sustainability in content creation and the spread of content and their impact on social, political, and environmental issues. Social media has the power of expressing ideas, views, and thoughts on life-affecting decisions in daily life taken by the government or non-government organizations. However, sustainability in social media is not restricted to the economy, business, and environmental issues but is also linked with other fields like entertainment, culture, politics, education, and other issues.

Secondary Data Analysis

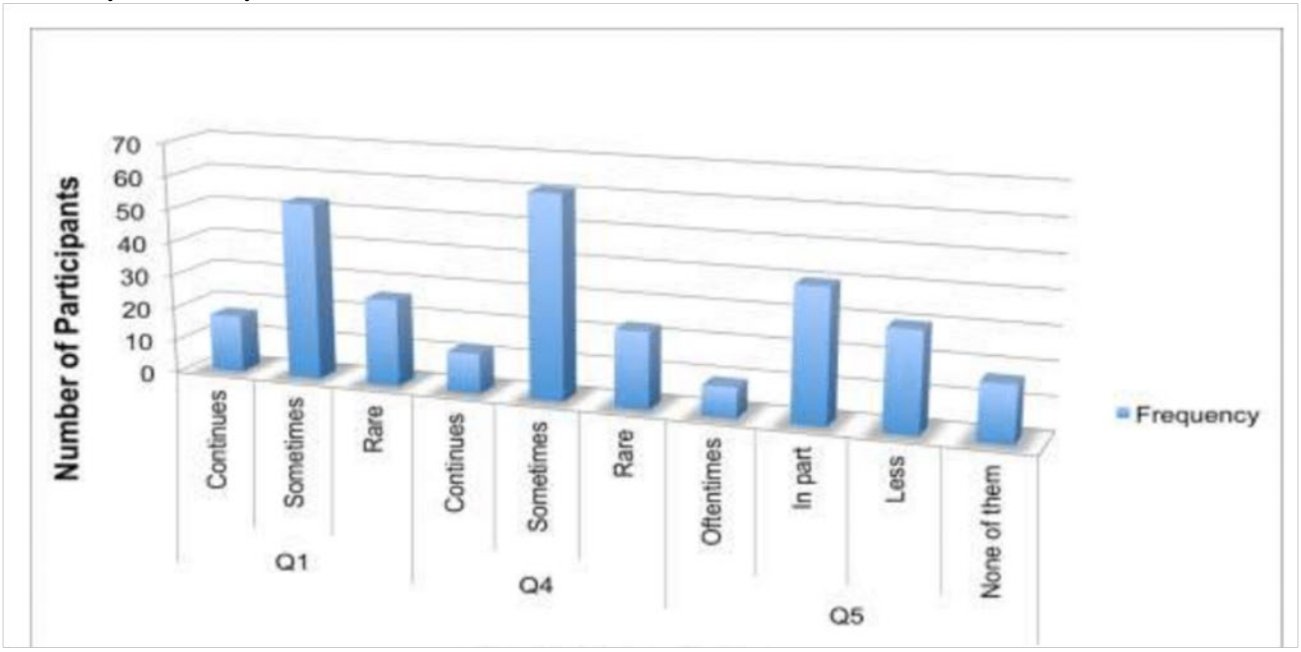

Figure 0.1 Environmental Awareness and Social Media
Source:https://www.researchgate.net/publication/307968837_The_Role_of_Social_Media_on_Environmental_Awareness_of_Undergraduate_Students_in_University_of_Sulaimani_in_Iraq

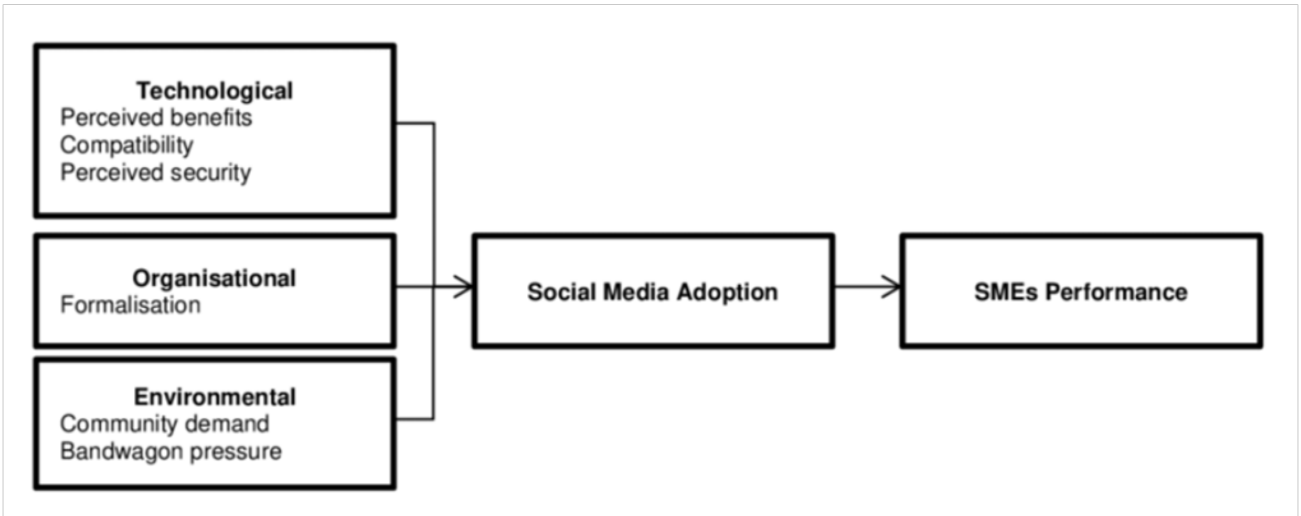

Figure No 0.2 Conceptual Model of social media adoption and Impact
Source:https://www.researchgate.net/figure/Conceptual-model-of-social-media-adoption-and-impact-in-Malaysian-SMEs_fig1_338098434

A researcher analysed secondary data from several studies on social media and sustainability in various fields. It is found that these studies are focused on organizational sustainability, which explains the role of social media. Studies on environmental and social sustainability highlight the importance of social media in the efficient way of connecting people and making them aware of environmental, social, and governance issues. The researcher found that social media is an effective platform for expressing ideas, thoughts, and views besides sharing information. It is not confined to discussion but inspires the active information of people in the sustainable development of a community in terms of economic growth with the ESG factor.

The impact of sustainability on social media content has been significant, with increased users using social media to spread awareness about sustainability, drive business growth, and promote social activism. Social media platforms provide an excellent opportunity for individuals and businesses to showcase their sustainable practices and initiatives to a global audience. This has helped create a culture of sustainability, where individuals and businesses are encouraged to adopt more environmentally conscious practices.

Moreover, social media has become a powerful tool for driving business growth through sustainable practices. Many businesses have realized that sustainability can provide a competitive advantage, and social media has enabled them to highlight their sustainability initiatives to a broader audience. This has helped businesses attract more customers and gain a reputation for being socially responsible.

Finally, social media has also become a platform for promoting social activism related to sustainability issues. Social media users can share information, engage in discussions, and organize events to raise awareness about environmental issues and promote sustainable practices. This has helped create a sense of community around sustainability, where individuals can come together to drive change and promote a more sustainable future. Therefore, the role of social media in promoting sustainability has been significant, and it is expected to continue to grow in the coming years.

Findings
While doing a secondary data analysis, the researcher identified the following findings:

Impact of Sustainability on Social Media
A study analyses the efficiency of social media like Facebook, YouTube, Twitter, LinkedIn, and others using different models and statistics. The scientific method and advanced technology help to collect data on social media to evaluate the results. These results reveal the success of social media in the last few years in organizational association with people sharing their knowledge. (Devarajan, 2005)

Environmental Sustainability on Social Media
Environmental sustainability has a higher impact on social media, and they are positively correlated with each other. The results recommend further need to research to evaluate the sustainability value of social media. Social media not only contributes to sustainability but reduces energy consumption through “green” initiatives. The broader sustainability framework accumulates business resources as well as investments in social media for sustainability. It helps in the achievement of targets for HRM and SCM resources. Thus, the sustainability strategy of organizations contains social media as a significant part of today. Research on IT to scrutinize IT resources, business resources as well as strategies that are aligned with sustainable development of specific objectives set for sustainability. Therefore, organizational changes and new ways of thinking about roles, work processes, and structure in the organization are adequate investments in human resources. It allows for managing many-to-one, one-to-many, or many-to-many customer relationships through social media. Consequently, the positive feedback from customers enhances the image of the organization transforming it into long-term sustainable advantages.

A global challenge of environmental sustainability is a major issue that is the main concern in setting objectives to enhance natural resources and endorses well-organized use of resources that are economy-based uses as well as includes protection of people’s health. The European Union has taken initiative to set the objectives of designing environmental policies that promote sustainable development of businesses through a “green economy.” These environmental aspects comply with regulations to encourage their sustainable growth with keenness on the global market. Thus, social media is a significant part of effective environmental sustainability performance. Social media efficiently access governance policies for everyone that achieves sustainable development. (Balaswamy, 2017)

Economic and Social Sustainability on Social media
The researcher found the connection between social media and social sustainability that analyses economic growth as well as awareness of environmental resources. The study explains the social sustainability concept that links social conditions such as poverty and environmental decay. Economic growth and poverty alleviation are necessary preconditions for sustained economic growth. The social organization identifies a negative linkage between sustained colonization, sustained poverty levels, and sustained natural resource exploitation. Social media is linked with economic sustainability through the opportunity for income as well as an increase in the capacity of the market to allocate resources efficiently. As economic growth enhances the capability to use technology to replenish natural resources destroyed. (Balaswamy, 2017)

Social media-based sustainability strengthens the corporate image of organizations linked with their performance and valuation. The research evolves to focus on communication on social media and organization sustainability with increased social media marketing to understand consumer expectations. However, the need for the impact of sustainability in decision-making with information on social media. According to studies conducted in the context of sustainable development, it is found more related to sustainability in a broad sense. Moreover, subjective judgments defining criteria for sustainability are inexorably involved in the restricted search for sustainability in a narrow sense. Thus, the researcher has broadened the search on sustainability and found that social media is emerging as a crucial part of sustainable development in education, communication, consumer behaviour, marketing, finance, and more. It is initiating discussions, sharing information, and activism of people on various ESG issues. Thus, social media has a significant impact on sustainability, and performance on social media encourages people to achieve sustainable development goals. (Russo, 2021)

The research on sustainability performance shows the impact on general, pillar, and sub-pillar levels that is exaggerated by the size and equity number of companies. Hence, sustainability performance is mostly found to be pursued by larger companies or higher financial solidity companies. In addition, energy and utilities are more specific sectors widely considered while social media like Twitter considers the amount of equity per share more relevant irrespective of company size. Therefore, dividend policies have an impact on companies' sustainability performance. The profitability of companies increases equity with reinvestment within the business, resulting in a positive effect on the company in pursuing and achieving higher sustainability performance. Thus, a social medium that is promoting business, improving profits, and increasing equity have a positive impact on businesses. Hence, the discussion on sustainability on social media exemplifies the key role of social media in businesses, marketing, governance, and the environment. (Russo, 2021)

Sustainability has had a significant impact on social media in recent years. As people become increasingly aware of the importance of sustainability and its impact on the environment, they are using social media to raise awareness, share information, and promote sustainable practices.

One of the ways sustainability has impacted social media is by increasing the amount of content related to sustainability. Social media users are sharing more posts about environmental issues, sustainable living, and eco-friendly products. This content is not only raising awareness but also encouraging people to adopt more sustainable practices. (Sachs,2005)

Another impact of sustainability on social media is the rise of eco-influencers. These are social media users who have a large following and use their platforms to promote sustainable living, eco-friendly products, and environmentally conscious practices. Eco-influencers have become a powerful force in driving sustainable behaviour, as their followers often look to them for guidance and inspiration.

Sustainability has also led to the development of new social media platforms focused on sustainability and the environment. These platforms provide a space for people to connect, share information, and promote sustainable practices. Examples of such platforms include Treehugger, Earth911, and Greenpeace Connect.

Overall, the impact of sustainability on social media has been positive, as it has helped raise awareness and encourage more sustainable practices. As more people become aware of the impact of their actions on the environment, we can expect sustainability to continue to play a vital role in social media in the years to come.

Conclusion

In the modern digital world, sustainability is also broadened beyond the term of environmental issues. However, social media has taken a responsible role in sustainable development including economic and social well-being. Social media has transformed the way of communication to sharing information, discussing issues, and active participation with people. Many corporate, governance, and organizations have taken the initiative to support sustainability in the overall growth of a community. The use of social media in these activities effectively influences people due to their significant benefits as less time-consuming and inexpensive. However, social media content is influenced by various sustainability issues to take a step toward the development and progress of the community. Still, the need for more research on sustainability in a different field is looked-for.

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IMPETUS TO THE FINTECH IN INDIA - A TREND ANALYSIS

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ABSTRACT
The COVID-19 pandemic has given a never-before impetus to the Fintech industry in India almost defining a new normal. Fintech Ecosystem is characterized by financial institutions, start-ups, financial customers, IT, and the government (Vijai, 2019). India has been witnessing tremendous growth in penetration of the internet and technological developments including Smartphones. This has impacted the Fintech industry to a great extent. Also, the demonetization proved to be a stimulant for the Fintech revolution in India followed now by the pandemic which is like a boon for the Fintech in India! This paper traces the state of Fintech during the last ten years in the Indian context. This paper seeks to explore the Future of Fintech in a New Normal. The growth of Fintech right from the introduction of the Digitial India initiative to the Demonetization, and now up to the pandemic after effects on this industry are being explored. The main focus is on digital payments adoption and growth.

During the pandemic period, Digital payments and Fintech were one of the sectors which have reflected high records in 2020. A large number of people opted for the new normal as a result of lockdown conditions throughout the nations. On analysis, it is found that the new normal led to a rise in the use of digital payment modes for daily payment activities right from grocery items, bill payments, and healthcare for other purposes. The authors conclude that the Fintech revolution is here to stay and proves to be a blessing in disguise.
Keywords Fintech Revolution, New Normal, COVID-19 Pandemic, Demonetization, Cashless Economy, Digital payments

Introduction

The term Fintech refers to the use of technology for simplifying the use and delivery of financial services for consumers and business entities and also for financial service providers. Fintech is a blend of technology for delivering traditional financial services by using the internet and smart devices through various apps and software. It encompasses many sub-areas of financial services but it is mainly classified into four main areas: First one is financing, the second one is Asset Management third and most important one is Payments and the last one is categorized as other Fintechs. Dortfleitner (2017). The Fintech ecosystem covers five basic components that are Fintech Start-ups, Technology Developers, Government regulatory bodies, financial customers, and Traditional Financial Institutions (Vijay, 2019). Fintech is seen as a rising industry that makes use of the Internet and Technology in delivering financial services over traditional services. Financial services are made more accessible to the public. Broadly Fintech sector consists of start-ups as well as established financial institutions and big tech giant companies like Google, Apple, Samsung, Amazon, etc to name a few.

Background of the Study

The companies or the service providers which are facilitating all the financial transactions and working towards making them simple and convenient with the intervention of technology are referred to as Fintech or Financial technology. The commonly used technologies by Fintech service providers include cloud computing, data analytics, machine learning, and artificial intelligence.

These services are delivered to the consumers with the help of internet-enabled devices like laptops and smartphones etc. Mobile banking is the most popular example of Fintech. One can access it anywhere anytime hence due to its convenient and efficient mechanism, one can make payments of utility bills or recharges or can transfer funds at any point in time without stepping out to ATMs or Bank branches. Similarly, another example is in the Insurance sector the Insurtech companies are facilitating the comparison of prices and features of insurance policies and allowing the consumer to make a better decision. Fintech companies are also collaborating with banks and non-banking financial companies for providing lending services too. Another emerging area for Fintech is measuring credit risk and credit score. This also will lead to improved availability of credit to a large number of people.

Fintech in India

Out of all the emerging markets India’s Fintech tech market is considered one of the fastest growing markets in the world India’s Fintech adoption rate is 87% which is recorded highest along with China as of March 2020. (prnewswire.com) On the contrary, the average adoption rate across the globe is recorded at 64%. India is attracting a good proportion of budding Fintech start-ups along with increased venture capital investments. This is due to the reason that a huge potential of India’s total population of 1.3 billion belongs to the state of the unbanked or under banked population. The government of India’s initiatives like demonetization, Jan DhanYojana, Aadhaar, and Unified Payment Interface (UPI) have been simultaneously contributing towards the growth of the Fintech industry. Penetration of smartphones in society and improved digital infrastructure and increased adoption of the internet are contributing to the Fintech Market in India. Thus India’s Fintech Market is predicted to attain INR 6,207.41 billion by 2025, which was valued at INR 1,920.16 billion in 2019. It is expected to grow at a growth rate of 22.7 % by 2020-2025. (prnewswire.com)

On the contrary, there are a few challenges that are hampering the growth of the Fintech Market. E.g. Cyber security threats lead to hesitation among customers to rely completely on digital payments. Currently, the application of artificial intelligence (AI) and Big Data have been increased, so that customized services can be offered to customers. It's also expected that concepts like Neobanks will lead to a significant revolution in the Indian Fintech Industry.

The spread of Fintech companies in India in rendering variety of financial services is presented below:

<table>
<tr><td rowspan="2">Payments</td><td>POS</td><td>Wallets/UPI</td><td>Payment Gateways</td><td colspan="2">Remittance</td></tr>
<tr><td>Pine Labs, mswipe, innoviti, ezetap, ezswype, Oxigen</td><td>PhonePe, Paytm, GPay, MobiKwik, Whatsapp Pay, One wallet</td><td>Razorpay, instamojo, CCAvenue, JUSPAY, Billdesk</td><td colspan="2">Instarem, Remit2India, Fino, EKO, Pay Nearby</td></tr>
<tr><td rowspan="2">Lending</td><td>Consumer</td><td>P2P</td><td>SME</td><td>EMI/BNPL</td><td>Payday</td></tr>
<tr><td>Paytm, G Pay, Mobikwik, rupeek, crazy bee, LoanTap, paisabazaar,Instapaisa</td><td>FAIRCENT.com, Lendbox, Lenden, Monexo</td><td>Kredx. LendingKart, InCred, CapitalFloat, indifi, niyogin,PSB Loans, AYE, Flexiloans</td><td>Pine Labs, m swipe, Zest, Kissht, Lazypay,Simple</td><td>EarlySalary, itzcash, Flex Salary</td></tr>
<tr><td>InsurTech</td><td>Aggregators</td><td>Online First</td><td colspan="3">Claims Tech</td></tr>
</table>

	Policybazaar, Coverfox.com, toffee, turtle mint, PolicyX.com, insurance inbox	Digit, acko	Vahan Check, Vitraya, SureClaim
Wealth Tech	Wealth Manager	Broking	Robo Advisory
	KUVERA, Or wealth, Money view, INDwealth, 7 PROSPER	Zerodha, upstox, Groww	Scripbox, Fundindia, ArthaYantra, RoboCapital, finpeg
Open Banking/ Neo Banking	Yono SBI, 811Kotak, Kaleidofin, Niyo, Jupitar, fampay		

Table No. 1: FinTech Spread in India:Source: https://www.goMEDICI.com

Fintech and the New Normal

The entire global economy has been threatened by the widespread novel coronavirus Covid -19. To limit the spread of the coronavirus outbreak, many countries have to opt for certain undesirable measures like nationwide lockdowns. The basic prerequisite of lockdown is social distancing, which in turn resulted in shutting down public places like theatres, parks, gyms, malls, public transport facilities, etc. Lockdowns in the countries have compelled everyone to stay indoors as a result many companies immediately placed their employees on work from the home platform to maintain social distancing. These nationwide lockdowns by countries across the globe have plunged the entire economy into danger of recession. This economic disruption will shrink the overall business activities despite the scale and size of the business to a considerable extent.

When the entire global economy is sailing through the crisis pandemic conditions, many sectors have experienced a downturn in their business except a few essential sectors. The prominent sectors of the economy like the manufacturing sector, automobile sector, hospitality and retail sector, aviation sector are also witnessing the ill effects of a pandemic.

There is hardly any sector left without bearing the brunt of the lockdown barring a few essential services sectors. This has also affected one of the fast-growing sectors of the Fintech Industry and i.e. Digital payments sector. The lockdown has curtailed the frequency of public spending on dining out, shopping at malls, another discretionary spending on movies and entertainment, traveling, and holidays at resorts, to a great extent and this has negatively impacted digital payments. It has been observed that there is a reduction in the volume of Digital Payments for the sectors like hotels, tourism, hospitality, airlines, and entertainment among others sectors.

The nationwide lockdowns also impacted the cross-border trade payments for business-to-business and customer business categories. The temporary shutdown of borders has led to restrictions in the movement of goods across the countries which has significantly affected international payments too. On the contrary, there are certain areas where digital payments are showing an upward trend. E.g. online grocery shopping, online pharmacies and utility bill payments and recharges, etc.

The initiatives of the government of India are also contributing to a boost in Digital Payment Volumes. These initiatives are ensured by providing monetary assistance to the poor through direct transfers to their bank accounts. The CEO of the National Payments Corporation of India Mr. Dilip Asbe has recommended people make payments contactless by increasing the usage of digital payments. Out of the concerns of avoiding infections of novel coronavirus either by going to banks and directly handling the currency notes for all transactions of the day, people have started adopting online payments through their smartphones. Thus digital payments reflected a high record in the year 2020 through all channels of UPI i.e. Unified Payments Interface to the Aadhar-enabled Payment System (AePS).

Significance and rationale
The demonetization in 2016 sparked the initial take-off of digital payments in India. The government's efforts over some time have kept the momentum going. The global pandemic has fuelled the tremendous and large-scale adoption of digital payments and digital commerce in India – right from metros to even tier 4 and 5 cities," said Manish Patel, Founder, and CEO, of Mswipe. At Mswipe, contactless payments have grown from 13 percent of total transactions in January 2020 to 30 percent of total transactions in December 2020. (industrywired.com)

The convenience of Digital payments has evolved as a necessity in crucial times. Even though the majority of sectors are contributing towards digital payments in these uncertain conditions, it will be too early to predict the long-term impact of Covid-19 on digital payments. However, the potential of the Fintech industry's innovation has a significant role in reviving the entire economy in the new normal.

Literature Review
This paper is based on secondary data sources. The researchers have carried out an extensive review of the literature. The literature so reviewed is presented below:

Das, Das (2022), there has been a significant rise in the use of fintech service by bank customers during the pandemic period in Assam. The 1,066 bank account holders are considered in this study who are the main earners from the family are considered for this study. The frequency of using fintech services has shown an upward trend not only in government or private employees and self-employed professionals but it was also visible in daily wage earners and agriculturists.

Adoption of fintech is an indispensable tool which enhances access, improves inclusivity during the crisis period. The factors positively influencing fintech adoption are government support, social influence Trust, its worth in terms of utility. The sound infrastructure, providing superior connectivity, robust security measures and maintenance of financial stability with adequate regulations can contribute to enhancing the trust towards adoption of fintech services during and after pandemic.

Murinde , Rizopoulos & Zachariadis , (2022), The fintech revolution is blooming at global level. The high quality bank data from 115 countries across the world for the last 16 years is used. One of the findings highlights that fintech lenders may not replace banks as banks are developing their own fintech platforms in association with fintech startups. The global infrastructure, regulations, geopolitical forces will shape the future of banking.

Gupta,Verma (2022), there is a positive relationship between the factors and the usage of FinTech services. Data collected from 310 respondents to understand the forces behind use of fintech by the customers. Use of Factor analysis is done to identify the impact of pandemic in usage of Fintech services before and after Covid-19, pandemic. If the advancement in technology, rise in financial literacy, access and usage of Fintech services are increased then it will lead to financial inclusion in developing countries.

Gupta, Agrawal (2021), the adoption rate of Fintech was lesser before the pandemic but it is higher and penetrative after the crisis. The findings also display the positive association between the Fin-Tech adoption and the end consumer after the global Covid-19 pandemic. Hence it means that fintech adoption rate has increased enormously which shows higher financial inclusion and evolution

Rajeswari, Vijai(2021), Fintech in India is beneficial as the majority of the population belongs to the young generation, secondly the smartphone and internet penetration is rising significantly over the last few years. India's huge population provides opportunities to fintech startups to capture the unbanked population. Fintech is essential for the global and Indian financial sector and is expected to develop more in the near future.

Latha (2021), in India fintech was on rise and continued during the covid -19 pandemic, when many industries were on the way to shrink. The Fintech business is in its adoption phase. Fintech is expected to gain a long growth in coming years. The progression is assumed in the form of tech_papercentered towards advancement in lending and open banking

Mitra, Karathanasopoulos (2020), The FinTech revolution has been attaining wide popularity as technologies are basically changing the business of financial services. FinTech is contributing to innovation in the financial market, like creation of new financial asset classes and derivatives which are facilitated by the usage of technology.

Vijai (2019), The fintech company provides digitalization of financial transactions. The sought advantages of fintech services leads to reduced operation costs and time. Its perceived value is in its safe and secure and user friendly transactions. The fintech services in India are fastest growing in global comparison. The emerging concept of fintech is going to bring significant change in the Indian finance sector.

Priya, Kanagala (2019), India is a potential market for financial disruption with the highest population constituting a significant number of unbanked and under banked population. Fintech in the form of disruptive innovation is being a game changer for the traditional financial markets. Fintech has been growing in India for the last five years and is expected to grow further in the near future with a rapid pace. There are around 1500 Fintech startup firms operating in India out of which half were started in the past two years. Majority of successful startups are visible in the payments space and it is expected to be the same with the other financial segments as well. The Fintech industry needs further encouragement with the various initiatives of government and regulatory bodies.

Kaur, Dogra (2019), top ten Fintech entrepreneurial ventures are explored on the basis of vision and mission of the venture, and growth analysis on the basis of funding type. Growth in funding patterns towards fintech ventures leads to sound economic development.

Research Gaps

The available literature on the topic under the study covers the evolution of the Fintech Industry, its ecosystem, trends, patterns of growth, and the challenges and business prospects for Fintech in India. The current literature also presents the major players in the Fintech industry and their market stake etc. It has been observed that there is hardly any literature available that precisely comments upon the aspects of the future of Fintech in the New Normal. Hence the research gaps identified are presented below:

1. To explore the factors contributing to the exponential growth of FinTech in India
2. To identify the impact of the pandemic on the FinTech Sector in India
3. To analyse the trend of FinTech in India
4. To present the current state of Fintech in New Normal

Objectives of the Study

1. To explore the factors leading to growth of Fintech in the new normal.
2. To predict the future trend of Fintech in a new normal.

Hypothesis

1. H0: There is no difference in the growth of digital payments in the Fintech market
2. H1: There is a positive difference in the growth of digital payments in the Fintech market

Research Methodology

The current paper explores the growth of Fintech in India, right from its revolution to post-pandemic trends and further, it attempts to identify the various factors responsible for the growth pre and post-pandemic. Hence the researchers thought it fit to undertake an exploratory research design. The process of exploration is carried out by an extensive literature review. The reviewed literature is sourced from various scholarly research papers, magazine articles, the latest news articles, reports of various statutory bodies, etc. The literature so reviewed has been classified and presented under various broad categories. Data has been analysed by using descriptive statistics and SPSS 20.0 to arrive at specific conclusions.

The inferences drawn from an extensive review of literature are presented below in tabular format, the first table presents the Sector Wise Impact of the Pandemic on Fintech Payment Players while the second table presents the impact on Payment Categories.

Sector Wise Impact of Pandemic on Fintech Payment Players

The sector-wise impact is presented in two parts, i.e. Adverse impact of the Pandemic on Payment Players and the Favourable impact of the Pandemic on Payment Players as below:

Sr. No.	Sectors	Adverse impact of Pandemic on Payment Players
1	Aviation	The aviation industry witnessed a severe hit due to the pandemic. The payment players of this industry experienced the risk of refunds and chargebacks caused due to cancellations of flights across the globe.
2	Tourism and Hospitality	The hospitality industry faced a major downturn. The movement of people was restricted during the lockdown period and this led to an adverse impact on this industry's payment volumes.
3	Electronics and consumer durables	An adverse impact was also seen in the electronics and consumer durables segment. This was due to the disruption in supply chains, delivery, and demand caused by the pandemic.
4	Hotels and restaurants	Restrictions on travel during the lockdown led to the loss of business throughout peak seasons also. This led to an adverse impact on payment volumes of the hotel industry.
5	Physical retail (non-essential)	The mandatory closedown of business during lockdown led to significant decline in the transactions of Physical retail (non-essential)
6	E-commerce (non-essentials)	Lockdown has restricted the delivery zones for non-essential. Hence non-essential e-commerce businesses too got adversely affected.
7	Small and medium businesses and capital loans	The Payment players dealing with Small and Medium Businesses and capital loans are also adversely impacted. The temporarily shut down of the business impacted the repayments and working capital and increased the possibility of NPAs
8	Cross-border payments	Payment companies dealing in a large number of cross-border trade transactions were also impacted significantly, due to the nationwide lockdowns across the globe resulting in factory closures and trade barriers

Table No. 2: Part a) Adverse impact on FinTech payments players during Pandemic
Source: PWC India, May 2020 (www.pwc.in)

Sr. No.	Sectors	Favourable Impact of Pandemic on Payment Players
1	Physical retail (essentials)	To restrict the spread of coronavirus that may occur through handling the actual currency (notes/coins), for making payments for groceries, the use of digital payments at local grocery stores increased substantially during this period.
2	Telecom	Mode of digital payments is also opted for making recharges. The demand for broadband internet services too increased to a great extent. This in turn is going to increase the demand for telecom companies significantly.
3	Insurance	The insurance policy payments either for a new policy or renewal of a policy are made online due to the pandemic. Hence insurance companies can observe the rise in digital payments.
4	EdTech	The lockdown turned out to be a boom period for EdTech companies. The demand for Ed-tech services has shown an increase over the period leading to an increase in online payments to a great extent.
5	Healthcare/ Pharma	The most prominent sector, which is witnessing a significant rise in digital payments due to the COVID-19 pandemic is healthcare and pharma. The payment players will see an increase in payment volumes over the period.
6	E-commerce (essentials)	The payment players of service providers of essential items have observed a remarkable rise in transactions during the current lockdown situation.
7	Government	There will be a significant rise in the payments involving the government. The financial aid provided by the government through Direct Benefit Transfer (DBT) and G2P will lead to a rise in digital transactions. Secondly, donations made to Government funds like PM CARES and PMNRF. P2G will also contribute to a rise in digital payments

Table No. 2: Part b) Favourable impact on FinTech payments players during Pandemic
Source: PWC India, May 2020 (www.pwc.in)

Impact of Pandemic on Payment Categories
Pandemic and subsequent lockdown followed by temporary Closure of businesses have resulted in lowering down the volumes of overall transactions. Following table presents the impact of pandemic on various payment categories.

Payment Category	Method	Impact
Issuance	Cards	The threat of transmission of the virus while exchanging physical currency will lead to a boost in online card transactions.
	Wallets	Wallet players are also experiencing a rise in transactions for P2P transfers, Bill Payments, and P2M Payments for essential services due to the risk of exchange of cash during the pandemic.
	Bank Accounts	Fund transfers from and to the bank are also witnessing an upward trend as digital transfers are preferred over handling cash.

Acquiring	ATM	Decrease in the transactions at ATMs as a result of lockdown. The amount of cash required will be lesser than earlier.
	PoS	PoS terminals at stores selling essential services have been experiencing an upward trend on the contrary PoS at non-essential places are facing a decline.
	Payment Gateways	Payment gateways can expect a rise in volumes as transactions may go online. The small stores trying to establish their online presence can also opt for payment gateways.
Payment Infrastructure	UPI (United Payment Interface)	The risk of transmission of coronavirus through cash, the UPI transactions will see a significant rise for essential services which also includes QR code-based payments.
	IMPS (Immediate Payment Service)	The transfer of funds shifted to digital mode, hence the IMPS facility will also witness a rise in transactions through digital mode.
	BBPS (Bharat Bill Payment System)	Due to the unexpected lockdown conditions, people are adopting BBPS. This led to a relatively higher number of transactions through this mode.
	NETC (National Electronic Toll Collection)	(National Electronic Toll Collection) National Electronic Toll Collection facilitates FAST tag toll payments, going to be adversely affected due to the restrictions on travel during the lockdown.

Table 3: Impact on methods of payment during the Pandemic
Source: PWC India, May 2020 (www.pwc.in)

Fintech Adoption
FinTech is adopted for various reasons such as easy payment method, less or almost nil transaction charges, time-saving, cost-saving method of payment, etc. Before demonetization (Before the year 2016) less than 20% of the population adopted Fintech for money transfer, payments, savings, investments, budgeting, financial planning, etc. After demonetization (After 2016) Fintech was adopted globally. (statista.com) Figure 1 clearly shows the growth of Fintech adoption at the global level in various categories. [Table 4]

. Consumer Fintech Adoption rates Globally by Category	2015(%)	2017(%)	2019(%)
Money transfer and payments	18	50	75
Savings and investments	17	20	34
Budgeting and financial planning	8	10	29
Insurance	8	24	48
Borrowing	6	10	27

Table 4: Global Fintech Adoption Rate

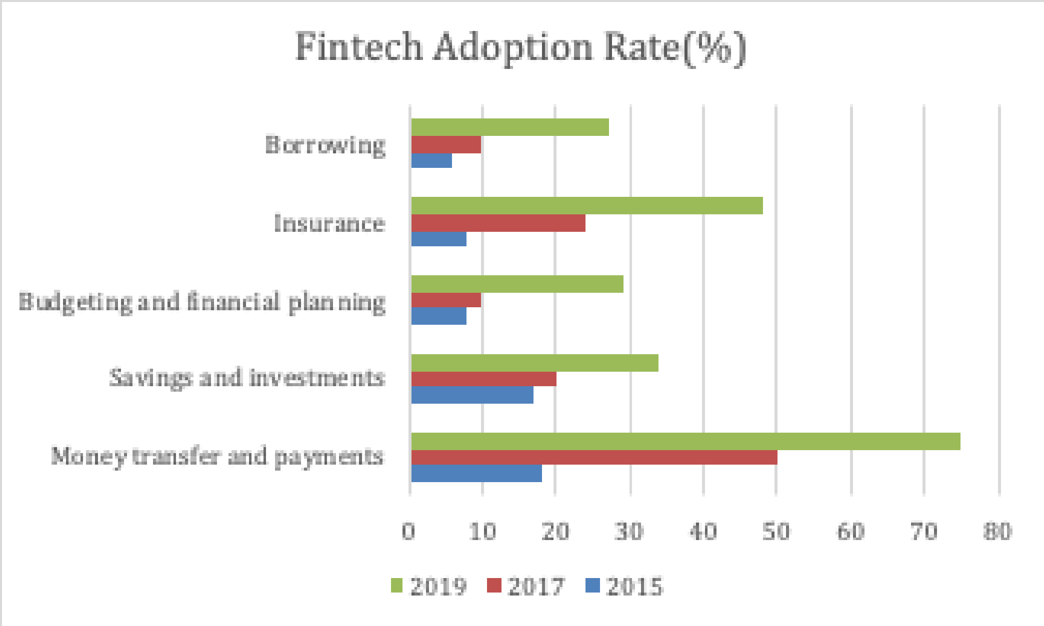

Figure 1: Global Fintech Adoption Rate

Total payment volume of PayPal 2014-2020, by quarter	(in billion U.S. dollars)	Total payment volume of PayPal 2014-2020, by quarter	(in billion U.S. dollars)
Q1 2014	53.68	Q3 2017	115.22
Q2 2014	56.74	Q4 2017	132.52
Q3 2014	58.18	Q1 2018	132.36
Q4 2014	66.04	Q2 2018	139.4
Q1 2015	63.02	Q3 2018	143
Q2 2015	67.48	Q4 2018	163.65
Q3 2015	69.74	Q1 2019	161.49
Q4 2015	81.52	Q2 2019	172.36
Q1 2016	81.06	Q3 2019	178.67
Q2 2016	86.21	Q4 2019	199.4
Q3 2016	87.4	Q1 2020	190.57
Q4 2016	99.35	Q2 2020	221.73
Q1 2017	100.64	Q3 2020	246.69
Q2 2017	107.8	Q4 2020	277.07

Table 5: Quarterly Growth in Payment by using Paypal

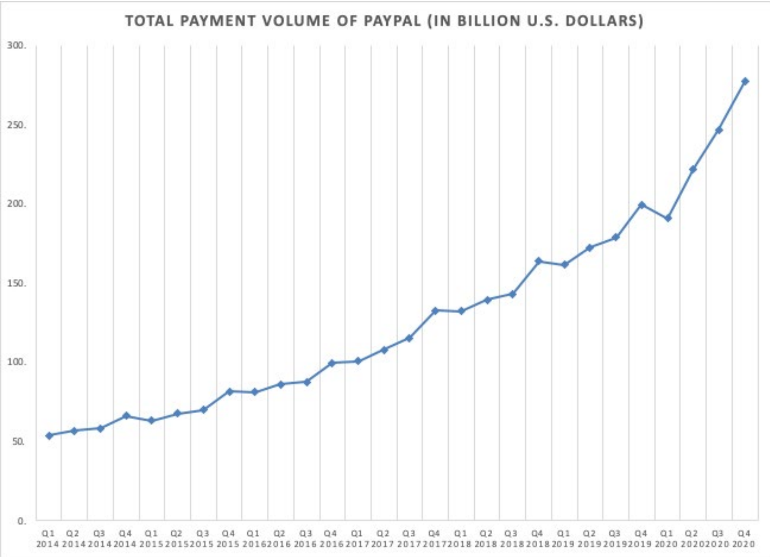

Figure 2: Quarterly Growth in Payment by using Paypal

Data is analyzed from the year 2014 to the year 2020. Two important parameters were considered during data analysis such as demonetization and pandemic. As these parameters affected the FinTech industry. Figure 2 shows the quarterly increasing growth. The pandemic, lockdown, work-from-home culture, and social distancing, and like these factors are responsible for the growth of the FinTech market globally.

Total payment volume of PayPal 2014-2020	Average Growth(in billion U.S. dollars)
2014	58.66
2015	70.44
2016	88.505
2017	114.045
2018	144.6025
2019	177.98
2020	234.015

Table 6: Digital Payment by using Paypal

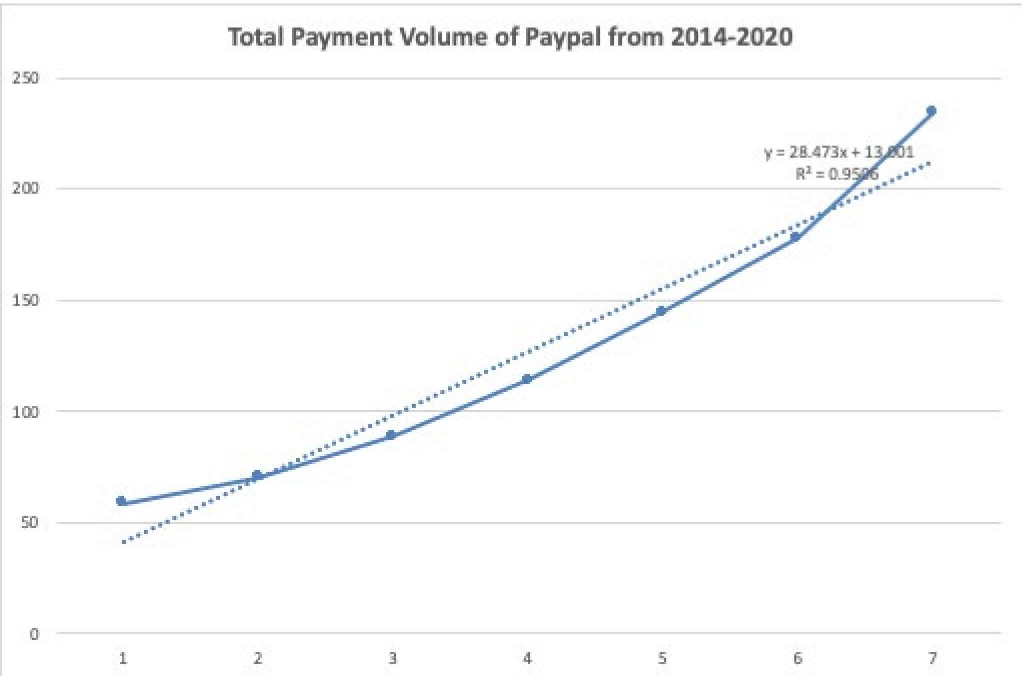

Figure 3: Annual Growth in the Payment by using Paypal

Hypothesis Testing

The above figure clearly shows that there is a linear regression line (dotted line) which is almost close to the actual regression line. This is an increasing curve i.e. payment by using Paypal is increasing over time. Time (year) is taken on x-axis whereas payment volume is taken on the y-axis.

Regression line equation	y= 28.47x + 13.801
Slope	28.47
Intercept	13.00
R square	0.9596
R = Correlation Coefficient	0.979591752 i.e. r= 1

Table No. 7

R square value is 0.95 and the correlation coefficient is 0.97 which is 1. This shows that there is positive growth in the Fintech market with special reference to digital payment. Hence, it supports the alternative hypothesis.

Findings

This study indicates that the Fintech industry is on an upward rising trend throughout the last decade. The Fintech sector has attracted the interest of researchers worldwide. Digital payment has been one of the most promising sectors and the driving force for reviving the economy in the new normal. The pace of internet and smartphone penetration in India, the increasing trend of venture capital funding to Digital Payment start-ups, and the nationwide lockdown are the drivers of exponential growth of Fintech in general and the Digital Payments sector in specific.

The inferences from an extensive review of the literature revealed that the impact of the pandemic hit the payment players associated with various sectors to a significant extent. The sectors hit so are the Aviation sector, Tourism and Hospitality, Hotels and restaurants, electronics and consumer durables, physical retail non-essentials, SMB and capital loans, Cross Border Payments. The payment players associated with these sectors have been experiencing a noticeable decline in payment volumes. On the contrary, the payment players associated with the sectors like Physical retail (essentials) i.e. Grocery stores, Telecom, Insurance, Edtech, Healthcare Pharma, E-Commerce essentials, and Government (DBT) all are witnessing an upward trend in the volume of digital transactions. This is because digital payments are preferred during the lockdown out of concern over the transmission of the virus through the exchange of physical currencies. Secondly, the restrictions on the movements of the public and temporary shutdowns of businesses compelled everyone to opt for a digital mode of transactions.

Conclusion

Digital payment is easy and convenient and time-saving is opted for by a large number of the population. The trend of Fin-tech in India has been ever rising since pre demonetization, the demonetization and digital India initiatives proved to be accelerators of the growth of FinTech in India, which has been further magnified during the pandemic. India possesses a very high potential for Fintech investors worldwide as it has a huge percentage of the unbanked and under-banked population.

Business entities, start-ups and big tech giants are to capture a significant market share. The convenience of Digital payments has evolved as a necessity in these times i.e. in the new normal. Even though a majority of sectors are contributing towards digital payments in these uncertain conditions, it will be too early to predict the long-term impact of Covid-19 on digital payments. Therefore the authors conclude that the Fintech revolution is here to stay and proves to be a blessing in disguise.

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IMPLEMENTATION OF TECHNIQUES TO AVOID CYBER ATTACKS

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ABSTRACT
It has been observed that there is an increase in cyber-attacks in today's world. This attack causes a lot of losses to companies and on a personal level. Several measures need to be taken care of by the user as well while developing the app or website. The practice of defending programs, systems, and networks from online threats is known as cyber security. These assaults typically aim to gain access to, alter, or destroy sensitive data, demand money from users, or obstruct regular business operations. Attacks can take many different forms. Only during the software development process, the method for preventing cyberattacks can be taken into consideration. The present study aims to focus on gathering cyber-attack-related information from software developers who are there in this domain for a long. The information gathered was related to cyber-attacks that the developers were aware of. Special techniques are needed to be considered to avoid cyber-attacks while developing any application or website. The survey focuses on gathering information about the techniques used to avoid cyber-attacks, the possibility of prevention of attacks after the implementation of these techniques, the stage of the software development lifecycle in which implementation of such techniques is taken care of, and the effect of implementing these techniques on the performance of the System.
Keywords: Cyber Security, Cyber Threats, Cyber Attacks, Website Development, SQL Injection

Introduction

Life has become more and more comfortable with the spread of various digital devices and the Internet. All good things have a downside, and that is true in today’s digital world as well. The Data-Internet service has brought about great changes in our lives today, but it also poses great challenges in securing data. This leads to cyber-attacks. Defenders must cover all potential weaknesses, whereas attackers only need to discover one. Attackers can take unorthodox routes, take advantage of system confidence, or employ destructive methods because they are not bound by any regulations. Defenders must try to protect their assets, do little damage, and incur little expenses. Security infrastructure downgrades attackers to the weakest link. Attackers typically progress from the simplest level to the most severe level of compromise. The weakest link attracts the most attacks. Each security measure should complement the others and be just as effective.

When a third-party gains access to a system or network without authorization, it is called a cyberattack. Cyberattacks have several negative effects. Attacks may result in data breaches that cause data loss or data modification. Financial losses, a decline in customer trust, and reputational harm are the results for organizations. The practice of preventing unwanted digital access to networks, computer systems, and the parts that make them up is known as cybersecurity. Attackers will target any device that is connected to the Internet. Attackers and malicious software will continuously investigate it to find flaws. There are several types of cyber-attacks as shown in figure 1

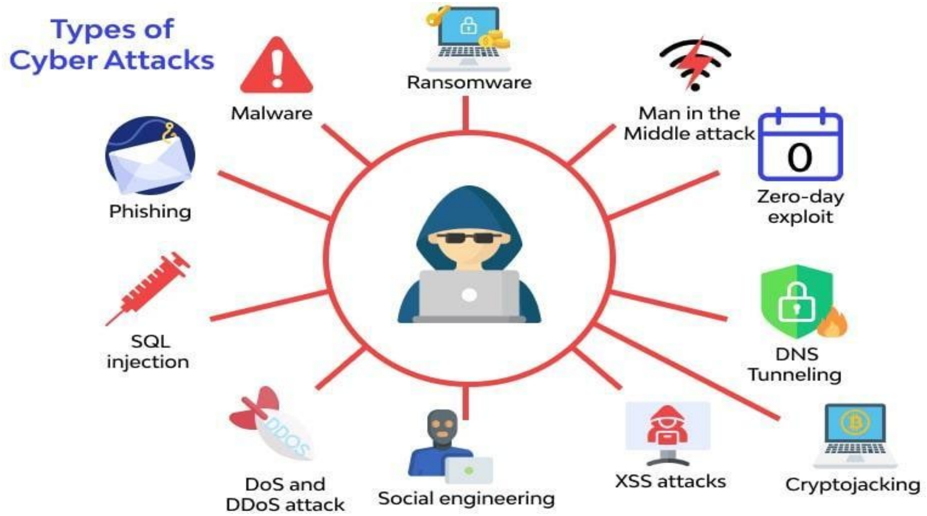


Figure 1: Types of cyber-attacks (Source: https://www.wallarm.com)

Malware attack - An example of a malware attack is when malicious software (malware) is introduced into a computer system or network to cause harm, steal data, or gain unauthorized access. Malware can take on many different shapes, such as viruses, worms, Trojan horses, ransomware, spyware, and adware. Malware assaults can be launched via a few channels, like phishing emails, corrupted websites, or malicious software downloads. Once installed, the virus may cause a variety of issues, including interrupting system performance, stealing sensitive information, encrypting data, and granting the attacker illegal access. To avoid malware assaults, maintain software and security systems up to date, use strong passwords, and exercise caution when opening email attachments or clicking on links from unfamiliar sources

Phishing attack - Phishing is a sort of cyber-attack in which an attacker poses a reputable business, such as a bank, online merchant, or social networking platform, to dupe a victim into supplying personal information or clicking on a dangerous link. Phishing assaults are commonly conducted via email, instant messaging, or social media. A phishing assault attempts to persuade the target to perform a certain action, such as entering login credentials or supplying personal information that can be exploited for identity theft or other illicit reasons. Phishing attacks frequently include social engineering techniques, such as haste or fear, to create a sense of urgency or panic and raise the victim's probability of falling for the hoax. To avoid phishing attempts, be cautious when clicking on links or opening attachments from unfamiliar sources, and double-check the legitimacy of any request for personal or sensitive information before delivering it. This may be accomplished by inspecting the website's address, searching for the padlock icon in the browser, and contacting the organization directly to confirm the request.

Password attack - In a password attack, an attacker attempts to figure out or crack a user's password to access their account or system. Password assaults can take several forms, including brute force, dictionary, and phishing attacks. The attacker uses software to guess every conceivable combination of characters until the right password is determined in a brute-force assault. A dictionary attack tries guessing the password using a collection of common passwords and variants. A phishing assault includes duping the victim into providing their password via a bogus login page or email. It is critical to choose strong, using passwords that are challenging to crack to safeguard against password assaults. A strong password is at least 12 characters long and comprised of uppercase and lowercase letters, numbers, and symbols. Employing two-factor authentication, which needs an additional form of verification in addition to a password, can also offer an extra degree of protection.

Man-in-the-Middle attack - When an attacker intercepts communication between two parties, such as a user and a website, and eavesdrops on or modifies the communication without the parties' knowledge, the attack is known as a man-in-the-middle (MITM) cyberattack. To do this, the attacker may employ a variety of techniques, such as session hijacking, DNS spoofing, or Wi-Fi eavesdropping. If the attacker has obtained access to the communication, they can eavesdrop on it to collect sensitive information such as login passwords or financial information, or they can change it to implant malware or divert the user to a bogus website. To avoid MITM attacks, utilize secure communication protocols such as HTTPS, which encrypt communications and protect against eavesdropping and alteration. A virtual private network (VPN) can also provide further security by encrypting all communication between the user and the internet, making it more difficult for attackers to intercept.

SQL Injection - SQL injection is a sort of cyber-attack that specifically targets websites or programs that use a SQL database. To manipulate the database and steal or change sensitive information, malicious SQL code is inserted into a website's input fields, such as search boxes or login forms. SQL injection can be used by the attacker to extract information such as usernames and passwords or to manipulate data in the database. This can lead to data loss, illegal access, or even a total takeover of the targeted system. To prevent SQL injection attacks, developers must use safe coding standards such as input validation and parameterized queries to prevent unauthorized database access. Moreover, frequent security audits and upgrades to software and online applications can aid in the prevention of SQL injection vulnerabilities.

Denial of service attack - A Denial of Service (DoS) assault is a form of cyber-attack that seeks to overload a website, application, or network with traffic or requests to impair its availability. This is accomplished by flooding the target system with a huge number of traffic or requests from various sources, rendering the system incapable of responding to genuine requests. A DoS attack causes the target system to become unresponsive or crash, rendering it inaccessible to users. This may lead to considerable financial losses for enterprises as well as user annoyance and irritation. It is critical to have suitable network security measures in place to guard against DoS assaults, such as firewalls and intrusion prevention systems. Furthermore, by lowering the volume of malicious traffic that reaches the target system, rate limiting, or traffic filtering methods can assist to lessen the impact of a DoS assault.

Insider Threat -An insider threat is a cyber security danger that originates within a company. It is committed by a current or former employee, contractor, or another trusted individual who has allowed access to the organization's systems, data, or network and utilizes that access to cause harm or perform malicious activities. Insider threats can take many different forms, such as stealing sensitive information, sabotaging systems or data, or gaining unauthorized access to networks or accounts. Insider threats can be purposeful, such as an employee motivated by monetary gain or retribution, or inadvertent, such as an employee who unintentionally reveals critical information due to negligence or human error. Organizations can establish access restrictions and monitoring, security awareness training, and background checks for workers and contractors to prevent insider risks. Moreover, frequent audits and incident response planning can aid in the detection and response to insider threats.

Crypto-jacking - Crypto-jacking is a sort of cyber-attack in which an attacker mines cryptocurrency on a victim's computer or device without their knowledge or consent. The attacker often does this by infecting the victim's machine with malware, such as a browser-based mining script that mines bitcoin for the attacker using the system's computing power. The victim may notice that their system is functioning slower than normal, or that their electricity bill has increased because of higher processing power utilization. The victim, on the other hand, may be unaware that their system is being exploited to mine bitcoin.

Cyber-attacks and their Impact on Business

A successful cyberattack could have disastrous effects on your company. This may have an impact on your revenue as well as the confidence of customers and the reputation of your company.

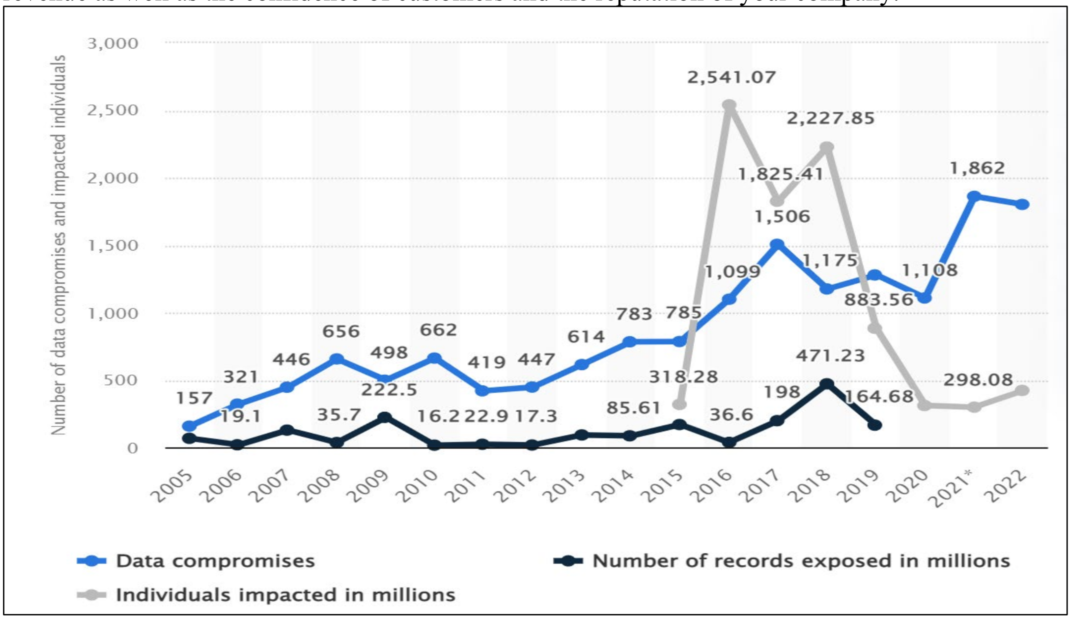


Figure 2: Cost of data loss and individuals impacted in the U.S. from 2005 to 2022 (Source: https://www.statista.com)

A security breach's effects can be broadly divided into three types: financial, reputational, and legal. The economic cost of cyber-attack is associated with data theft from companies, financial information theft (for example bank details, payment card details), interference with business transactions (for example online transactions), business - or loss of contract, and dealing with the breach. While doing so, businesses often also foot the bill for fixing broken systems, networks, and tools.

According to the most recent UK government survey on cyber security breaches, 39% of UK businesses have reported experiencing a cyberattack in the previous 12 months. Within this group, according to 31% of firms, attacks occur at least once every week and one in five, claim that an assault has harmed them 444 April costs £4,200. However, this amount increases to £19,400 for the category of medium and large businesses. Figure 2 shows annual number of cost of data loss and individuals impacted in the United States from 2005 to 2022 because of cybercrimes. A poll of US IT decision-makers in 2022 revealed that close to a quarter of businesses that have been the target of cyberattacks had suffered losses of between $50,000 and $99,999. Another 22% of the surveyed businesses disclosed suffering a financial loss of between $100,000 and USD 499,999.

Techniques to Avoid Cyber Attacks

Secure Coding Practices: Security should be built into the code at every step. Buffer overflows, SQL injection, and cross-site scripting are vulnerabilities that can be avoided with the use of secure coding techniques. The application of techniques and industry standards known as safe coding practices helps to ensure that programmers are developed securely and are not exposed to harmful assaults. These procedures aid in making sure that code is trustworthy, secure, and attack resistant. Some of the practices include using secure coding standards, using encryption, using secure authentication methods, using secure coding frameworks, avoiding insecure coding practices, and using source code analysis tools. By following these secure coding practices, developers can aid in making sure their code is safe and resilient to malicious attacks.

Test Application Security: Regular security testing should be carried out to find any potential flaws. This can include penetration testing, source code reviews, threat modeling, and static analysis. Application security is the practice of designing, developing, and testing applications to protect them from malicious attacks. It ensures that an application is secure enough to protect data, assets, and user information from unauthorized access and manipulation. Application security includes authentication and authorization, encryption, data protection, input validation, and monitoring. It also includes secure coding practices, secure development lifecycle (SDLC), secure communication, and secure deployment. With application security, organizations and developers can better protect their applications from cyber threats.

Use Appropriate Authentication and Authorization: Proper authentication and authorization should be used to control access to resources and make sure that only authorized users can access them. Two-factor authentication is one option, as password policies, and role-based access control.

- Use strong passwords: Strong passwords are a must when it comes to authentication and authorization. Passwords should be at least 8 characters in length and should include a combination of upper- and lower-case letters, numbers, and special characters. Additionally, passwords should be changed regularly, and unique passwords should be used for each service or website.
- Use multi-factor authentication: multi-factor authentication requires more than just a username and password for authentication. It usually involves a combination of something you know (such as a password), something you have (such as a security token or code sent to your mobile phone), or something you are (such as biometric data).
- Use encryption: Encryption is a powerful tool for protecting data. Encrypting data becomes unreadable to anyone who does not have the encryption key. This helps to protect data from unauthorized access.
- Implement access control lists: Access control lists (ACLs) are used to specify who has access to what resources. By configuring ACLs, you can control who can access specific resources and limit their access to those resources.
- Use role-based access control: Role-based access control (RBAC) is used to assign specific access rights to users based on their roles. This helps to ensure that users can only access the resources that they need for their job and cannot access resources that are not relevant to their roles.

Implement Security Controls: Firewalls, intrusion detection systems, and antivirus software are examples of security measures that can help protect against malicious activity.

- Implement TLS/SSL encryption: Use TLS/SSL (Transport Layer Security/ Secure Sockets Layer) encryption on all website or application traffic to protect data in transit.
- Use Strong Passwords: Use strong passwords to protect user accounts and access sensitive data.

- Enforce Access Controls: Use access controls to limit users' access to data and resources to only what is necessary for them to perform their duties.
- Implement a Firewall: Use a firewall to protect the system from external attacks.
- Perform Regular Security Audits: Audit the system regularly for security vulnerabilities and take steps to remediate any issues that are found.
- Educate Users: Educate users on the importance of security and the risks associated with inadequate security.
- Use Anti-Malware Solutions: Use anti-malware solutions to protect the system from malicious software.
- Monitor Logs: Monitor system and application logs for suspicious activity and take steps to address any issues that are found.
- Update Software Regularly: Ensure all software is updated regularly to address any security vulnerabilities that may exist.
- Backup Data: Backup data regularly to protect against data loss.

Monitor and Log Activity: Logging and monitoring activities on the system can help detect suspicious behavior. This can include network traffic, user logins, and system events.
- Monitor and log any changes to the codebase: Track which files have been modified, and who modified them.
- Monitor and log user activity: Log which users have accessed the application, when, and for how long.
- Monitor and log application performance: Monitor response times, server load, and other performance metrics.
- Monitor logs for security breaches: Log any attempts to access the application, and alert on suspicious activity.
- Monitor and log errors and exceptions: Log any errors that occur while the application is running.
- Monitor and log database operations: Log any database operations, such as queries and updates, that occur while the application is running.
- Monitor and log network traffic: Monitor any incoming and outgoing network traffic, and alert on any suspicious activity.

Secure Storage of Sensitive Data: Sensitive data should be encrypted and stored in secure locations. This can include databases, file systems, and cloud storage. There are several ways to securely store sensitive data while developing a website or application. Here are some of them:
- Encryption: Encryption is the process of transforming information into an unreadable format, making it difficult for unauthorized users to access it. When dealing with sensitive data, it is important to encrypt the data both in transit and at rest. This ensures that even if an unauthorized user gains access to the data, they will not be able to read or use it.
- Data Masking: Data masking is a process of obscuring sensitive data by replacing it with a synthetic, but still realistic, version of the data. This makes it impossible for an unauthorized user to gain any useful information from the data.
- Access Control: Access control is a process of restricting access to sensitive data to only those individuals who need it. This prevents unauthorized users from viewing or using data they do not have permission to view or use. Access control can be set up at the user level or on a more granular level, such as restricting access to a specific field within a database.
- Data Leakage Prevention: Data leakage prevention is a process of preventing data from leaving or entering an organization without authorization. It is important to have processes in place that detect and monitor data leakage, such as data loss prevention (DLP) solutions.
- Audit Logging: Audit logging is a process of recording information about user activity. This allows organizations to track and monitor user activity, as well as to detect any unusual or suspicious activity. Audit logging is an important tool for increasing the security of sensitive data.

Use Secure Communication Protocols: Web traffic should be protected using secure protocols such as SSL/TLS. This will ensure that data is encrypted while in transit.
- Utilize SSL/TLS: Secure Socket Layer (SSL) and its successor TLS (Transport Layer Security) are protocols that provide secure communications between two points (client and server) over the internet. It provides encryption and authenticity, meaning that the data is kept private and can be trusted to be from the intended source.
- Use SSH: Secure Shell (SSH) is an encrypted communication protocol that can be used for remote login, file transfers, and port forwarding. It uses public-key cryptography for authentication and encryption, making it a secure and reliable method for protecting data in transit.

- Implement HTTPS: Hypertext Transfer Protocol Secure (HTTPS) is a secure version of the HTTP protocol used for web communication. It uses SSL/TLS to encrypt data, ensuring that any information transmitted is kept private.
- Utilize IPsec: IPsec (Internet Protocol security) is a suite of protocols designed to provide secure communications over IP networks. It provides authentication, confidentiality, and integrity for data, making it a good choice for secure communication.
- Use VPNs: Virtual Private Networks (VPNs) provide a secure tunnel between two points on the internet. They use encryption and authentication to ensure that data remains private and only accessible by authorized users.

Keep Software and Operating System Up to Date: All software and operating systems should be kept up to date with the latest security patches. This can help mitigate known vulnerabilities.
- Install and use an antivirus software
- Enable automatic updates for software and operating system
- Stay informed about the latest security and software updates
- Use a firewall to protect network traffic
- Follow the latest security industry best practices
- Regularly scan your systems for malware and viruses
- Secure your web server against known vulnerabilities
- Perform regular backups of your website or application
- Regularly audit your code and configuration files
- Use trusted 3rd-party libraries and plugins

Objectives of the Study
The objectives of the study are:
- To elaborate the strategies for organizations to save their information from cyber-attacks and implementation of these strategies.
- To study the implementation of security measures such as user authentication, encryption, securing web applications, monitoring system and network activities, updating software, and creating disaster recovery plans.
- To check the awareness of software developers about techniques to be implemented while building website itself to protect from cyber-attacks.

Literature review
(Mosteanu, 2020) because of cyberattacks, there is always a need for awareness to subdue fear when examining cutting-edge technology employed in the business. Any internet-connected gadget that stores data may at any time become a target of a cyberattack. Cybersecurity is used to safeguard businesses while also providing examples of risk management from Malta. (Anwar, 2017) Even though it is challenging to fight against the more potent attacks on systems, advanced artificial intelligence techniques improve traditional security systems' overall security performance and protect against an increasing variety of sophisticated cyber threats. (Dorn, 2019) principles and methods of cyber-peacekeeping techniques decides their effectiveness in physical space. The framework helps in preventing global attacks and if the attack happens. The cyber-peacekeeping technique helps in the recovery process and impartial investigations to find the perpetrators. (Ghelani, 2022) deploying multiple strategies across an organization achieves a combined, balanced, and optimized security system. A preventive approach keeps technology services always available. (Jamil, 2018) there are loopholes in the web system due to which hacking becomes possible. The countermeasures to prevent hacking attacks must be performed in experiments to detect cyber-attacks. These tested countermeasures are used and implemented by software developers. (Ping-Chen, 2011) The principles and ideas of SOL injection attacks are introduced in the publication. It recognizes SQL injection attacks and lists all available strategies for preventing them. Examples of ASP website platform system injection attack prevention technology are examined, and the technology is used as a means of preventing SQL injection in real-world web security applications.

(Anakath, 2018) different methods are used to analyze various SQL injection attacks protect the software system from these cyber-attacks. (Shabut, 2016) the most recent cyber security attacks, defenses, and safeguards for typical online activities are linked together. The framework is defined to frame useful taxonomy and classification of cyberattacks that aid in the identification of attacks and countermeasures for cybersecurity. (Jackson, 2008) ForceHTTPS is a straightforward browser security technique that websites or users utilizes to opt into stricter error handling by avoiding network attacks that take advantage of the browser's loose error handling. It enables knowledgeable users to seamlessly retrofit security onto some unsafe sites that support HTTPS by supplying the browser with a library of unique URL rewriting rules.

(Yunus, 2018) various techniques are used for preventing SQL injection. The Blockchain concept is also used to prevent SQL injection attacks on the database management system. (Nunez, 2020) an innovative and preventive technique can be implemented to achieve security by default throughout the whole software life cycle. With the model, the overall number of vulnerabilities is decreased by 68,42%, and security and quality are increased. The more secure software is provided by the new, emerging technique. (Zhang, 2018) technical support for SQL injection testing offers a strong warranty for web-based information systems in SQL injection protection. Ingale, Anute (2020) all new technology tools, payment banks, artificial intelligence, block chain, cyber security and RPA have high effectiveness. (Li, 2021) complete investigation and assessment of standard breakthroughs produced in the field of cyber security look into the challenges, advantages, and disadvantages of the suggested solutions. The new descendant cyber-attacks emerge day by day, but their thorough investigation is always required. (Voitovych, 2016) a software tool is created that makes it possible to defend Web applications against SQL injection vulnerabilities. It enables the user to utilize SQL to defend their web application against an attack. (Sirohi, 2016) the SSL/TLS protocol secures communication over networks by guaranteeing data confidentiality, data integrity, and party-to-party authenticity. During SSL/TLS protocol evolution, security flaws were discovered thorough historical listing of SSL/TLS protocol assaults during the previous 22 years is recorded for the reference.

Research Methodology

The existing literature was studied to have a look at the implementation of technologies to protect the software from cyber-attacks. The review focuses on identifying the different types of technologies used in cyber-attacks, their characteristics, their impact on the victims, and how these technologies can be used to perpetrate attacks.

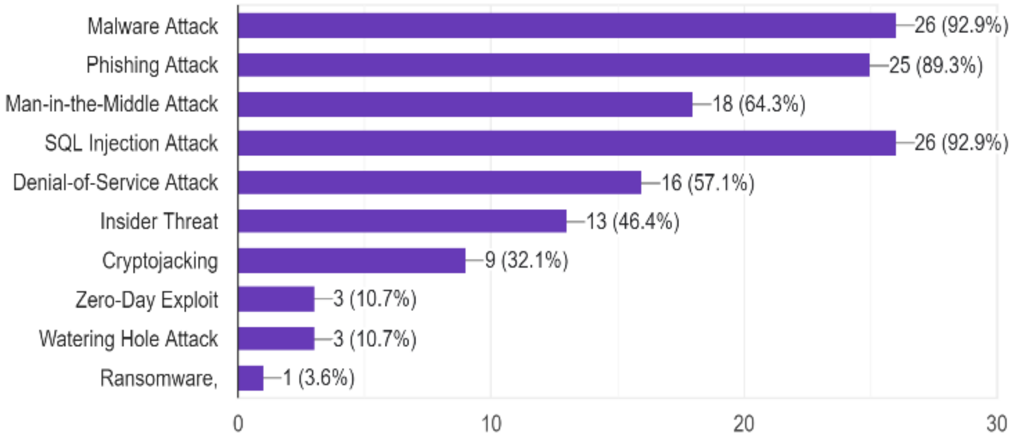
Data Collection: The data was collected from various sources such as online forums, open-source databases, and organizations specialized in cyber security. The collected data includes information about the various technologies used in cyber-attacks.

Data Analysis: The collected data was analyzed to determine the types of technologies used in cyber-attacks, their implementations, and the impact and effects on victims.

Survey: A survey was conducted to understand the opinions of the software developers about the different technologies that they are aware of to avoid cyber-attacks and implementation of these technologies. The questionnaire was passed to the software developers and received responses from them. The questionnaire consists of various questions to understand their opinions about the cyber-security and its implementation. Around 62 responses were collected from software professionals working in various organizations and having exhaustive and comprehensive software development experience. On average the experience of the respondents in their work field was in the range of 15-20 years. Various graphs are drawn to analyze the collected data and these graphs are interpreted. The major analysis is done to find awareness of cyber-attack prevention techniques among software developers and the techniques they use to prevent these cyber-attacks.

Result and Discussion

The survey of software is conducted to get some information about how they deal with cyber security and what they use to avoid cyber crimes. The initial few questions were to gather demographic information such as the name of the organization and the number of years of experience in the software development field. The question was asked to judge the awareness of software developers about different types of cyber-attacks. From graph 1 it is clear that the majority of software developers are aware of malware attacks, phishing attacks, SQL injection attacks, man-in-the-middle attacks, and denial-of-service attacks.



Graph 1: Awareness among developers about various cyber-attacks

The question was asked to find awareness of the techniques to be considered to avoid cyber-attacks. Around 82.1% of software developers are aware of various techniques used during the implementation phase of software development to avoid cyber-attack.

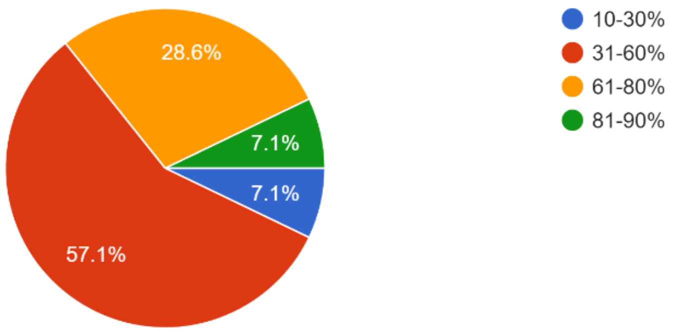
The responses to the open-ended question “What are the techniques that should be considered while developing an application or website to avoid cyber-attacks?” were interesting. The techniques mentioned were use of firewall, backing-up data from time-to-time basis, security access to authorized data, software should be up to date, follow the best coding practices, avoid passing values in URLs, validate inputs before using them to fetch data, check for secure network connections, learn how to detect a potential social engineering attack and also choose very strong passwords, securing the devices by keeping strong passwords, using multi-factor authentication, secure website with http cookies only enabled, use of secure database and network, store all the passwords in #### (encrypted) format, building an attack proof software, malware detection, function call injection, session management, activities tracker, provision of SSL certification, data should be encrypted, user data should be properly validated, authentication should done while developing any application, use of proper data transferring methods, applying injections and proper input validation, decentralization of database, use of advance cypher attacks proof advanced login system, safe hosting of the website, auditing and logging at multiple levels, quality assurance and regression testing, improved security configurations, validations on user input, blocking of spyware attacks, regular vulnerability scanning, use of SQL database with strict constraints so that database won't get corrupted and scripting security which help to only accept per IP request after every 10 seconds. Some other suggestions to avoid cyber-attack were also given by software developers. These are:

- Not to use third-party APIs (Application Programming Interfaces) which are not secured
- Not to allow access through unsecured websites
- Also, updating oneself about modern-day cyber-attacks and updating the security measures on one’s end as well as the hosting is important

The strong recommendation was suggested by developers not to go for dynamic SQL. For example, the use of SQL queries such as:
'UPDATE table SET column=' + web form.column + 'WHERE something=something'
Where query inputs are accepted from web form directly then it may breach the security of the SQL environment. Again, acceptance of query parameters must be done in actual format only. For example, if the query parameter is an integer then input from the user must be restricted to an integer only. If the query parameter is in date format, in that case, user input must be accepted in date format only.

To protect the software from SQL injection vulnerability, it was suggested by one of the surveyed developers that write a query in the following form:

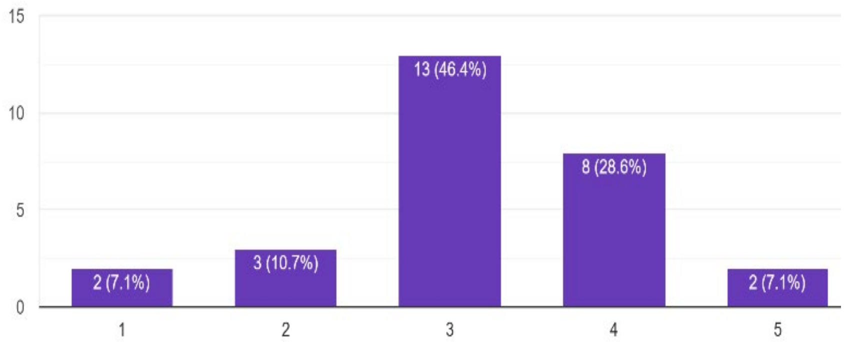
‘IF EXISTS (SELECT * FROM users WHERE username=%form.username% AND password=%form.password%)’



Graph 2: Percentage of protection after implementing cyber-attack-proof techniques.

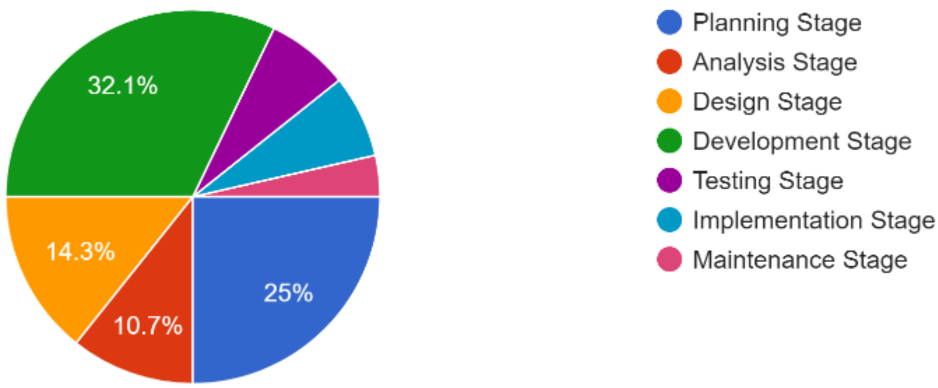
It is also suggested to pursue the best practice is to run the query explicitly and do a row count to ensure rowcount=1 (or whatever it is supposed to be in the developer's environment). The question was also asked to find the possibility of the level of protection after implementation of the above-discussed techniques. The various opinions of the developers are mentioned in Graph 2.

Majority of the developers which is around 57.1% think that only 31-60% of attacks can be avoided while using these cyber-attack-proof techniques. 28.6% of them think that 61-80% of attacks can be avoided and only 10-30% of them think that 81-90% of attacks can be avoided. Software developers were also asked to rate the existing techniques for avoiding cyber-attack on a scale of 1 to 5.



Graph 3: Rate the existing techniques for avoiding cyber-attack.

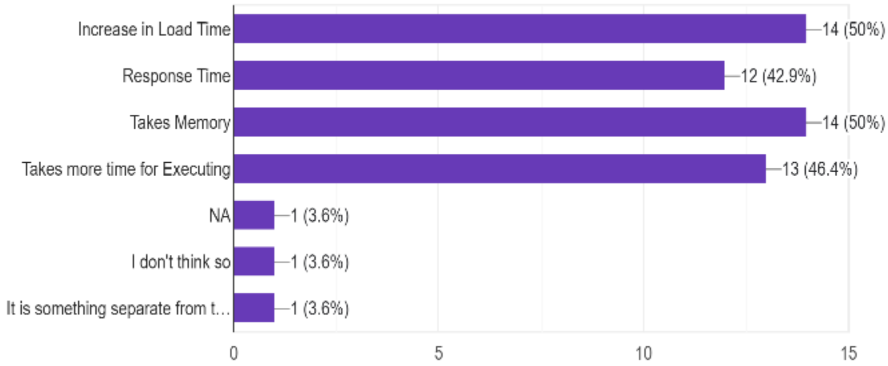
As shown in graph 3, around 46.4% have rated these techniques as average-performing techniques while 28.6% of software developers have rated these techniques as above-average performing techniques to avoid cyber-attacks.



Graph 4: Stages of SDLC where cyber-attack proof techniques are implemented

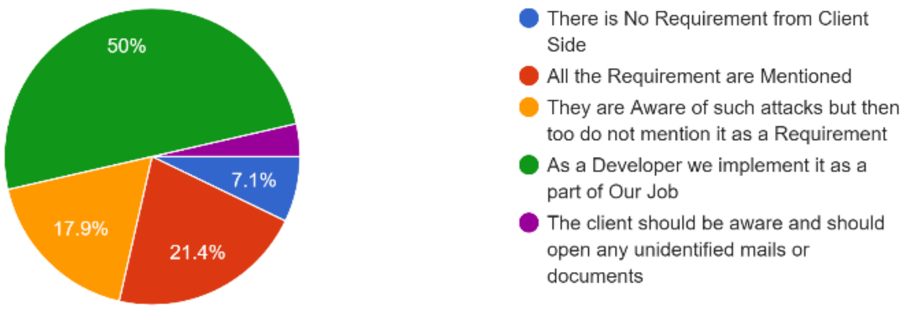
The opinion was taken to understand the stage of the software development life cycle (SDLC), where cyber-attack proof techniques are implemented. Around 25% of the software developers think that it should be done during the planning stage itself. Around 32% of them think that it should be done during the development stage, while 14% believe in the right time for implementation of these techniques is during the designing stage and 10% prefer it at analyzing stage as shown in Graph 4.

The implementation of cyber-attack-proof techniques in website development affects the performance of the website. As shown in graph 5, the major effects are an increase in the loading time of the website at the client end, a high response time of the website, high utilization of memory, and an increase in the execution time.



Graph 5: Effect on the performance of the website or app

Graph 6 shows the opinion about the preventive measures to be taken from the client end to avoid cyber-attacks on the websites. 50% of software developer believes in implementing these techniques at the developer stage itself, 21% believes in mentioning these safety requirements as the part of requirement gathering stage, while around 18% believes in not mentioning these safety requirements as a part of overall software requirements but the responsibility of the developer itself.



Graph 6: Preventive measures need to be taken from the client's end.

The constructive suggestions given by the software developers to avoid cyber-attacks during the period of implementation are as follows.

- As a software developer, one has to create any custom code with the input data validation in mind to make the software application to be resilient against injection attacks
- Before the beginning of software development, one should make the client aware of cyber security and the risks associated with it. Also, these points need to be budgeted in software cost estimation.

In general, it is believed that if there is data or financial loss due to a cyber-attack then it will affect the reputation of the organization. This may lead to a damaged reputation for the organization and the organization may lose the faith of the customers. Cyber-attacks can also cause a slowdown in business operations as employees may have to spend time dealing with the attack instead of attending to other tasks.

As per the overall observation, the following are the major measures to be taken by any organization to prevent cyber-attacks.

- **Use an Authentication System:** Implementing an authentication system is an important step in protecting the application from cyberattacks. A strong authentication system can help prevent access to sensitive information by unauthorized users and limit the chances of successful attacks.

- **Secure Database Connections**: Database connections are some of the most vulnerable points of the application and should be secured to the highest level. Use secure protocols like TLS/SSL to encrypt all database connections and use the latest security protocols.
- **Use Encryption:** This is the best way to protect sensitive data and ensure that only users with proper authentication can use it. The use of strong encryption algorithms such as AES (Advanced Encryption Standard) and RSA (Ron Rivest, Adi Shamir, and Leonard Adleman) and the choice of the right key length are the recommendations to protect from cyber-attacks.
- **Perform Regular Security Audits:** It is important to perform regular security audits to identify any potential vulnerabilities in your application. Security audits should be conducted by an experienced security team or an outside security consultant to ensure maximum security.
- **Use Web Application Firewall:** A web application firewall can help to protect the application from cyberattacks by filtering malicious traffic and preventing unauthorized access. It should be ensured install a reliable web application firewall and keep it up to date.
- **Monitor User Activity:** Monitoring user activity can help detect suspicious activities and prevent malicious attacks. It is important to monitor user activity and keep track of user logins, access attempts, and other suspicious activities.
- **Use Secure Protocols:** Using secure protocols like TLS/SSL can help protect user data from being intercepted by malicious attackers. It needs to be assured to use the latest security protocols and ensure that all connections are encrypted.

Conclusion

Cyberattack prevention is an essential part of any website or application development process. In today's digital world, cyberattacks have become one of the most serious threats to businesses and individuals. With the increasing use of technology, the number of cyberattacks has also increased significantly. Therefore, it is essential to take the necessary steps to protect against these malicious activities.

Many developers are aware of cyber-attacks and the techniques to avoid these attacks. Many techniques need to be considered while developing the website itself to avoid the majority of cyber-attacks. But after the implementation of these techniques, it is believed that by the implementation of these techniques, only 31-60% of cyber-attacks can be avoided. Most software developers prefer to take care of the implementation of these techniques in the development stage of the software development life cycle. After the implementation of these techniques, the website may get affected by an increase in loading time, response time, execution time, and memory utilization of the website. Many software developers believe in providing security measures in the developed software even though the client does not specify it during the requirement-gathering stage. The main emphasis is to be given to taking preventive measures beforehand by implementing these techniques throughout the software development life cycle itself.

The first step to prevent cyberattacks while developing a website or application is to use secure coding practices. This includes secure writing code, using secure authentication and authorization methods, and following coding best practices. Additionally, developers should use defensive coding techniques such as input validation, output encoding, and encryption to prevent attackers from accessing sensitive information. It is also important to regularly monitor the application and website for any suspicious activity or unusual behavior. Using a Web Application Firewall (WAF) is also a good way to protect against cyberattacks. A WAF acts as a barrier between the application and malicious actors, by blocking malicious requests and alerting the developer to any attempts to access or modify the application or website. It is also important to ensure that all users are authenticated and authorized before accessing any data or application. This can be done by using two-factor authentication and implementing access control policies. Finally, it is important to use robust logging and monitoring systems to detect suspicious activity. Logging and monitoring systems should be set up to track events such as failed logins, suspicious network traffic, and other suspicious activities. These systems should also be set up to alert the developer to any suspicious activity so that it can be investigated. By following these steps, developers will be able to avoid the risk of cyberattacks while developing a website or application.

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INFORMATION COMMONS AT DR. D. Y. PATIL VIDYAPEETH, PUNE: A FEASIBILITY STUDY

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ABSTRACT
The present paper deals with the feasibility study carried out to suggest an Information Commons to Dr. D. Y. Patil Vidyapeeth, Pune. This paper is based on responses given by nine colleges affiliated to Dr. D. Y. Patil Vidyapeeth, Pune. By using Morgan table the sample i.e. 364 out of 6017 is adopted for the study. An appropriate questionnaire is prepared for the data collection. The researcher himself has circulated the questionnaire personally and collected it back after continuous visits. Hence, the response rate comes up to 99 percent. The data is analyzed and interpreted using various tables and diagrams, with appropriate justification and conclusion. 45% of students search information through various databases. Further 89 to 93 % students have expressed their opinion regarding various services and facilities they require through "Information Commons".
Keywords: Information Commons, Online education, Library services, Information retrieval, Private & Deemed University

Introduction

Information Commons is a new service model of the Indian academic library, with the development of computer technology, multimedia technology, network technology, modern communication technology, school teaching reform and the change of people's learning method.

Information Commons provides users a continuous service from the planned study to the final production, and it has a very good reference for the sustainable development and the extension of service of our country's libraries. Information Commons and open access constitute the practice of the libraries idea of Information share, and they are the natural extension of library services and the inevitable direction of innovation services. Before adapting any technology, colleges and universities must first understand what they are, what their missions are, who their faculty, students and researchers are and then use the appropriate technology to meet the needs.

While teaching and learning are the mainstays and the core of an education enterprise, the overall success of instructional programs depends upon a number of other services such as advice, counseling, library and professional development. Indeed the success of any academic program depends upon a library as well as science laboratories, media centers, and other support facilities and services. As online education continues to evolve, faculty and students expect that instructional resources will be available to anyone, any time and any place. Digital resources for teaching and learning pertinent to online education have been established in libraries. These resources include e-books, case-studies, simulations, quizzes, games, texts, PowerPoint presentation, assessment tools, and multimedia. Many of these resources exist in local college and university repositories and are part of Open Education Resources (OER) that includes organizations such as MERLOT, MIT's Open Courseware project and the creative commons. With the popularity of flipped classrooms, the posting of lectures and class presentations has become commonplace using college and university repositories, YouTube, Podcasting, and other free media websites. Now libraries must provide facilities to students and faculty who need to locate these materials.

Literature Review of Information Commons

Nowadays libraries are transforming into Information Commons, libraries are becoming hubs for assisting learners or students in developing their learning literacy. Libraries are transforming from quiet study areas to vibrant, social gathering places that serve as centers for promoting literacy among learners. Designing the perfect 21st-century Information Commons should take these three elements into consideration: physical commons, virtual commons, and sociocultural commons. As a result, designers must be aware of contemporary learning theories as the foundation for the commons. The analysis that follows digs deeper into these components. When planning and building a library for the twenty-first century with the goal of promoting good lifelong learning, it is necessary to investigate learning theories.

According to the learning theories mentioned above, meaningful learning requires social interaction at its core. As a result, educators have started talking about how modern technology affects kids. "Digital natives" is the term used to describe today's students. On the other hand, some educators believe that they are "digital immigrants," compelled by their ancestors' design to learn and synthesize knowledge digitally rather than being born with this capability (Bailey ,Tierney, 2008).

Some academics and researchers, on the other hand, think that virtual technology enhances learning since it enables students to quickly synthesize information using text, images, blogs, and low-cost connections with individuals all over the globe. (Selwyn, 2009; Tapscott, 2008).

The well-planned Information Commons, along with library services, houses a variety of student academic services including tutorial services, writing labs, and testing labs. The commons also includes different types of work areas, featuring group study areas, self-study areas, presentation rooms, and conference rooms. Students may also access technology support. Ultimately, however, an optimal Information Commons is envisioned as a hub of interactive learning and information exchange and its design helps to facilitate student engagement face-to-face, as well as through virtual social and research interchanges (Bailey ,Tierney, 2002; Beagle, 1999; Massis, 2010). The evolution of libraries at universities as they transform them into Information Commons can be observed in a variety of stages. However, the goal of striving to increase contact between academics, staff, and students continues to be a central idea for the changes taking place in most universities. While some colleges are able to secure funds to construct cutting-edge library structures that are robust in terms of space, technology, and sociocultural activities, some institutions are renovating older buildings in order to adhere to the commons principle. Through an integrated and collaborative service approach, information commons are regularly developed in university libraries to support and promote the goals of the parent

Different scholars have defined the concepts “Information Commons” as below.

According to Beagle, Information Commons is defined as “a cluster of network access points and associated IT tools situated in the context of physical, digital, human, and social resources organized in support of learning” (Beagle, 2006).

Another definition of Beagle States that “The Information Commons becomes a Learning Commons when its resources are organized in collaboration with learning initiatives sponsored by other academic units, or aligned with learning outcomes defined through a cooperative process” (Beagle, 2006)

From the above definition, it is clear that Information Commons services include book lending service, reference service, information exchange service, audio-visual education service, media production service, education, and training of information quality, and so on. Further these definitions convey the message of one-stop shopping of all the information needs of the user, through Information Commons.

Research problem

Presently a large amount of reading material is available through the internet. This type of reading materials includes e-books, e-journals, video talks, digital photographs, digital maps, etc. Hence the organization and management of the e-resources require particular types of arrangement and management, due to the large number of e-resources the reading habits of the users are changed and to cope with the exiting e-resources and change demands of the users it is necessary to transform the existing Library and Information Centre in Information Commons. Information Commons is the one-stop shopping for all the information needs of the users to preserve and provide the existing e-resources with technology support. It is necessary to design and develop Information Commons for any organization.

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The Learning Pyramid diagram of National Training Institute in Bethel, Maine, explains in detail Knowledge comprehension shown in figure number 1

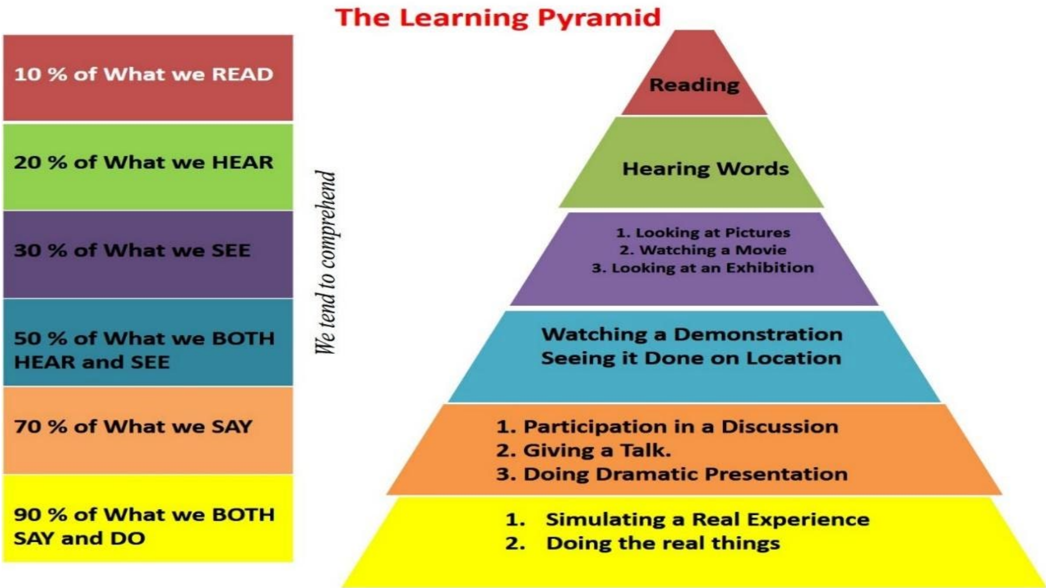

Figure Number 1: The Learning Pyramid diagram of National Training Institute in Bethel, Maine (Source:- Beagle, D. R., Bailey, D. R., & Tierney, B. (2006). The information commons handbook. Neal-Schuman)

The above diagram is self-explanatory, which represents that through today's libraries our user can comprehend only 10% knowledge. This means we are providing a very small portion of services and facilities to our users. If libraries provide them with facilities like "Simulating a Real experience" and "Doing the real Things" then they can understand 90% of knowledge. This figure indicates how libraries have to transform and it should provide multimedia types of resources to the users. This is possible through the multimedia equipped group learning room of Information Commons through which the student will get an opportunity to look at pictures, watch a movie, view a demonstration, visit to web-based exhibitions, give a dramatic presentation and also in Simulating a Real experiences.

Objective of the study

1. To study the concept of 'Information Commons'.
2. To identify the components of 'Information Commons' in detail.
3. To take an overview Information Commons' developed at selected universities at global level.
4. To know the user's perspective about 'Information Commons'.
5. To make suggestions for developing a 'Information Commons'**.**

Scope of study

This study is related on Dr. D. Y. Patil Vidyapeeth, Pune (DPU). To find out the current status and to develop information Commons, it is necessary to get feedback from students regarding Information Commons. To get the feedback a comprehensive questionnaire containing eleven questions was distributed among the 364 students, out of these 364 students 361 students returned the questionnaire. The researcher has used Morgan's table, the total strength of the student is 6017.After using the Morgan table the sample size is 364. Hence the researcher has distributed a questionnaire to 364 students.

DPU: brief profile Dr. D. Y. Patil Vidyapeeth, Pune (DPU) only established one institute. It has now multiplied in the 16 years. During the time, 9 other professional institutions were established and brought under the parent Institute's umbrella. In the fields of medical, dentistry, nursing, physiotherapy, optometry, biotechnology, management, Ayurved, Homeopathy, and distance learning, the 9 institutions of Dr. D. Y. Patil Vidyapeeth, Pune have developed a brand name "DPU." About 6017 students are taking quality education in these institutions. The Vidyapeeth's state-of-the-art facility and committed teachers set it apart from the competition. The MCI/DCI/INC/CCIM/CCH/AICTE/UGC, and other councils have recognized all of the programs provided by these institutes.

The University Grants Commission (UGC) has classified Dr. D. Y. Patil Vidyapeeth, Pune as a "Category-I Deemed to be University" under the UGC [Categorization of Universities (only) for Grant of Graded Autonomy] Regulations, 2018. The Dr. D. Y. Patil Vidyapeeth, Pune has been Re-accredited (3rd Cycle) by the

National Assessment and Accreditation Council (NAAC) with 'A++' Grade**.** The Dr. D. Y. Patil Vidyapeeth, Pune is an ISO 9001: 2015 and 14001:2015 Certified as also Green Education Campus**.** Dr. D. Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune; Dr. D. Y. Patil Dental College & Hospital, Pimpri, Pune; Dr. D. Y. Patil College of Ayurved and Research Centre, Pimpri, Pune and Dr. D. Y. Patil Homoeopathic Medical College and Research Centre, Pimpri, Pune has been accredited by National Accreditation Board for Hospitals & Healthcare Providers (NABH)**.**

Under National Institutional Ranking Framework (NIRF) 2022, conducted by Ministry of Human Resource Development (MHRD), New Delhi, the Dr. D. Y. Patil Vidyapeeth, Pune has achieved rank 3rd in Dental Category**,** 17thin Medical Category, 41th in University Category and 76th in Overall Category in India.
The DPU features an outstanding central library. The entire space is about 5000 sq.mt, including reading rooms for students and professors. In fact, the large reading halls can hold up to 750 students. There are more than 62000 volumes in the library, as well as scholarly journals. It has subscriptions to the majority of national and international journals that undergraduate and post-graduate students and teachers need. In addition to the central library each Department has its own Departmental Library. The Central Library's Reading Room is accessible to students from 7 a.m. to 12 midnight, and they can use it whenever it is convenient for them. Students and teachers can use the Central Library's Wi-Fi internet service. Students may access information from any point, anywhere, at any time because the College and hostels are Wi-Fi enabled.

Secondary data analysis
For the present feasibility study regarding design and development of an Information Commons at DPU, the researcher received a filled in questionnaire of 361 students. These students included Undergraduates (59%), Postgraduates (39%) and Research scholars (2%). The detailed information is shown in table number one.

Sr. No	Institutes	Number of Students	Questionnaire Distributed (as per Morgan table)	Questionnaire Received	Response Rate
1	Medical	1612	98	97	98.97%
2	Dental	602	37	36	97.29%
3	Ayurveda	817	49	49	100%
4	Homoeopathic	626	37	37	100%
5	Biotechnology & Bioinformatics	659	41	40	97.56%
6	Global Business School	445	27	27	100%
7	Nursing	438	26	26	100%
8	Physiotherapy	604	36	36	100%
9	Optometry	214	13	13	100%
	Total	**6017**	**364**	**361**	**99.17%**

Table No.1: Response of students

Use of various applications
Online web browsers, Email, Total (blackboard), Word processing, Spreadsheet, Presentation, Graphics, Web Publishing, Statistics, Review class lectures (webcast), and CAD are some of the computer applications used in the classroom. This can be done via email or text messages. They make it possible to study at home. These computer applications assist and support students in obtaining online education.

The use of various applications for study and learning are discussed here. Total 11 options were given in the use of various applications and students were asked to tick mark the appropriate and multiple options which normally they use. The details are shown in the following table.

Applications	E-mail	Web browser	Presentation	Word Processing	Spreadsheet	Review class lectures (webcast)	Graphics	Blackboard	Statistics	Web Publishing	CAD	Not applicable	Other
Response	314	267	229	119	94	61	56	51	47	41	9	5	2
Percentage	87	74	63	33	26	17	16	14	13	11	2	1	1

Table No. 2: Use of various applications

From the above table it is observed that out of 361 students 87% (314) students are using E-mail facilities for their study and learning. Further it is noted that 74% (267) students are using a Web browser like Google, Yahoo and other search engines for getting relevant information for their information needs, about 63% i.e. 229 students use presentations for demonstrating their topics with respect to other applications like Word processing, Spreadsheet, Graphics, Web publishing, Webcast etc., it's a percentage between 33% and 2% percentage. From this data it is clear that as some of these applications are not frequently used, it is necessary to arrange training and awareness programs, so that the use of applications and the knowledge of the students be enhanced.

Use of online resources

Students can learn at their own pace using online resources. These resources give the freedom to create a schedule that works for everyone. Internet search engines (e.g., Google, Yahoo, Firefox), Library online catalog, E- Databases, Lexis / Nexis, ProQuest, Expanded academic, E-Journals, E-Reserves, E-Books, etc. all are useful online resources. As a result, using online resources allow for a more balanced combination of research and studies. Table number three is about the use of online resources.

Resources	Internet search engines (e.g., Google, Yahoo)	E-databases	E-Books	E-Journals	Library Online Catalog	E-Reserves	Expanded Academic	ProQuest	Lexis/Nexis	Not applicable	Other: (Specify)

Response	330	163	158	153	61	48	17	11	10	8	0
Percentage	91	45	44	42	17	13	5	3	3	2	0

Table No.3: Use of online resources

From the response it is observed that 91% (330) students search information through search engine like Google, Yahoo or other type of search engines. This indicates that the student's choice for searching information is a search engine rather than any other resources. It reflects that users are well accustomed to the search engine than any other e-databases. Further, it is observed that 45% of users are searching their information through subscribed databases this reveals that Librarians have a great opportunity to conduct various awareness programs about these databases, so that their usage can be increased. Next to e-databases, e-books and e-journals are used and their percentage is 44% and 42% respectively. This shows that e-books and e-journals are increasingly used by the students. Most of the libraries have made their resources available through an online library catalogue. From the data received, it reflects that very few students i.e. 17% have used the library catalogue for their information needs.

Overall it is observed that the student's first choice to search information is a search engine rather than a library catalogue. This indicates that librarians need to adopt the skills and competencies of modern technology and implement it in their libraries, so that the students will come to the library, use their e-resources than going to the search engine directly.

Appropriate help from library

All students, faculty members, and researchers are given a warm welcome at the library. There are ten different types of library help to assist users with their studies and research. These various helps include help identifying articles and/or books for your research topic, help providing alternative access to missing or checked out items, or items we don't own, help with physically locating items in the building, help with questions about campus information and/or services, help with computer hardware and software problems or questions, etc.

Table number four is about ten appropriate help from the library, and the students were asked to tick mark any five out of ten.

Important things	Help identifying articles and/or books for your research topic	Providing all the information you need	Providing services at the times you need it	Providing information that helps you answer your question	Providing accurate answers for factual questions	Help with physically locating items in the building	Help with computer hardware and software problems or questions	Help with questions about campus information and/or services	Providing brochures, on-line help, and signage	Help providing alternative access to missing or checked out items, or items we don't own	Not Mention
Response	291	264	250	206	182	173	151	150	142	137	0
Percentage	81	73	69	57	50	48	42	42	39	38	0

Table No.4: Appropriate help from library

From the responses it is observed that 81% (291) students require help in identifying articles and books on their research topics. Student's second option was for getting all types of information from the library which is 73%. Further the response indicates that the students require services at the time when they are in need of it. These two points clearly underline the importance of resources and services provided by the library. 57% of students feel that there is a need of active reference desk through which they can get all sorts of help to get answers to their queries. Further, it is interesting to note that 48% of students require help in locating the print resources available in the library. 42% of students are in need of help with respect to the questions regarding campus information and services and also they require help in solving problems of their computer, hardware and software. By considering the overall responses to this question it is found that, while developing an Information Commons for DPU, the suggestions made by the users should be considered.

Help desk

A help desk is a resource that provides students and end-users with information and support about an institution's products and services. The primary purpose of a help desk is to troubleshoot problems and provide advice on items like computers, electrical equipment, food, software, multimedia, databases, and electronic resources. Toll-free numbers, websites, instant messaging, and email are all common ways for organizations to provide help and support to their users.

There is a need of help desk in Information Commons. The response is received to this help desk is shown in table number five.

	Needed	Not Needed	Not Mention	Total
Response	290	67	4	361
Percentage	80	19	1	100

Table No.5: Help desk

From the above table it is observed that 80% (290) students are in favour of having a help desk in the Information Commons. This indicates (betoken) that there is a need of help desk for all types of academic help to fulfill their information needs.

Comfortable seating

Comfortable seating areas with appropriate furniture facilities to motivate casual meetings, cafes with food and drink, group study rooms, and library services are all popular.

There is a comfortable seating area for learning, research and relaxation, which is shown in table number six.

	Needed	Not Needed	Not Mention	Total
Response	336	23	2	361
Percentage	93	6	1	100

Table No.6: Comfortable seating area

It is found that 93% (336) students require a comfortable sitting area for learning, research and study. Students have to spend more time in libraries, sometimes away from their homes or even hostels are far away from their colleges or universities, that's why comfortable seating and reading arrangements are required, so that the study, research and learning will be made with ease and comfort.

Group study rooms

The academic use of group study rooms is limited to currently enrolled students. Individual study is not permitted in group study rooms, which are reserved for groups of two or more students. Rooms may be reserved for a maximum period of two hours at a time, and each group is limited to one booking per day. With student-focused support services, the goal was to create group study rooms that were accessible, attractive, pleasant, convenient, and adaptable.

Group study rooms are well equipped with a computer, laptop and projectors. The response received regarding group study rooms is shown in table number seven.

	Needed	Not Needed	Not Mention	Total
Response	321	39	1	361
Percentage	89	11	0	100

Table No.7: Group study rooms

Response to this question indicates that 89% (321) students require these require a groups study room equipped with computer facility in libraries, so that any new information can be obtained easily. It is necessary to create separate group study rooms, so that students can discuss their research problems freely within their groups. They can also use the computer and projector facilities to prepare their presentations, and have discussion on their topics. This is a very important facility through which overall developments regarding communication presentations skills that can be enhanced in manifold ways.

Multimedia production areas

Text, audio, video, animation, and graphics are all examples of multimedia. With the creation of multimedia, the idea of a paperless society has become a reality. Multimedia enables the user to access information from a variety of sources on a single platform.
To know the requirements of students regarding on multimedia production areas, the response received to this multimedia production areas is shown in table number eight.

	Needed	Not Needed	Not Mention	Total
Response	295	60	6	361
Percentage	82	17	2	100

Table No.8: Multimedia production areas

The above table highlights how multimedia production areas is useful for the students. Out of 361 students 82% (295) are in favor of having multimedia production areas. Now a days it is necessary to show explain and present whatever the students are learning, for this purpose they require to use textual information along with audio and videos. For this purpose it is necessary that this type of facilities should be available in Information Commons then students will get the necessary help from expert and their learning and presentation skills will improve.

Scanning, printer and digitization facilities
This section provides users with resources and technical assistance in the areas of scanning, printing, and digitization for study and research. Students can use their student ID and password to access the printer and scanning machines, i.e. to know requirement of scanning, printer and digitization facilities in Information Commons. The response received to this Scanning, printer and digitization shown in table number nine is displayed down below.

	Needed	Not Needed	Not Mention	Total
Response	337	24	0	361
Percentage	93	7	0	100

Table No.9: Scanning, printer and digitization facilities

From the above table is interpreted that Scanning, printer and digitization facilities should be handy to students for easy and effective recommendations from very high that is 93% (337) responded out of 361 students.

Space to watch academic videos
In libraries, one can find different type's videos. To watch these academic videos separate space is required. The response received regarding separate space to watch academic video shown in table number ten.

	Needed	Not Needed	Not Mention	Total
Response	300	60	1	361
Percentage	83	17	0	100

Table No.10: Space to watch academic videos

From the above table it is observed that out of 361 students 83% (300) require separate space to watch academic videos. A separate space for academic videos.

Gallery in library
Creators' messages are communicated by galleries so that artists can continue to do what they do best to create. A new or established collector's decision to invest in an artwork is a significant purchase, and the transaction process must be handled professionally. An organization or institution's collection of photos, trophies, pictures, and event albums. The gallery serves as a source of inspiration for all students who want to achieve their goals, i.e. is to find out the requirement of galleries. The response received regarding the Gallery is shown in table number eleven.

	Needed	Not Needed	Not Mention	Total
Response	302	55	4	361
Percentage	84	15	1	100

Table No.11: Gallery in library

From the above table is observed that out of 361 students 84% (302) students are willing to use special galleries as per the academic requirement of their interest and will be useful in motivation and presenting their area of interest.

Tools and services
Since ancient times, academic libraries have played an important role in the academic and social lives of all users. In research institutions, universities, and technical institutions around the world, there are a variety of tools for conducting studies and research. To better serve our students and researchers, we must implement a

variety of new tools and services in libraries that are required daily through information and communication technology. The use of modern tools and technologies in libraries will increase the number of users who use library services.

To know about requirement of various tools and services, respondents were asked to select to multiple options in the tools and services. The response for received this tools and services is shown in the following table number twelve.

Tools and Services	Reference Books	Print Center	PC workstation	Photocopy Machines	Collaborative Workrooms	Computing / Research Staff	Mac workstation	Handouts and brochures	Public iMacs (USC Info Kiosk)	Other	Not Mention
Response	259	252	244	229	155	114	112	89	76	10	2
Percentage	72	70	68	63	43	32	31	25	21	3	1

Table No.12: Tools and Services

The above table reflects that 72% (259) students responded to Reference books in the Information Commons. Whereas 70(252), 68 %(244), 63 %(229) respondents prefer to have a Print center, PC workstation and Photocopy Machines. Regarding other tools and services, it is found that 43% (155) students require Collaborative Workrooms, 32% of respondents require Computing and research staff in the Information Commons. From the above diagram it is clear that whenever you want to convert an existing Library into Information Commons. It is necessary to have Reference books, Print Centre, PC Workstation, Collaborative Workrooms and Computing and research staff in the Information Commons.

It is observed that different types of studies are conducted in various parts of the world about Information Commons. They have designed and developed the Information Commons according to their user's needs. After careful study of all these various studies the researcher, since working in DPU for the last twenty five years, thought of developing Information Commons for DPU. Hence the researcher designed a questionnaire to get the responses from students learning in different Institutions in DPU. From the responses received the researcher is planning to suggest an ideal model of an Information Commons to DPU.

Findings

From the above interpretation and discussion following are some of the major findings of the study are shown in the following tables.

Applications	Response	Percentage
E-mail	314	87
Web browser	267	74
Presentation	229	63

Table No.13: Response regarding applications

It is found that out of 361 students 87% (314) students are using E-mail facility for their study and learn. Further it is noted that 74% (267) students are using a Web browser like Google, Yahoo and other search engines for getting relevant information for their information needs, about 63% i.e. 229 students use power point presentations to explain their topics.

Information Search	Response	Percentage
Internet search engines (e.g., Google, Yahoo)	330	91
E-databases	163	45
E-Books	158	44
E-Journals	153	42

Table No.14: Information search trend

It is perceived that 91% (330) students search information through search engines like Google, Yahoo or other types of search engines. This indicates that the student's choice for searching information is a search engine rather than any other online databases. It reflects that users are more accustomed with search engines than any other e-resources. Further, it is observed that 45% of users are searching their information through subscribed databases. This reveals that Librarians have a great opportunity to conduct various awareness programs about these databases, so that their usage can be increased. Next to e-databases, e-books and e-journals are used and their percentage is 44% and 42% respectively. This shows that e-books and e-journals are increasingly used by the students.

Information need	Response	Percentage
Help identifying articles and/or books for your research topic	291	81
Providing all the information you need	264	73
Providing service at the times you need it	250	69
Providing information that helps you answer your question	206	57
Providing accurate answers for factual questions	182	50
Help with physically locating items in the building	173	48

Table No.15: Information need

It is noticed that 81% (291) students require help in identifying articles and books on their research topics. Student's second option for getting all types of information from the library is 73% (264). Further the response indicates that the students require services at the time when they are in need of it 69% (250). These two points clearly underline the importance of resources and services provided by the library. 57% (206) of students feel that there is a need for an active reference desk through which they can get all sorts of help to get answers to their queries 50% (182). Further it is interesting to note that 48% (173) of students require help in locating the print resources available in the library.

Facilities	Response	Percentage
Help Desk		
Needed	290	80
Comfortable Seating Area		
Needed	336	93
Group Study Rooms		
Needed	321	89
Multimedia Production Areas		
Needed	295	82
Scanning, Printer and Digitization facilities		
Needed	337	93
Space to Watch Academic Videos		
Needed	300	83
Gallery in Library		
Needed	302	84

Table No.16: Various facilities

It is noticed that 80% (290) students are in need of having a help desk in the Information Commons. This indicates (betoken) that there is a need for a help desk through which all types of academic help to fulfill their information needs will be provided. It is found that 93% (336) students require a comfortable sitting area for learning, research and study. It indicates that 89% (321) students require a group study room equipped with a computer facility in libraries, so that any new information can be obtained easily. It indicates that the multimedia production area is useful for the students. It indicates that 82% (295) students are in favor of having multimedia production areas. It is interpreted that Scanning, printer and digitization facilities should be handy to students for easy and effective recommendations. 93% (337) responded out of 361 students. It is observed that out of 361 students 83% (300) are acceptable online education for teaching, learning, research and demonstration in education. It is observed that out of 361 students 84% (302) students are willing to use special galleries as per the academic requirement of their interest and will be useful in motivation and presenting their area of interest.

Tools and services	Response	Percentage
Reference Books	259	72
Print Center	252	70
PC workstation	244	68
Photocopy Machines	229	63

Table No.17: Tools and services

It is reflected that 72% (259) students require Reference books in the Information Commons. Whereas 70% (252), 68 %(244), 63% (229) respondents prefer to have Print center, PC workstation and Photocopy Machines require in the Information Commons.

Suggestions

The researcher derived a few suggestions, which are based on the findings of the present study.

- It is suggested that group study facilities should be created in the Information Commons, because more than 45% students prefer to work alone as well as in a group.
- It is recommended that library should organize frequently online orientations and online training regarding various databases, so that instead as searching information through like Google and Yahoo, they can search these various databases and students can gate the qualitative information.
- 81% of students require help in identifying articles and books in their research topics. Hence it is strongly suggested that libraries should provide services in Literature search, Database search and Review of literature, this can help researcher to save their valuable time and they can focus on their study and research topics rather than searching information of their topics.
- 80% of students are in favour of having a help desk in Information Commons, so it is necessary that student like help desk should be created in Information Commons, through which students can seek any type of academic help through Information Commons.
- It is suggested that workstations for small groups should be created in the Information Commons. Along with this it is necessary to create a multimedia production area, so that students can seek their online lectures in this study and research area.
- Students in these various colleges spend most of their time in the college campus. Hence it is necessary to create comfortable seating arrangements with modern furniture, so that students can focus on their study and research area topic.

Conclusion

The Information Commons is a physical facility specially built to organize work spaces and services delivery in an integrated digital environment. Through Information Commons users can access and use the available information to build their knowledge base. For effective use of an Information Commons, it requires functional integration of technology, service delivery, which is obtained through the questionnaire circulated among users. Nowadays it is necessary for some of the private and deemed universities to develop Information Commons, so that their users can utilize their valuable time to gain thorough knowledge in their respective fields. The findings of the study will be useful to design and develop an appropriate Information Commons at Dr. D. Y. Patil Vidyapeeth, Pune.

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INSTAGRAM USAGE INTENTIONS BY YOUNG INDIANS: A USER GRATIFICATION THEORY APPROACH

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ABSTRACT
The research is an attempt to explore determinants of Instagram usage intentions amongst young Indians. A research framework was designed by using previously validated scales on User Gratification Theory and its applications pertaining to social media usage behaviour. This framework was then tested for statistical validation on a sample (n=271) Causal relationships were tested by applying multiple regression analysis. The research concluded that two factors (Entertainment and Self-expression and Impression Management) act as predictors of a young Indian user's intention to use Instagram. Interestingly the impact of Social Interaction, a core element of User Gratification Theory was found to have an insignificant impact on usage intention. Extraction and validation of a multi-faceted usage predictor (Entertainment and Self-expression) and conclusion that the social interaction does not predict usage intentions are the important contributions of this research work.
Keywords: User gratification, Instagram usage behaviour, Self-expression, Impression Management, Social Interaction.

Introduction

Instagram has become of the most popular social media platforms globally with monthly active user base of about 1 billion in CY2021. According to a media report by businessofApps, 70% of Instagram users belong to sub 35 age group, and the gender split (women: men ratio) stands at 51:49 in Q3-CY2021. As per a blog by BackLinko, India's active Instagram users stood at 100 million in 2021, making it one of the largest markets for Instagram globally. During the last decade, India became the powerhouse of social media consumption led by the considerable size of English speaking population, societal change, and affordable internet charges. Riding on this wave, Instagram became the latest social media sensation among Indian youths. Considering its potential reach to a young population, many brands and service providers have designed a dedicated promotional strategy for Instagram users. In the light of increasing subscriber base and the potential of this platform to engage a wide array of audience, an investigation into factors that results in better user engagement on Instagram has gained serious importance.

User Gratification Theory- Framework and applications

As a part of the study an extensive review of the existing literature on social media usage behaviour, studies on User Gratification Theory in general, and its applications in the context of Instagram usage behaviour was conducted and presented. Although the research and commentary on the usage and gratification of social media can be historically dated back to the era of 1940, research work by Blumler, Katz (1974) is considered as a seminal theory in this domain. The research explains various motives of a user behind using social media and types of gratifications received by them. User Gratification explains the motive of individuals behind using various social media platforms and the selection of a particular medium amongst various options available based on individual gratification needs.

Various Constructs of Gratification Theory

Information Seeking: With the convergence of news, product information and general information, social media platforms such as Instagram have become an important source of seeking information about the recent happenings in social world. "access to computer-mediated communication systems helps a user to expand informational and communicational capabilities and information seeking is found to be one of the biggest motives behind internet usage"- Papacharissi, Rubins (2000) This dimension was also being studied and validated as one of the important predictors of social media usage by Lee, Kim & Ham (2016).

Social Interaction: Social interaction was defined as "using social media to communicate and interact with others" Whiting, Williams (2013). This construct has been defined by previous studies such as Johnson, Yang

(2009) as "using social media to find new friends or friends with a common interest and to know share information about happenings in one's life. Based on strong literature support for this construct (Tanta, Mihovilović & Sablić (2014, Hossain (2019) and the increasing popularity of Instagram as a social interaction platform, social interaction was considered in the research framework.

Entertainment: As per the literature review conducted, the element of entertainment was found to be a part of various studies such as Whiting & Williams (2013) and Gao, Feng (2016). Although the operational definition of the construct varies across the investigations. Whiting, Williams (2013) considered the escapism facet of entertainment (pleasure, fun, and enjoyment) while Gao, Feng (2016) studied the entertainment that occurred on account of engagement with news and the latest happenings or content which is as per the preference of the users.

Self-Expression: self-expression can be defined as "expressing one's thoughts and feelings, and these expressions can be accomplished through words, choices or actions"- Kim, Ko (2007). Various facets of self-expression such as "to become popular, to show off and to self-promote are defined- Sheldon, Rauschnabel & Antony (2017). The operational definition of this construct includes the usage of Instagram to post one's views, expressions, and likes freely on the social media platform.

Impression Management: Usage of Instagram in managing political images during election campaigns and gauging the impact of various politically motivated Instagram campaigns.-Lalancette, Raynauld (2019). It was observed that political images do exert their positioning (trustworthiness, honesty, friendliness, etc.) by managing their impression on platforms such as Instagram. Impression management to be one of the key motives behind popular bloggers motive behind creating content on YouTube-Sepp, Liljander & Gummerus (2011).

Literature Review

A detailed analysis of research work on user gratification and its application to social media usage was conducted. Studies such as Pirkamali, D'Souza (2020), Hossain (2019), Huang, Su (2018), Tanta, Mihovilović & Sablić (2014) and Whiting, Williams (2013) were studied to explore the various dimensions of gratification attributes considered by these investigations.

Studies on UGT and Instagram Usage Intentions

A model of Instagram usage determinants was developed Nedra, Hadhri & Mezrani (2019) by using TAM (Technology Acceptance Model) by Davis (1989) as the base construct and integrated Perceived Usefulness and Perceived Ease of Use as the antecedents of a social media user's attitude towards using Instagram. This in turn was proposed to have an impact on the intention to use Instagram. The results validated the positive effect of perceived pleasure, social identity (cognitive, affective, and evaluative), and perceived ease of use on intention to use Instagram. Interestingly Perceived Usefulness, the strongest predictor of attitude and intentions as per TAM was found to have an insignificant impact on usage intentions.

Instagram usage intentions were studied by applying the perception-evaluation-intention chain and examined the role of consumers' perceived enjoyment and usefulness on their intention to follow and recommend a brand community. It was found that both (enjoyment and usefulness) result in satisfaction and in tune, impact the intention to use and follow a particular Instagram account-Abdullah (2020).

A framework to understand users' beliefs and usage intentions about Instagram was presented by Ting, Ming & Run (2015) presented by integrating user gratification elements with the Theory of Reasoned Action (TRA). The research segregated user belief system into two categories and concluded that a user's attitude towards Instagram is shaped by behavioural beliefs (personal gratification, features usefulness, socializing role, product information, and entertainment) while the normative beliefs included six factors such as siblings, relatives, close friends/peers, friends in general, Facebook friends and application reviewers.

A comprehensive analysis of various studies by Dutch, German, and British mass communications researchers was presented as Media Use as Social Action (MASA) Renckstorf, McQuail & Jankowski (1996). It is an integration of knowledge based on mass media and human interactions with various social media tools. This theory talks about four types of interpersonal communication purposes of a user while using media for social action. They are getting information, doing cooperation, having relations, expressing and explaining and strategic use.

Objective of the Study
The objective of the study is "To explore determinants of young Indian subscriber's intention to use Instagram"

Scope of the study
For the said research, scope of the study was restricted to an age group of 18-35 (young adults). The rationale behind choosing the age group between 18 to 35 is the fact that a majority of Instagram users in India are from the same age group. Moreover, this customer class would be a prime decision-maker in their respective family.

Research Methodology
Based on the literature review and study on various gratification elements studied and validated, a research framework was designed. The authors posit that three factors (Entertainment & Self-Expression (ESE), Social Interaction and Impression Management) act as the determinants of a Young Indian's intention to use Instagram.

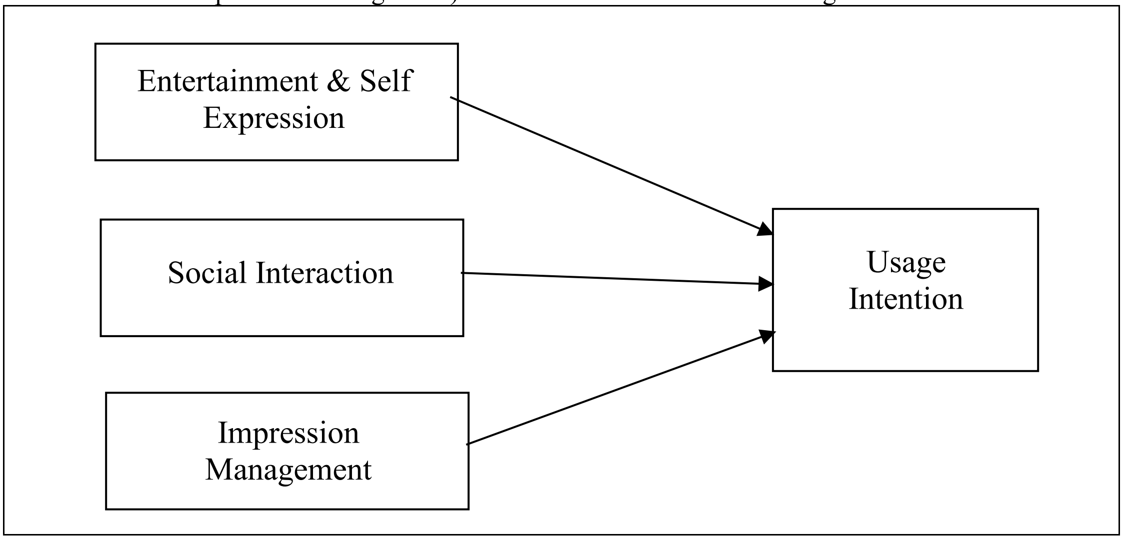

Figure 1: Research Framework

Hypotheses
The research framework posits three factors (Entertainment & Self Expression, Social Interaction and Impression Management) as predictors of a user's intention to use Instagram.
H_1: ESE (Entertainment and Self-Expression) has an impact on a user's intentions to browse Instagram (UI)
H_2: SI (Social Interaction) has an impact on a user's intentions to intentions to browse Instagram (UI).
H_3: IM (Impression Management) has an impact on a user's intentions to browse Instagram (UI)

Research Design
This study is based on exploring determinants of an existing Instagram subscriber's usage intentions. The respondents of this survey were chosen on two criteria; a person should be an active user of Instagram in India and should belong to 15-35 age bracket. As this survey was conducted during the COVID-19 period, non-probability convenience sampling was applied to simplify the data collection process. The tool used for data collection was questionnaire and a majority of the data was collected by using Google Forms (an online data collection method).

Instrument Design
For designing the instrument, historical studies on the application of User Gratification Theory in social media usage were studied and the validated instruments were pooled for designing a draft questionnaire. The instrument for Sample I has 26 items, selected from Menon, Meghana (2021)- 9 items, Hossain (2019)-6 items, Johnson, Yang (2009)-3 items, Gao, Feng (2016)-5 items and Al-Kandari Melkote, & Sharif (2016) -3 items. Data was collected by using the online (Google Forms) method. The questionnaire link was posted on social media platforms such as Facebook, Instagram, and LinkedIn. The posts related to the online survey were created multiple times to gather interest amongst the sample respondents. No monetary or in-exchange compensation was offered to the participants for being a part of the survey.

Data Analysis
Demographic Details of the Sample- For the study, data was collected from 277 respondents, out of which 6 entries were discarded due to incomplete or misleading information, and 271 usable datasets were analysed further data analysis. Out of total respondents, 56% are male and 94.8% belong to the 15-35 age group. 60.9%

of them are working professionals, followed by students (31%) and self-employed (7.4%). Out of the sample respondents, 33.9% usually spend less 1-2 hour per day on Instagram while 38.4% spend less than 1hour daily on browsing Instagram.

	Category	Respondents	%
Gender	Male	152	56.1%
	Female	119	43.9%
	Total	271	100.0%
Age Group	15-21	9	3.3%
	22-27	181	66.8%
	28-35	65	24.0%
	36-45	14	5.2%
	46 above	2	0.7%
	Total	271	100.0%
Profession	Student	84	31.0%
	Working Professionals	165	60.9%
	Self-Employed	20	7.4%
	Others	2	0.7%
	Total	271	100.0%
Daily time spent on social media	< 1 hour	32	11.8%
	1 to 2 hours	71	26.2%
	2 to 3 hours	89	32.8%
	> 3 hours	79	29.2%
	Total	271	100.0%
Daily time spent on Instagram	< 1 hour	104	38.4%
	1 to 2 hours	92	33.9%
	2 to 3 hours	46	17.0%
	> 3 hours	29	10.7%
	Total	271	100.0%
Monthly post frequency on Instagram	Rarely	145	53.5%
	1-2 posts	82	30.3%
	2-5 posts	31	11.4%
	More than 5 posts	13	4.8%
	Total	271	100.0%
Yearly buying frequency on Instagram	Never	124	45.8%
	Rarely	104	38.4%
	2-4 times a year	35	12.9%
	1-2 times a month	8	3.0%
	Total	271	100.0%

Table 1: Demographics of Sample (n=271)

Correlation Analysis
To explore the correlation amongst various categorical data points such as age, occupation, gender, and time spent on Instagram, post sharing & buying frequency, a Pearson's Correlation analysis was performed.

Variable	Age	Total time on Social Media	Post Frequency	Buying Frequency
Gender				.188**
Total time spent on Social Media	-.228**		.203**	
Total time spent on Instagram	-.203**	.672**	.317**	.295**

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed).
Table 2: Pearson's Correlation amongst Categorical Variables

On the basis of correlation analysis, it can be concluded that a user's buying frequency on Instagram is positively correlated with the gender of the respondent. Total time spent on social media is significantly and positively correlated with total time spent on Instagram (r=0.672). As a user's social media time spend increases, he/her tends to prefer Instagram more, over other social media platforms. Age was found to be negatively correlated with total time spent on Instagram (r=-0.203) and on social media (r=-0.228) indicating relatively lower participation of older age groups on social media, compared to their younger counterparts. A user's post frequency (r=0.317) and product/services buying frequency (r=0.295) on Instagram increases as he/she spends more time on the Instagram platform. These findings underline the importance of better engagement, enhanced user content creation and adoption of various products and services.

Correlation Analysis (Dependent and Independent Variables)
To analyse the correlation between predictors and the outcome variable, a Spearman's Rank correlation analysis was performed. Entertainment & Self Expression (r=0.545) and Impression Management (r=0.553) were observed to have a higher-order positive correlation with the Usage Intentions. However, the correlation between Social Interaction and Usage Intentions was found to be statistically insignificant (r=0.199).

Dependent Variable	Independent Variables		
	ESE	IM	SI
UI	0.545**	0.553**	0.199

**. Correlation is significant at the 0.01 level (2-tailed)
Table 3: Pearson's Correlation amongst latent Variables

Multicollinearity Diagnostics
The dataset was analysed for multi-collinearity. Based on various indices such as VIF, Tolerance and CI values were compared with thresholds prescribed by Knock, Lynn (2012). CI value for all variables stood below 30, tolerance value less than 1, and VIF values less than 3, indicating satisfactory accomplishment of various thresholds prescribed indicating the non-existence of Multicollinearity issue.

Multiple Regression Analysis
A causal relationship between predictors and the outcome variable was analysed by conducting a multiple regression analysis. Three factors (Entertainment & Self Expression, Impression Management, and Social Interaction) were proposed as the determinants of young Indian Instagram subscriber's intention to use Instagram.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.687a	.472	.467	.738	1.737

a. Predictors: (Constant), SI, IM, ESE
b. Dependent Variable: UI
Table 4: Model Summary

It was observed that, the R Value for the model stood at 0.687 while R Square and Adjusted R Square stood at 0.467 and 0.738 respectively. The Adjusted R Square value denoted the percentage of variation in the output variable, explained by the input variables, which in case of the model stands at 46.7%.

Hypotheses Testing

Hypothesis	B	T	P Value	Conclusion
UI <---ESE	0.580	7.68	0.00	Accepted
UI <---SI	-0.072	-1.26	0.208	Rejected
UI <---IM	0.401	6.55	0.00	Accepted

Table 5: Hypotheses Testing

On the basis of multiple regression analysis, it was found that Entertainment and Self-expression (beta= 0.580, t = 7.68, and p=0.00) significantly impact an Instagram subscriber's intention to use this platform. As a result, H1 got accepted. The impact of Social Interaction was found to have an insignificant impact on User Intentions (beta= -0.072, t = -1.26, and p=0.208). As a result, H3 got rejected. To summarise the results, H1 & H2 got accepted and H2 got rejected. The third hypothesis proposes the impact of Impression Management on User Intentions, which was found to be statistically significant (beta= 0.401, t = 6.55, and p=0.00). As a result, H2 got accepted.

Conclusion

The objective of the study was to "explore determinants of young Indian subscriber's intention to use Instagram". Based on the results of multiple regression analysis, it was concluded that two factors (Entertainment & Self-Expression and Impression Management) act as the determinants of a young Indian subscriber's intention to use Instagram.

The results indicated that Impression Management (IM) strongly predicts a user's Instagram usage intentions. These results are in consensus with Sheldon, Rauschnabel & Antony (2017) who found Impression Management as one of the major reasons behind the usage of Facebook amongst baby boomers in the USA. Statistical validation of another hypothesis confirms the role of entertainment and self-expression in shaping intentions to use Instagram amongst young Indian users. Since this construct is newly developed by this research, there exists partial literature support to validation of the relationship. Previous studies such Hwang, Su (2018) did find a positive impact of self-expression and or entertainment on attitude or intentions to use a social media platform.

Interestingly the impact of social interaction on shaping usage intentions was found to be inconsequential. These results contradict Papacharissi, Rubins (2000) who found social interaction as one of the nine motives for using Facebook but partially confer with the results drawn by Smock, Elision, Lampe (2011) who found social interaction to be a predictor of a user's intention to comment or post content on social media but insignificant to group sharing behaviour and status updates. Due to a lack of consensus over the role played by social interaction motives in forming usage intentions, the need for further investigation is underlined.

Managerial Implications & Future Agenda of Research

With the advent of the growing popularity of Instagram as a social media platform amongst Indian users, the findings from this study are expected to make important contributions to the existing knowledge base on usage intentions and patterns. The research resulted in the development of a multi-faceted construct named Entertainment and self-expression which needs to be validated by applying it to a larger or diverse sample group. Understanding user behaviour is expected to help Instagram marketers fine-tune their content and target audience strategy accordingly.

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INVESTIGATING CRIME: A ROLE OF ARTIFICIAL INTELLIGENCE IN CRIMINAL JUSTICE

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ABSTRACT
The use of artificial intelligence has grown in significance in modern society. According to some researchers, AI algorithms can be useful in providing a precise, objective analysis of the different risks posed by sentenced criminals. Recent research suggests that crime can be expected, simply we need to be able to anticipate analytics gaining legal control. The primary objective is to investigate offenders as Cybercriminals are increasingly using IoT to produce and spread malware and launch ransomware attacks. (Waldman, 2023). In the next five years, it is anticipated that more than 2.5 million devices will be fully online. This paper focuses on artificial intelligence (AI), crime prediction and crime prevention. A study investigates whether it is morally acceptable to designate an electronic device as potential criminal offense detection. The study shows that using artificial intelligence to assess the effects of criminal law is not only a mechanical process but rather an assessment of a person convicted of a crime will be considered.
Keywords: AI, Artificial intelligence, Criminal Justice, Machine Learning

Introduction
Artificial Intelligence is a technology displayed by machines, opposing the natural intelligence indicating animals and humans. In the past artificial intelligence has been used relating machines and other human cognitive skills associated with the human mind and its action namely problem-solving and learning. Some researchers state AI algorithms which are helpful in providing a clear objective and absolute analysis of the various risks posed by sentenced criminals. AI plays a vital role in criminology. There are few of the potential utilized roles of AI in the judiciary system. Moreover, AI in criminology is seen as a significant application of technology which is used to make society cautious and equitable to the world of criminal justice.

Importance of Artificial Intelligence
Artificial Intelligence has become an important aspect of life and society resulting in an exact, faster, less workforce, leading to various parts of new technology. Artificial Intelligence is being used to automate everyday jobs that are monotonous, time-consuming, and often prone to human mistake. AI can analyze massive amounts of data and bring insights that can help decision-making in a variety of businesses. Overall, the importance of AI lies in its ability to automate, personalize, improve decision-making, increase efficiency, and drive innovation, making it a critical technology for businesses and individuals alike.

Artificial Intelligence in Criminology
Organizations, legal offices, and defense providers around the globe are in efforts to make the best possible use of Artificial Intelligence such as investigating, detecting, and preventing crime evidence. According to the latest research, crime can be anticipated. We just need to be able to expect analytics to get legal control. Intelligent and interrelated international infrastructure offers authorities and officers practical information. With the assistance of AI, real-time statistics may help hit upon crime quickly as soon as it occurs. AI has determined its execution across law enforcement agencies and judiciary at international places. It has been useful in serving governmental agencies to provide accurate clarity and deciding upon the roll out of police officers at a specific location and has also been able to help the judges in developed countries condemning and permitting bail. According to the reports by the Federal bureau of investigation, the crime rates have dropped by 3.3 % and 6.3 % co-in the USA. There are advanced mechanizations that can help police officers in deduction of crime rates and AI is one of them.

Metropolitan cities and organizations around the globe are infusing monetary aid in the prevention of crime using AI. The main aim of investment is to predict crime and crime should be easily detected using AI programs. To intercept crime by the governments, they must be able to gather substantial amounts of data to find patterns that may be practical to law enforcement and AI algorithms.

The use of IoT by cybercriminals to create and disseminate malware and launch ransomware assaults, which are aided by AI technologies, is on the rise, according to data and current trends. More than 2.5 million devices including industrial ones and operators of key infrastructure are anticipated to be fully connected to the internet in the next five years, which would increase the vulnerability of businesses and consumers to cyberattacks.

Today large pre-existing databases are processed, interpreted, and reviewed as part of data mining to provide fresh information that can be crucial to the company. To forecast current information, existing databases and numerous techniques have been used for analysis and prediction in data mining. However, little progress has been made in the subject of criminology. Comparing the data that each of these methods produces has not been attempted by many. Large databases of data that can be used to forecast or assess criminal activity involvement in society are often available at police stations and other criminal justice organizations. Data about crime can also be used to anticipate criminals. The study outlines multiple data mining techniques and technologies that might be applied to assess and forecast criminal activity in the various sectors. According to various research findings, the proposed fraud detection approaches may make use of either data mining techniques or machine learning algorithms.

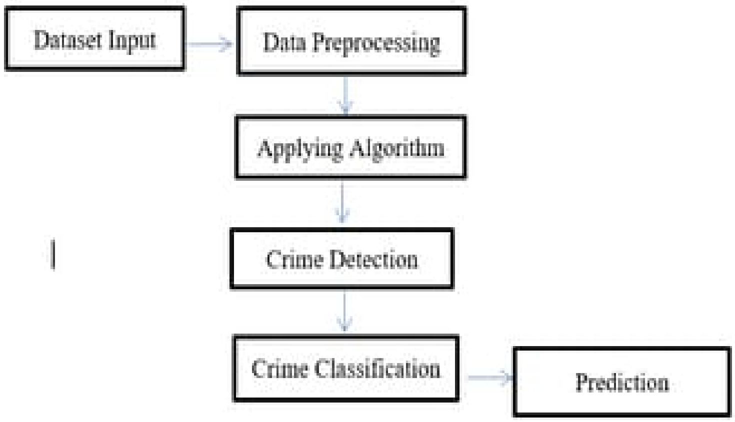

Figure 1. Data flow through an information system
Source: https://extrudesign.com/crime-prediction-using-naive-bayes-algorithm/

The above figure specifies that the program imports data sets related to crimes, then these dataset's data sets are cleaned up and pre-processed before being used in the stage of data preprocessing. Required algorithms used like random forest and Naive Bayes algorithms etc., in Crime detection stage cases of crime are discovered. Crime classification phases the several forms of crimes that are categorized. Finally, a crime type prediction is made in the prediction phase.

Literature Review

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and act like humans. It involves the use of algorithms and computer programs to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation, among others (Agarwal, 2013).

AI plays a vital role in criminology. With the increasing amount of digital data available today, AI can be used to analyze large datasets quickly and accurately, which can help law enforcement agencies to identify criminal activity, detect patterns, and solve crimes more efficiently (Hayward, 2020).

Machine learning can be used for crime prediction and analysis by analyzing large amounts of data to identify patterns and trends that may be indicative of criminal activity (Bharati, 2018).

Data mining techniques can be used to analyze and predict current information from existing databases. They can help organizations to make better decisions by providing insights that might not be apparent through simple analysis of the raw data (Dakalbab, 2022).

Data mining techniques and technologies can be powerful tools in predicting and preventing criminal activity. It is important to use these tools ethically and responsibly to avoid biases and protect individual rights (Anwar, 2021).

Coplink is a powerful tool for law enforcement agencies to analyze criminal-justice data and identify patterns and trends that may be indicative of criminal activity (Hauck, 2023). However, it is important to ensure that the data is used ethically and responsibly to avoid biases and protect individual rights.

AI has numerous applications in crime prevention and law enforcement, and is poised to play an increasingly important role in these areas in the future (Faggella, 2019).

AI has the potential to significantly improve forensic investigations and crime detection by providing law enforcement agencies with powerful tools for analyzing and interpreting large amounts of data (Chowdhury, 2021). However, it is important to ensure that these tools are used ethically and responsibly, and that individual rights are protected.

Use of AI in criminal justice systems has been a present phenomenon (King, 2020). Multiple potential applications of AI in criminal justice will appear sensible, with the touted risk to produce fairer outcomes and inflated safety for society. As prognostic policing, which can facilitate in resource allocation and targeting areas for increased risk posed by condemned criminals, thus providing a much better basis for sentencing to stop uses of AI within the justice system, but they're seen as significantly promising applications of technology that have the potential to create society safer and fairer and are getting down to flood the world of criminal justice.(Aleszavrsnik , 2020)

One of the researchers conducted searches on AI and crime were made on five databases (Google Scholar, Phil Papers, Scopus, SSRN, and Internet of Science) (Aleszavrsnik, 2020). These searches produced a large number of results on the use of AI to prevent or enforce crime, but very few results were seen about AI's instrumental or causal role in committing crime. Thus, a search was undertaken for every crime area that was included in Archbold. Archbold is the text for criminal lawyers used by leading practitioners.

Objectives of the Study

- To study the use of artificial intelligence (AI) in crime prediction.
- To study the use of AI in crime prevention activities, particularly in relation to cybercrime and the use of IoT devices.
- To study the potential risks posed by sentenced criminals and how AI algorithms can be used to provide a precise and objective analysis of these risks.

Research Methodology

The current study concentrated on earlier studies that had been done. The literature was reviewed to consolidate all previous reviews which included the study design resulting in the documentation of the work done throughout the procedure. Moreover, a search technique provides an idea for relevant extracted information used for further evaluation. Extraction of data, selection and screening of relevant data was inclusive of reviews of many primary searched articles.

Observations

Choosing the research topics for the current study was the first step in this study. The searches for relevant information extraction took place. Step 2 of this study is to select required articles. To evaluate the search phrases in the selected field, a preliminary Google Scholar search was done.

The databases were selected for the primary search on the grounds that the Criminology Collection was thought to be important from a criminological perspective. Google Scholar was chosen because it produced interdisciplinary evaluations and provided a comprehensive perspective on the targeted area. The number of reviews found during each database's literature search, the number of abstracts read, the number of full-text reviews read, and finally the number of reviews that were chosen from each database were all recorded.

Secondary Data Analysis

Artificial intelligence (AI) is becoming more significant and common across most major industries, from computer-assisted medical diagnostics to financial trading to market personalization. More creative uses are found as the technology advances and is improved, frequently using advanced machine learning algorithms, to boost productivity, cut costs, and augment or replace human capabilities. Every day, AI is utilized to engage and respond to consumers in millions of online and phone encounters. These computers may also learn to predict issues and find solutions, answer questions directly, and react to complicated instructions and a variety of scenario combinations. The crime rates have been reviewed from high to low distribution showing the results.

Forensic Investigation

AI technology increases the possibility of discovering and looking into crimes. This makes it possible for forensic specialists to locate the issue's root cause quickly and successfully. AI helps investigators rapidly solve a crime and helps them save money in the process (Chowdhury, 2021). They will be able to focus more on the locations where cybercrime is most likely to happen as a result. AI can find suspicious and criminal conduct by searching through the disorganized data that the investigators have gathered. (Faggella, 2019). AI provides cognitive-data analytics, allowing people to review and consume data fast. It may also make it simpler for investigators to look through criminal convictions and identify potential offenders. AI can help in detecting certain elements in the images and movies under investigation. AI also helps with identification of analogy communication, place, and time.

Working of Forensic Investigation

The process is as follows:

-They start by assessing how a company performs in terms of fraud detection and conducting forensics by comparing it to a maturity model that considers people, processes and technology used to do so.

The creation of risk models which are essential for advanced analytics follows the combination of structured and unstructured data from multiple sources.

-Then, rather than ranking risks at the data layer, advanced analytic models built on data, such as text analytics and computational modeling are used.

-In addition, sophisticated analytics techniques like MI and cognitive data analytics are employed.

Crime Investigation - An important application of Artificial Intelligence

Every region's infrastructure is getting more sophisticated as governments aim to assist their country's fast expansion. Smarter and more connected infrastructure in countries is sending real-time data to government agencies (Bharati, 2018). Real-time data mixed with AI can help spot crimes as they happen.

Figure 2. Example of Chicago historical Vs Predictive crime investigation

Source:https://cloudblogs.microsoft.com/industry-blog/government/2016/03/03/predictive-policing-the-future-of-law-

Above dashboard shows the information of Chicago historical Vs Predictive crime investigation

Applications of AI in crime detection:

Gunshot Detection

Police can be present at a shooting scene without being summoned or without any police watching the incident. What is the most effective strategy to do this? The answer is yes, with the help of AI technology such as sensors can be installed in public infrastructure which will be connected to a cloud-based computer capable of accurately identifying and pinpointing gunshots. Each sensor records the timing and sound of gunfire. This data from several sensors can help in the investigation of the incident. Sensors can also help pinpoint the shooter's location. The whole information, as well as the precise location of the gunshot, is subsequently transmitted to police headquarters. Also, the data is shown as a pop-up alert on a computer or mobile screen. According to studies, just 12% of shooting incidents are reported to police. In such cases, using AI technology to identify gunshots and notify police can help them to respond to a shooting event more swiftly (Hauck,2023).

Probing for clues at the criminal site

Investigations must be rigorous in complex murder cases. What if, however, a machine might aid in the discovery of significant cues at the murder scene? Police personnel snap pictures of the crime scene as soon as they arrive at the scene (Hayward ,2020). The images are used to search for cues and proof that might point to a new connection to the crime. Technologies with AI capabilities can help find clues in police photographs. For instance, if a toy or weapon is photographed at the site of a crime, the official database may be checked to discover if the same item was used in any other murders. It might not be convincingly shown that the same person committed the earlier crime. (Bhandari,2016)

Identifying Bombs

The deadliest weapons used by terrorists and criminals are bombs which might kill hundreds of people at once. Robots can detect other components of bombs such as Aluminum powder, passive infrared sensors, nitroglycerin and tetranitrate. AI introduced bots can identify bomb components that are able to swiftly detect bombs without jeopardizing the lives of security officers.

Views

The organizations and municipal officials can effectively reduce crime due to the use of artificial intelligence (AI) in crime prevention and detection. Keeping aside the fact that crime has been declining for years, much more money has been spent overall on law enforcement. When it comes to prevention and detection of crime, AI has benefits which come with certain inherent risks. For example, a person who is labeled as a criminal or vulnerable to engaging in criminal conduct, depending on unintentional racial prejudice integrated into the AI system. To determine whether utilizing AI to stop criminals is a strategic fit, such dangers should be assessed honestly and transparently (Caldwell, 2018).

Below mentioned figure 3 is the output of an AI application which explains the most concerning crimes are those in the upper right quadrant, being both very harmful and hard to defeat. Crimes in the lower right quadrant potentially offer the strongest potential for intervention, being both harmful and defeat-able. (Brahan 1993). The red points indicate the most harmful and defeat rate as negligible which can include audio\video impersonation, fake news, extorting and disrupted systems. The yellow points determine the moderate level of profit and harm such as cyberattacks, online addiction, data poisoning, market bombing. The green points indicate the safest alternatives which are least harmful such as forgery, fake reviews, burglar bots, AI-assisted fake stalking.

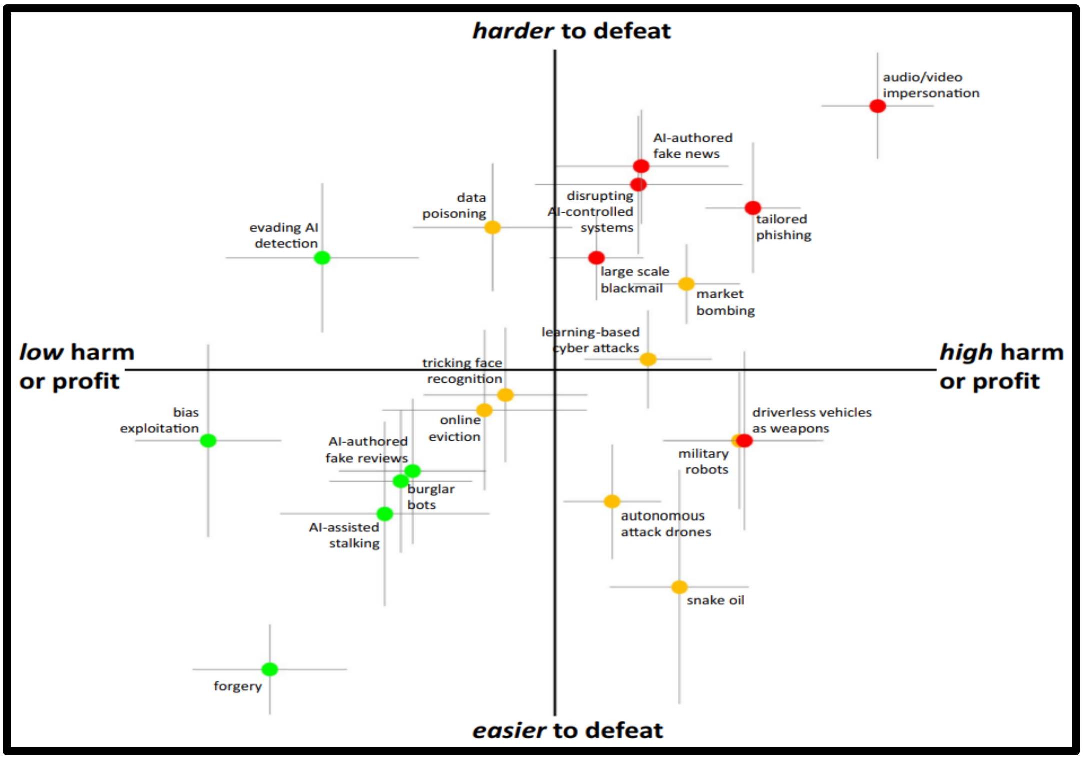

Figure 3. Challenges related to profitability of crime.
Source:https://www.google.com/amp/s/www.secureworld.io/industry-news/top-10-most-powerful-countries-in-cyberspace%3fhs_amp=true

Findings
AI-based predictive policing can help law enforcement agencies to identify potential crime hotspots and allocate resources accordingly. AI can be used to detect and prevent cybercrime by analyzing network traffic for suspicious activity and identifying potential threats before they can cause harm. AI-based risk assessment algorithms can provide a more objective analysis of the risks posed by sentenced criminals, such as the risk of reoffending or the risk of violence. Overall, the Use of AI in crime prediction, prevention, and risk analysis has the potential to significantly improve the effectiveness and efficiency of law enforcement activities. However, it is important to address the ethical and privacy concerns associated with these applications, and to ensure that they are used in a responsible and transparent manner.

Conclusion
The prevalent usage of electronic information processing methods defines modern social interactions. Above mentioned study proves that the rapid advancement of computer technology and capabilities of doing intricate tasks need complete solutions to both technical and original issues. Artificial intelligence related technologies are currently employed in a variety of human endeavors in an effective manner, such as from facial recognition on a smartphone screen to composing music and art from scratch. Considering these facts, legal science can make more decisions with the use of high-tech tools in criminal trials to determine criminal penalties and several ways of criminal law which influences those who have engaged in socially harmful behavior.
The goal of the study is to explore whether it is ethically acceptable to identify an electronic device as a means of information processing as a potential target for punishment in law.
To do this, we need to consider the issue of defining artificial intelligence as a system for making judgments without the involvement of humans. The study demonstrated that the use of artificial intelligence in determining the impact of criminal law is not a mechanical process of selecting one of the punishments.
It is impossible to ignore the fact that, in many cases, the judgment rendered in favor of the defendant regarding the level of criminal liability imposed directly affects the rights and legitimate interests of third parties, including family members, dependents, victims etc. Even the best computer program cannot evaluate these and many more factual situations that are not covered by the law and are not in the public interest related to crime or victims.

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IOT IN REINFORCEMENT LEARNING

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ABSTRACT
Learning has become an integral part of life. This paper tries to find out how IoT enabled devices can be used to improve the reinforcement learning process for the betterment of the learners. This article is based upon secondary data sources as well as discussions with the experts in the field of learning and IoT enabled devices. IoT can contribute to designing effective simulations, assignments, and video-based learning for the learners. It will also help the training and development department to create an effective learning environment with the help of trainers for the learners. The third contribution of IoT enabled devices will be in conducting formative and summative performance evaluation of the learners as well as their behavior. It is also beneficial for bringing accuracy in case of handing over reward or punishment to the learners based on their performance. IoT enabled devices are contributing significantly to improve the outcome of reinforcement learning for the learner, trainer, and organization at large. The future of learning is not dependent on experiential learning through IoT. Pandemic has accelerated the use of IoT based learning.
Keywords:IoT, Deep learning, Reinforcement learning, Learning process, IoT enabled devices

Introduction
Learning is a process by which permanent change occurs in learning. Learning process has been studied for the last so many years to find out how effective learning can be achieved for the development of the learner. Psychologists started doing more research on this concept from the early part of the 20th century. The outcome of their study was the emergence of different behavioral theories. These behavioral theories are based upon the impact of environmental influences on the process of learning. The term environmental influence is incorporated with reinforcements, associations, and punishments.

Ivan Pavlov, a famous Russian psychologist, in his theory paired the natural stimulus (food) with the sound of a bell. The response of the dog to this situation was the generation of saliva in his mouth. But because of multiple associations developed by Pavlov the dog started salivating even to the sound of the bell. He proved that learning occurs by forming effective associations between various stimuli (naturally occurring and previously neutral).

B. F. Skinner, a behavioral psychologist, explained the process of learning by creating associative learning which is done through behavioral modifications with the help of reinforcement. Learning can take place effectively when behavior is followed by its consequences.
Cognitive learning theories are more focused on the following things.

a. Attention span.
b. Memory
c. Information processing

All the above factors in the case of a learner decide the level of acquisition of knowledge. Piaget explained the intellectual development process that occurs in childhood in four stages

Stage No.	Name of the stage	Type of development
1	Sensorimotor stage	Cognitive development by learning about the world through the senses of a learner.
2	Preoperational stage	Learning about language through pretend play
3	Concrete operations stage	Utilization of logic by the learner.
4	Formal operations stage	Use of deductive reasoning by the learner. Developing understanding about abstract and hypothetical ideas by the learner.

Table No. 1: Stages of Intellectual Development ProcessSource:https://www.techtarget.com/searchenterpriseai/definition/reinforcement-learning

Constructivist learning theories are based on the approach of learners' participation in the process of learning will be for constructing their knowledge. Lave Vygotsky, a psychologist in this regard, proposed two important concepts for constructivist learning. They are as follows.

1. More knowledgeable others – an individual whose understanding level is higher than a learner e.g., trainer, teacher etc.
2. Zone of proximal development – it is described as an ability displayed by the learner with the help of more knowledgeable others. But learners are not able to perform independently.

Literature Review

Albert Bandura believed that most of the learning in the case of learners will be done through observations. He also concluded that learning something will not necessarily result in a change in the behavior of the learner.

In experiential learning the process is based upon providing firsthand experience to the learners. Psychologist Devid Kolb explained the four stages in experiential learning. They are as follows.

a. Abstract conceptualization
b. Concrete experience
c. Active experimentation
d. Reflective observations.

Reinforcement learning is nothing but the ability of learning the association between stimuli, actions and getting rewards or punishment. The reinforcement process majorly focuses on strengthening the above-mentioned association. The reinforcer for this purpose will be reward (positive) and punishments (negative) reinforcers. Learners' behavior will be affected by these associations. If the learner demonstrates positive behavior, he / she will get a reward. If the learner demonstrates negative behavior, he/she will get the punishment. In this way reinforcers guide, inspire and motivate learners to learn effectively. (Bzai,2022)

The Internet of Things (IoT) is nothing but a network of things (physical objects) that are embedded with software, sensors, and different technologies with an objective to get connected and to exchange data with other systems or devices by using the internet.

Rajeshwari (2020) has explained about the application of IoT to access cognitive skills of learners. IoT is an interrelated system of digital / mechanical machinery and computer equipment. It is capable of transferring and relocating data without teacher to learner involvement or human to computer interactions over the internet. IoT applications involve multiple domains like Smart Cities, Smart Farms, better healthcare, Smart Transportation system, Smart grid, and Smart teaching learning process and so on.

Cognitive skills contribute to developing the mental capabilities of a learner. IoT enabled learning allows the learner to observe, perform and practice the topic or unit with the help of a trainer and their peers. It improves the effectiveness of learning. (Jones,2003)

Khaleel (2018) discussed enhanced learning management systems with IoT applications in their research work. Learning management system is a tool which contributes to creating, distributing, and managing diverse types of training material. It also does the tracking of the same. The researchers have provided a framework for enhancement of LMS by using IoT capabilities.

Lei, (2020) talked about autonomous IoT which is an integration of IoT and Autonomous Controlled System (ACS). They have introduced a concept of intelligent agent to control, reinforce, and learn and deep reinforcement learning.

As per the report of the Oracle today more than ten billion population is connected to IoT devices as experts are forecasting that this number will reach twenty-two billion by 2025. (Rahmani ,2021)

By using IoT connected devices effective communication is possible between people and things or processes and things. Sensors play a vital role in IoT technologies which are now available at low cost. (Mershad ,2018; Shammar, 2019). Connectivity, cloud computing platforms, machine learning and analytics, conversational AI are contributing to the IoT process. IoT is now used for many industrial applications by different organizations. About industrial IoT, people feel that it is contributing to the fourth wave of industrial revolution which is called industry 4.0. Industrial IoT is used for the following processes.

a. Smart manufacturing
b. Connected logistics.
c. Smart digital supply chains
d. Smart power grids
e. Connected assets.
f. Preventive and predictive maintenance

IoT is making changes in the field of training and education. IoT connected tools and their usage in the process of teaching learning has sharply increased during and after Covid pandemic. (Jones,2003). Tablets and smartphones in the digital learning environment are being utilized by learners of all age groups. Graphics, augmented reality etc. are significantly contributing to explaining complex processes by making it simpler for learners. Learning platforms are contributing to the learning process with the help of pre recorded sessions, live classes,and simulations. All these can be utilized by the learner as per his convenience and learning ability. IoT can be a bridge between the learner and learning platforms. This article focuses on how IoT can be used to enhance the effectiveness of reinforcement learning. (Razzaque, 2019;Sayassatov, 2019).

Objectives of the study

1. To understand the mechanism of reinforcement learning in the context of the organizational training process.
2. To find out how IoT can be used for reinforcement learning.

Research Methodology

This research is based on secondary data which are collected from various books, research papers, articles, and online resources. Following are the statistics of the same.

Sr. No	Resource	Number
1	Books	04
2	Research Papers	18
3	Articles	07
4	Online resources	04

Table No. 2: Description of Secondary data Resources

Data was analyzed by keeping focus on how IoT can be used for reinforcement learning.

Secondary Data Analysis

The discussion is focused on two important aspects, one aspect is covering reinforcement learning and other aspects through light on the contribution of IoT in reinforcement learning. Reinforcement learning is part of the training process conducted in various organizations. This method is based on appreciating desired behavior required to perform a task and punishing undesired behavior that will not give expected results. In other words, in reinforcement learning, learners do or perform the following activities.

1. Able to perceive and interpret learning environments.
2. Will take appropriate actions.
3. Learning through trial-and-error methods.

Fig No. 1 : Reinforcement learning
https://www.synopsys.com/ai/what-is-reinforcement-learning.html

The above figure shows the process of reinforcement learning where learning outcomes in a given environment are tagged with reward policy.

Advantages of reinforcement learning are as follows:

a. It does not need large datasets or branded datasets so that it is not a costly method.
b. Reinforcement learning is a more goal oriented process so we can utilize the same for those tasks which are having properly defined goals.
c. Reinforcement learning is a value based process which improves quality and quantity of the output.
d. As reinforcement learning requires a specific environment which helps in providing multiple opportunities for learners of learning as per their pace.

Learning outcomes in case of reinforcement learning are as follows:

a. Optimal policy: Maximize the expected learning outcome by connecting it with reward function and the state and action spaces of the environment.
b. Exploration: Exploring the possibility of providing additional knowledge and skills to the learner.

Learning outcomes in case of reinforcement learning should be finalized by considering optimal policy principal and exploration policy principal.

Sr. No	Learning outcomes	Performance Indicator	Skill imbibed
1	Other than Expected	Learners perform different activities independently	Over skilled
2	Expected (Goal)	Learner performs independently	Fully skilled
3	Moderate	Learner performs but with the help of trainer	Moderate level

Table No.3 : Learning Outcomes

IoT can contribute in the following ways in case of making reinforcement learning more effective.

1. **Designing assignments or simulations**:
   In case of reinforcement learning, the learner is exposed to various simulations, assignments, or video-based learning. With the help of IoT we can design the above-mentioned tools (simulation, case study, assignment) in the following ways.
   a. Detailed explanation about the process which will guide the learner to perform each step independently.
   b. Rewards explanation about expected outcome and desired behavior for each of the steps in the process of that activity.
   c. In detailed explanation about reward and punishment policy.
   d. A brief about how performance will be measured, and behavior will be evaluated of the trainees.
   This will enable the learner to know each and everything about the activity which he or she is supposed to perform, outcome expected, evaluation criteria and reward/ punishment policies.

2. **Creating an effective learning environment**:
   Learning environment is one of the most significant factors in achieving a stage of effective learning. IoT based devices like cameras and sensor enabled devices for activities will help trainers to identify the difficulties faced by the learner. As the trainer in the initial stage will be in position to identify difficulties faced by the learner, the trainer will make necessary arrangements for the learner to overcome these difficulties. This will boost the confidence of the learner and will energize the learner to learn with more dedication.

Learning environment consists of many vital elements as follows:

a. Facilities present at learning site: Facilities at learning site comprises seating arrangement, technical facilities, light arrangements and other infrastructural facilities. If the duration of training sessions or learning sessions are more all these facilities will be required by the learner. If these facilities are up to the mark the learners will enjoy the learning environment which will boast the learner. But if these facilities are not up to the mark, the learner will get irritated which will result in concentration lapses in learning.
b. Quality of trainers is one of the most significant factors in the learning process. Ability of the trainer to use the learning environment to its optimum will increase the interest of the learner. If the interest of the learner is high, effective learning can take place. So a trainer should use the available facilities in the learning environment for the process of learning.
c. Adequate facilities for practice sessions should be available in a learning environment for the learners. More practice sessions under the supervision of a trainer / instructor will help learners to acquire required space and competencies by getting more opportunities for improvement in performance.

3. **Evaluation and reward:**
   As the performance of the learner in reinforcement learning by using IoT enabled devices will be monitored continuously. The activities where learning is taking more time or unable to perform will be identified and more practical sessions can be given to overcome this problem. This formative type of evaluation will improve knowledge, skills and competency level of the learner and will perform the assigned task in such a way that expected outcome with behavior can be achieved. (Wuhui,2021).

   As performance evaluation has been done effectively, appropriate reward or punishment decisions can be taken. This will make sure that no injustice will be done with each of the learners.

   Transparent compensation and reward management practices will encourage learners to acquire more knowledge required for their job roles. It will minimize the time of learning and reduce the wastage which can be utilized for other activities.

   IoT is contributing in all above mentioned levels. Apart from this it can be used for activities like tracking the movement of learners and trainers. It also helps us in analyzing learners' response to the trainer as well as the learning environment.

Fig.No.2 : Effective learning environment
Source : https://www.tonybates.ca/2016/02/22/building-an-effective-learning-environment/

The above figure clearly indicates to take care of six components in case of creating effective learning environment. They are characteristics of learner, content, skills, learner support, resources and assessment to get expected learning outcomes. organizations should invest in all above mentioned components.

Findings
1. Reinforcement learning can be used in organizational learning and development effectively for the trainees. Reinforcement learning delivers the results in the form of learning outcomes where other methods of training fail to deliver the same.
2. Reinforcement learning assures expected learning outcomes for learners as well as provides ample opportunities to acquire additional knowledge, skills and competencies for learners.
3. Outcome of reinforcement learning is associated with reward or punishment. This association motivates the learners to learn and perform effectively for an organization.
4. IoT contributes in improving the process of reinforcement learning by designing assignments or simulations, creating an effective learning environment and evaluation and reward.
5. IoT supports all three key elements in the process of reinforcement learning outcomes. It helps trainers to design the assignments and simulations as well as to monitor the progress of trainees. IoT also supports trainees to evaluate their learning and performance and IoT facilitates organization to check the process of learning as well as performance of the learners at each stage. This is benefiting all the three Key elements to rectify the things in a shorter duration of time if unfortunately somewhere the process gets derailed.

Conclusion

Learning is a process by which permanent change can take place in a learner by upgrading his/ her knowledge, skills, and competence levels. Reinforcement learning is one of the key processes in the entire setup of learning and development. Reinforcement learning assures expected learning outcomes with some additional outcomes for the learners. This process is associated with rewards and punishments which results in providing motivation for learners (trainees) for effective learning.

IoT enabled devices can be used effectively to design assignments and simulations which will help the learner to understand the task and practice the same. Another important contribution IoT devices will make in the reinforcement process is in creating an effective learning environment for the learners which will motivate them to learn and improve their competency levels. IoT based devices are also contributing to designing performance evaluation and reward management strategies for the learners.

Thus, IoT enabled reinforcement learning is proved as a boon for organizations, trainers as well as fast and slow learners (trainees).

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LEADERSHIP INCIVILITY AND ITS IMPACT ON THE EMPLOYEE PERFORMANCE AND WELL-BEING IN SELECTED DISTRICTS OF WESTERN MAHARASHTRA STATE

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ABSTRACT
The present paper focuses on different types of incivility exhibited by the leader and its direct relationship to the performance of the employees. The quantitative study was conducted with management teachers and clerical staff working in the unaided management institutes in selected districts of western Maharashtra state. A sample of 345 teachers was used from various unaided management institutes using the Multistage sampling technique. An online survey was conducted to gather data on different types of leadership incivility exhibited by leaders and its impact on employee performance and employee wellbeing. A five-point Likert scale was used to determine the impact of leadership incivility on employee performance. Regression analysis and factor analysis were done using SPSS software. From the study, it is very evident that employees do confront incivility exhibited by the leader and it has a negative impact on performance as well as well being of the employees. The study exhibited that employees do come across uncivilized behavior but this in civilized behavior varies from institute to institute. It is also worth noting that employees tend to be unhappy in the presence of incivility of the leader at the workplace and also intend to quit such types of institutes. This study will be useful in shaping the leadership traits and managing office politics. This research will help to design strategies in getting support for task accomplishment from employees at the same time, try to acquire the general well-being of the employees, and curb the attrition rate.
Keywords: Leader Incivility, Employee Performance, Employee wellbeing, CivilizedBehavior, Retention.

Introduction

Workplace is the place of work. The average person spent one third of his lifetime at work. It is a part of the society that we live in. A positive work environment always nurtures the best of everyone keep retention rate high, reduce employee hiring and also increase employee engagement. High levels of trust and support, strong communication, motivation and compassion are some characteristics of a good and positive workplace. Good workplace is driven by a good leader. Leadership is a process by which an executive can direct, guide and influence the behavior and work of others towards accomplishment of specific goals in a given situation. Leadership is the ability of a manager to induce the subordinates to work with confidence and zeal. It is responsibility of the leader to create and provide a healthier workplace to its employees. Leaders incivility is defined as leader's low intensity unusual behavior with indefinite intention to hurt his fellow subordinates, in violation of workplace norms for mutual respect. Inhuman behaviors of the leaders and supervisors can act as a ground for great psychological damage to people around them. Incivility enters the workforce when leaders and employees are exposed with more demands and stress that brunt their lives. As a result of incivility, many issues arose such as higher employee turnover, consistent increase in no. of grievances and complaints, more customers complaints, lesser productivity, communications hurdles, lack of trust in the leadership, inability to adapt to the organizational change and lack of accountability.

Tarraf, Finega (2012) employees need to be respected. Porath, Pearson (2010) incivility is the nature of being unethical; rude or digressive attitude of person towards another. Unethical behavior in the workplace includes negative attitudes, rudeness to one another, discourteous, gossip in place of work and somebody displaying a lack of respect and honor for other colleagues. A certain sort of civility and respect is desired in any of the working relationships at the workplace. Hunter, Day (2001) as at the end of the day it's pulsating people you have to deal with and they are the ones who bring the plans and strategies into existence. Aggression, injustice, and violence are a part of the mistreatment towards the employees. These results in strained relationships and discomfort at work the front. Musyoka (2020) in the era of achieving more and more rude remarks, being ignored or lack of politeness and harsh treatment is causing psychological injuries to the people in the organization.

Purpose of the Study
The research is aimed at investigating the workplace incivility experienced by teachers and admin staff in various unaided management institutes in selected districts of western Maharashtra state and its impact on employee performance and wellbeing.

Literature Review: - In the last two decades, workplace incivility has received the attention of organizational researchers. Various experimental studies have been conducted to identify and explain the causes and consequences of incivility experienced by employees in their organizations.

Tricahyadinata, Hendryadi, Suryani & Zainurossalamia (2020) intensive researches carried on in Europe and America have showed that incivility has become a severe disquiet. Ghosh, Reio & Thomas (2013) no doubt that workplace incivility is a global problem that requires immediate attention from human resource and organization professionals. In 2011, Porath ,Pearson (2013) reported the despicable fact that a 98% respondents experienced incivilized behavior at their workplace. Gowthan (2019) incivility leads to emotional exhaustion and impacts individuals both psychological and physical well-being.

Bartlett J, Bartlett M. & Thomas (2008) unresolved workplace conflicts results to reduced costs to an organization as this results in incivility. Incivility ranges from a simple as one like not returning a smile to hurting the feelings of others without a cause. In civilized behavior, if not addressed will result in to aggressive behavior by the sufferer. Antecedents tend to be triggered in civilized behavior by workers job insecurity, dissatisfaction, trait aggression, hostility, power, ego, and internal competition, the assertiveness of leaders, lack of communication, at times not being able to meet competition, and many others alike. Negative effects are evident on human capital and organizations to costs due to in civilized behavior. Arthur, Barbara (2008) when uncivil behavior is tolerated or is the accepted norm in a workplace, it is natural that employee commitment to the organization is reduced. The extent of employee engagement changes depending on the level of incivility experienced at the workplace. At times employees are tolerant of incivility when they confront occasionally say once or twice a year but when it becomes a day-to-day affair it has a major impact on employee dedication to work and their engagement with the task at hand.

Lim, Cortina (2005) if workplace incivility is not confronted constructively will affect the workforce at emotional front and also the organization in terms of stepping up recruitment and training costs, unhealthy and uncreative work climate, poor customer service leads to an increase in the potential costs to fight the litigation cost filed by victims on grounds wrongful-termination claims.

Sung-Hoon Ko, Choi Y. (2021) on the other hand workers /employees who experience compassion at work are less likely to participate in workplace incivility. Positive emotions and positive leadership reduce workplace incivility emergence. Leader's as well coworkers' uncivilized behavior is detrimental for the progression of the organization.

Arthur, Barbara (2007) in most cases co-workers are the highest source of incivility in comparison to managers, or their senior leaders. This may be because in regular workday employees tend to interact with more co-workers than they do with managers or leaders also there is a likelihood as the employees perceive their subordinates or coworkers or peers as competitors for promotion or resources. As a result try to suppress the capacities of their subordinates to grow or to achieve on the professional front. Sung-Hoon Ko, Choi (2021) leaders do not show uniform attitudes and behaviors towards employees. But if employees and their leaders deal with compassion with each other, in that case this will lead to the formation of an empathetic culture to encourage positive leadership, their relationship will develop more positively, thus, reducing workplace incivility. Coworkers will feel they have been taken care of and will not get into uncivilized behaviors.

Walsh B., Lee J., & Gonagle (2017) show a comparison of appealing leadership and ethical leadership which are positive leadership behaviors that may be associated with workplace civility. Whereas on the dark side, passive and abusive leaders foster negative conduct at work. Taylor, Pattie (2014) authoritative leaders play an important role in shaping the attitude and behavior of the employees and their behaviors, they have control over and demonstrate to uphold, and reinforce interpersonal and organizational norms regarding the exhibition and conduct of appropriate workplace behavior that will reduce the spread of workplace incivility Females are more sensitive or observant to detect uncivil behavior than males Montgomery, Kane & Vance (2004) also new entrants are more vulnerable to incivility compared to older employees.

Arthur, Barbara (2007) states that employees need to be provided with guidelines to handle civilized behavior or to tackle bullies in the workplace. At the same channels needs to be placed so that employees can report and help could be provided to tackle such behavior and curtail its ill effects. There are incidences of incivility experienced in the Indian context also though its consequences are not very harsh. Gowthan V., E.N Anju (2019) incivility is experienced by nurses in the healthcare sector apart from the existence of incivility regional and cultural differences have an impact on how individuals perceive and respond to civilized behavior at workplaces. Sharma, Singh (2016) state that few studies have been conducted on incivility and its impact in Asian countries. Incivility in India is limited to basic issues and does not provide detailed consequences of its existence but one of the studies also has indicated that workplace incivility acts as a significant predictor of turnover in Indian restaurants.

Thomas. Stephanie (2018) in the educational sector also teachers are confronted with uncivilized behavior to increase the students learning performance through federal and state Governments. Educational leaders can use all information generated by research on incivility to find ways to reduce the likelihood of uncivilized behavior, increase teacher commitment, and decrease the turnover rate among teachers at schools. Baron, Neuman (1998) and Pearson, Porath (2000) research scholars have cited several causes of uncivilized behaviors such as lack of effort in developing positive relationships within coworkers, negative effects like anxiety, frustration, anger and demographic dissimilarities like age, gender, and others as some of the antecedents of uncivilized behaviors in the workplace.

Given below is the research methodology adopted in conducting the research study.

Research Methodology

Statement of the Research Problem

Eunice N. M.(2020) Workplace Incivility has become a huge encumber and an alarming issue for almost all types of organizations in the world. People are complaining of higher rates of psychological injuries, harsh behavior, favoritism issues, and sick behavior in organizations. As a result of this rude behavior exhibited by the authoritative leaders in the organization, employees are becoming less innovative as they realize they get depressed due to disrespect, lack of appreciation, partial behavior, and thinking of leaving the job or just quitting the job all of sudden. Employees develop an inferiority complex concerning working capabilities, efforts, and quality of work and finally can even drive them in depression. Which will at large impact the employee's performance.

Research Questions

1. Is there a presence of workplace incivility in the institutes in the state of Maharashtra?
2. Is this incivility having an impact on the performance of the teachers in the institute?
3. What types of incivility are very prevalent that you come across?
4. What measures can be taken to overcome workplace incivility?

Research Significance

This will be useful for management teachers and leaders in various Management institutes in the state. This research may help to identify the various types of incivilized behaviors and later will help to curb them to bring about the well-being of the faculties and ultimately happy students because of the best impartment of the lesson by the faculties.

Objectives of the Study

1. To study the workplace incivility influence on employee performance in unaided management institutes in western Maharashtra State.
2. To examine the different types of incivility exhibited by the leaders in unaided Management institutes.
3. To examine the association between incivility at the workplace and the job performance of teachers in the institutes.

Research Design

The research was aimed at collecting data from teachers and staff of various management institutes in selected districts of Western Maharashtra State. Three districts namely Pune, Satara, and Sangali were selected for the data collection. Simultaneously 10 to 15 unaided Management institutes each from Pune, Satara, and Sangali districts were selected. The sample was comprised of teachers (70%) and staff (30%) (e.g., counselors, clerical and administrative staff, etc.) from unaided management institutes.

Type of Research: Descriptive Research

A descriptive research method is used because the objective is to provide systematic description that is as factual and accurate as possible.

Sampling Design: Multistage Sampling Method
Sample size: 345 Respondents (Teachers and administrative staff invarious management institutes in Western Maharashtra state)

Data Collection Techniques: For effective and flawless primary data collection survey method was used. Secondary data was collected through research papers, books, survey reports conducted earlier. Respondents indicated the extent of agreement (1 = strongly disagree; 5 = strongly agree) with each item.

District	Sub districts	Sample Size	Total Sample Size
Pune	Haveli	70	115
	Baramati	45	
Satara	Satara	59	115
	Karad	56	
Sangli	Tasgaon	60	115
	Vita	55	
	Total		**345**

Table No - 1: Sample Selection Methodology

Name of the District	Sample Size	No of Items	Chronbach's Alpha
Pune	115	32	0.765
Satara	115	32	0.823
Sangli	115	32	0.709

Table No - 2: Reliability of Instrument

Variables under study:
Given below are the variables considered under study.

No	Variables under study	
	Type of Incivility	**Impact Of Incivility on employee**
1	Rudeness	Poor innovation and creativeness
2	Differential_treatment	Reduced motivation
3	Credit_ fav_faculty	Waste of time in criticizing leader
4	Work_on_holiday	Feel sad and devalued
5	Gossip _politics	Despair and stop performing
6	Partiality_work_allocation	Don't want to take initiatives
7	Insult_ faculty	Reading and learning process is hampered
8	Unrealistic_expectations	Reduced work efficiency
9	Job_threat	Emotional Exhaustion
10	Undermine_Gen_work	Hampers employee well being
11	Patiality_ in_ late coming	Staff wellbeing leads to higher productivity
12	Appreciation_Fav_faculty	Incivility_leads_reduced_job_satisfaction_retention_of_faculties
13	Deduct_CL	

Table No - 3: Variables under study

Data Analysis and Interpretation:
Mean Scores:
The data was analysed using SPSS software and and mean scores for average and standard deviation were calculated on the scale of 0- Strongly Disagree to 5- Strongly Agree. Given below are the results

	Variable	**M**	**SD**
1	Rudeness	4.5	0.44
2	Differential_treatment	4.1	0.84
3	Credit_ fav_faculty	3.30	0.47
4	Work_on_holiday	1.56	0.51
5	Gossip _politics	2.72	1.00

6	Partiality_work_allocation	4.0	0.42
7	Insult_ faculty	4.22	1.28
8	Unrealistic_expectations	3.49	0.58
9	Job_threat	4.35	1.68
10	Undermine_Gen_work	4.76	0.45
11	Patiality_ in_ late coming	2.12	0.88
12	Appreciation_Fav_faculty	3.75	0.79
13	Deduct_CL	3	0.81

Table No - 4: Mean Scores and standard deviation

Impact of Incivility Exhibited by Leader on Job Performance

	Job Performance negatively affects incivility					
Gender	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Male	8	13	33	38	75	167
Female	10	20	39	41	68	178
Total	18	33	72	79	143	345

Table No - 5: Gender Vs Job Performance & Incivility

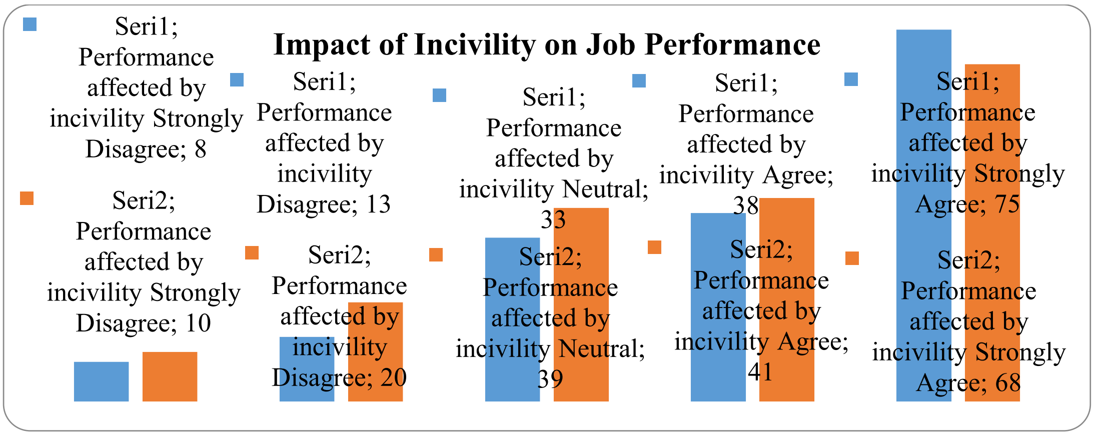

Figure1:Impact of incivility on job performance

Interpretation: In accordance to the above analysis 65% of the respondents are of the view that incivilized behavior of the leader has a negative impact on their performance at the workplace. Whereas 15% of respondents are of the view that incivility has nothing to do with the performance of the faculties.

Institutes that witness leaders' incivility tend to have a very poor result which leads to reduced job satisfaction and retention of faculties.

	Incivility leads to pooracademic results, reduced job satisfaction and reduction in retention of faculties.					
Gender	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Male	10	18	24	70	67	189
Female	5	11	21	63	56	156
Total	15	29	45	133	123	345

Table No - 6: Gender Vs Incivility & Job satisfaction, faculty retention

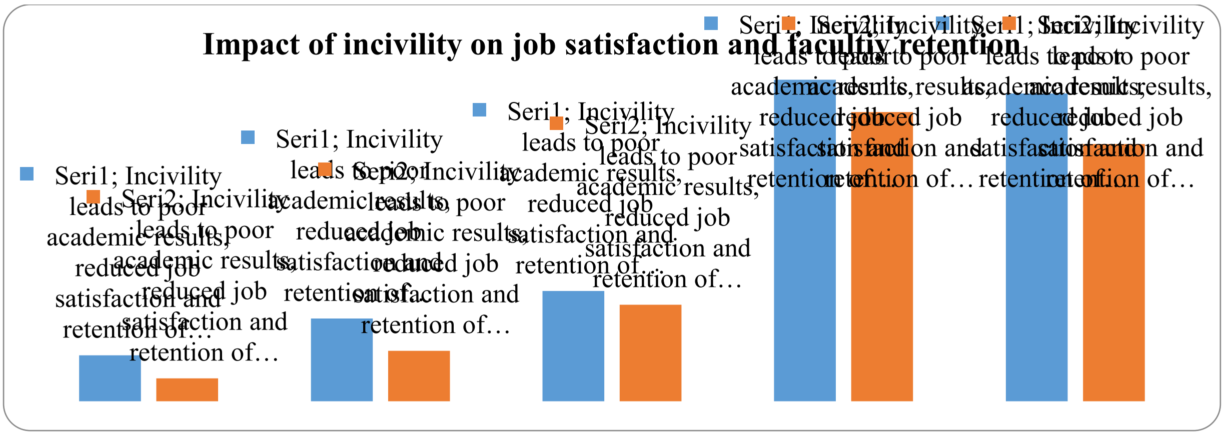

Figure 2: Impact of incivility on job satisfaction and faculty retention

Staff wellbeing is a major contributing factor for higher productivity

	Staff well-being is a great contributing factor for higher productivity					
Gender	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Male	7	20	15	82	52	176
Female	12	25	22	35	75	169
Total	19	45	37	117	127	345

Table No - 7: Gender Vs staff wellbeing & work productivity

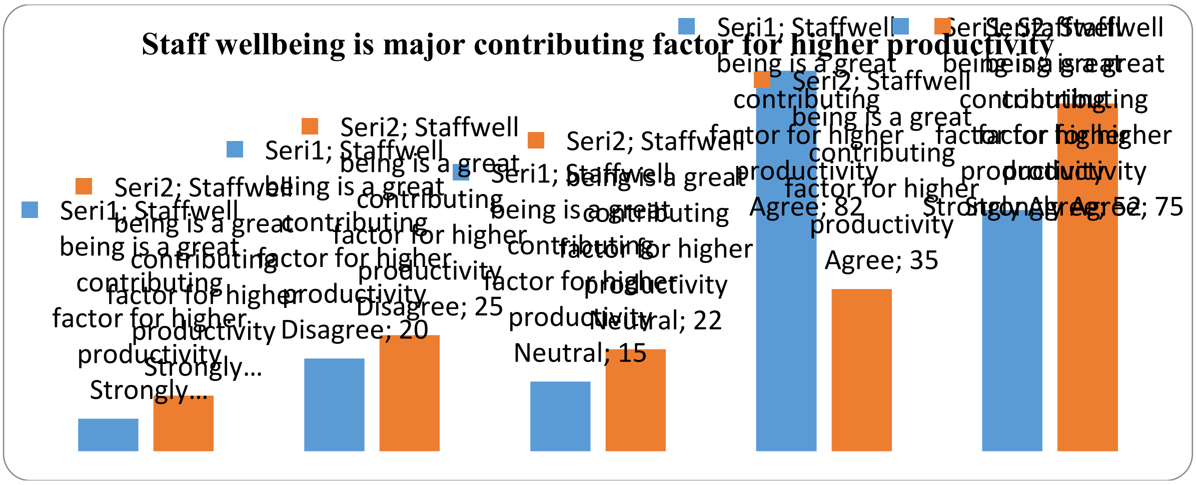

Figure 3: Contribution of staff wellbeing in productivity

Interpretation: Above chart shows that 70% respondents agreed to the fact staff wellbeing is a major contributing factor for higher productivity where as remaining feel the other way.

Hypothesis Testin

H0: There is no significant association between a leader's incivility in the institutes and its impact on the job performances of the faculties.

H1: There is a significant association between a leader's incivility in institutes and its impact on the job performances of the faculties.

Dependent Variable

Performance of the employee

Independent Variables
1) Partiality in late coming
2) Partiality in assigning work
3) Job threats are imposed by Leader
4) Leader undermine the work done

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.635[a]	0.403	.120	1.345
a. Predictors: (Constant), l_Partiality_latecoming, I_Partiality_work, I_Job threats, I_Undermine_work				

Table No.8 Model Summary

The model summary shows the strength of the relationship between the model and the dependent variable performance of the employee. R shows the relationship between observed and model-predicted values of the dependent variable. Its low value indicates a weak relationship.

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.839	4	9.2097	3.692	.008b
	Residual	54.361	300	1.81		
	Total	90.200	344			
a. Dependent Variable: Performance_affected by_incivility						
b. Predictors: (Constant), l_Partiality_latecoming, I_Partiality_work, I_Job threats, I_Undermine_work						

Table No.9: ANOVA Test Summary

P value is less than 0.05. Hence we reject the Null hypothesis and accept the alternate Hypothesis. There exists a significant association between a leader's incivility in institutes and it impact negatively on the job performances of the faculties.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.763	.377		7.676	0.521
	I_Undermine_work	-.540	.460	-.423	-3.620	0.011
	I_Partiality_work	-.333	.373	-.226	-1.361	0.048
	I_Job threats	-.487	.175	-.297	-1.802	0.004
	l_Partiality_latecoming	-.137	.253	-.040	-.278	0.000
a. Dependent Variable: Performance_affected by incivility						

Table 10: Coefficients

Factor Analysis

Factor analysis is used to find factors in the observed variables contributing to teachers' incivility. In other words, if data contains more variables, factor analysis is useful to reduce the number of variables. Factor analysis groups variables with similar characteristics together.

Communalities		
	Initial	Extraction
Poor innovation and creativeness	1.000	.564
Reduced motivation	1.000	.869
Waste of time in criticizing leader	1.000	.732
Feel sad and devalued	1.000	.585
Despair and stop performing	1.000	.793
Don't want to take initiatives	1.000	.833
Reading and learning process is hampered	1.000	.801
Reduced work efficiency	1.000	.849

Emotional Exhaustion	1.000	.735
Hampers employee well being	1.000	.757
Staff wellbeing leads to higher productivity	1.000	.828
Incivility_leads_reduced_job_satisfaction_retention_of_faculties	1.000	.713
Extraction Method: Principal Component Analysis.		

Table No.11:Communalities

Table of communality shows how much of the variance in the variables has been accounted for by the extracted factors. For instance, over 86.9% of the variance in motivation reduced due to harsh language of leader is accounted for.

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.126	51.053	51.053	6.126	51.053	51.053
2	1.867	15.562	66.615	1.867	15.562	66.615
3	1.066	8.880	75.494	1.066	8.880	75.494
4	.813	6.779	82.273			
5	.707	5.888	88.162			
6	.451	3.756	91.918			
7	.347	2.888	94.806			
8	.229	1.912	96.718			
9	.145	1.207	97.925			
10	.142	1.182	99.107			
11	.072	.598	99.704			
12	.035	.296	100.000			
Extraction Method: Principal Component Analysis.						

Table No.12: Total variance explained

The above table of variance explained shows the factors extractable from the analysis along with their eigen values, the percent of variance attributable to each factor, and the cumulative variance of the factor and the previous factors. Notice that the first factor accounts for 51.053% of the variance, the second 15.562 % and the third factor is accountable for 8.880% and cumulating to 75.495%.

Component Matrix[a]			
	Component		
	1	2	3
Poor innovation and creativeness	.426	.539	-.304
Performance affectedby incivility	.347	**.751**	-.220
Reduced motivation	**.807**	-.041	-.465
Feel sad and devalued	.026	.440	**.725**
Despair and stop performing	**.863**	.167	.140
Don't want to take initiatives	**.863**	-.233	.184
Reading and learning process is hampered	**.871**	-.187	.091
Reduced work efficiency	**.878**	-.273	-.054
Emotional Exhaustion	.416	**.746**	-.072
Hampers employee well being	.348	.306	**.783**
Staff wellbeing leads to higher productivity	.342	.040	**.771**
Incivility_leads_reduced_job_satisfaction_retention_of_faculties	.167	**.713**	.140
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Table No.13: Component matrix

The table below shows the loadings of the twelve factors variables on three factors extracted.
Given below are the three factors extracted with loading values. It is clear from the above analysis that following five factors are heavily loaded on factor 1,

1. Reduced motivation
2. Despair and stop performing
3. Don't want to take initiatives,
4. Reading and learning process is hampered
5. Reduced work efficiency

Performance_affected by_incivility, Emotional Exhaustion and incivility leads to reduced job satisfaction and reduces faculty retention are heavily loaded on factor 2 and feel sad and devalued, hampers employee well being and Staff wellbeing leads to higher productivity is heavily loaded onfactor 3.
Given below are the findings from the study.

Findings

1. Incivility exhibited by a leader leads to affect lectures and the whole teaching-learning process of the teacher.
2. Rudeness on the part of the leader was observed by nearly more than half of the respondents.
3. As such there are less amount of instances wherein job threats are given by the leader.
4. More than half of the population has experienced the harsh language of the leader in many of the management colleges in western Maharashtra state.
5. From the analysis, it is very much evident that the in civilized behavior of a leader leads to reduced job satisfaction and non-retention of the faculties as 75% of respondents agreed
6. It was also revealed that 67 % of teachers don't take any initiative due to the leader's ill behavior.
7. Teachers also feel devalued and despair from work if a leader does not recognize the efforts put forth by teachers in doing work.
8. It was also revealed that for 58% of respondents, incivility at the workplace also leads to decreasing job innovation and creativeness among teachers.
9. 71 % of the teacher's respondents agree with the fact the leader gives credit for one's work to his favorite faculty which further leads to disgruntlement among the teachers.
10. 65% of the respondents are of the view that civilized behavior of the leader has an impact on their Performance at the workplace.
11. Factor Analysis shows that the first factor accounts for 51.053% of the variance, the second 15.562 %, and the third factor is accountable for 8.880% cumulating to 75.495%.
12. P value in the regression analysis shows 0.05. Hence we reject the Null hypothesis and accept the alternate Hypothesis. There exists a significant association between a leader's incivility in institutes and it impact negatively on the job performances of the faculties.

Relationship between job performance & workplace incivility

1. The researchers have tried to reveal the nature of the relationship between job performance & workplace incivility.
2. Staff well-being is a major factor to be considered for higher productivity
3. Incivility exhibited by a leader leads to decreased job innovation and creativeness in the establishment.
4. Institute that witnesses incivility tends to have very poor results and reduced job satisfaction and Retention of faculties.

Suggestions

The following measures can be implemented to encourage civility in the workplace.

1. The role of the leader is very important in creating a culture of civility in the workplace. All teachers must speak politely and respectfully to everyone. Practices such as no talking over people, no door slamming, no voice raises, etc. must be practiced.
2. Management development programs must be organized on universal human values and ethical practices at the workplace for leaders and management representatives.
3. There is a need to carry private talks with a teammate who fills discomfort concerning incivility.
4. Institutions must define acceptable codes of conduct in the institution
5. Incorporate civility training must be imparted in to the employees
6. Awareness programs must be organized and healthy talks must be carried out workplace civility practices

Conclusion

From the research, it is very much clear that there is the existence of incivility at the workplace by the leader which is experienced by nearly 65 % of the faculty respondents in Management institutes. The most prevalent type of civilized behavior experienced by the faculties are; Partiality in work distribution, making faculties work on holidays and Rudeness are some of the types of civilized behavior on part of the leader towards his/her faculties. It's also worth mentioning that, job performance, job retention, and job satisfaction are negatively impacted by civilized behavior. However, a role of a leader is very important in creating a culture of civility in the workplace.

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LITERATURE REVIEW ON FORWARD TRANSACTIONS - A COMPREHENSIVE ANALYSIS

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ABSTRACT
Forward transactions are one of the most used Financial instruments in the world of finance. A forward transaction is a contractual agreement between two parties to buy or sell an underlying asset at a predetermined price and future date. Forward transactions have been used for centuries in various markets, including currency, commodities, and interest rates. This paper aims to examine the existing body of research on forward transactions and their impact on financial markets. Forward transactions are used by businesses and investors to mitigate the risk of price fluctuations in the market. In this paper, we provide a comprehensive analysis of forward transactions. We discuss the mechanics of forward transactions, their advantages and disadvantages, and their use in hedging and speculation. We also examine the different types of forward contracts, including currency, commodity, and interest-rate forwards. Finally, we discuss the risks associated with forward transactions and the regulatory environment governing these contracts.
Keywords Forward transactions, Financial agreement, Forward price, Settlement date, Accounting, Market fluctuation.

Introduction
Forward transactions, also known as forward contracts or simply Forwards, are widely used in financial markets for managing risks, speculating on future price movements, and facilitating international trade. A Forward transaction is an agreement between two parties to buy or sell an underlying asset, such as a commodity, currency, or financial instrument, at a future date, at a price that is agreed upon at the time of entering into the contract. The agreed-upon price is known as the forward price, and the date of settlement is known as the delivery or maturity date.

Forward contracts are preferred in India for a variety of reasons, including their flexibility and customization to meet the specific needs of buyers and sellers. Here are a few points explaining the preference for forward contracts in India

According to data from the Securities and Exchange Board of India (SEBI), the value of traded commodity futures contracts in India was Rs. 64.28 lakh crore in the financial year 2020-21, while the value of traded commodity options contracts was only Rs. 0.69 lakh crore.

As per NSE, the overall derivative market was INR 130.90 Cr as compared to the cash market which was just 3.55 Cr

Lack of liquidity in spot markets - One of the primary reasons for the preference of forward contracts in India is the lack of liquidity in the spot markets. Due to this, market participants often resort to forward contracts to hedge their price risk.

Customization of contracts - Forward contracts offer greater customization options than standardized futures contracts. This allows buyers and sellers to tailor the contract to their specific needs and requirements. For instance, they can agree on the quantity, quality, delivery location, and delivery date of the underlying asset. This flexibility is particularly useful in the Indian context, where commodities vary greatly in quality and are often traded in small quantities.

Regulatory framework - The regulatory framework for forward contracts is well-established in India, and this has helped to promote their usage. In 2018, SEBI allowed commodity derivatives trading in the country to be extended to options contracts, in addition to the existing futures and forward contracts.

Hedging opportunities - Another reason why forward contracts are preferred in India is the hedging opportunities they offer. Many businesses in India rely on commodities as inputs, and forward contracts allow them to hedge against price volatility, thereby mitigating their risk. This is particularly relevant in the case of agricultural commodities, which are subject to price fluctuations due to factors such as weather conditions and global demand.

Definition and Features of Forward Transactions - A forward transaction is a non-standardized financial contract that is customized to the specific needs and requirements of the parties involved. It is typically negotiated and entered over-the-counter (OTC) between two parties, without the involvement of an exchange or a central clearinghouse. The key features of forward transactions include:

Agreement on Future Delivery - A forward transaction involves an agreement between two parties to exchange an underlying asset at a future date, at a price that is agreed upon at the time of entering the contract. The parties specify the quantity, quality, and other relevant details of the underlying asset in the contract.

Made to Order - Forward transactions are highly customizable, as they are not standardized like exchange-traded contracts. The parties can negotiate and agree upon the terms and conditions of the contract, including the quantity, quality, delivery date, and other relevant specifications of the underlying asset.

Obligation to Buy or Sell - The parties to a forward transaction are obligated to buy or sell the underlying asset at the agreed-upon price and on the specified delivery date. This distinguishes forward transactions from options, where the parties have the right, but not the obligation, to buy or sell the underlying asset.

Counterparty Risk - Forward transactions are subject to counterparty risk, as they are bilateral contracts between two parties. If one party fails to fulfil its obligations under the contract, the other party may incur losses.

Lack of Standardization - Forward transactions do not have standardized contract terms, and each contract is unique to the specific needs of the parties involved. This makes them more complex and less liquid compared to exchange-traded contracts.

The Objective of the Study

1. To examine the impact of forward transactions on emerging markets.
2. To analyze the impact of forward transactions on the real economy.
3. To investigate the effectiveness of forward transactions in managing risk in different markets.

Research Methodology

The research methodology used in this study involves a Secondary data comprehensive literature review of academic journals, books, and online resources related to forward transactions.

Literature Review with History and Evolution of Forward Transactions

Forward transactions date back to the 19th century when the first forward contract was traded in the United States. However, the modern-day forward market evolved in the 1970s when financial institutions started trading forward contracts on foreign currencies. Since then, forward markets have expanded, and today, they encompass a wide range of underlying assets, including commodities, stocks, bonds, and currencies. This extensive literature review done by the Researcher is presented below.

(Levich,1985) explores the microstructure of currency forward markets, including their characteristics, trading practices, and liquidity. It provides insights into the behaviour of market participants and the dynamics of currency forward markets.

(Mishra, Padhi, 2012) the role of the Indian commodity futures market in price discovery using data from four major agricultural commodities. The authors find that futures prices tend to lead spot prices in terms of price discovery and that the market is more efficient during periods of high trading activity.

(Hartmann, Straemans & De vries, 2021) the pricing relationships of currency forwards and tests for the validity of the law of one price in currency markets. It provides empirical evidence on the efficiency of currency forward markets and the presence of arbitrage opportunities.

(Narayan, Sundaresan, 2015) an overview of the Indian commodity futures market, including its evolution, regulatory framework, and key players. The authors also discuss the challenges and opportunities facing the market, including the need for greater liquidity and participation by institutional investors.

(Lustig, Roussanoy & Verdelhan, 2011) studies the cross-section of currency risk premia and their relationship with consumption growth risk in the United States. It provides insights into the risk factors that drive currency forward returns and their implications for international finance.

(Acharya, Mehta, 2006) the use of forward contracts by Indian farmers, traders, and processors in the agricultural sector. The authors discuss the advantages and challenges of forward contracting, including the need for better contract design, information dissemination, and risk management.

(Andersen, Bondarenko & Todorov, 2018) liquidity in the foreign exchange market, including currency forwards, and their relationship with risk premiums. It provides empirical evidence on the liquidity measures, commonality in liquidity, and their impact on currency forward return.

(Radhakrishnan, Kavitha, 2013) the effectiveness of different hedging strategies using data from the Indian commodity futures market. The authors find that the use of futures contracts can reduce price risk, but that the choice of hedging strategy depends on the underlying commodity, contract maturity, and trading volume.

(Taylor, 2001) the forward premium puzzle, which refers to the empirical observation that high-interest-rate currencies tend to appreciate rather than depreciate as predicted by the uncovered interest rate parity (UIP). It focuses on the euro currency and provides insights into the factors that explain the forward premium puzzle.

(Viskanta, Erb 1996) currency hedging strategies for international portfolios, including the use of currency forwards. It provides insights into the benefits and risks of currency hedging and explores the impact of currency risk on portfolio performance.

(Dufe, Giddy & Gunter, 1995) different foreign currency hedging strategies, including the use of currency forwards, for managing currency risk in international portfolios. It provides insights into the effectiveness of different hedging strategies and their implications for portfolio management.

(Kumar, Kumar, 2016) the use of forward contracts by Indian agribusiness firms in the cotton and soybean sectors. The authors find that forward contracting is an effective tool for managing price risk, but that the level of adoption is influenced by factors such as contract design, market liquidity, and credit availability.

(Ray, 2018) the currency risk management practices of Indian firms using data from a sample of 286 firms over a period of 10 years. The authors find that currency forwards are the most commonly used instrument for managing currency risk, followed by options and swaps. The study also identifies several firm-specific and macroeconomic factors that influence the currency risk management decisions of Indian firms, including firm size, foreign sales, exchange rate volatility, and interest rate differentials. The findings provide insights into the currency risk management practices of firms in emerging markets like India.

(Veronis, 2017) the relationship between currency forward premia and the forward bias puzzle, which refers to the empirical observation that forwards exchange rates tend to be biased predictors of future spot exchange rates. The authors develop a dynamic term structure model of exchange rates that incorporates time-varying risk premia in currency forward contracts. Using data from a large sample of currency pairs, they find that the forward premium puzzle, where forward rates tend to overpredict future spot rates, can be explained by changes in currency forward premia. The study contributes to the understanding of the forward bias puzzle and provides insights into the dynamics of currency forward premia.

(Sen, Kulkarni, 2018) the price discovery and volatility spillover effects between futures and spot markets for agricultural commodities in India. The authors find that futures markets are more efficient in price discovery and play a dominant role in price formation. They also find evidence of volatility spillovers from futures to spot markets, indicating that futures markets provide valuable information to spot markets.

(Gourieroux, Farkas, 2016) introduces a mean-Gini framework for evaluating the performance of currency risk management strategies using currency forwards and options. The authors propose a novel risk measure, the mean-Gini criterion, which combines the mean and Gini coefficient to capture the trade-off between expected return and downside risk. They derive optimal hedging strategies for a risk-averse firm in the presence of transaction costs and margin requirements and compare the performance of currency forward and call option strategies. The study provides a new approach for evaluating and comparing different currency risk management strategies from a mean-Gini perspective.

(Irwin, Good, 2002) the usage of forward contracts by U.S. agribusiness firms and the factors that influence their use. The authors find that the use of forward contracts is widespread among agribusiness firms, with a majority of firms using them for hedging purposes. They also find that the size of the firm, the volatility of the commodity price, and the availability of alternative risk management tools are important determinants of the usage of forward contracts.

(Garg, Trivedi, 2015) the impact of index trading on the Indian commodity futures market. The authors find that index trading has a positive impact on market liquidity, but it also increases volatility and the risk of manipulation. The study suggests that regulatory measures are needed to ensure the stability and integrity of the futures market.

(Kenned, 2013) the role of currency forwards in facilitating international trade using data from a large sample of U.S. exporters. The authors find that exporters use currency forwards primarily to hedge against exchange rate risk and that the use of currency forwards is positively associated with export sales, export intensity, and export growth. The study also provides evidence that the use of currency forwards is more prevalent among large exporters, exporters with a higher share of sales in foreign currency, and exporters with higher foreign sales growth. The findings highlight the importance of currency forwards in managing currency risk and supporting international trade.

(Sanders, Irwin, 2012) a comprehensive survey of the literature on futures trading and agricultural commodity prices, focusing on the theories, empirical evidence, and policy implications. The authors review the various models of futures markets, such as the hedging pressure hypothesis, the risk premium hypothesis, and the informational efficiency hypothesis, and evaluate their relevance to the agricultural sector. The study also examines the impact of futures trading on price volatility, convergence, and manipulation, and discusses the implications for market regulation and risk management.

(Mishra, 2011) the effectiveness of currency hedging for international portfolios using data from a global equity and bond portfolio sample. The authors compare the performance of fully hedged, partially hedged, and unhedged portfolios in terms of risk-adjusted returns, volatility, and downside risk. They find that currency hedging can significantly reduce portfolio risk, especially for bond portfolios, but may not always improve risk-adjusted returns. The study also provides insights into the optimal level of currency hedging for different types of portfolios and the implications of currency hedging for international asset allocation decisions.

Observation of Literature Review
A literature review on forward contracts provides insights into the vast body of research and understanding of forward transactions. Scholars and researchers have explored various aspects of forward contracts, including their definition, features, types, pricing, valuation, accounting treatment, and regulatory considerations. The literature review highlights key findings and identifies potential areas for future research.

Forward contracts are non-standardized financial contracts that allow parties to enter into agreements to buy or sell an underlying asset at a future date, at a predetermined price. They are highly customizable and are widely used for managing risks, speculating on future price movements, and facilitating international trade. The literature review reveals that forward contracts are used in various industries, including commodities, currencies, interest rates, and others, and play a significant role in hedging and risk management strategies.

Research on the features of forward contracts highlights their customization, obligation to buy or sell, counterparty risk, and lack of standardization. Scholars emphasize that the customization of forward contracts allows parties to tailor the terms and conditions to their specific needs, but also adds complexity and reduces liquidity compared to exchange-traded contracts. The obligation to buy or sell the underlying asset distinguishes forward contracts from options and creates potential risks and challenges, including counterparty risk.

The literature review also sheds light on the pricing and valuation of forward contracts. Scholars have developed various pricing models, such as the cost-of-carry model, the spot-forward parity model, and the Black-Scholes model, to determine the fair value of forward contracts. The review highlights that the pricing and valuation of forward contracts depend on various factors, including the spot price of the underlying asset, the risk-free interest rate, the time to maturity, and others. Scholars also highlight the importance of understanding the assumptions and limitations of different pricing models and the need for accurate valuation for effective risk management and decision-making.

Furthermore, the literature review provides insights into the accounting treatment of forward contracts. Scholars discuss the relevant accounting standards, such as International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles (GAAP), and highlight the requirements for recognizing, measuring, and disclosing forward contracts in financial statements. The review reveals that forward contracts are generally accounted for as derivatives, and their fair value is recognized in the financial statements, which can have significant implications for financial reporting and performance analysis.

The regulatory considerations associated with forward contracts are also explored in the literature review. Scholars discuss the regulatory frameworks, such as the Commodity Exchange Act (CEA), the Dodd-Frank Wall Street Reform and Consumer Protection Act, and others, that govern forward contracts in different jurisdictions. The review highlights the importance of understanding the regulatory requirements and compliance obligations associated with forward contracts, including reporting, disclosure, and risk management requirements.

Finally, the literature review identifies potential areas for future research on forward contracts. Scholars emphasize the need for further research on the impact of forward contracts on price dynamics, market liquidity, and financial stability. The review also highlights the importance of exploring the risk management strategies and effectiveness of forward contracts in different industries and regions. Additionally, the review identifies the need for further research on the accounting treatment and disclosure practices of forward contracts in financial statements, as well as the regulatory developments and implications for forward contracts.

Gap Analysis

Despite the extensive research on forward transactions, some gaps exist in the literature.

a) The impact of forward transactions on emerging markets has not been fully explored.
b) There is a lack of research on the impact of forward transactions on the real economy.
c) The effectiveness of forward transactions in managing risk in different markets needs to be further investigated.

Findings

This study's findings suggest that

1. Forward transactions have a significant impact on emerging markets, particularly in managing currency risk.
2. Forward transactions are an important tool for market participants to manage price risk and speculate on future price movements
3. Forward transactions also have an impact on the real economy, as they affect production, consumption, and investment decisions.
4. Forward transactions are effective in managing risk in different markets, including commodity, currency, and interest rate markets.
5. However, there are several drawbacks associated with forward transactions, including credit risk and illiquidity.
6. The review identified a gap in the existing literature on the impact of forward transactions on market liquidity, price discovery, and systemic risk in financial markets.
7. This suggests that future research should focus on these areas to provide a better understanding of the impact of forward transactions on financial markets.

Conclusion

In conclusion, the literature review provides a comprehensive overview of the research and understanding of forward contracts. It highlights their features, types, pricing, valuation, accounting treatment, regulatory considerations, and real-world applications. The review identifies potential areas for future research, emphasizing the importance of further exploring the impact, effectiveness, and regulatory aspects of forward contracts.

These are just a few examples of research papers on currency forwards. There are numerous other research papers written by different authors on this topic, covering various aspects such as risk management, pricing, valuation, microstructure, and empirical analysis. It is recommended to search academic databases, such as JSTOR, Google Scholar, or other reputable sources, to access a more comprehensive list of research papers on currency forwards.

Forward transactions are an essential component of financial markets and provide a range of benefits to market participants. However, they are not without their limitations, and participants must be aware of the risks involved. This research paper has provided a comprehensive literature review of forward transactions, including their history, evolution, advantages, and disadvantages. The study has also described the research methodology used in the study and presented the objectives of the research. Overall, this study contributes to the existing literature on forward transactions and provides insights into the functioning of forward markets.

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LITERATURE REVIEW ON TALENT MANAGEMENT EDUCATION IN THE INDIAN HEALTHCARE INDUSTRY

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ABSTRACT
Indian Healthcare industry is far-stretched and is looking forward to creating an additional 4.2 million Nurses by 2024. The demand is rising for tertiary and quaternary care, yet the conditions of the nurses remain poor. Improving the quality of nursing faculty has been the focus in recent years. A way to combat the pressure can be via Competency-based skill testing. Health-care companies work in an ever-changing environment. A competency-based approach can assist develop leadership management after recognizing and targeting health-care trends and issues. The study is structured to examine the evidence for Competency-based Talent Management. This paper consists of a systematic literature review, conducted to research Competence, Competency, Performance, Talent Management and Assessments. There is little understanding and adaptation of Competency-based workforce development. Availability of homegrown Competency Scales suitable to the Indian conditions and idiosyncrasies is not available. Due to colossal Nursing demand and high rates of Nurse iteration, investing in training, development, and using the latest psychological constructs is counterproductive. On the other hand, the Competency-based Talent Management Scale (CTMS) is almost universally used in different domains except for healthcare. Creating one will have far-reaching implications in the areas of learning, education, and development and developing qualitative nursing.
Keywords: Competence, Competency, Performance, Talent Management, Competency Scale, and Assessments.

Introduction

India, with a population of more than 140 billion (Census, 2011), sadly has a healthcare sector which is far-stretched and needs immense improvement to bring up the quantity and quality of the work force in this sector. The World Health Organization (WHO) recommends three nurses for every thousand people, but India has a disproportional ratio of only 1.7. To meet WHO standards, India must hire 4.3 million more nurses by 2024 (WHO, 2021).

The profession of a nurse is highly demanding, and each day comes with new challenges. They are expected to be kind towards patients and their families, be vigilant, attentive, monitor, plan, and coordinate all patient care activities in a complex, rapidly-changing health care environment that requires better technical abilities and rising patient service standards. They are the healthcare system's pillars, working diligently for each patient. They also constitute the majority of the health care personnel. Nurses are frequently misplaced among the broader hierarchy of patient care teams, primarily due to the nursing cadre's lack of leadership skills and abilities and the healthcare industry's organizational frameworks. The nursing profession continues to struggle for attention from mainstream healthcare investors and policymakers to bring about a sustained supply of qualified nurses and an improved work ecosystem (Vora, 2022).

The International Council of Nurses (ICN) issued its statement saying that having a sound healthcare system relies on the soundness of the nursing education in the country (ICN, 1969).

A huge problem associated with the healthcare industry, especially in India, is the gap between what is taught in the books versus what knowledge is handy in the real-life scenario (Chhugani & James, 2017).

Due to a shift in emphasis on service quality and the increasing demand for tertiary and quaternary care, the sector requires specialized and highly qualified personnel, such as physicians, nurses, and other paramedical personnel. Consequently, the demand for a skilled labor force, particularly nurses, will continue to rise every year. Multiple variables influence the availability of excellent nursing education, including the geographical distribution of quality nursing education institutions. Currently, faculty shortages are severe in quantity and quality, and the curriculum does not reflect the industry's current demands. There is a shortage of emphasis on soft skills such as leadership and communication. Syllabus, outcome-based instruction, special training, standardized tests, licensing processes, and the continual availability of nursing education across the nation must be updated.

Literature Review
A systematic literature review approach provides a good foundation and details about theoretical advancements. Creswell (2009) defined a literature review as "a written explanation of journal articles, books, and other materials that reflects the historical and present condition of knowledge on the subject of the research inquiry." The steps followed in the literature review are to study the contribution of seminal work and important research papers. Based on the synthesis of the selected papers, it is possible to identify significant factors and relationships and conceptualize pre- and post-adoption models. Figure 1 shows the process adopted for the present study's literature review.

The present nursing education has some flows which should be corrected. Lindeman (2000) suggested a few changes that could be made in the nursing curricula. These suggestions included increased emphasis on how things are learnt ("reflective practice"), content should be seen as an example than as a fact, cultivation of social skills for better communication, long projects which delve deep in the topic, and assigning important role to technology.

Global Transformation towards Competency-based HR
Social and health care organizations work in a dynamic environment; thus, it is essential for them to foresee these changes in advance if they are to successfully adapt to them. Current HR management techniques are inadequate, but a competency-based paradigm will provide superior resources. With the cooperation of the Federation of International Hospitals, the Global Consortium towards the Professionalization of Management of Healthcare developed a Competencies' Directory to address this issue. Additionally, the Healthcare Management Institute of Ireland has made amazing accomplishments (Santiago, 2019).

Recently, the Royal Dutch Medical Association's Central College for Medical Specialties (CCMS) released instructions for the upgrading of all post-graduate specialty coaching programs. The recommendations offer a clear idea of broad capability domains for all specialties, which should assist professionals in designing training programs (Bleker, 2004).

In tandem with the transition of the present coaching program into a capability-based one, it is essential to select collateral assessment methodologies for these capabilities. Several old assessment methods can be used for this purpose, but it will be required to establish additional ways for assessing the clinical competency of residents in new competency domains (CanMEDS project, 1996).

Worldwide, nurse competency and its evaluation are ongoing topics in nursing instruction and practices that contribute to safe and qualitative nursing supervision. Assessments are vital for instructors, administrators, and nurses to determine the professional ability of nurses, and therefore their overall gaps in education and development (Hasson & Arnetz, 2008).

A study was conducted on 821 nurses, who were classified into five different levels, as per qualifications and responsibilities. A shift to the competency-based paradigm was tried and tested. The talent management was done as part of macro-management of the situation, wherein the job responsibilities, expertise, qualifications, and training and assessments were taken into consideration. Apart from these, the patients' and nurses' satisfaction were surveyed. It was found that after the implementation of a competency-based paradigm for talent management, the patients and nurses reported greater satisfaction ($p < 0.01$). The study claimed that the competency-based talent management programme gives a clear direction when it comes to career planning of nursing staff (Chang, Yang, & Yuan, 2014)

Lenburg (1999) created the Competency Outcomes and Performance Assessment (COPA) Model based on considerable work with the New York Regents College of Nursing Program (1973-91) and various other organizations, as well as research connected to them. It was a comprehensive yet targeted paradigm that needed the combination of practice-based objectives, correlated learning techniques, and competency implementation evaluation.

By highlighting the results of education, Competency-Based Education provided a substantial, shift in judging the educational program efficacy.

In agreement, Ten and Scheele (2007) say, "One can only realize improvements in global health through the development of an educated workforce to elevate health and care for those with the illness. An increase in the attention on capability-based education will be helpful for the preparation of better health professionals".

The purpose of nursing regulation is to ensure public safeguard and patients' safety. As the rate of technical and scientific progression quickens, gaining, maintaining, and developing professional competence is one of the greatest difficulties for all healthcare practitioners (Sheets, 1999).

Continuous competence is a crucial regulatory concern for nursing boards, according to the National Council of State Boards of Nursing (NCSBN). NCSBN explains that competence means a utilization of knowledge and the interactive, psychomotor, and reasoning abilities expected for the practice position within the framework of public health in order to have terminology relevant to all practitioners at all levels of practice (NCSBN, 1996).

CAC's last resource is a five-step prototype for the respective practitioner, which comprises regular periodical valuation, the formulation of a customized plan, the execution of a personal plan, recording of all processes, as well as the demonstration and evaluation of competence (Vora, 2022).

Analysis of research papers used in Literature review:
With the help of a systematic review and various search criteria, the researcher identified a pool of 207 research papers for literature review. Conceptual papers were not considered for the review and were studied to understand the literature advancements better.

Please refer to Table 1, the researcher, upon arranging the sequence of publishing years, finds that the publishing of 49% of the research work took place during the years 2000 and 2010, and the rest of the 51% from 2011 to 2020 the total pool.

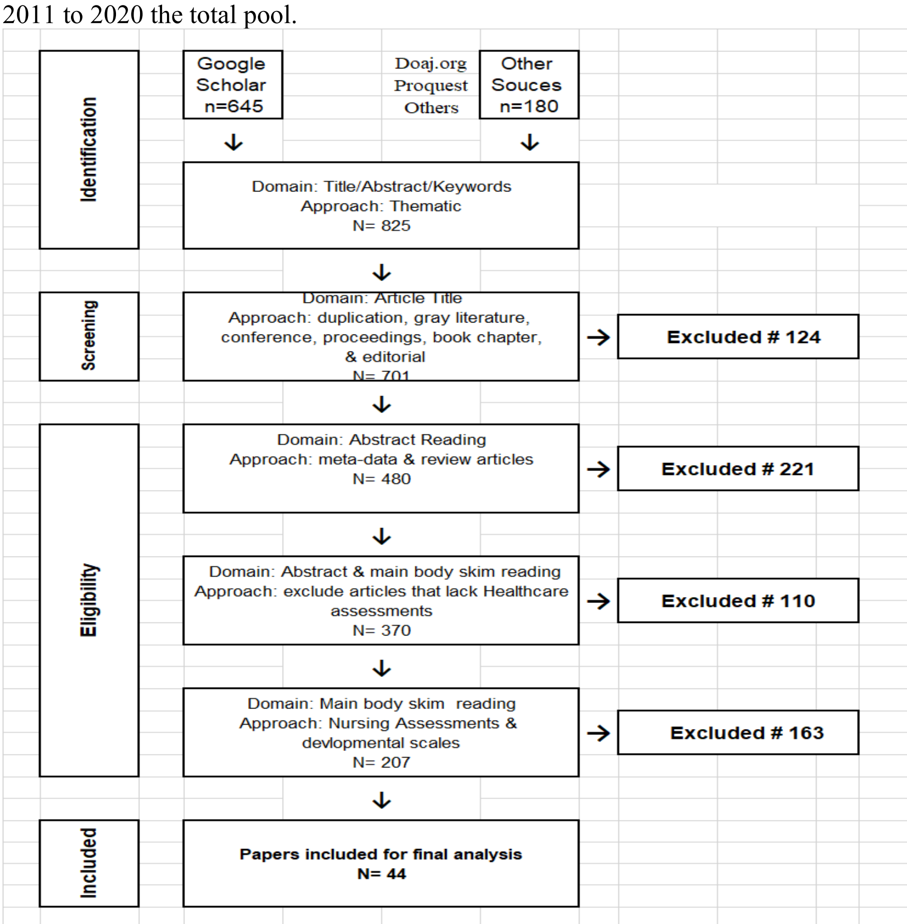

Figure no. 1: Literature Review (Self-generated by the researcher)

#	Categories	# of Literature Reviews	%
1	Competence	131	63
2	Competency Mapping	29	14
3	Talent Management	16	8
4	Competncy Assessment	14	7
5	Developmental Scale	10	5
6	COVID19	7	3
	Total	**207**	**100**

Country	# of Literature Reviews	%
USA	54	26
Australia	20	10
UK	15	7
Canada	11	5
Finland	13	6
Rest of the World	94	45
Total	**207**	100

Citations	Across 44
Average	166
Highest	1081
Lowest	16

Type of Data	# of Literature Reviews	%
Primary	132	64
Secondary	75	36
Total	**207**	100

Source of Data	# of Literature Reviews	%
College	139	67
University	38	18
College & University	30	14
Total	**207**	100

Year of Publication	# of Literature Reviews	%
< 2000	7	3
2001 - 2005	52	25
2006 - 2010	49	24
2011 - 2015	53	26
2016 - 2020	46	22
Total	**207**	**100**

Table no. 1: Classification of Literature Review Data

Of the total research papers, the subject 'Competence" formed 63% of the load, followed by 'Competency Mapping' at 14% and Competency Assessment at 7%. The basis of a foundational building block of creating a developmental scale associated with performance and talent management is 'Competence.' The rest of the categories included Talent Management at 8%, Development Scale at 5%, followed by Covid19 at 3.

From the pool, 26% are USA based, followed by Australia at 10%, the United Kingdom at 7%, Canada at 5%, and Finland at 6%. The rest of the world contributed to the remaining 45% of the papers.

In terms of sample size, 50% of the studies have a sample size range of 100 to 299 respondents, followed by a sample size exceeding 400 respondents (25%).

64% of the data collected is from primary sources, with secondary data at 36%. The research articles have been cited 166 times, with a high of 1081 and a low of 16.

Research projects were conducted independently by colleges, Universities and sometimes combined. The majority at 67% was achieved by colleges, with universities at 18% and combined projects at 14%.

The researcher conducted a critical analysis, collating all significant factors identified as a summary.

Significant factors and relationships identified

Major Factors identified

1. Competence- Competence is a collection of observable traits as well as abilities that boosts and enhances the effectiveness or execution of a task. (White,1959). Some researchers define "competence" as a mix of functional and academic knowledge, cognitive abilities, conduct, and values utilized to improve performance or as the state or quality of being correctly or adequately competent and able to fulfill a particular position. Competency refers to the approach and manner in which an individual completes a particular activity. A person's actions reflect competence. It seeks out the method used to complete a given training or obligation. It infers that the individual's personality and behavioral traits are evaluated to determine his level of competency. Performance, that is, Job performance is a role's postulated conception or requirements in the workplace. There are two forms of work routine: assignment and contextual. Ability to perform on a given assignment depends on cognitive capacity, whereas performance in a given situation depends on personality (Robertson, 2015). The behavioral responsibilities acknowledged in job descriptions, and compensation schemes are reflected in task performance. These are additional jobs that are indirectly tied to institutional success.

Context-specific actions are culture-based and add supplementary communicative functions that are not documented in job descriptions and are compensated.

2. Talent - Individual talent in companies is typically seen as "unique" or "exceptional." According to Thorne and Pellant (2006), a gifted person is: "Someone with a greater skill who accomplish tasks with ease and elegance. A gifted person has a special impression in their abilities that others aspire to match and from which mediocre mortals get motivation". He says that brilliant individuals may execute an activity to the extent that their accomplishments rank them in the top 10 percent of their peers. Competency Assessment is the evaluation of a person's abilities in relation to their work requirements. In a competence model, these requirements are specified. To be useful, competence models should include just the activities and abilities essential to the role's performance, not every activity the employee performs (which comes from a traditional job task analysis). The evaluation is conducted on the indicated activities and abilities for which a rating is chosen based on how the individual performs the task, which defines their degree of competency. In other terms, a competence evaluation evaluates how (behaviors) a person performs a task (task or skill). The individual's chosen proficiency level is then compared to the target level to identify proficiency or skill gaps for each activity and ability. (Meyers, 2013)
3. Scale Development- Although a search of the literature found a number of measures for measuring nursing competence, none have been designed for Indian nursing. The majority of the instruments were created by modifying present tools or based on the investigator's notional study. This approach may have restrictions in that it cannot estimate a phenomenon's fundamental properties. It is not possible to quantify the skills of nurses working in the Indian healthcare and hospital system in relation to their strengths and limitations.

Some of the well-known scales have been researched: -

a. The Nurse Competency Scale (NCS) is a seventy-three-item scale disseminated into 7 categories: assisting role (seven items), tutoring–training (16 items), analysis functions (seven items), managing environments (eight items), therapeutic treatments okay (Ten items), quality assurance (6 items) and job role (Aydin & Hicdurmaz, 2019)
b. The Six-Dimension (6D) Scale consists of Leadership (5 items), critical care (7 items), instructional/collaboration (11 items), planning (seven items), interactive relations (12 items) and professional growth (10 items). All of these are Fifty-Two items grouped into 6 subscales (Schwirian,1978).
c. Competency Inventory for Registered Nurses (CIRN) is the nursing capability context or tool for Chinese registered nurses. Seven categories were recognized. (Liua, 2006).
d. The holistic nursing competence scale (HNCS)- It's a seven-point Likert-type scale that was established by Takase & Teraoka (2011). The first part consists of the 'General Aptitude'. The second Part analyses the ability of a nurse. involves staff training and management, practicing with ethics, nursing care with team and professional growth. It has 36 items in all.
e. Singapore Nursing Board's Core Competencies- The Core Competencies are separated into four categories. Each category is an organized assortment of skills. Each group represents a core function/functional area that a registered nurse must accomplish. Indicators of competency denote sub-functions of a competency standard. Competence category are Professional, Legal, Ethical Nursing Practice, Management of Care, Competence category, Leadership, and Competence category (Singapore Nursing board, 2018).

Significant relationships observed:

Along with the list of constructs mentioned earlier, our literature study found support for various inter-variable relationships. Those relationships, their significance, and empirical validations are discussed further.

1. Competence & Competency- Competence relates to an individual's ability to do a certain activity, whereas competence refers to the technique followed by the individual to complete the task. Competence is evaluated based on a person's abilities and knowledge, whereas competency focuses more on evaluating an individual's behavior. Competence is therefore dependent on skills, whereas competence is based on behaviors. Competence emphasizes skill sets, such as Leadership, time management, communication, and interpersonal skills, among others (Yadav, 2022).
2. Talent Management- ASTD Staff (2007) defines managing talent as "a comprehensive method to enhancing human capital that allows an organization to influence overall results by constructing culture, involvement, abilities, and volume through aligned talent procurement, progress, and deployment processes." Management of talent ensures that a business recruits, keeps, motivates, and develops the individuals it need. According to (Stockley, 2007), skill management is a planned effort to hire and develop individuals with the aptitude and skills to satisfy all demands of a business.

3. Competency Model - A competence model is a collection of essential skills and behaviors for optimal work performance. When competence models are utilized to influence individual work behavior and professional growth, they may be crucial in attaining organizational success (Wuim-Pam, 2014).
4. Global Competencies Analysis - A detailed, in-depth global analysis of competencies related to Nursing in the Healthcare domain revealed several idiosyncrasies. The local governance, challenges, culture, laws, and healthcare practices gave way to a set of competencies that had local relevance; please refer to Table 2. There are many more individual cores, distinct and generic competencies related to different kinds of Nurses. Still, the focus was to research only "generic" Competencies useful for Nurses with more than six months of experience.

Data Point 1	Data Point 3	Data Point 6
Interpersonal understanding	Helping	Knowledge
Commitment	Diagnostic functions	Interpersonal relationships
Informational gathering	Managing situations	Collaborate with other professionals
Thoroughness	Therapeutic interventions	Practice ethically
Persuasiveness	Ensuring quality	Expand Professional Capacity
Compassion	Work role	Ensure and deliver high-quality nursing
Comforting		Understand needs
Critical thinking	Data Point 4	Support decision making
Self-control	Data Collection	
Responsiveness	Leadership	
	Communication	
	Legal & ethical practice	**Final Analysis**
Data Point 2	Professionalism and implementation	Nursing Care
Clinical judgment	Critical Thinking	Interpersonal Relationship
Interpersonal relationships		Critical Thinking
Planned nursing implementation	Data Point 5	Professsional Development
Evaluation of care	Ethically oriented practice	Compassion
Care coordination	Professional development	Ethical & Legal
Health promotion	Professional Nursing Practice	
Ethical practice	Leadership and Nursing Management	
Professional development	Professional Development	
Continuous learning	Ethical Nursing Practice	
Risk management	Legal Nursing Practice	
Quality improvement		

Table no. 2: Global Competency Analysis Data

The Final Analysis is an attempt to study all possible unique, distinct sets of competencies and identify generic ones useful for any Nurse across India.

Significant Observations from Literature Review:

Two hundred seven (207) research papers were selected based on various parameters. In the next step, significant factors and relationships identified in these studies were studied and discussed. Critical analysis of the entire research work under the study gives us the following clues:

1. The literature study was based on several attributes that build competency-based talent management. The attributes Competence, Competency, Performance, and Talent, are connected and have several overlaps. Some are a combination of a few, and others are an outcome of a single or a few attributes combined.
2. There are several relationships between a few, like Competence and Competency. Talent management is inclusive of both competencies, Talent & performance.
3. A competence model is a compilation of capabilities that define effective performance in a certain work environment. Human resource services such as recruiting and hiring, education and training, and performance management are based on competency models.
4. A "competency framework" is a structure that describes each skillset (such as solving problems or management of people) necessary of employees or members of an organization.
5. Out of 207 papers, 113 or 55% of the research papers were from USA, Australia, UK, Canada & Finland. Compared to other countries, we found a lesser amount of research work done in India; India has six research papers on the topic or less than 3%.
6. Competency-based Talent management as workforce recruitment and development tool has been in existence for a few decades, but its application in the Indian Healthcare domain is not prevalent.
7. The nursing education needs a boost by adoption of a talent-management education strategy.

Focus of Study	Research Papers	Source of Data Collection			
	Number	Primary	Secondary	Primary	Secondary
Competency Mapping	16	Zhang et al,2001)), Kahya & Oral et al,.2018), Hengstberger et al.,2007), Meretoja et al.2002), Govt of Singapore. 2018), Yoder et al. (2003), Tzeng & Ketefian.2007), Deanna 2006), Miwon,2006)), Meretoja & Koponen, 2012), Liou & Yu Cheng,2013), Kahya & Oral, 2018), O'Connor et al, (2001,),	Mowinski et al. 2007), Fukada, 2018), McGrath et al.,2006),	13	3
Competence	15	Sharp et al, (2015), Salonen et al., (2007), Natalija et al., (2011), Crary (2013), Wilson et al., (2012), Gebbie & Qureshi. (2002), Hart et al., (2006), Zhang et al., (2001)	Watson et al. (2002), Cowan et al. (2005), Meretoja et al. (2002), Meretoja & Leino-Kilpi. (2001), Flinkman et al. (2017), Smith et al. (2010)	9	6
Talent Management	6	Karabasevic et al. (2015), Claudia et al. (2006), Makarius & Srinivasan et al. (2017), Zolfani et al. (2018),	Cabellero et al. (2010), Meyers et al. (2018),	4	2
Scale Development	4	Meretoja et al. (2004), Liua et al. (2006), Aydin & Hicdurmaz(2020), Morolong et al.(2005),	NA	4	0
Covid	3	Bradbury-Jones et al. (2020), Schwerdtle et al. (2020),	Morin (2020),	2	1

Table no. 3: Summary of Research Papers reviewed

Framework for Competency-based Talent Management

Since businesses live in a continuous state of change, elasticity, and uncertainty, they cannot depend simply on the job- or task-based tactics for finding and training competent and productive workers. Naturally, such talent management systems entail defining and evaluating a core set of important knowledge, skills, talents, and other traits experimentally connected with efficiently performing critical work functions in a specific position.

The extensive approval of competency-based personnel management stems from its natural connection to the ultimate people management objective: effectively establishing and sustaining competent employees. The significance is that by employing individuals with the suitable competencies (behavioral inclinations and skills), an organization may raise its workforce's total competence and capacity to do the task at hand. The potential to associate abilities inside individual workers to prove competence on the job is particularly valuable to firms that have historically struggled to measure performance quality.

Competency-based people management may qualify development programs in service businesses. Such an approach to talent management may aid firms in identifying and recognizing high performers while recalling those who require improvement. By approving a shared competency model, an organization may offer possibilities for learning and growth that are not governed by the narrow focus of task-based practices. Competency-based screening and development can support a longer-term employee-company fit by enhancing the possibility that individuals possess more of the qualities and behavioral "tools" required for success in various organizational jobs.

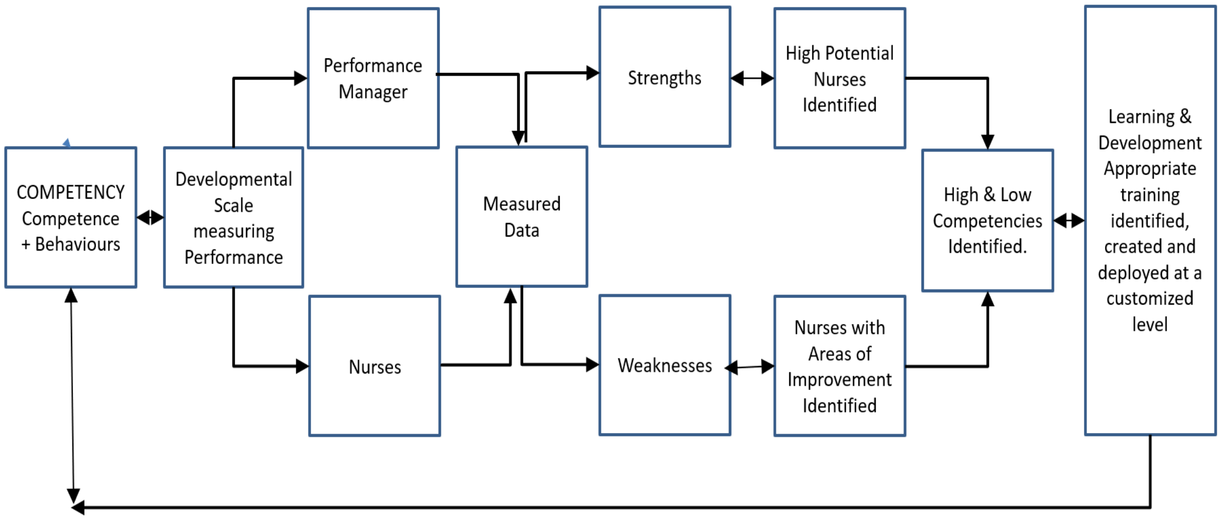

Figure no. 2: Competency-based Performance Management (Self-generated by the researcher)

Conclusion

New processes and tools must be investigated in order to develop new solutions to present issues, therefore enhancing organizations via the promotion of management and transformation abilities; leading to the selection of a mechanism to assist implementation of the process, efficiency of the organization, management of resources, planning, and other functions. To make this feasible, it is necessary to construct high-performance, dedicated teams to include teamwork and cooperation across companies and personnel through the cultivation of relational competences.

The research was aimed at studying competency-based talent management transformation across the globe and its adaptation in India. For review, about 207 research papers related to

the selection of Competency Scale development-related characteristics and characteristics was based on their contributions to the base of knowledge and reference counts. In conclusion, 44 research publications added to the corpus of relevant information.

Major factors were identified on the basis of which the scale was developed. The most important amongst them are Competence, Competency, Performance, Talent, & Competency Assessment. Significant relationships across and amongst the attributes were observed. Along with the list of constructs mentioned earlier, our literature study found support for various inter-variable relationships. Those relationships, their significance, and empirical validations are discussed further.

Competence & Competency- Competence is therefore dependent on skills, whereas competence is based on behaviors. Competence emphasizes skill sets, such as Leadership, management of time, communicating, and interpersonal skills, among others.

Management of talent guarantees that a business attracts, keeps, inspires, and develops the necessary individuals. Both Competence and Competence are essential components of Talent.

Global Competencies Analysis: - A detailed, in-depth global analysis of competencies related to Nursing in the Healthcare domain revealed several idiosyncrasies. It was apparent that India, due to its diversity, culture, vastness and being a third-world country, had competency needs quite different from the rest of the world.

COVID-19: The safety & hygiene of Nurses became important. In nations throughout the world, nurses are faced with the incredible challenge of responding to an unprecedented, extremely unpredictable, and ever-changing scenario. As prominent nurse researchers and clinicians, Nurses concentrate on crucial components of the pandemic reaction, going from population to systems to individuals and encompassing both therapeutic and compassionate concerns.

A survey of the literature discovered a number of measures for measuring nursing competence, but none have been designed for Indian nursing. The majority of the instruments were created by modifying existing measures. This approach cannot quantity a phenomenon's fundamental properties. It is impossible to determine the strengths and shortcomings of nurses working in the Indian healthcare and hospital system in order to assess their competence.

Qualitative & Quantitative Scale Development suggested a Delphi Method designed to gather information from a group of experts for decision-making purposes. It has been stated that Delphi is an approach that is qualitative, quantitative, and mixed method. The anonymous collecting of narrative group viewpoints, carefully organized nature of the procedure, and statistically documented results make it impossible to categorize the technique as a particular method.

Limitations & Further Scope

This research is a synthesis of the current body of information pertaining to talent management based on the competence scale. It provides no empirical input. Therefore, the researcher would want to test and evaluate the suggested models in hospitals across India in order to comprehend Talent and Competency gaps. Insight into Competencies & learning and growth outcomes, particularly in the Indian context, may be gained through testing the suggested models on a broad and demographically varied sample.

It is imperative that novel methods and resources be investigated in order to provide innovative answers to pressing issues. As a result, it will boost the value of businesses by encouraging to develop, manage and transform skills, which leads to the selection of management mechanisms that improve the efficiency and effectiveness of process implementation, resource management, strategic planning, and other related activities. To achieve this goal, it is essential to construct high-functioning, fully-committed teams to include collaboration and cooperation across companies and personnel through the cultivation of relational competences.

The researcher finally identified major factors which were the basis of developing the scale—the most important amongst them being Competence, Competency, Performance, Talent, & Competency Assessment. The researcher observed significant relationships across and amongst the attributes. Along with the list of constructs mentioned earlier, our literature study found support for various inter-variable relationships. Find the discussion of those relationships, their significance, and empirical validations further.

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NET PROMOTER SCORE (NPS) FRAMEWORK FOR IMPROVING CUSTOMER LOYALTY IN SUPERMARKET

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ABSTRACT
Net Promoter Score or more simply NPS is used for measuring Customer Loyalty. The case presents the NPS parameter framework for measuring the NPS of a Supermarket chain and relating low scores to identify Supermarket's weaknesses. The measurement and publication of NPS forms an important review mechanism for establishing operational consistency in a chain of supermarkets. The proposed NPS model for the organized retail sector is based on the measured monthly data on customer satisfaction surveys of a grocery chain of supermarkets for 17 stores over a period of 3 months. Use of the DMAIC (Define, Measure, Analyze, Improve, and Control) model in sustaining the improvements is also demonstrated. The paper also compares two clusters of Supermarkets groups for operational routine adherence and provides insights on improving customer offerings through better and consistent store operations leading to improved profitability and customer loyalty.
Keywords: Net Promoter Score (NPS), Customer Loyalty, Organized Retail, DMAIC Process, Customer Satisfaction in Supermarkets.

Introduction

The Net Promoter Score (NPS) framework is a customer loyalty metric that is extensively used by businesses to measure how likely their customers are to recommend their products or services to others. The NPS score is based on a single question: "On a scale of 0 to 10, how likely are you to recommend our product/service to a friend or colleague?" Customers are then grouped into three categories based on their responses as Promoters (score 9-10; highly satisfied with the product or service and are likely to recommend it to others), Passives (score 7-8; satisfied with the product or service but passive to recommend it to others and Detractors (score 0-6; customers dissatisfied with the product or service and may discourage others from using it). By subtracting the percentage of Detractors from the percentage of Promoters NPS score is calculated. Businesses can take actions to increase customer loyalty by identifying areas for improvement in their goods and services using the NPS framework. Modern retail's facilities like self-service, computerized billing, wide range of goods, convenience, and deep discounts is making millennial and housewives visit such stores repeatedly. The corporate retailers like DMart, Big Bazaar are attracting customers through media advertisements. The customer's shopping experience needs to be an enjoyable one for repeat visits. Retailers need to continuously survey, measure and improve their service offerings. They employ techniques like mystery shoppers, Customer satisfaction survey, customer exit interviews, Net Promoter Score (NPS) measurements etc. for improving customer shopping experience. The NPS framework is a powerful tool. By focusing on the needs and preferences of their customers, businesses can create a more loyal customer base and achieve long-term success.

Objectives of the Study

1. To compare the NPS score across a chain of Supermarkets.
2. To understand the constraints in lower NPS scores due to lesser resources at Supermarkets
3. To understand the importance of training and development for efficient store operations.
4. To identify stronger and weaker stores on NPS improvements and identity parameters contributing to this.

This research study aims to highlight the underperforming stores and relating it to store profitability and lower sales.

Literature Review

In a grocery Supermarket, it is imperative that new Customers are acquired and retained. Several organizations go to great lengths to measure Customer satisfaction. Whether a buyer is satisfied after a purchase depends on his shopping experience in relation to the customer's expectations. If a customer's expectation falls short of his shopping experience he is dissatisfied, if the experience meets his expectation, he is satisfied and if his experience exceeds expectations, the customer is highly satisfied or delighted as per study conducted by David (1999).

A progressive company regularly measures customer loyalty, as Customer satisfaction is the key to retain customers. A highly satisfied customer generally stays loyal longer, buys more as the company introduces new products and upgrades existing products, talks favorably about the company and its products, pays less attention to competing brands and is less sensitive to price. He also offers product or service ideas to the company. High satisfaction or delight creates an emotional bond with the retailer, not just a rational preference as per Kotler (2007)

There are several methods to measure Customer satisfaction:

1. Periodic surveys of the shoppers, post purchase
2. Analyzing Customer loss rate
3. Mystery shopper Shopping trip
4. Measuring Net Promoter Score or NPS

Reichheld (2003) suggests that for a customer satisfaction survey perhaps only one question matters **"Would you recommend this store to a friend?"**According to him, a customer's willingness to recommend to a friend result from how well the customer was treated by the front-line employees, which in turn is determined by all the functional areas that contribute to a customer's shopping experience. By substituting a single question for the complex black box of the typical customer satisfaction survey, companies can put consumer survey results to use and focus employees on the task of stimulating growth. He says that customers talk about their shopping experience at a Supermarket to their friends, family, and colleagues. A recommendation for a Store is one of the best indicators of loyalty because of the customer's sacrifice in making the recommendation. A customer would act as a reference only when he would have received good economic value from the store. A Customer put their own reputations on the line by recommending the store and they would not risk their reputation if they do not feel intense loyalty towards the store as per Reichheld (2003) in his model proposed on Net Promoters score (NPS)

Keiningham (2007) article, NPS Question "What is your likelihood to recommend company X to a friend or colleague?" to customers can help measure loyalty. Depending upon the response to that single question, using a scale of 0 to 10, the respondents were classified asDetractor (0-6), Passive (7-8) and Promoter (9-10)

The illustration below taken from Fred Reichheld's own material shows the distribution of NPS scores for North American companies.

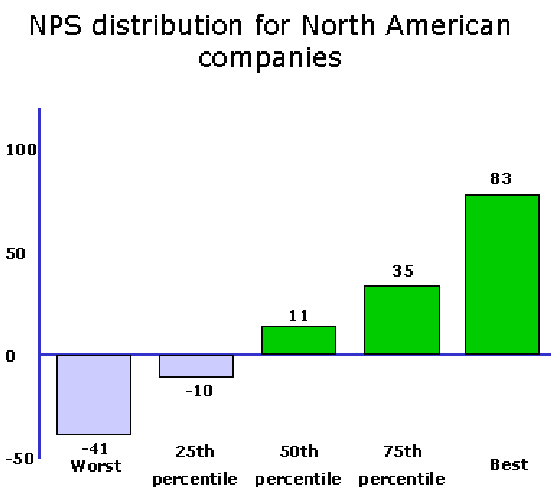

Figure 1: Fred Reichheld's NPS Distribution for North American Companies
(Source: http://www.customerchampions.co.uk/net-promoter-score-nps-a-balanced-view/)

The NPS method of surveying the loyalty of Customers became very popular among companies. This helped predict Customer satisfaction and Customer Loyalty. Several teams adopted NPS scale of measurement of Customer Loyalty due to its inherent following advantages as studied by Howie(2014):

- In this single measure it was possible to cover the complete customer experience – both physical (arrive on time etc.) and emotional (customer experience).
- As there was only a single question the cost of fieldwork is greatly reduced,
- It had a positive impact on respondent's time being surveyed; therefore organizations receive higher participation rates.

Markey's (2020) research in Harvard Business Review shows that loyalty leaders -companies at the top of their industries in Net Promoter Scores or satisfaction rankings for three or more years, grow revenues roughly 2.5 times as fast as their industry peers and deliver two to five times the shareholder returns over the next 10 years as studied by Markey(2020)

O'Malley (2022), firms with the highest net-promoter scores consistently garner the lion's share of industry growth. The companies with the most enthusiastic customer referrals, including eBay, Amazon, and USAA, receive net-promoter scores of 75% to more than 80%. for companies aiming to garner world-class loyalty—and the growth that comes with it—this should be the target.

In their Research paper 'Six sigma DMAIC Literature ReviewBhagat (2015) has stated that DMAIC processes (Define, Measure, Analyze, Improve, Control) helps in first measuring the existing parameters then taking corrective steps when certain processes fall below specified levels. This leads to improvement in overall quality of the processes leading to product and services improvements to the customers.

Seng (2018) states that DMAIC(Define, Measure, Analyze, Improve, Control) is an initiative for continuous process and product improvement. DMAIC helps organizations to solve complicated business problems using simple techniques.

Research Methodology

Many organized Retail Chains have started measuring NPS from the customers who have shopped. Researchers selected a chain of popular Supermarkets in South India in the state of Tamil Nadu for studying the Monthly NPS at Stores.

Study Parameters

- Supermarkets: 17; Average Area 7,000 Sq.ft. (630sq.m)
- Study duration: 12 Weeks; 1st Oct. 2018 to31st Dec. 2018

Process for Collection of NPS Scores from Supermarkets

For the 17 Supermarkets, the Monthly NPS Score was collected for 3 months:

1. Customers who have shopped at Supermarket chains are sent an SMS NPS question "Will you recommend shopping at this store to your friends and relatives? - Rate on a scale of 0(Min.) and 10 (max.)"
2. Average 10%-15% shoppers respond.
3. They are divided in to Promoters (score 7-10), and Detractors (score 0-6)
4. The detractors are sent a follow up questionnaire through a link and paid a small amount as incentive. This helps to understand the areas that have disappointed the customer.
5. These are rated and action plans are formulated to improve service attributes like Store Hygiene, Price and promotions, Service quality, Fresh products quality, and Billing Time.
6. These are monitored centrally and reviewed week on week to measure and sustain store-wise improvements.

Based on the above a Store NPS KPI Template was Designed

Table 1:NPS Template	Action Plan
NPS Questionnaire sent to customers daily and calculation of NPS Score for each supermarket	Collation of responses, segregating into Detractors, passives, and Promoters.
Measurable action	Measure weekly store-wise NPS and publish for review. Identify low scoring Stores. Send follow up survey questionnaires to detractors.
Inputs	Collect NPS data and formulate a plan for improvement. Identify additional resources needed for improvements.
Outputs	1. Store-wise Trend lines for data mining insights 2. Identifying the laggards 3. Deploy additional resources and continue measuring NPS 4. Identify the Training and development needs at such stores.

Table 1: NPS Template and Action Plan

Proposed DMAIC Model for Improvement in Store NPS

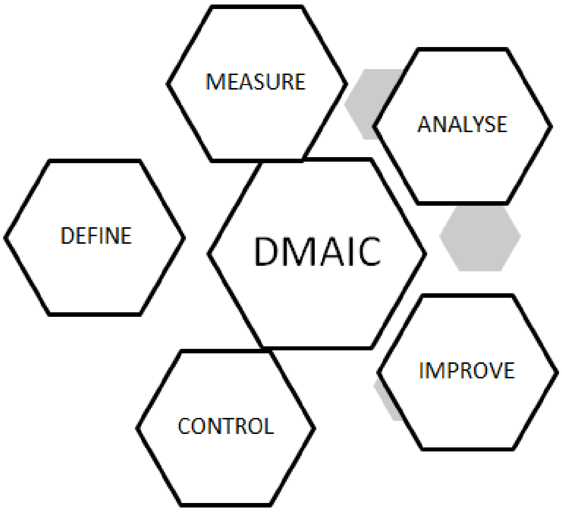

Figure 2: DMAIC Model (source: https://www.6sigma.us/dmaic-process/)

DMAIC Model

Phase No.	**Name**	**Parameters**
1	Define	1. Scope: Supermarkets 17 Duration 3 Months 2. Geographical reach: Tamil Nadu State Region 1: 7 Supermarkets Region 2: 10 Supermarkets
2	Measure	1. Publishing Store-wise Monthly NPS scores. 2. Mapping of processes and identifying Inputs and Outputs 3. Develop detracting factors rating and send survey questionnaires to detractors. 4. Monitor Weekly Store-wise NPS trends 5. Convert detractor factors in relation with NPS score.

3	Analyze	1. Compare store-wise monthly NPS 2. Plot region-wise, store-wise weekly line charts for 3 months. 3. Get detractor factors rating from customer and plot trends 4. Develop Input and Output relationship 5. Tabulate observations
4	Improve	1. Identify weaker stores. 2. Formulate improvement plans. 3. Provide resources 4. Establish ongoing improvement measures.
5	Control	1. Continue monitoring all stores weekly. 2. Present KPI to Ops Director, AM and RM's weekly 3. Share improvement plans and identify monitoring means 4. Raise standards after satisfactory improvement.

Table 2: DMAIC Model

Cause Effect Table for Lower NPS for a Supermarket

	Cause	Effect	Effect on Other Functions
LOW NPS SCORES	Poor Staff Service	Supermarket's Service image reduces. Customers discuss poor service instances with their friends and relatives.	Customer walk-ins reduces over a time.
	Longer Billing Time	Customer feels frustrated. The shopping experience turns sour.	Lower sales. Shops only for the items needed.
	Higher Prices and lower Promotions	Customers start visiting competitors. Shops only for essentials, or items which are on higher discounts.	Spreads message of lower discounts to others. Starts appreciating competitor's qualities.
	Poor Quality -Fruits and Veg & Non-veg products.	Weekly shopping visits are reduced. Discovers for local Fruits and vegetable vendor	Fresh items sales decrease. Wastage of these items increases. Losses widen.
	Poor Store Hygiene	Leads to lower sales	Lower walk-ins'.

Table 3: Cause Effect Table for Lower NPS

Framework for Measuring NPS at a Store

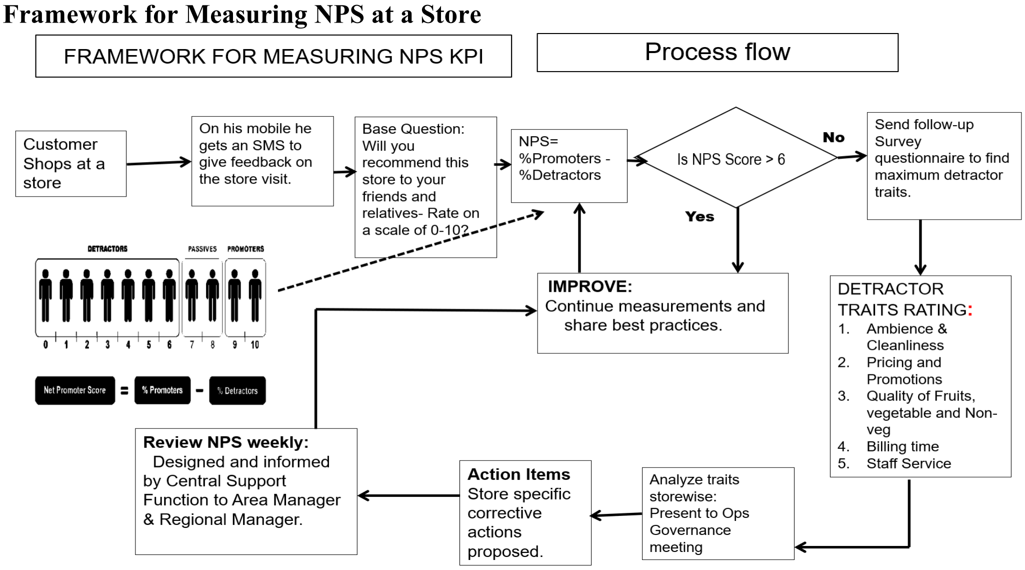

Figure 3: Process Flow on NPS KPI Monitoring (Source Compiled by Researcher)

Data Interpretation
NPS Scores for all 15 stores for Oct.18 were plotted in Tables 4 and Table 5

Store Code	SM02	SM11	SM12	SM18	SM21	SM22	SM23	SMREG1
NPS Oct.18	18	8	25	38	24	13	-3	17.6

Table 4: NPS Trends Region1 – Oct.18

Store Code	SM 01	SM 03	SM 04	SM 06	SM 08	SM 09	SM 13	SM 14	SM 16	SM 17	SM REG2
NPS Oct.18	-9	7	4	13	-13	14	5	13	-31	11	1.4

Table 5: NPS Trends Region2 – Oct.18
The above template was made and all data from Oct.18 was analyzed in this manner for all the 15 stores

Observations
Supermarkets Region 1 and Region 2 trends in NPS. – Oct.18 indicates that

A. Region 1 is superior to Region 2 on NPS.
B. Study best practices followed by higher NPS stores in region 2 and emulate other stores.
C. Lower NPS in several stores in Region 2 indicate lower customer loyalty.
D. Needs urgent plan to improve NPS for Supermarkets in Region 2.

Action Plan to Improve NPS in Region 2 Stores

1. Identify the Detractor factors in all stores.
2. Take corrective actions centrally.
3. Select two pilot stores, in Region2, for improving the NPS.
4. Allocate additional resources for improving detractor factors.

Detractor Factors for selected Pilot stores, SM13 and SM14

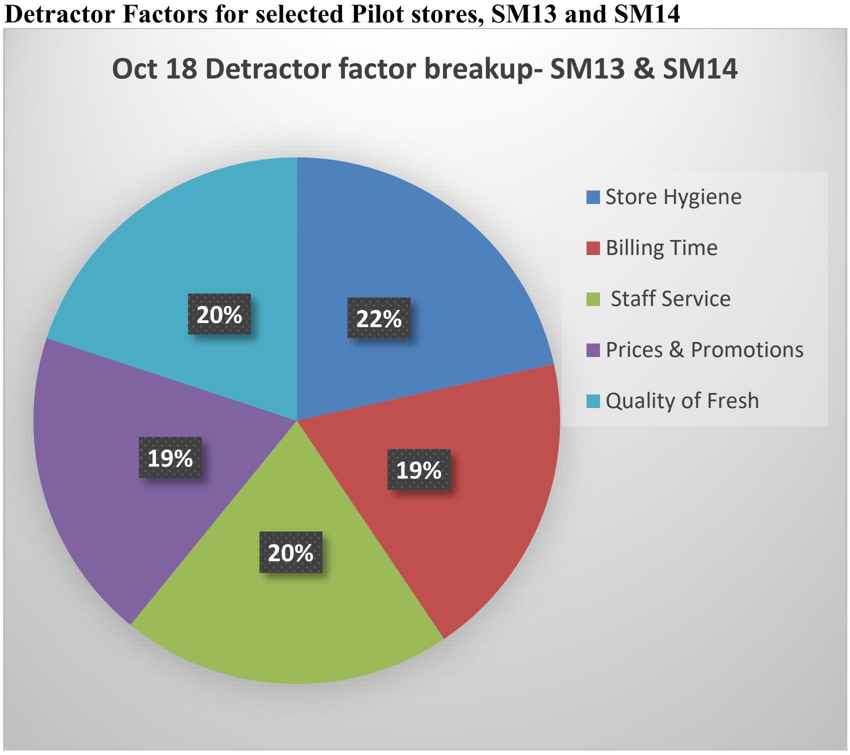

Figure 4 SM13& SM14 Detractor Factor Breakup

Improvement Plan for improving detractor factors for SM13 & SM14

Detractor factor	Plan for Improvement	Additional Resources	Budget allocated
Store Hygiene	1.Daily twice cleaning the store. 2. Hourly cleaning of F&V dept. 3. Change of Ice twice in the Fish bed. 4. Cleaning Checklist in Customer Toilets	1.2 Cleaners to be added. 2.Additional ice to be procured. 3. New uniforms for Butchers 4.Air Freshener in Non- veg dept.	Rs. 45000 Rs. 15000 Rs.3000 Rs.2000
Staff Service	1. New Supervisor for Customer service desk. 2. Training to all staff	1. Transfer from Superstore 2. HO Customer trainer deputed,	------ Rs.1000/ week
Prices & Promotion	1. Highlight promotions through weekly leaflets. 2.All deals in store to have Point of sale	Additional brochures distribution- 2000 Send promotions checklist and SM to audit	Rs.3000/ week
Quality of Fresh	1. Strict quality control of incoming Fruits and Vegetables. 2. Acceptable quality SKU-wise chart to be displayed at receiving. 3. Removing deteriorated fruits n Vegetables hourly from bins.	Laminated charts to be sent F&V n Non -veg Wastage budget increase.	Rs.2000 Rs.3000/ week
Billing Time	1. Increase 2 cashiers in 2nd shift. 2. Have one additional Fruits n Vegetable weighing station. 3. Measure billing time and communicate daily. 4. Have 3 bag packers on weekends to assist cashiers.	1.2 part-time cashiers to be recruited 2. Shift weighing station from other store. 3.2 Bag packers on weekends from a housekeeping agency.	Rs.15000 Rs.10000

Table 6: Improvement Plan SM13 & SM14

Data Analysis

Summary of Detractor Factors improvements in two Pilot stores- SM13 & SM14 after providing additional support and budget allocation is as shown below-

SM13	Oct 18 Rating	Dec. 18 Rating
Store Hygiene	4.04	5.86
Billing Time	3.56	6.37
Staff Service	3.81	6.09
Prices & Promotions	3.6	6.62
Quality of Fresh	3.73	6.50

Table7: Detractor factor improvements – SM13

SM14	Oct 18 Rating	Dec. 18 Rating
Store Hygiene	4.47	5.74
Billing Time	3.9	6.59
Staff Service	3.97	6.21
Prices & Promotions	3.7	6.3
Quality of Fresh	4.02	6.45

Table 8: Detractor factor improvements – SM14

Effect of Detractor factor rating improvements on NPS of SM13 and SM14

SM13	Oct 18	Dec. 18
NPS	5	22

Table 9: Detractor factor trends – SM13

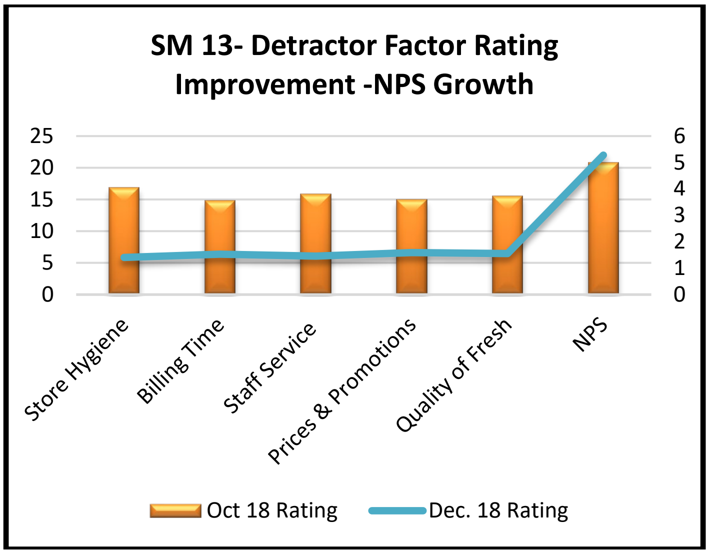

Figure 5: SM13 NPS scores in relation to Detractor factors

SM14	Oct 18	Dec. 18
NPS	13	29

Table 10: Detractor factor trends – SM14

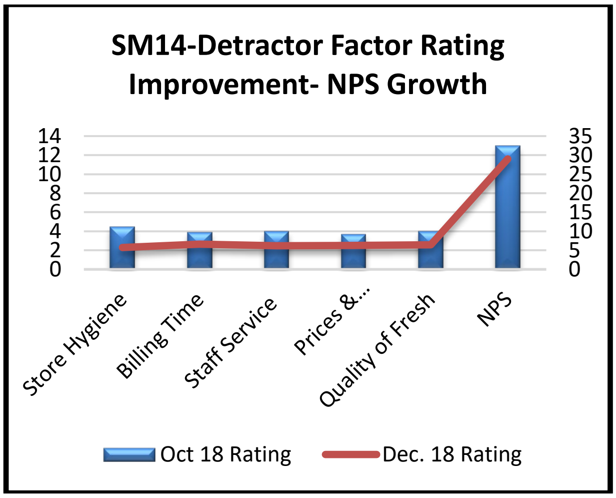

Figure.6: SM14 NPS scores in relation to Detractor factors

Effect of Detractor factor rating trends on NPS of SM09 and SM14
No additional resources were provided to these stores.

SM09	Oct.18 Rating	Dec.18 Rating
Store Hygiene	3.92	3.84
Billing Time	3.06	3.11
Staff Service	3.38	3.57
Prices & Promotions	3.23	3.51
Quality of Fresh	3.40	3.31
NPS	14	2

Table 11: Detractor factor trends – SM09

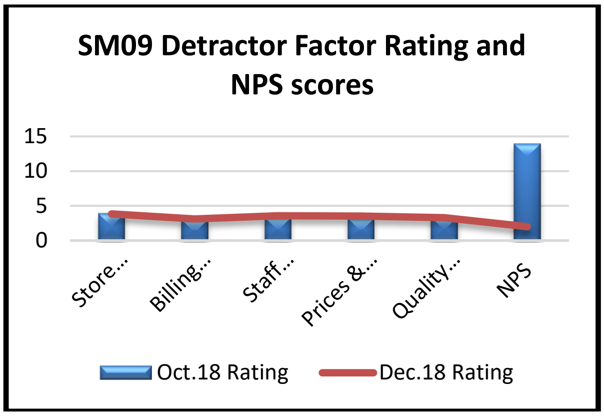

Figure 7: SM09 NPS scores in relation to Detractor factors

SM16	Oct.18 Rating	Dec.18 Rating
Store Hygiene	4.28	3.61
Billing Time	3.8	3.32
Staff Service	3.9	3.31
Prices & Promotions	3.65	3.37
Quality of Fresh	3.90	3.35
NPS	-31	-14

Table 12: Detractor factor trends – SM16

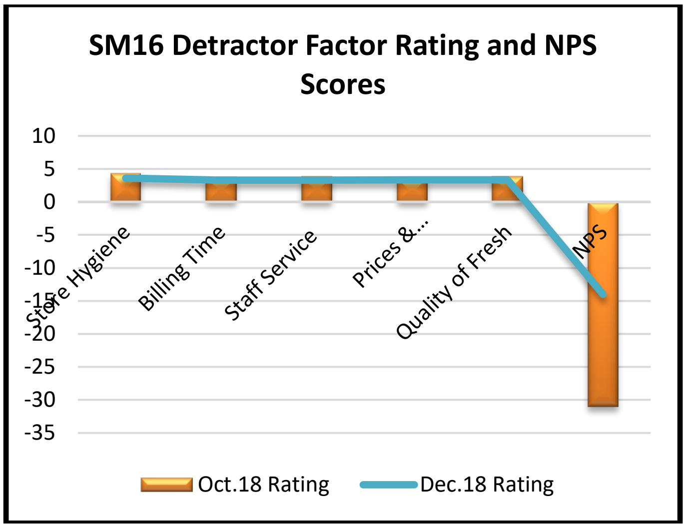

Figure 8:SM16 NPS scores in relation to Detractor factors

Observations

1. The cluster Region 1 Supermarkets have fair NPS and indicate adequate attention to customer's shopping experience.
2. Customer dissatisfaction is based on shopping experience factors like Staff Service, Price and Promotions, Store hygiene, Billing time and Quality of fresh products.
3. Identifying low NPS stores and surveying customers on detractor factors help improve the NPS.
4. Providing additional resources and closely monitoring the detractor factors have helped improve the NPS score in pilot stores SM13 and SM14.
5. The NPS for the two other stores, SM09 and SM16, where no conscious efforts were made to improve detractor factors, have in fact dipped.
6. The detractor factor rating for the stores SM09 and SM16 have remained consistent, but the NPS scores have dipped.

Findings

1. The Cluster Region 2 is poor in NPS and several peaks and valleys indicate inconsistent operations in a majority of stores.
2. The lower NPS in stores in Oct.18, at SM13, SM14, SM09 and SM16 indicates poor attention to detractor factors and may need additional marketing efforts and resources to achieve budgeted sales.
3. Additional resources at SM13 and SM14 helped improve not only their own NPS but also the Regions NPS.

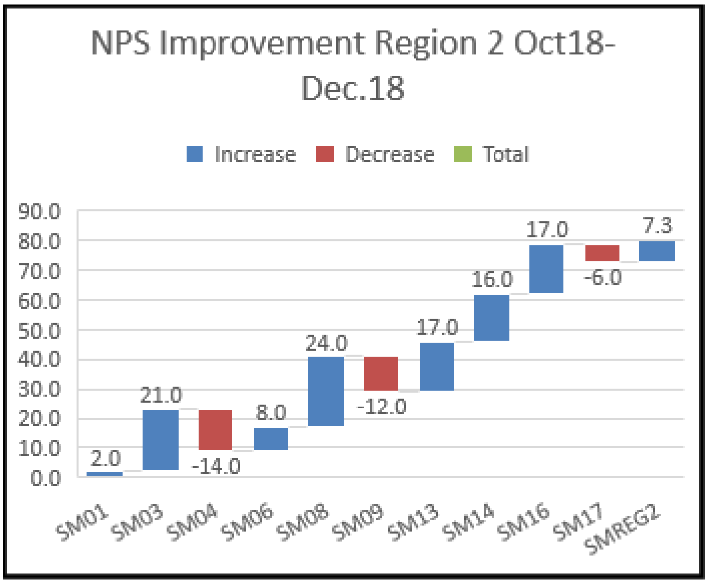

Figure 9: NPS Improvement Region 2

Overall, Region 1 cluster stores have consistently performed well on NPS.
Region 2 NPS trends show improvement by 7.3 points over the trial period.

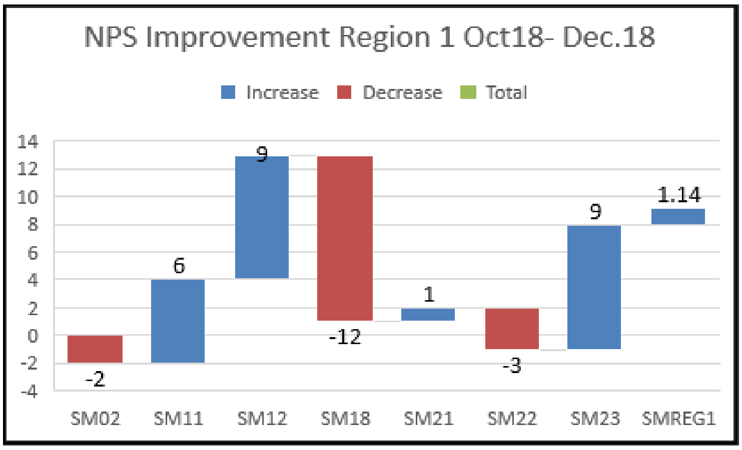

Figure 10: NPS Improvement Region1

The increased NPS at the pilot stores SM13 and SM14 resulted in an increased average sale of14% and lower losses of 4% over the trial period.

On the other hand, reduced NPS scores at SM09 and SM16 resulted in average lower sales by 12% and increased losses by 9% for these stores.

Region 1 NPS trends show improvement by 1.14 points over the trial period.

Outcomes

1. NPS framework can be used for measuring and improving Customer Loyalty in a Supermarket chain.
2. This framework can help compare statistically Supermarkets on NPS month on month. This provides a good review mechanism for improving detractor factors.
3. Management can correlate NPS score, detractor factor ratings with falling sales and increased losses.
4. Management can justify allocation of additional resources to stores for improving NPS. They can make Area Managers and Regional Managers accountable for improving NPS and justified utilization of additional resources.
5. Continuous measurement and follow up of NPS will improve store operations, staff service, better focus on Prices and promotions and improve store hygiene.
6. The action plan described in this case study was followed in other stores, to achieve similar results.

Innovations / Change Aspect of the Process Studied

1. The above study helped to prove that improving detractor factors improves NPS.
2. The Store managers shared these findings, and the effect of improving NPS was demonstrated.
3. The best practices which helped reduce detractor factors were shared with all stores.
4. The Supervisors were sent for a special training in SM13 and SM14 to experience changing conditions and improvements made.
5. The NPS scores were regularly shared in Team meetings with staff and ideas and suggestions were asked from staff and Supervisors.
6. The staff became more conscious of the effect of poor service, poor quality of fresh produce and longer billing times on NPS and thereby on reduced sales and increased losses.

Relevance of the Study to the Organization

1. The results of the improvements in NPS scores in Region 2 were discussed at the Top Management level and appreciated.
2. The additional resources and its cost were justified vis a vis benefits accrued.
3. The stores SM3 and SM14 were used as Model stores for training and sharing best practices.
4. The other low NPS scoring stores also followed best practices, many times without additional resources, improving their performances as well.
5. NPS score became a benchmark on Store Operations and customer's acceptance to service and price perception.
6. The above experiment clearly established the correlation between NPS and store sales and NPS and store losses.
7. The average score of NPS in a store was proposed as one of the Store Manager's KPI and was reviewed during half yearly and annual appraisals for salary increments and promotions.
8. The importance and effect on NPS score were made a part of the induction training for all staff, Supervisors and Store Managers.

Relevance of the Study to the Industry:

1. As organized industry is only 4% of total retail industry in India, NPS score and it's measurement can form an important yardstick to measure loyalty.
2. The breaking down of detractor factors into parameters related to the category in which the retail store operates can help management to implement corrective measures.
3. The suggested detractor factors and its inclusion to various retail format can be as follows:

Type of Retail Store	Grocery Retail Store	Apparel Store	White Goods Store	Jewelry Retail Store
Detractor Factors	Price and promotions	Stock Range and availability	Price and promotions	Stock Range and availability
	Staff service	Staff Service	Staff service and product knowledge	Staff service and product knowledge
	Billing time	Trial room waiting time	Store ambience	Store ambience
	Quality of fresh produce	Product quality	Support from brands	Prices, loyalty schemes.
	Store hygiene	After sales service	After sales service	After sales service

Table 13: Detractor factors in other Retail Formats

Further Scope of Studies
Based on the above NPS model, the following Store KPIs can be studied

1. Customer attrition rate
2. Weekly Cash till billing time
3. Weekly Customer invoice nos. and NPS trends.
4. Weekly Food safety and Quality audit (FSQA) scores.

Limitations of the Study
The study was done on food grocery supermarkets and the NPS and detractor factors might vary for other retail stores. The NPS improvements were continuously monitored centrally after an additional budget was allocated. In the event the supervision and measurements were weak, the improvements might not be as high. This study assumes truthful feedback on NPS and reasons for detractors from the customers. Latest information tools like tracking billing and sending SMS, collating the web responses and data analytics were used to arrive at the stores NPS.

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NON PERFORMING ASSETS OF PRIORITY SECTOR, NON-PRIORITY SECTOR AND PUBLIC SECTOR IN INDIA FROM 2003 TO 2022

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ABSTRACT
Public Sector banks have been lending to Priority sector, non priority sector and public sector. The main purpose of differentiation between priority and non priority sector was that for the economic development, loans can be given to the priority sector to enhance their growth; also the non priority sector and public sector are important because of the scale of operations. These sectors are important for the growth of the economy. Similarly on the other hand, Public sector banks and the credit which they lend are important for the economic development of the country. The main aim of public sector banks is that the availability of credit is increased. Non performing assets means the loan has not been repaid in the past 90 days. NPA’s as they are called as affect profitability and capital adequacy adversely. The survival of banks is affected. Therefore is necessary to understand different facets of the problems of NPA’s. The paper does a comparative analysis of the Non Performing Assets of the three sectors for the period 2003 to 2022. The paper seeks to study the NPAs between the years 2003 to 2012 and 2013-2022. Various statistical techniques such as Annova and T Test are used for the purpose of analysis. The paper concludes with the observation that there has been more NPA’s in the non priority sector than the other two. Further the decade between 2013-2022 has a higher mean of NPA’s than the earlier decade.
Keywords: Priority sector, Non priority sector , Public sector, Non performing Assets

Introduction
Public sector banks lend to priority, sector, non priority sector as well as public sector. Priority sector comprises of micro small and medium scale enterprises, agriculture. Reserve bank of India makes rules and guidelines for the credit to be lent to them. Non priority sector comprises of all enterprises which do not form a part of the priority sector. Further public sector undertakings are large scale enterprises where government has a stake. Banks lend to these sectors to enhance their growth and for their development. Banks profitability depends on the loans given by them. If the loans are not repaid back by the borrowers , banks profitability is affected. NPA’s or non performing assets impact the profitability as well as the capital adequacy as per many studies.

NPA’s means the loan or credit is overdue for more than 90 days, as per the RBI Guidelines. Banking sector comes with its own share of strengths and weaknesses; NPA is one of the weaknesses. (Jain, Bennett, 2006; Jasrotia, Agarwal, 2021). Banks lend to priority, non priority and public sector. The NPA’s for these sectors are researched. So the study comprises a comparative analysis of the Non Performing Assets in the three sectors. Also the total NPAs of these sectors are analyzed for a 20 year period starting from 2003 to 2022. Some remedial measures are required to reduce the NPA’s otherwise the bank loses its profits.(Garg ,2020). The current paper studies the comparative status of Non performing Assets in the priority sector, non priority sector and the public sector. The non performing assets are those which are of the loans provided by the public sector banks. Public sector banks form an important component of the Indian banking sector. Both the purpose of the public sector banks as lenders and the priority, non priority sector and public sector as borrowers are important for the economic development of the country. Therefore it is necessary to study the non performing assets related to the three sectors as borrowers and public sector banks as lenders.

Literature Review
Many studies by eminent researchers have highlighted the important features of the Non performing Assets. Non Performing Assets are important as they impact the solvency, liquidity and profitability of banks. The survival of banks is at stake. The priority sector seems to be contributing to the NPAs (Gaur, Mohapatra, 2020). Factors which influence the Non performing assets are specific to banks in the form of net margin or capital adequacy ratio (Dhar, Bakshi, 2015). Asset quality, management efficiency are some factors influencing the Non performing assets, along with the macroeconomic factors (Agarwala , Agarwala, 2019). The NPA’s can be reduced by monitoring and assessing the risk and can be controlled. There is a significant difference in the

NPA's of Public sector and private sector banks (Mishra et al., 2021). Smaller banks which have existed since a long time have shown profit despite having NPA's (Banerjee , Velamuri, 2015). Banks that manage the credit risk efficiently have lower levels of NPA as a ratio of total assets.(Saha et al., 2015) Reforms such as mergers of Public sector banks were introduced to reduce the NPA's , however there are impacts on the economy (Jasrotia , Agarwal, 2021). The Reserve bank of India monitors and controls banks, hence the RBI has been tackling the NPA issue with the help of regulations and is trying to take corrective action, however the high NPA's can lead to capital crunch (Nidugala, Pant, 2017). Banking sector comes with its own share of strengths and weaknesses, NPA is one of the weaknesses (Jain, Bennett, 2006; Jasrotia ,Agarwal, 2021). Lending in the priority sector is carried out by banks for the economic development of the country. The priority sector includes agriculture and MSMEs as one of its important components. However because of the financial problems associated with these sectors, banks avoid lending credit to them. (Bano, Sharma, 2020). There are RBI guidelines for the priority sector (Khanna, Patil, 2019). Public sector has an objective of balanced growth, export promotion, manufacturing of key and basic products, they contribute to economic growth (Jain et al., 2014). Remedial measures are necessary to control and monitor the non performing assets. It is essential that the Non performing assets are reduced. (Garg ,2020). A well planned monitoring and controlling system can prove to be a good remedial measure for NPA's. Such a good recovery mechanism and a proper well defined asset valuation can aid the reduction of NPAs (Bhadury , Pratap 2018).

Thus from the review of literature it can be highlighted that the NPA's affect the profitability of banks and pubic sector banks are the back bone of the Indian banking system. There are reasons why NPA's happen, NPA's are caused by faulty credit assessment by banks, which is an issue specific to banks and at the same time by reasons such as economic crisis, which are external and macro in nature. (Syed, 2021). Further the borrowers are unable to repay the loans, which results in the NPA's and these sectors are important for the economic development of country and these sectors. Therefore it becomes imperative to study the non performing assets of the lending to these sectors which are covered under the paper.

Objectives of the Study

Keeping in view the review of literature, the following objectives were formulated.

1. To compare the NPA's of the lending to the priority sector, Non Priority Sector and Public Sector.
2. To Compare and Analyze the total NPAs of all the three sector lending for years 2003 to 2012 and 2013-2022.

Hypothesis of the Study

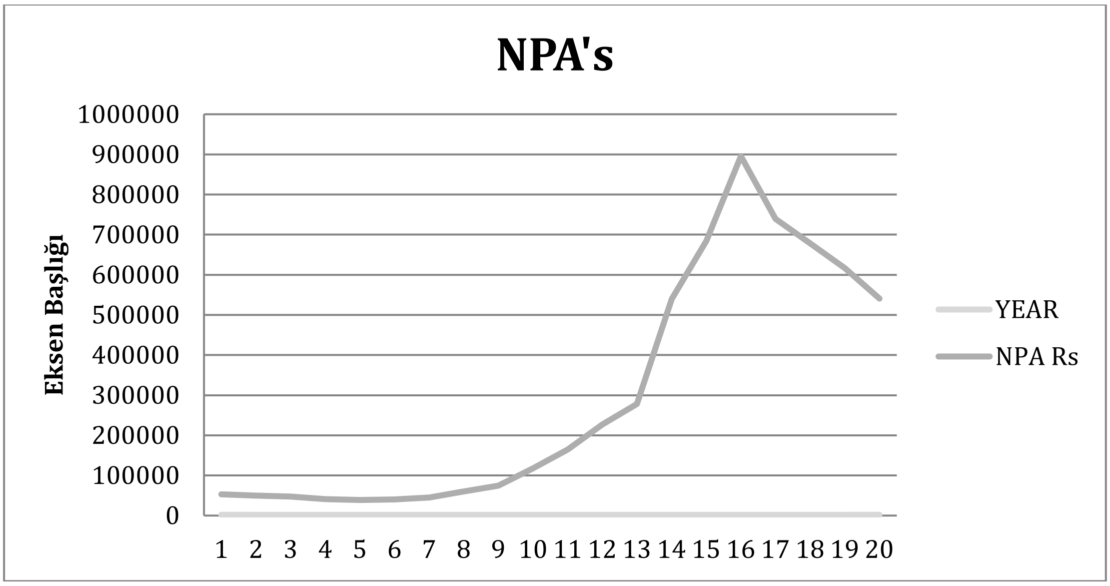
1. The Non Performing Assets of the priority sector, non priority sector and public sector are significantly different.
2. The NPA's in the years between 2003 to 2012 and 2013-2022 are significantly different.

Research Methodology

The secondary data is sourced from the Reserve Bank of India website. The data consists of the Amounts (Rupees) of Non performing Assets of the lending to Priority Sector, Non Priority Sector and Public Sector for the years 2003 to 2022. The amounts are as on 31st March every year. The data is related to the Public Sector Banks lending to the three sectors. For the analysis of the data, tests such as Means, T-Test and Annova were used.

Data Analysis

The first objective of the study is a comparison of the total NPA's of the three sectors. The data for 20 years starting from 2003 to 2022, was extracted for all the three sectors. The total non performing assets of all the three sectors was plotted on the graph to understand the trend in the total non performing assets. This gives an overview of the total NPA's.



Graph 1 : Total NPA's 2003-2022

The NPA's have increased from 2003 to 2018, then the total NPA's have started to reduce.
There is an increase from 2012 to 2016, in the total NPA's. In the post 2018, there is a decrease but the NPA's are still more than the years between 2003 to 2008.

Descriptives								
NPA								
					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Priority Sector	20	97185.7	85330.5	19080.5	57249.8	137122	21536	257858
Non Priority Sector	20	199042	221724	49578.9	95271.6	302811	15007.4	708090
Public Sector	20	7104.89	10465.8	2340.23	2206.74	12003.1	130.35	32438.9
Total	60	101111	156408	20192.2	60706.1	141515	130.35	708090

Table 1 : DESCRIPTIVE STATISTICS

It can be observed that mean for priority sector is 97185, for non priority sector it is 199041, and public sector is 7104, thus one can observe that the NPA to non priority sector is higher than the other two sectors. For comparing the NPA's of the three sectors the mean or the average NPA's helps to understand which sector has the highest NPA's, thus this helps us to understand and compare the NPA's in the three sectors.

The second objective compares the two decades 2003-2012 and 2013-2022. The mean of the NPA's is used to compare the NPA's in the two decades. Both decades witnessed economic crisis and pandemic. The total NPA's were grouped in two decades; 2003-2012 and 2013-2022, in order to understand which decade had an average NPA more than the other.

Group Statistics					
	Year	N	Mean	Std. Deviation	Std. Error Mean
NPA1	2003 -2012	10	56813.3	23792.9	7523.97
	2013-2022	10	536592	240216	75963

Table 2: NPA 2003-2012 and 2013-2022

One can also observe that for the years 2003-2012 the mean of NPAs as 56813and for 2013-2022 it was 536591, the mean has increased in the years 2013-2022.

Hypotheses Testing

The hypotheses are based on the two objectives of the study and are tested:-

1. The Non Performing Assets of the priority sector, non priority sector and public sector are significantly different.

Ho: The Non Performing Assets of the priority sector, non priority sector and public sector are not significantly different.

H1: The Non Performing Assets of the priority sector, non priority sector and public sector are significantly different.

ANOVA					
NPA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.68859E+11	2	1.8E+11	9.784	0.000
Within Groups	1.07449E+12	57	1.9E+10		
Total	1.44335E+12	59			

Table 3: **HYPOTHESIS 1**

Inference: P value is 0.000 which is less than 0.05, hence Ho is rejected and H1 is accepted.

2.The NPA's in the years between 2003 to 2012 and 2013-2022 are significantly different.

H0: The NPA's in the years between 2003 to 2012 and 2013-2022 are not significantly different

H1: The NPA's in the years between 2003 to 2012 and 2013-2022 are significantly different

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
NPA1	Equal variances assumed	15.72	0.001	-6.285	18	0	-479778	76334.7	-640152	-319405
	Equal variances not assumed			-6.285	9.177	0	-479778	76334.7	-651954	-307602

Table 4 : **HYPOTHESIS 2**

Inference : P value is 0.001 which is less than 0.05, hence H0 is rejected and H1 is accepted.

Findings

Credit is lent to priority, non priority and public sector. The paper focuses on the loans granted by the public sector banks. India's development strategy after independence in 1947 aimed to have an inclusive society with a focus on economic growth through poverty alleviation and social justice. Small-scale industries, Professional and self-employed persons, Retail traders, Road and water transport operators, Industrial estates, and Education formed part of the priority sectors. Recently, the RBI has taken steps to further strengthen the priority sector lending framework by expanding the definition of priority sectors to include startups, renewable energy, and exports, among others. Priority Sector Lending Certificates (PSLC) mechanism was introduced in 2016 to enable banks to achieve their priority sector lending objective The development and growth of the priority sector is important, hence the loans and credit is made available to them , so that they can survive as well as flourish. The lending to the public sector is also important because it leads to their growth. However if the borrowers are defaulting in the repayment it leads to the Non Performing Assets. Assets have been classified as Standard, Doubtful, losses and non performing. The classification extends to suspicious NPA’s and substandard NPA’s. RBI have issued various circulars in this regard. It is interesting to observe and study the NPA’s in the sectors such as priority, non priority and public sector. Non-priority sector lending refers to all other lending activities that do not fall under the purview of priority sector lending, including loans to large corporate, infrastructure projects, and personal loans.

There are different factors associated with the NPA’s and they in turn affect the banks and the borrowers. It is observed that the Total Non Performing assets have increased from 2003 to 2018, after which it has decreased. 2003 to 2018, witnessed the global subprime crisis, and 2020 onwards there was an impact of the Covid pandemic. But the NPAs seem to be decreasing in the post 2018. The increase in the previous period and then a decrease in post 2018. The decrease can be attributed to the remedial measures undertaken by the government to help the different sectors to survive the impact of the pandemic However it is interesting to note that between the two decades 2003-2012 and 2013-2022, in the later decade the mean of NPA’s has increased. This means that though the NPA’s have started to decrease comparatively they are still more than the previous decades mean of NPA’s. The mean of NPA’s seem to be high for the non priority sector than the priority sector and the public sector. The NPA’s in other words is less for the public sector and priority sector. The NPA’s in the post 2018 are more than those in 2003 to 2008. It may be observed that the public sector undertakings due to their scale of operations might be the factor for comparative low NPA’s and for the priority sector there are Reserve bank of India regulations resulting in low NPA’s needs to be reiterated

Conclusion

NPA’s affect the profitability of the banks on one hand and failure to repay by the borrower indicates low profits for them. NPA’s can be monitored and risk associated with them can be controlled. The research paper has two objectives. The first objective is to compare the NPA’s of the lending to the priority sector, Non Priority Sector and Public Sector. Based on the objective the hypothesis formulated was that the Non performing assets in the three sectors are significantly different, it was observed that the NPA’s of the non priority sector for the period under research is higher as compared to the other sector**.** The second objective was to compare the 10 years 2003 -2012 and 2013-2022. The significance of the set of decades is that the first decade experienced economic crisis at the world stage and the second decade witnessed the covid pandemic. The comparison for the years 2003-2012 and 2013-2022, shows that the mean of NPA’s have increased in the years 2013-2022. It can be studied as to what are the causes to NPA differ in different sector.

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OPPORTUNITIES AND LIMITING PROSPECTS OF HOMESTAYS IN MAJOR TOURISM DESTINATIONS OF MADHYA PRADESH, INDIA

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ABSTRACT
The concept of staying in people's homes as part of a vacation has caught on all throughout the country, propelling it to the forefront of tourism as a whole as a model for creativity and progression in the industry, and bringing in ever-increasing sums in recent years, the Indian Ministry of Tourism has been increasing the amount of investment it makes in the development of homestay destinations, which have a significant and long-term impact on the socioeconomic conditions of rural areas. The government anticipates that the expansion of the rural tourism sector, particularly tourism that involves staying in people's homes, will contribute to the improvement of the socioeconomic development of the communities in the areas that were impacted. Because homestay tourism is able to take advantage of the natural beauty of the area as well as the exquisite customs and cultures of the community as appealing strategies to draw tourists to their village, tourism activities.
Keywords: Homestays, Tourism**,** Madhya Pradesh, Destinations,

Introduction

Tourism operations in each location should be able to help the local community, particularly in terms of lowering poverty rates by creating work opportunities for individuals such as lodge owners, property management agents, and tourist guides, to name just a few examples of these types of workers. Tourism operations in a given location should be able to help the local community in terms of lowering poverty rates by creating work opportunities for individuals. Homestay vacations, which are fast becoming a key component of destination tourism, have recently seen a rise in popularity and are one reason why the reason for the current increase. Homestay tourism is a result of the shift in the focus of tourism from sightseeing to leisure vacations, and its forms of development are broadening, deepening, and inventing in order to meet the expectations of tourists for the consumption of leisure vacations. Homestay tourism is becoming increasingly popular as a result of this focus shift. The growth of new types of tourism, such as homestay, is necessary for the reorganization and improvement of the tourist industry, which in turn is dependent on the provision of additional aid for the expansion of tourism. Ecotourism, cultural tourism, shopping tourism, tourism based on fairs and festivals, cultural tourism, tourism based on art and history, tourism based on sports, and tourism based on nature are just a few examples of the different kinds of tourism that have been developed in India over the course of the country's history. A considerable number of these ideas linked to tourism have, at some point in the past, been combined and stated to be the international marketing strategy for a variety of products associated with tourism. As a result of the ongoing integration of homestays and tourism, the businesses that are connected to homestay tourism are continuously aggregating, and the chain of the homestay tourism industry is steadily expanding. This encourages the rapid growth of a region that is focused on the agglomeration of homestay tourism, which in turn encourages the rapid growth of homestay tourism-focused regions. The allure of homestay tourism is a prominent representation of the shift in tourism from traditional sightseeing to leisure vacations, which is essential to an understanding of the transition and upgrading of tourism. Additionally, the perception of homestay tourism is essential to an appreciation of the progression of tourism. There have only been a few of studies that have studied how domestic homestay development could benefit from the expansion of agglomerations of homestay tourists. This is due to the fact, that practical application always takes precedence over theoretical study. The planning of tourism and other vital components, as well as the design, building, innovation, development, and protection of natural attractions, may all benefit from research into the amount of public support for residential growth. As a direct result of this, the objective of this study is to establish the level of support for the expansion of homestay tourism from the perspective of the value that is seen by visitors. This is done in order to adapt to the changing situation of the development of homestay tourism and to promote quality development in tourist destinations, which is itself gaining theoretical and practical significance. This is done in order to adapt to the changing situation of the development of homestay tourism. Homestays in rural areas provide guests with a glimpse into the day-to-day life of villagers and provide them the opportunity to engage with the local population in ways that are distinct from the interactions and settings that are often associated with tourism. Homestays in urban areas provide guests with a glimpse into the life of city dwellers and provide them with the opportunity to engage with city dwellers in ways that are Homestay visitors will have a fantastic time because they will get to participate in an experience that is truly unique to them, they will receive individualized attention, and they will have actual possibilities to engage in social discussion with their hosts.

The Concept of Homestay Tourism

The Beautiful India Bed & Breakfast / Homestay Program, which Through the program, tourists from within and outside of India are given the opportunity to visit India and spend time with an Indian family, where they can experience authentic Indian hospitality, learn about Indian culture and cuisine, and do so in an environment that is safe and offers affordable accommodations. In order to encourage the growth of these kinds of businesses and to make the process of gaining clearance easier, this Ministry has performed an evaluation of the program and lowered the criteria. Via its network of domestic offices, the Ministry of Tourism has been holding sensitization seminars around the country on the marketing of home stays and Amazing India Bed & Breakfast Establishments. This is a process that repeats itself indefinitely. On December 10th, 2018, the requirements for categorization and reclassification of Amazing India Bed and Breakfast Establishments and Incredible India Homestay Establishments were modified. A form of alternative tourism that involves vacationers living with a host family in their home and being completely incorporated into the day-to-day activities of both the family and the community in which they are visiting (ASEAN, Home stay). According to one meaning of the phrase "homestay," this refers to "a condition in which a family lends their home to abroad students for either a portion of or the entirety of their stay in the nation." Resorts, apartments, guest houses, bed & breakfast / homestay establishments, tented accommodation, online travel aggregators, stand-alone air catering units, convention centers, and standalone restaurants have all received approval from the Ministry of Tourism thanks to the ministry's voluntary programs.

Literature Review

As of right now, there has not been a great deal of in-depth research carried out on the topic of the development of homestay model programs. Mountain tourism, ecotourism, community-based ecotourism, and rural livelihood projects are all connected themes that have been written about by a number of authors. These topics have also been discussed in the context of mountain tourism. An inquiry of homestays as a method of generating a livelihood in rural and distant economies can use this collection of knowledge as a basis, particularly when combined with case studies of homestay models that have already been created. The next chapter will present a summary of tourism in India, the subsequent expansion of mountain and ecotourism, and homestays as a method of making a livelihood. This will be followed by a discussion of how homestays have become increasingly popular.

Nag (2013) amarkantaka and Ujjain are two of the holy places that have been visited by pilgrims throughout the history of the state of Madhya Pradesh. In the present day, the state of Madhya Pradesh is home to as many as seven significant religious centers that continue to receive visitors throughout the year. In addition, fairs are frequently hosted at these locations. There are about two hundred different fairs and festivals held here each year, with just fifty of them being considered the important ones. As a result, people have continued to move around from one location to another due to religious tourism. Individuals living in today's society are no longer content with only viewing or visiting holy locations; instead, they demand a range of conveniences while they are there. Hence, a place of art or a location of historical significance has recently begun to draw people in the same manner. The year 1961 marked the beginning of Madhya Pradesh's efforts to cultivate a thriving tourist industry. At first, three offices—the state tourist office in Bhopal, as well as regional offices in Indore and Gwalior—were made available to the public. These offices were connected to the Directorate of information and publicity in some capacity. In 1963, the state government took control of the tourism office that had previously been administered by the federal government. In 1968, a distinct Directorate of Tourism was set up to oversee the industry. The Directorate of Tourism has established a single office in each of the cities of Indore, Bhopal, Jabalpur, and Gwalior in order to provide tourists with the information they want. Before the tourist directorate was established, the work that needed to be done was handled by a sub-section of the Department of Industry and Commerce. During the third phase of the five-year plan, there was discussion of allocating twenty lakhs of rupees to a tourist initiative. At Khajuraho, Mandu, and Chitrakoot, there have been several suggestions made about the provision of transportation and hotel amenities. During the time period of the 4th Five-year plan, a vacation home was finished in Pachmarhi, improvements were made to rest homes in Kanha National Park, boating facilities were finished in Bhopal, and many other works related to tourism were finished. During the time covered by the state's fourth five-year plan, just twenty lakhs of rupees were allotted for the state's different tourism-related initiatives. It was agreed that the department's organization was to be reinforced, and it was also decided that areas of tourist attraction ought to be promoted more. Due to a lack of resources and personnel, the organization was unable to carry out the proposed tourist projects. In addition, the establishment of information centers did not come to fruition. If these things had happened, the organization would have been in a better position to attract both domestic and international visitors by utilizing its full range of capabilities. With this in mind, throughout the time covered by the 4th Five Year Plan, a greater focus was placed on the organization and growth of the tourist department as well as on tourism publicity. Bhopal, Mandu, Bheraghat, and Gwalior, in addition to the caverns of Bagh, all had their transportation systems upgraded as a priority. At the planning stage, it was decided that, prior to beginning work on the proposed tourism projects, a list should be compiled of the number of tourists who arrive at each center, and priority should be given to the location with the highest number of visitors. In addition to this interim development plan, a strategy should be established for the primary tourist centers. Such locations that already have a widespread reputation are attracting an increasing number of visitors from tourists. The uncontrolled proliferation of markets, hotels, and other amenities in Khajuraho in the lack of systematic planning is also criticized by the visitors that visit the city since these developments are detracting from the natural beauty of the environment. Plans for Kanha and Khajuraho's development were drafted, while work on the drafting of development strategies for Sanchi, Bheraghat, and Mandu was begun. Work on the expansion of tourist centers inside the state was carried through into the fifth plan period (th.). At internationally renowned locations like as Khajuraho, Kanha, Sanchi, and Mandu, the initial stages of development work were initiated during the 4th Five Year Plan era. In light of the growing population, the fundamental requirements were prioritized throughout the time covered by the fifty-first five-year plan. Meanwhile, other projects were also launched, which contributed to a rise in the amount of entertainment options for tourists. The Madhya Pradesh state tourism development company was created in June of 1978 by the state government of Madhya Pradesh in order to improve and extend the amenities that are located at areas that are of interest to visitors. October 1978 marked the beginning of the corporation's business operations. Plans have been drawn up for significant tourist destinations like as Khajuraho, Mandu, Gwalior, Kanha, and Bandhavgarh, and Pachmarhi is one of these locations.

Al-Ababneh (2019) the purpose of the study is to identify the transition from cultural to creative cultural tourism as a new model for satisfying the desire that visitors have for experiences that are creative. For this reason, conventional cultural tourism has to rebrand itself as creative tourism in order to appeal to creative tourists who are looking for more immersive and participatory experiences. The shifts that have taken place in the creation of cultural tourists' goods, the skilled tourist activities, and new consumption patterns have all contributed to the emergence of this novel trend in creative cultural tourism. In addition, innovative cultural tourism has the potential to offer solutions to the issues that conventional cultural tourists face.

Bhatia (2013) it is important to point out that going on vacation is currently one of the most common ways that people pass their time. In today's world, people who want to get away from the monotony of their regular life sometimes go to faraway, exotic locations in other nations. Visitors are generally drawn there either because of the enticing leisure, sports, and adventure activities that are accessible at the place or because of the beautiful natural landscape of the region. Both of these factors are important. Yet, each site has a unique set of intrinsic advantages and disadvantages that, depending on how they are weighted in relation to one another, can either improve or diminish the location's capacity to attract visitors from other nations. Along the same lines, the external world also presents a great number of opportunities and dangers that might materialize.

Banerjee (2014) it has been reported that the primary challenges that are preventing the sector from obtaining a high economic value are a dearth of qualified persons, a shortage of tourist training institutions, a shortage of adequately trained trainers, and working conditions for the employees. Concerns have also been raised regarding the policies that can assist workers in creating a more positive working environment for themselves. In this study, an evaluation of the work done by the HRD team in the tourism sector, with particular focus on Jet Airlines India Ltd., is attempted. This, in turn, can improve their talents and drive them to perform their task in a more effective manner.

Kumbhar (2015) travel and tourism are both essential components of human existence. The idea of tourism encompasses a circumstance in which a person travels for a limited amount of time from one region or nation to another region or country in a different country. The travel and tourism business are becoming increasingly significant in today's world. The Taj Mahal, along with several other forts and natural attractions, are just a few examples of India's rich historical legacy. From the year 2000, India's tourist business has been providing the country with a lot of benefits. The number of visitors from other countries that came to India, which resulted in the country earning more money in foreign currency. The expansion and success of the Indian tourist sector have been the primary focuses of this section. We have also performed an investigation into the chain of events that led to the growth of the Indian tourist sector and the Indian economy as a whole. The National Tourism Policy 2002 and what its ramifications mean for the industry are both significant here.

Kaur, Sharma (2018) due to its contributions to the nation's gross domestic product (GDP), balance of payments, and employment levels, the significance of tourism to economic growth has received widespread recognition. Throughout the past few years, the tourism sector in India has been expanding at a rapid speed, and it possesses a wide potential for the generation of employment opportunities as well as the earning of a substantial quantity of foreign currency. So, it is very necessary to do research into the expansion and development of the tourist business in India. In order to accomplish this goal, statistics were gathered from secondary sources such as the Bureau of Immigration, the Ministry of Tourism for the Government of India, and the Global Travel and Tourism Council. In order to do an analysis on the data that was gathered, the Compound Annual Growth Rate (CAGR) was computed. According to the findings, the tourism industry in India is the most important contributor to the country's gross domestic product, with a contribution of US$34.008 billion in 2011 and accounting for 7.4 percent of the entire workforce. 2011 was a record year for tourism in India, with over 740 million domestic tourists and over 5 million yearly visitors from outside countries. Also, it has been urged that both the national and state governments of India should make efforts to improve the country's tourist industry.

Objectives of the study

This paper sets the following objectives:

1. To highlight the issues underlying the stimulation of tourism in MP.
2. To Identify and plan infrastructure and development needs of the existing tourist destinations and the tourist circuits.

Research methodology

This research looks at the numerous initiatives taken by the government of Madhya Pradesh up to this point in order to advance the state's tourist industry. This study's purview encompasses a number of the state government of Madhya Pradesh's programs as well as its own efforts geared at the expansion of the tourist industry. The study focuses on a number of different measures taken by the government of Madhya Pradesh for the growth of the tourist sector. The research only utilized secondary sources of data. This information comes from a variety of resources, including websites run by various governments, publications, and other websites. The data pertains to the number of visitors, the number of tourists that arrive in India and globally, the impact analysis of the Covid-19 epidemic on international tourism, foreign exchange profits, and the availability of infrastructure in India. It is beneficial to have an understanding of India's position on a global scale. In the end, the focus of this study is on the necessities of further measures and the prospective involvement of the government in the expansion of the homestay industry in Madhya Pradesh.

Madhya Pradesh Home Stay Establishment (Registration and Regulation) Scheme, 2010

As a result of this program, the owner of a home will have the opportunity to rent out rooms in any portion of his property to visitors from both inside the country and from outside the country. The Madhya Pradesh Tourism Board will allow you to register your home stay establishment. The Homestay Establishment (Registration and Regulation) Scheme was first introduced in 2010 and was last updated in 2018: The program is designed to provide tourists with pleasant home stay facilities as a supplement to the existing accommodations. This will allow tourists to experience the world-famous Indian hospitality, as well as Indian food, customs, and traditions, while staying with Indian families. The proprietor of the homestay lives on the same property and dedicates a section of it to use as a lodging establishment.

Registration Process

Name Category	**Application Fee (GST Additional @18%)**
Home Stay	Silver Category - 1000/ Gold Category - 2000/ Diamond Category – 3000

Table-1: Rate Categorization of Homestays

Homestay is one of the execution tactics that exemplifies the Indian government's tourism development strategy. Here are a few examples:

- Promoting Foreign Currency Exchange
- Promoting social and economic development on an equal footing .
- Building international relationship
- Molding image of India at International level
- Encouraging all ethnic groups to participate in this field
- Promoting Community development
- Increasing the integration of urban and rural areas and cultural exchange .

Figure-1: Standardization of homestay services

OPPORTUNITIES FOR HOMESTAYS

Economic Opportunities of Homestay	**Social Opportunities of Homestay**
Providing rural areas with economic and employment options, with the ultimate goal of decreasing poverty.	A wonderful venue for intercultural exchanges (guest host interactions)
Promoting tourism investment from both domestic and international sources	Reducing tensions between different races and nationalities
Micro-enterprise development in tourism and its numerous linked industries.	Retention of youths through participation in local opportunities
Direct economic benefits shopping for mementos, eating at restaurants, and staying in hotels all count towards this category.	Locals gain confidence by learning new languages and abilities.
Handicrafts and artisan works are examples of indigenous skills that should be preserved	As modernization advances in, make native's tech aware, "smart," and self-sufficient.
Environmental Opportunities of Homestay	Tourism related Opportunities

As training would be provided, it would be extremely beneficial in lowering common sanitation-related disorders.	Tourists get the opportunity to see natural and cultural variety
Persuading the residents to keep the premises, kitchens, and restrooms, among other things, neat and clean	Increased capacity of the destination's accommodation supply
Environmental conservation is becoming more popular in the host areas.	By advertising the location all year, the problem of seasonality is eliminated.
Obtaining cash for the preservation of the natural environment.	By include important stakeholders on a consistent basis, you may raise awareness about tourism among domestic as well as foreign passengers.

Table-2: Opportunities in Homestays

Challenges of homestay

- The legal requirements, including but not limited to registration of homestays, booking of homestays, and other legislation, are not as strict as they should be.
- There is a scarcity of skilled human resources such as tour guides, company owners, and individuals who specialize in hospitality since there are not enough educational and training institutes. This shortage has led to an increase in unemployment.
- Because the region's infrastructure is lacking in key areas such as good roads, transportation, power, healthcare facilities, communication facilities, and other residential facilities, it is difficult to build and promote better services to people who are currently staying in homestays as well as people who are considering staying in homestays. This is true for both the people who are currently staying in homestays as well as people who are considering staying in homestays.
- Moreover, the marketing and promotion of homestay tourism across the country suffers from a severe lack of resources. There is not a single company or organization in the country that is well-suited for marketing and expanding their network.
- There is also a significant obstacle in the shape of inappropriate resource management in the region, which stands in the way of expanding the homestay industry's potential to remain financially viable in the long term.
- Due to the absence of peace, stability, and security in the country, tourists from other countries are discouraged from travelling to India.
- There is a lack of coordination among the many participants in the tourism industry, including the government, actors in the tourism industry, intermediates in the tourism industry, and other non-government groups active in homestay tourism.
- The general population of the community has a lower awareness of how important it is to preserve natural and cultural resources. The lack of ecotourism best practices in India is one of the most serious difficulties facing the country, and it is also one of the most significant barriers to expansion for homestays in the country.

Recommendations

- Homestays are something that need to be planned for and increased in order to accommodate the local population. This may be accomplished by growing the number of available spots. As a result of this, the local residents of the area that has been chosen for homestay tourism should be offered technical assistance in the form of both the design and development of homestays. This is because homestay tourism is a relatively new form of tourism.
- In order for the locals working at the homestay tourist site to provide excellent service to guests, training in areas such as leadership, hospitality, and the production of food and beverages should be made available to them.
- The residents of the community should be eligible for loan subsidies and other financial incentives in order to modernize the facilities that are already available to them. These facilities should include things such as beds, rooms, toilets, faucets, and so on.
- It is essential that the tourist destination that is comprised of home stays be connected to other tourism stakeholders in the nation, and that owners of tourism businesses market it as well.
- Establishing a community tourism fund at homestay tourism destinations enables financial investments to be made in the development of new facilities and the expansion of existing ones.
- When it comes to providing support and other services, the government should make a distinction between homestay tourist businesses that are managed by communities and those that are run privately,

and treat them in accordance with that distinction.

- The establishment of a database for homestay tourism is essential since it will facilitate the research, decision-making, and booking processes for visitors, which are all aspects of the homestay industry.
- The government should offer its workers a "Leave Travel Concession" in the form of paid time off to travel in order to encourage them to participate in homestay tourism and other activities of a similar nature.
- In almost all of the communities that host homestay tourism, it might be challenging to fairly distribute the profits among the many members of the community.
- As a result of this, every single member of the community has to be engaged in the process of determining how the benefits will be distributed if there is going to be any consideration given to creating homestay tourism in the region.

The Strategy and Implementation

- The number of available jobs should be increased, and efforts should be made to attract more locals to fill those positions.
- Training opportunities should be made available to local inhabitants so that they may obtain experience working in the tourist business.
- Offer members of the community opportunity to engage in the commercial sector. For instance, members of the community may work as food vendors, manufacturers of handicrafts, or tour guides.
- Establish community income funds. These money can be collected in a variety of ways, including contributions, profit distributions, admission fees, and dividends, to mention just a few. This plan may be realized by strong collaboration among citizens, corporations, and authorities in the area in question. The fund is collected and used for the process of sustainable development.
- The primary objective of these projects is to lessen the impact that unintended side effects of tourism have on the local community. Because this will contribute to an increase in the living conditions of the locals, any problem that emerges will be resolved in a constructive manner, and the people will also benefit from the construction of infrastructure and the provision of facilities.

Conclusion

In order for the government to effectively promote the growth of the homestay tourism agglomeration region, it is necessary for the government to define very specific development goals for the homestay tourism industry as well as exact rules and regulations. This is an essential component for the growth of tourism based on homestays. In the process of developing homestay tourism, we should not only have the policy guidance of government departments and reasonable planning, but we should also give benefit to the role of the main body of the market and consider tourist demands. This is because the role of the main body of the market is an important factor in the development of homestay tourism. In order for the policy's function to be performed to its greatest potential, we should carry this out without being either overly anxious to gain quick advantages or overly self-reliant. In response to an increase in demand for alternative types of tourism among international tourists and an increasing domestic middle class, many villages in India have begun homestay initiatives to reduce the challenges associated with traditional tourism. This is done in an effort to meet the demand for alternative types of tourism that is being driven by both of these demographic shifts. In light of the fact that there is currently a growing middle class in India, this is a response to that fact. The findings of this study shed light on the relevance of homestays in the hospitality business in the state of Madhya Pradesh.

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ORGANIZATIONAL CLIMATE AND ITS INFLUENCE ON HRM PRACTICES AND ORGANIZATIONAL OUTCOMES WITH SPECIAL REFERENCE TO IT SECTOR

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ABSTRACT
This study examines how HRM practices and workplace culture contribute to successful organizational results in the information technology (IT) industry. The study analyses seven HRM techniques that are often used by Indian IT organizations and look at how they affect HR outcomes. According to the data, businesses that implement HRM techniques including performance reviews, pay and benefits, and HR planning see considerable HR results. A strong mediator between HRM practices and organizational outcomes is also discovered to be the organizational atmosphere. The study highlights the significance of fostering a favorable organizational climate, which is described as the company's employees' collective perceptions, emotions, and attitudes about the core components of the organization. Research is limited to the Information Technology (IT) sector of Pune. The article concludes that in order to improve organizational outcomes, IT organizations should concentrate on both organizational climate and HRM practices.
Keywords: Organizational Climate, HRM Practices, Organization Outcome, HR Outcomes, IT Sector

Introduction

Work culture, Organizational Environment

Since skilled personnel is the source of competitive advantage in various industries, human resources are the lifeblood of the IT sector. The IT sector is known as most dynamic and adoptive sector as it has cutting-edge work cultures like virtual offices and virtual migration that are unique from other sectors due to the high attrition rate, low job satisfaction, employee job hopping, flexibilization, and individualization that are major concerns for the IT industries. The HR practices used by IT sector companies are considerably different from the other sector companies in INDIA.

Organizational Climate and Outcome

The norms, beliefs, expectations, regulations, and procedures that make up an organization's culture affect employee motivation, dedication, and ultimately, individual, and work-unit performance. Good environments foster initiative, while unfavorable environments discourage it. The term "organizational climate" describes the standard of the workplace. People are more likely to positively bestow wholehearted support to the attainment of organizational outcomes if they feel appreciated and respected within a company. Paying attention to the elements that affect employees' impressions, such as the standard of leadership, the process for making choices, and whether employee efforts are acknowledged, is necessary to establish a "healthy" corporate atmosphere. "Climate may be viewed as the perception of an organization's qualities."

Gerber (2003), the shared beliefs, attitudes, and methods that organization members have regarding the fundamental workings of your company represent the accepted values, principles, and methods of the company's philosophy and can have either a favorable or negative impact on how people behave. Moran ,Volkwein,(1992)

Richard (2009), actual production or outcomes of an organization are evaluated versus its expected outputs as the organization's performance/outcome or aims. Three distinct areas of firm outcomes are included in organizational performance: (a) commercial performance (monetary returns, profit on assets, investment performance, etc.); (b) commodity market efficiency (the sale, market share, etc.); and (c) stockholders return (All stockholders' return, fiscal worth bonus, etc.). Organizational performance has broader focuses.

Organization outcomes is a subject that appeals to specialists in a variety of subjects, such as tactical planners, operations, investment, statutory, and enterprise development.

HRM Practice

Seven HRM best practices that can be found in every IT industry have been mentioned. This list was created using the theory presented by VSP Rao in the second edition of his book, "Human Resource Management- Test and Examples" Rao (2000).

Human Resource Planning

To help the organization achieve its goals, HRP entails obtaining data, setting goals, and making decisions. An accurate assessment of personnel planning with corresponding skill requirements is the fundamental goal of establishing a manpower plan.

Talent Management

Managing goals, attainment assessments, assessment through multiple sources, workforce and succession planning, development planning, and training are just a few of the adaptable Employee Performance Management options that organizations offer.

Recruitment & Selection

The process of evaluating and selecting competent people for a position in a business, corporation, volunteer-based organization, or community group is known as recruiting.

Training & Development

To train means providing information, enhancing the abilities, sharpen the skills for developing the required capabilities of the employees.

Performance Appraisals

This is a technique for evaluating an employee's work in terms of quantity, quality, cost, and timeliness.

Compensation

The systematic method of granting employees' commercial benefit in return for workforce is called compensation. Payment can benefit employment, work performance, and employment pleasure, including other matters.

Employee Welfare

Welfare refers to any action taken, independent of the government and not required by business, for the intellectual or social advancement of employees.

Empirical Evidence

Because HRM methods can improve employee attitudes and behavior and organizational performance throughout the past several years, several academics and experts have concentrated on the importance of HRM. Becker (1996), there is growing proof that HRM methods and organizational effectiveness are closely related. HRM practices alter workers' views towards their jobs, encouraging them to reciprocate favorably in the direction of achieving organizational goals. Settoon (1996). Employees become pragmatically motivated and feel more obligated to the firm, for instance, when companies offer possibilities for training and growth, awards, and managerial concern for their well-being. Arthur (1994) "Organizational performance can benefit from high-performance work systems and high-commitment HRM strategies. Gould-Williams (2003) both methods agree that HRM procedures should be created to inspire workers and increase their potential, Huselid (1995). Personality represents individuality, while culture represents the organization. Organizations are differentiated on the basis of their distinctive set of convictions, beliefs, work culture, and employee relations. Each organization has its own unique culture which has its own different rules and regulations with distinct communication systems, and sentiments from other organizations. Different expertise, religious background, educational qualification, or peer/ social groups influence the work culture within the organization. These diversities share the features of a leading culture that pass on to the entire company. Managers sometimes become shocked and tend to discount the idea that culture plays a part in creating and strengthening an organization's success and performance. They ultimately think that the only thing that will advance them and their organizations is their experience and technological know-how. Rollins (1998). The numerous everyday work-life decisions that make up our occupations carry the values of organizations with unambiguous clarity from coworker to a coworker and from management to employee. RS (2003). The term "attitude" refers to feelings, attitudes, and behavioral patterns that are directed toward certain individuals, groups, concepts, problems, or goals, Meyer , Allen (1991).

The difference in work conditions, work culture, and HRM practices shows the difference in the final outcomes of the organization. Hence to ascertain the correlation between organizational setting, HRM methods, and organizational results, a particular study on IT businesses is required.

Based on empirical studies, it has been validated by many researchers that the final outcomes of the organization as employee performance, employee satisfaction, and staff turnover are dependent on HRM practices adopted by the organization and the climate of the organization.

The outcomes, however, could differ based on the situation, including the industry, firm size, and cultural considerations.

The association between organizational environment, an organization's HRM practices, and the success of the organization must therefore be thoroughly examined, especially in the context of IT businesses.

Employee perceptions of their workplace as a whole are referred to as the organizational climate or environment. A company's employee management practices are referred to as human resource management (HRM) practices. Organizational outcomes refer to the organization's effectiveness and success.

Numerous studies have found a positive relationship between HRM procedures and workplace culture. A favorable organizational climate is associated with the adoption of innovative work practices, such as employee participation, training, and performance evaluation systems. Schneider (2003).

Moreover, studies have demonstrated that HRM practices affect the link between organizational climate and results. Practices of HRM mediated the link between organizational atmosphere and commitment, which was then linked to favorable organizational performance. Tsai (2015).

Organizational environment and performance relationship is somewhat facilitated by HRM practices. HRM practices like employee contribution, preparation, and progress, and assessing performance were positively associated with organizational performance and served as a partial interceding factor in the association between organizational climate and organizational performance.

Despite the positive correlation between the organizational environment and HRM practices, there was no relationship between HR practices implemented by the organization and organizational results. Lai (2019).

Given that a vast body of research indicates that organizational environment significantly influences HRM practices, it seems that there is an influence of organizational climate on HRM practices; Schneider, Gunnarson, & Niles-Jolly (1994). The collective beliefs, attitudes, and behaviors of the workforce inside the company are referred to as the organizational climate. This factor has a variety of effects on HRM procedures.

For instance, a favorable organizational culture can foster a cooperative and supportive work environment, which can make it easier to conduct HRM procedures like training and development, employee involvement, and performance evaluation. Huselid (1995). A bad organizational environment, on the other side, might make it difficult to apply HRM procedures and result in undesirable organizational outcomes including low employee satisfaction, high turnover, and decreased productivity.

A positive organizational climate is linked to the adoption of creative HRM practices and improved organizational results, while a bad organizational climate is linked to subpar HRM practices and undesirable organizational outcomes, according to research findings of Byrne, (2016) and Kim , Kim (2018).

It is impossible to determine whether the notion that organizational environment and HRM practices have little effect on organizational outcomes in the IT business is accurate in the absence of any specific study or research to support it. Nonetheless, most of the research in this field points to the fact that HRM procedures and organizational atmosphere do affect organizational outcomes across industries, including the IT industry. A positive organizational climate was associated with high job fulfillment and low attrition intention among IT company employees. Park , Kim (2017). Additionally, HRM policies including employee development and training had a favorable effect on the performance of IT organizations. Li, Jiang, & Lu (2016). As a result, it is crucial to look at the environment of the IT sector and conduct research to ascertain how organizational atmosphere, HRM practices, and organizational outcomes are related. Making a generalization that there is no effect of the organizational environment and practices adopted for the management of human resources on an organization's success in the IT business without such evidence is not accurate.

It is suggested that there is a relationship between HRM practices and the organizational environment since overall research shows that practices employed for the development of human resources mediate the correlation between an organization's climate and its outcomes.

Objectives of the Study

- To study the organizational environment with respect to IT companies in Pune.
- To study HRM practices with respect to IT companies in Pune
- To examine the relationship relating to the organization climate and HRM practices in organizational outcomes.

Hypotheses of the Study

H1: There is an impact of organizational climate on HRM practices with respect to IT companies.
H2: There is an impact of organizational climate and HRM practices on organizational outcomes with respect to IT companies.

Research Methodology

Exploratory and conclusive research are the two main types. Conclusive research needs a quantitative technique, while exploratory research needs a qualitative one. Combining both methodologies is known as a mixed strategy, and it uses both quantitative and qualitative methods to gain a thorough understanding of the study subject. It is a type of triangulation used to strengthen the logic and dependability of study results. For this research investigation, a mixed method is used.

The characteristics of the phenomenon/phenomena Organizational Climate, HRM practices, and Organizational Performance are described in this study using a descriptive research design.

Convenience sampling was employed because it is a useful and effective way to get data quickly. Convenience sampling is a practical substitute because sampling from an unlimited population can be expensive and time-consuming. Convenience sampling can have certain drawbacks, though, such as potential bias brought on by the non-random selection of participants.

For this study, a survey method has been used, and a questionnaire was developed as the tool for collecting primary data. The structured questionnaire was designed to collect information on various aspects related to the research objectives, including HRM practices, organizational climate, and organizational outcomes.

By choosing participants from various departments and job responsibilities inside the IT organization, the researcher was able to alleviate this constraint for proper representation of the population. Also, the researcher made sure that the sample size was adequate to generate adequate statistical power.

Overall, the convenience sampling strategy was chosen because it provided a practical and efficient way to collect data from a huge and diverse population of IT firm employees. Despite the method's limitations, care was taken to ensure the sample size and demographic representation were adequate to achieve the study's goals.

To make sure the questions were legitimate and reliable, the questionnaire was created using a review of previously published research papers and articles as well as interviews with HR executives. The survey was designed to collect information on a range of issues related to the study's objectives, including HRM practices, workplace cultures, and organizational outcomes. The data was collected using a survey method, with a survey form serving as the primary instrument.

The closed-ended questions used Likert-type scales to measure participants' attitudes, opinions, and perceptions of various HRM practices, the culture of the organization, and organizational outcomes. Participants had a choice among five responses on the Likert scale: strongly agree, agree, neither agree nor disagree, disagree, and disagree strongly.

Respondents had the chance to respond in-depth to the open-ended questions and share more details about their perspectives and experiences. To provide a more thorough grasp of the research aims, the open-ended questions were employed to complement the multiple option questions.

To make sure the questions were precise, succinct, and simple to grasp, a small group of IT business personnel pretested the questionnaire. Little changes were made to the questionnaire following the pretesting to guarantee the validity as well as reliability of the items.

Overall, the questionnaire survey approach was adopted because it offered a useful and effective means to gather information from a sizable and diversified community of IT firm personnel. The questionnaire was pretested to make sure it was valid and trustworthy and was made to collect both numerical and nonnumerical data.

Data Analysis-
Respondents were 200 employees from nine different IT companies situated in Pune, Maharashtra. There were 131 male (65.50%) and 69 female (34.50%). The average age of the respondents was 38 years with a standard deviation of 3.4 years. The educational qualification shows that 47 (23.50%) of the respondents have master's degree, 153 (76.50%) have bachelor's degree.

A straightforward linear regression analysis was conducted based on the supplied tables to look at the relationship between organizational climate and HRM practices.

Adjusted R Square	Std. Error of the Estimate
.627	.284541997418774

a. Predictors: (Constant), Average (Organizational Climate)
b. Dependent Variable: Average (HRM Practices)

Table 1. Model Summary[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.196	1	6.196	76.530	.000[b]
	Residual	3.562	199	.081		
	Total	9.759	200			

Dependent Variable: Average (HRM Practices)

b. Independent: (Constant), Average (Organizational Climate)
Table 2. ANOVA test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Standard Error	Beta		
1	(Constant)	.927	.329		2.821	.007
	Average (Organizational Climate)	.757	.087	.797	8.748	.000

Table 3.linear regression

The findings showed that Organizational Climate significantly influences HRM practices in a positive way (Beta =.797, p <.001), accounting for 63.5% of the variation in HRM practices. The convenience sample approach was used to pick 200 IT firm employees as the study's respondents.

The regression model is significant, according to the ANOVA table (F(1, 199) = 76.530, p <.001), indicating that it fits the data well. According to the table of regression coefficients, the intercept is significant (B =.927, p =.007), which means that HRM Practices would be.927 if the Organizational Climate were zero. Additionally, a one-unit rise in organizational climate is correlated with a 0.757-unit increase in HRM practices, according to the coefficient for organizational climate, which is significant (B =.757, p < .001).
The mean of the residuals is zero, with a standard deviation of 0.281, according to the residual statistics table, while the mean of the projected values is 3.7777, with a standard deviation of 0.371. This shows that the model can predict HRM Practices based on Organizational Climate very well.

The study's findings, which emphasize the need of establishing a positive workplace culture to advance HRM practices, reveal that organizational climate has a major impact on HRM practices in IT organizations. The 200-person sample size is relatively large and could provide enough statistical power to draw valuable conclusions from the data.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.847[a]	.717	.704	.246137951010726

a. Predictors: (Constant), Average (HRM Practices), Average (Organizational Climate)
a. Dependent Variable: Average (Organizational Outcome)
Table 4. Model Summary

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.603	2	3.302	54.498	.000[b]
	Residual	2.605	198	.061		
	Total	9.209	200			

a. Dependent Variable: Average (Organizational Outcome)
b. Predictors: (Constant), Average (HRM Practices), Average (Organizational Climate)
Table 5. ANOVA Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.623	.309		2.017	.050
	Average (Organizational Climate)	.449	.124	.487	3.627	.001
	Average (HRM Practices)	.394	.130	.406	3.025	.004

Table 6 Coefficients

The tables present data on the regression analysis performed to investigate the association between organizational climate, HRM practices, and organizational results. The information presented does not include the sample size for this study.

The table no 4 displays the findings of the regression study between HRM procedures and organizational climate. The regression model is significant ($F(1, 199) = 76.530$, $p < .001$) and accounts for 63.5% of the variance in HRM practices, according to the ANOVA table (table no 5). According to the coefficients table (table no 6), there is a substantial positive correlation between organizational environment and HRM practices, with the standardized beta coefficient for organizational climate being.797 ($t = 8.748$, $p < .001$).

The findings of the regression analysis between the organizational atmosphere, HRM procedures, and organizational outcome are presented in the table. The regression model is significant ($F(2, 198) = 54.498$, $p < .001$) and accounts for 71.7% of the variance in the organizational outcome, according to the ANOVA table. The coefficients table demonstrates that there are significant positive associations between organizational outcomes and both organizational climate (standardized beta =.487, $t = 3.627$, $p = .001$) and HRM practices (standardized beta =.406, $t = 3.025$, $p = .004$).

Overall, the findings suggest that both organizational climate and HRM practices are important predictors of organizational outcomes in IT companies.

The regression study's findings indicate that HRM practices and organizational climate both significantly enhance organizational outcomes in IT organizations. According to the regression analysis, the model with two predictors—organizational environment and HRM practices—had a higher R-squared value and was a better fit for the data than the model with just one predictor. The statistically significant coefficients for both variables indicated that an increase of one unit in organizational climate and HRM practices would result in an increase in the organizational outcome. These findings demonstrate that IT organizations should prioritize improving both the working environment and HRM practices in order to improve organizational outcomes.

Findings

Employees of reputed companies were interviewed during the survey, and it was found that HRM practices are being properly followed in the companies of the IT sector situated in Pune. This finding is based on the employees' perceptions regarding HRM practices collected through their self-report on HR practices and organizational climate.

It is inferred from the data that Organizational Climate significantly influences HRM practices. It means that a positive workplace is important for improvement in implementing good HRM practices.

There is a significant relationship between organizational environment and HRM practices and organizational outcomes. This indicates HRM practices and organizational climate play an influential role in improving the organizational outcomes.

Conclusion

Organizational culture and HRM procedures considerably enhance organizational outcomes in IT organizations, in line with the findings of the regression analysis. Regression analysis revealed that the model with two predictors—organizational environment and HRM practices—had a higher R-squared value and performed better than the model with a single predictor. The statistically significant coefficients for both variables indicated that an increase of one unit in organizational climate and HRM practices would result in an increase in the organizational outcome. These findings demonstrate that IT organizations should prioritize improving both the working environment and HRM practices in order to improve organizational outcomes.

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PREDICTING AN ELECTIVE COURSES IN STUDENT-CENTRIC EDUCATIONAL SYSTEM

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ABSTRACT
The role of electives in a student-centered educational system is significant. This enables the children to adhere to their interests and pick up important knowledge and expertise. Also, electives offer students the chance to learn new skills and expand their knowledge of different fields of study. As a result, it's critical to comprehend how to accurately estimate the students' electives. In a student-centered educational system, this research provides a high utility mining (HUM) strategy to predicting student electives. The suggested method makes use of HUM to track out commonly selected electives as well as connections between electives and other variables. The method's outcomes are utilised to build a customizable prediction model.
Keywords: Datamining, Frequency mining technique, high-utility itemset mining, predictions, electives, pruning, internal and external parameters

Introduction

Early-semester academic performance prediction of students is a highly valuable tool for early intervention to get better their performance and also to lower the failure rates of students at the conclusion of the semester. However, predicting students' college performance is a difficult task since a variety of characteristics, including academic background a student's prior academic accomplishments demographic characteristics, economic background, behavioural characteristics, and other elements can affect a student's performance. As a result, Educational Data Mining (EDM) is a key technique for resolving this issue. One of the most popular uses of EDM is the prediction of students' future performance using their academic data in the past years. It is a crucial tool that may be used to improve student performance, lower failure rates, and give a full picture of how pupils are learning.

By using data mining techniques, it is possible to analyze data from different sources and predict which electives will be the most beneficial for a student. This paper explores how data mining can be used to predict electives for students. Data mining is an important tool for predicting electives for students. By analyzing data from different sources, it is possible to identify patterns and correlations that can be used to make predictions about which electives will be the most beneficial for a student. For example, data mining can be used to analyze the data from past student performance and identify correlations between different electives and student performance. This data can then be used to make predictions about which electives a student should take.

High Utility Itemset Mining for Predicting Electives

In the context of Higher Education, High Utility Itemset Mining (HUIM) is a technique for mining data that can be used to precisely predict electives in the context of higher education. HUIM is based on the concept of discovering the most significant items or events that occur in a dataset. It is particularly useful for uncovering patterns in datasets that contain a large number of variables and data points. HUIM can be used to identify relevant features in the dataset that are important in predicting electives. For example, HUIM can be used to identify the most influential factors such as student preferences, academic performance, and program requirements that are associated with a student's decision to enrol in a particular elective. Additionally, HUIM can be used to generate new knowledge by uncovering interesting patterns and relationships in the data. HUIM can also be used to identify potential areas of improvement in the elective selection process, as well as to identify areas where additional resources might be needed.

Literature Review
Viger (2015) has spoken about a problem in data mining termed as High-Utility Itemset Mining. The author has given an outline of this hindrance and also makes clear how it is exciting, and has provided the algorithms for this problem and datasets. Kakaraddi & Bojewar (2017), the authors of this study relate HUM's current algorithms. In order to ensure predictive analysis on the education domain and predict student success based on their choice of elective topics, it designs and assesses an algorithm for HUM. This projection is compared to their historical data, or the performance of prior semesters.

Anita, Deshpande & Dhabu (2018), A unique selective database projection-based HUI mining algorithm (SPHUI-Miner) and an effective data format, called HUI-RTPL, which is an ideal and packed in depiction of data requiring little space, are both proposed by the researchers in this study. In order to reduce the search space for HUI mining, they also suggest two brand-new data structures, namely the Tail-Count list and the selected database projection utility list. Our suggested method is more effective thanks to selective projections of the database that shorten database scanning time. It produces distinct data instances and fresh predictions for data with fewer dimensions, which speeds up HUI mining.

Nabil, Seyam & Ahmed (2021), In order to identify students who are at risk for failing, this research investigates the effectiveness of deep learning in the field of education data mining. To address the issue of an asymmetrical dataset, they considered various resampling techniques. Mengash (2020), this research concentrates on strategies to help colleges make admissions decisions by predicting applicants' educational outcomes at universities using data mining tools. The findings show that based on specific pre-admission factors, applicants' early university achievement may be anticipated before admission.

Krishnamoorthy (2014), the researcher offers a high utility mining approach that makes use of unique pruning algorithms in an effort to advance the state-of-the-art. Experimentation is used to show how useful the proposed approach is. Also, a comparison of the method to a cutting-edge method is offered. The experimental findings show how well the suggested strategy works to eliminate unqualified candidates. Tewari, Panwar (2018), the scholars have presented an assessment among various association rule mining algorithms that deals with high utility patterns mining.

Tseng, Shie, Wu & Yu (2013),provides two algorithms for mining high utility itemsets, UP-Growth and UP-Growth+, along with a number of efficient ways for candidate itemset pruning. Utility Pattern Tree (UP-Tree), a tree-based data structure, is used to maintain the information of high utility itemsets so that candidate itemsets can be efficiently generated with just two database scans. Using various real and synthetic datasets, the performance of UP-Growth and UP-Growth+ is matched with that of cutting-edge algorithms.

Liu, Wang and Fung (2016), suggests a novel approach that, without producing candidates, identifies high utility patterns in a single phase. The innovations are a look-ahead mechanism, a linear data structure, and a high utility pattern growth approach. The reverse set enumeration tree is searched during the pattern growth phase, and utility upper bounding is used to condense the search space. Macarini, Cechinel, Machado, Ramos & Munoz (2019), this study tries to identify at-risk pupils early on in introductory programming classes. In order to determine which datasets (collection of variables) and classification algorithms work best together, they present a comparison analysis. Findings exhibit that there are no statistically major differences between models created from the various datasets, and that interaction counts and derived attributes are sufficient for the work.

Objectives Of The Study
1. Precisely predict any elective to students of Higher Education Institute (HEI). This is to enable students to make informed decisions about their academic choices.
2. To help students to identify the best suited electives for them and make accurate decisions about their educational goals. This can help students to maximise their chances of success in their studies.
3. By using High utility mining, students are more likely to select the most suitable electives for their degree programs, which can lead to better academic performance and increase their job prospects.
4. Based on these results, suggestions to the students for the elective can be done in their forthcoming semesters. This can help to improve substantially in their performance.

High Utility Itemset Mining
High utility itemset mining is a technique for accurately predicting electives for students in higher education based on the student's academic history, interests, goals, intelligence, emerging industry trends, and other peripheral parameters. Utility is the overall satisfaction or value derived from using a certain good or service. Understanding utility values is crucial to understanding why different products have varying prices and levels of

demand. Higher utility products are frequently in greater demand, which enables them to command higher prices.

A transaction database is a database that holds a collection of consumer transactions. A transaction is a combination of the products that customers have purchased. In the database below, for instance, the first client purchased "apples, bread, cheese, gherkin, and egg," whereas the second purchased "apples, bread, and egg."

Transaction	Items
T1	{apples, bread, cheese, pickle, egg}
T2	{apples, bread, egg}
T3	{cheese, pickle, egg}
T4	{apples, bread, pickle, egg}

Table 1: A transaction database

Itemset	Support
{egg}	4
{pickle, egg}	3
{bread, pickle, egg}	2
{apples}	3
…..	

Table 2: A frequent itemsets

Finding frequent itemsets is the aim of a prior mining method called frequent itemset mining. These methods require a transaction database and the minimum support threshold parameter "minsup" as input. Once all sets of things (itemsets) that appear in minsup transactions have been returned, these algorithms stop.

Consider the itemset “bread, pickle, egg." For instance, if we set minsup = 2, we would find multiple such itemsets (referred to as frequent itemsets), such as the following. Because it appears in three transactions, it is said to have a support of 3, and because the support of "bread, pickle, egg" is greater than minsup, it is considered to be common.

Significant Constraints of Frequent Itemset Mining are:

1. The absence of consideration of buying numbers is a key constraint. Hence, an item may only show up once or not at all in a transaction. Hence, if a consumer buys five, ten, or twenty loaves of bread, they are all treated equally.
2. The fact that all items are given the same weight, relevance, and utility is a second major constraint. For instance, it doesn't matter if a buyer buys a costly bottle of saffron or a loaf of bread—both are seen as equally significant. Thus, frequent pattern mining may find many frequent patterns that are not interesting.

High-Utility Itemset Mining

The issue of frequent itemset mining has been renamed as the issue of high-utility itemset mining to solve these drawbacks. In this issue, a transaction database holds transactions where both the unit profit of each item and the purchase amounts are considered. Take the following transaction database as an example.

Trans	Items
T0	{apples (1), bread(5), cheese(1), pickles(3), egg(1) }
T1	{ bread(4), cheese(3), pickles(3), egg(1) }
T2	{ apples (1), cheese(1), pickles(1) }
T3	{ apples (2), cheese(6), egg(2) }
T4	{ bread(2), cheese(2), egg(1) }

Item	Unit Profit
Apples	Rs. 5
Bread	Rs. 2
Cheese	Rs. 1
Pickle	Rs. 2
Egg	Rs. 3

Table 3: A transaction table with quantities and unit profit information for items
(Source: https://data-mining.philippe-fournier-viger.com/introduction-high-utility-itemset-mining/)

Think about transaction T3. The relevant consumer has purchased two units (kg) of apples, six units (packs), and two units (dozens) of eggs, according to this information. The unit profits of each of these products are now shown in the table on the right. For instance, the unit profits for the goods "apples," "bread," "cheese," "pickles," and "egg" are, respectively, Rs. 5, Rs. 2, Re. 1, Rs. 2, and Rs. 3, and they are all shown as Rs. This indicates, for instance, that every sold "apple" unit makes a profit of Rs.5.

Finding the itemsets (groups of items) in a database that sell well together is the challenge of high-utility itemset mining. The user must enter a value for the "minutil" threshold (the minimum utility threshold). All high-utility itemsets, or those that produce at least "minutil" profit, are output by a high-utility itemset mining algorithm. Consider, for instance, that the user set "minutil" to Rs.25. The following would be the output of a high utility itemset mining algorithm.

High Utility Itemsets	Profits (Rs.)
{ apple, cheese }	28
{ apple, bread, cheese, pickle, egg }	25
{ bread, cheese, pickle }	34
{ bread, cheese, egg }	37
{ bread, pickle, egg }	36
{ cheese, egg }	27
{ apple, cheese, egg }	31
{ bread, cheese }	28
{ bread, cheese, pickle, egg}	40
{ bread, pickle }	30
{ bread, egg }	31

Table 4: high-utility itemsets

Consider the combination of bread and pickles as an example. It is regarded as a high-utility itemset since its utility of 40 (which results in a profit of Rs. 40/-) is greater than the minutil barrier, which the user has set at Rs. 25/-.
Let's now examine the methodology used to determine an itemset's utility (profit) in more depth. The number of each item from the itemset multiplied by its unit profit, in general, determines how useful an itemset is in a transaction. Consider the figure below as an illustration. In transaction T0, the profit for "apple, egg" is 1 x 5 + 1 x 3 = 8 Rupees. Similar to this, the profit from the transaction T3 item "apple, egg" is 2 x 5 + 2 x 3 = 16 Rupees. A set's utility throughout the entire database is now calculated as the sum of all transactions in which it appears. As "apple, egg" only appears in transactions T0 and T3, its usefulness is the total of Rs. 24 (Rs. 8 + Rs. 16).

Trans	Items
T0	{ apples (1), bread(5), cheese(1), pickles(3), egg(1) }
T1	{ bread(4), cheese(3), pickles(3), egg(1) }
T2	{ apples (1), cheese(1), pickles(1) }
T3	{ apples (2), cheese(6), egg(2) }
T4	{ bread(2), cheese(2), egg(1) }

Item	Unit Profit
Apples	Rs. 5
Bread	Rs. 2
Cheese	Rs. 1
Pickle	Rs. 2
Egg	Rs. 3

Table 5: illustration of how to calculate the utility of itemset {apple,egg}

The issue of high-utility itemset mining is highly intriguing for the following reasons.

1. Rather than looking for groups of goods that are regularly purchased, it would be more useful to find those that produce significant profits from client transactions.
2. From a research standpoint, the high-utility itemset mining issue is more difficult. A well-known property of frequency (support) of itemsets in frequent itemset mining states that for every given itemset, all of its supersets must have a frequency (support) that is lower or equal. This is known as the "Apriori property" or "anti-monotonicity" trait, and it is particularly good at pruning the search area since we know that all other itemsets are rare.

Problem Statement

While candidates / students are very naïve in selecting any elective, he/she selects it at random with no knowledge of how it will help the candidate in future. If the electives are wrongly chosen it may hamper their educational performance in future. On the contrary, if the candidate is guided to select the right elective, it will be beneficial in many aspects. The factors that can impact his / her selection of elective could be:

1) The intelligence of the individual
2) Domain knowledge
3) Theory and Practical marks obtained by the candidate in the curriculum
4) Emerging trends in the industry

These factors can be used to evaluate a candidate and a certain pattern can be created from his/her performance on these factors. This pattern can be matched with the previous year's students who had taken a particular elective and scored well or not. Thus, the candidate can be guided to opt in or opt out a particular elective.

Proposed Work

In single phase association rule mining, a unique approach has been put forth that makes use of factors such as statistical threshold-based pruning to find high utility patterns. Here, pruning is utilised to cut down on the amount of memory and time needed to mine high utility itemsets. Setting a threshold value—which is frequently calculated after numerous runs or experiments with the algorithm—enables the discovery of high utility patterns from a dataset. A pattern will be boring if the utility of an itemset is less than a minimum threshold utility. These are the measures we can take to find high utility itemsets:

The algorithm's first inputs are the Transaction dataset, External Utility value, and Minimum Threshold value. Following database projection for the itemset, identical transactions are then combined. Each database projection simply requires linear time. The utility value is subsequently subjected to two upper bound techniques. After computing the upper bound, high utility itemsets are finally mined.

Algorithm On Data Mining For Predicting Electives For Students

1. **Gather and clean data:** The first step is to collect the information of the student whose elective is to be predicted. The parameters needed are as follows:
    a. The marks of theory courses taken by the candidate in his all earlier semesters
    b. The marks of practical courses taken by the candidate in his all earlier semesters
    c. The aptitude of the candidate where there will be scrutiny on various factors around him w.r.t. the curriculum he / she is learning
    d. The market trends w.r.t. the job opportunity and new emerging technologies
    e. The historical data of previous year students' marks (theory, practical, aptitude) who had studied the same curriculum.

There are some direct parameters and some indirect parameters that will affect the study.

2. **Prune the data**: This involves removing the unwanted data like, the data of students who had cancelled the admission or the data of those students who have year drop, from the historical data, Here, the pruning of data becomes very much essential as this will help to narrow-down on the results. In order to discover the best results, sampling with replacement can be used in conjunction with pruning to limit the number of candidate item sets. The data needs to be organized and formatted in a way that is easy to use for the data mining algorithm.

3. **Apply the data mining algorithm:** Once the features have been identified, the high utility mining algorithm can be applied. This involves using the features to develop a model that can be used to predict which electives a student is likely to take. The likely interesting and uninteresting patterns will be generated.

4. **Test the model:** The model should then be tested to see how accurate it is in predicting which electives a student is likely to take. This can be done by comparing the predictions to actual outcomes.
   To compare the observed and expected findings, a statistical testing method called the chi-square test can be very effectively applied. The goal of this test is to establish if a discrepancy between observed and anticipated data is the result of random variation or a correlation between the variables being examined.
   Once the model has been tested, it can be refined if necessary to improve its accuracy. This can involve adjusting the model parameters or adding more features. It is to be noted that refining can also include pruning the data below the threshold. A pattern will be boring if the utility of an itemset is less than a minimum threshold utility.

5. **Implement the model:** Once the model is refined, it can be implemented in the school to make predictions about which electives a student is likely to take. This can be done by inputting the student data into the model and using it to generate predictions.

Future Scope

The paper has proposed a very significant technique where a student can be guided to select an elective that can be helpful for his/her future in education as well as in the job perspectives also. The prediction will precisely help to choose a rightful elective rather than just select an elective depending upon some irrelevant parameters.
In the future a proper model can be designed and presented with software. This model can be tested on various programs in the field of technology like Masters of Computer Applications, Bachelor of Engineering, etc.

Conclusion

High utility mining is a data mining technique that can be used to precisely predict electives for students. By using the data, HEIs can suggest electives that are tailored to each student's interests, helping them to make the most of their studies. Additionally, this technique can be used to identify anomalies in student behaviour, which can help HEI to identify potential problems and intervene as needed.

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PREDICTIVE ANALYSIS OF FOREIGN DIRECT INVESTMENT IN INDIA USING BUSINESS INTELLIGENCE (BI) TOOL- TABLEAU

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ABSTRACT
Foreign investment is vital for every country, mostly in the financial progress of developing countries worldwide. Countries try to attract FDI inflows with their policies and it becomes a key battleground in the markets. Foreign Direct Investment (FDI) has become a crucial source of investment for many countries, including India, due to its potential to bring in capital, create jobs, transfer technology, and super economic growth. This paper highlights the trend of FDI in India in state-wise and countrywide shares of FDI. Business Intelligence (BI) Tool- Tableau is used to get analyzed data in the form of different visualizations like tables, and line graphs which are easy to understand for investors. In this paper, secondary data is being used which is collected from the official website of RBI. This data will cover FY. 2000-2022 and using this data we can predict and visualize the upcoming year 2025 inflow. This analysis will help to make decisions for the growth of Indian states.
Keywords: Indian Economy, FDI inflows Trend, FDI Prediction, Analysis of Foreign Direct Investment in India, Business Intelligence (BI) Tool- Tableau

Introduction
FDI was announced in India in 1991 by former finance minister Dr. Manmohan Singh under Foreign Exchange Management Act. The Indian government makes rules and laws on equity croft for foreign investors in different sectors and the Indian government has taken several measures to attract Foreign Investors, such as streamlining the FDI policy and eliminating sectoral capson the foreign project in numerous industries. As a result, FDI inflows into India have increased significantly in recent years. In the Study of UNCTAD, only China is ahead of India in foreign investments and because of globalization and liberalization, FDI is considered a machine for raising lucrative progress and advancement. If we observe the frugality of India, it'll be moving widely due to this India will uprising from a developing country to an advanced country.Transmogrification needs an enormous sign of wealth in the form of both fiscal and directorial and in this process, FDIremnants the most reachable and active option for fiscal capital in India. Hence we can say that Foreign Direct Investment is defined as a fiscal method of incoming capital from a country outside the boundaries of a nation and because of this capital flux which rises the creation capacity of several sectors of miserliness is nominated as Foreign Direct Investment.Planning Commission plays an important roles the government of a country must frame, apply and run the FDI plans. To a great level, the size and significance of FDI in any country can be dependent upon its macroeconomic programsIf we study the data of (FDI) in India has been gradually growing in recent years, although the COVID-19 pandemic had an impact on FDI invasions in 2020. For making better decisions FDI data is to be analyzed but for analyzing such a huge quantity of data some Business Intelligence tools are essential to help investors to understand the pattern of data which is available in the market or published by the government on the RBI website. In this paper, we are using the Business Intelligence (BI) Tool- Tableau data which will help us to understand the total FDI till the current date and we can analyze the top sectors, states, countries of inflow, etc.that have higher FDI inflow.

Literature Review
Singh (2019), had studied the various policies of FDI India and given proposals for policies also and according to her, the Indian economy is one of the topmost developing marketplaces all over the world. Kumar (2021) talks about the topmost foreign inflow places in the world, studied data from 2000-2021, and investigated the existing FDI rules and tendencies.In the paper, we get a detailed overview of the trend of FDI and its policy

framework. Ramasamy (2017), discusses the properties of FDI spillover on local efficiency and shows that the technology, human capital, and various provisions of FDI have a substantial imprint on local output. This paper research and development shows that FDI has a significant impact on regional productivity in India.

Rani (2020), learning says that the Indian economy is the fastest-emerging economy and talks about statistical tools like CAGR. It also talks about the GDP and uses the secondary data set for study in India. Merajothu (2020), surveyed the FDI impact on GDP and tested hypotheses using simple linear regression and took 19 years of data from 2000-19, where talked about India its availability of large amounts of natural resources, well market environments, and extremely proficient and knowledgeable capitals, which provide a better platform for reserves. Patil (2014), effects of FDI on Sectors of the economy of India such as software, pharmaceuticals, IT services, automobile, industry, and e-commerce which have received the prime sum of FDI in India.

Anitha (2012), talks about Foreign Direct ventures in India where there is the accessibility of large amounts of natural capital as well as better marketplace environments and highly proficient and practiced resources, which offer a better stage for reserves and Economic Growth in India. Bhargava (2018), Premeditated on the Visualization of data sets and different methods, also the process of making significant data by the visual framework and data analysis where it’s executed after the data correction. Sharma (2011), explores the effectiveness of BI in strategies for an organization for employees also it explains business intelligence outcomes and categories distribution. It talks about performance management and steps to create a balanced scorecard.

Tvrdíková (2007), talks about business intelligence applications and tools in operational data. It says BI tools are necessary for data mining and they help to get information from big datasets. The main focus is on data warehouses and on new tools. Duggal study says domestic and foreign investments play an important role in the growth of India. Foreign investment can decrease the domestic savings gap. It covers a 13-year period to analyze and examine the trend and pattern of FDI. Miyamoto (2003), says that max human capital is a key ingredient to attracting FDI, and it's beneficial to host countries in the form of their activities. Rahate (2021) assured that BI tools can compress large datasets into their insights. The motto behind the created paper is to demonstrate an idea regarding data analytics. It is focused on data exploration and visualization, and model development. Implementation is done on the tableau tool.

Research Objective

The key objective of a research paper are stated below

- To study the trends of FDI inflows in India using the Tableau BI tool.
- To identify State-wise inflow of FDI in India using the Tableau BI tool.
- To detect the country-wise flow of FDI into India by using the Tableau BI tool.
- To determine the sector-wise distribution of FDI inflows in India using tableau.
- To Predict/Forecast FDI inflows in India whether increasing/ decreasing by using Tableau BI tools.

Problem Statement

As FDI data is an enormous amount of data, formerly analysis was done manually and it takes time to recognize lots of data but by using analytics tools we can easily predict future analyses or forecasts. Critical tools like tableau will be also helpful for FDI data analysis. There is one benefit: if we have lots of data, we can get more accurate predictions with the help of that data. Using the Business Intelligence (BI) Tool- Tableau analysis like the current inflow of any particular country or state and according to that we also get the predicted inflow for upcoming years using these tools we analyze and investing is very helpful for investors.

Research Methodology

Data Collection and Filtration: In the research, we collected secondary data. The database is created by gathering info and data from several consistent sources like the Department of Industrial Policy and Promotion (DIPP), the Reserve Bank of India, and other resources like Online databases of the Indian economy, articles, journals, etc.

Data Analysis by visualization tool: In figure 1Tvrdíková (2007), the process of the system flow is shown. Data were analyzed by a visualization tool tableau where we get the statistical data and created many visualizations like a trend line that tells the trend of the current situation of the FDI in India and created the forecasted line and graphs chart which shows the predicted inflow of upcoming years based on the previous data.

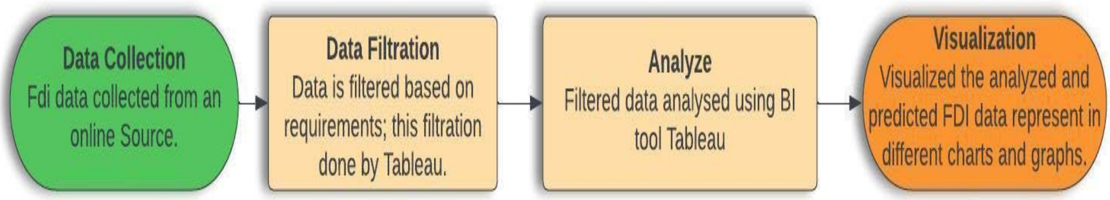

Figure 1: System Flow of research problem

Design Of Experiment

- Select a sample of FDI data in India from the online source.
- Visualize and predict the FDI inflow in India using the BI tool Tableau.

Selection Of Samples

Data on FDI is collected from the Reserve bank of India's official website and other online sources. In this research paper, we analyzed the last 22 years' data which is the year 2000 – 2022. The total amount of inflow in the last 22 years is 8, 87,762 USD millions The used data set is a secondary data set and data is filtered according to requirement, here we use only those data which is related to FDI This research paper only focuses on FDI. Using the given last 22 years of data set we predicted the upcoming trend of FDI in India which is increasing or decreasing.

Conduction Of Experiment

Data collected from Reserve Bank of India official site and online sources undergo the experiment as mentioned below:

Collection of Data: In this step data will be collected from different sources and data will be secondary.

Data Filter: Based on research requirements to filter the data only useful data will be used and others will be filtered.

Analyze: Once we get the required data then the data was used for analysis purposes for BI tools. In analysis, we get the final output.

Visualization: In visualization, we can present the analyzed data in the form of a table, map, or any other chart. We can use an understandable chart for specific output visualization. Figure 1, shows the dashboard of the BI tool Tableau Used for FDI data visualization.

Figure 2: FDI Tableau Dashboard

Figure 2 shows the tableau dashboard for analyzing collected data.

Data Analysis And Result

Trends of FDI Inflows in India Using Tableau BI Tool: The Foreign Direct Investment (FDI) trend in India has been encouraging in current years. India has arisen as one of the most striking termini for FDI internationally, due to its large customer bazaar, trained labor force, and favorable government policies.

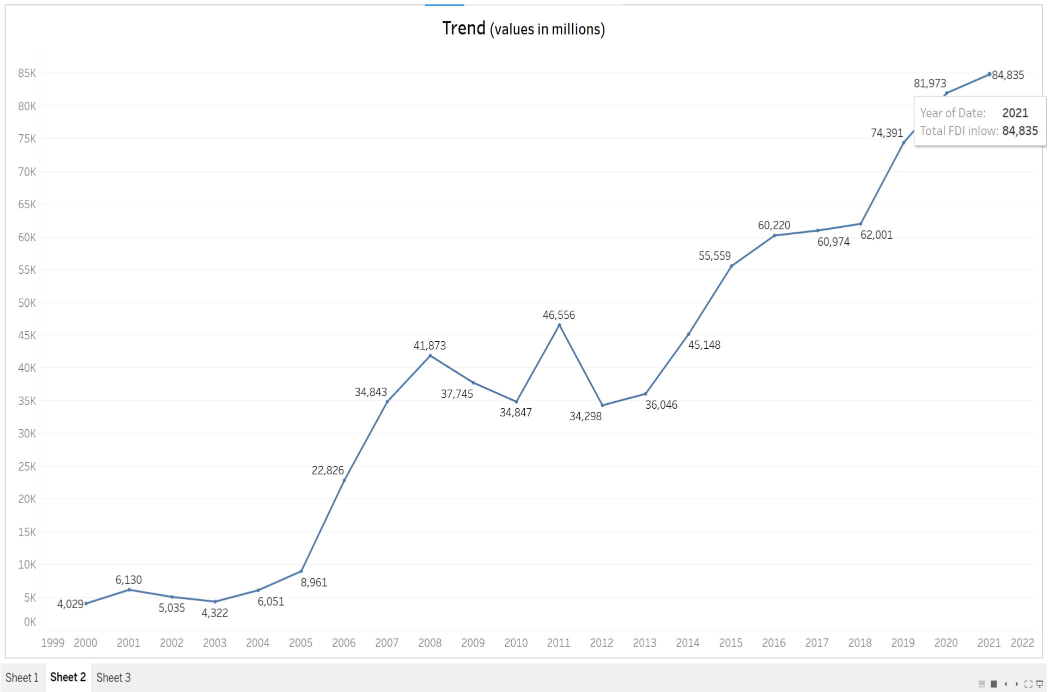

Figure 3: Analysis using Tableau (BI) tool on Current Trend From 1999 – 2022 Values in US Million

Figure 3, created using **the BI** tool with the help of data which is collected from (dpiit.gov.in)shows the trend of FDI in India which is positive and is expected to continue growing in the near term, driven by India's huge consumer market and FDI inflow in each as shown in the above figure. As we see in 1999 the inflow of FDI was 4,029 million it increased from 1999 to 2005 and is not consistent. As we see in Figure 3, there is massive growth after FY. 2005 - 2008 it will reach 41,873 million from 8,961. There is $ 32,912 million growth in 3 years. The major cause behind the increase in FDI was the introduction of automatic routes.

Impact Of Foreign Direct Investment On States Of India

Foreign Direct Investment (FDI) has a significant impact on the states of India. It can enhance economic growth, create jobs, and improve infrastructure. Some of the key benefits of FDI for the states include increasedInvestmentInvasion: FDI brings in fresh capital that can be used to finance development projects and support the growth of local businesses.

Statement On State-Wise FDI inflow from October 2019 to September 2022	
State Name	**FDI inflow (values in US million)**
Maharashtra	47,165
Karnataka	39,361
Gujarat	30,660
Delhi	22,197
Tamil Nadu	7,896

Table 1: Top 5 States Value in US Million (Source: FDI Statistics from FDI fact sheet released by dpiit.gov.in)

Every State of India makes different FDI inflows as per the Reserve Bank of India. Table 1 shows state-wise data for the top 5 States by FDI inflow in US millions these top 5 states are according to FY. October 2019 to September 2022. In order to top states. Maharashtra received the highest inflow in USD millions. The state of Maharashtra is the highest receiver of FDI which is $47,165 million.

State Name	FDI inflow (values in US million)
Meghalaya	1.097
Jammu And Kashmir	1.055
Tripura	0.562
Ladakh	0.188
Nagaland	0.014

Table 2: Bottom 5 States Values in Us Millions (Source: FDI Statistics from FDI fact sheet released by dpiit.gov.in)

Table 2 gives the bottom 5 states with their inflow this state received the least inflow. The state of Nagaland is the lowest receiver of FDI which is $ 0.014 million.

Country-Wise Flow of FDI into India by Using Tableau BI Tool

Country-wise FDI in India data is stated below which shows the top 10 countries by FDI inflow in US millions these 10 countries belong to the last 22 years.

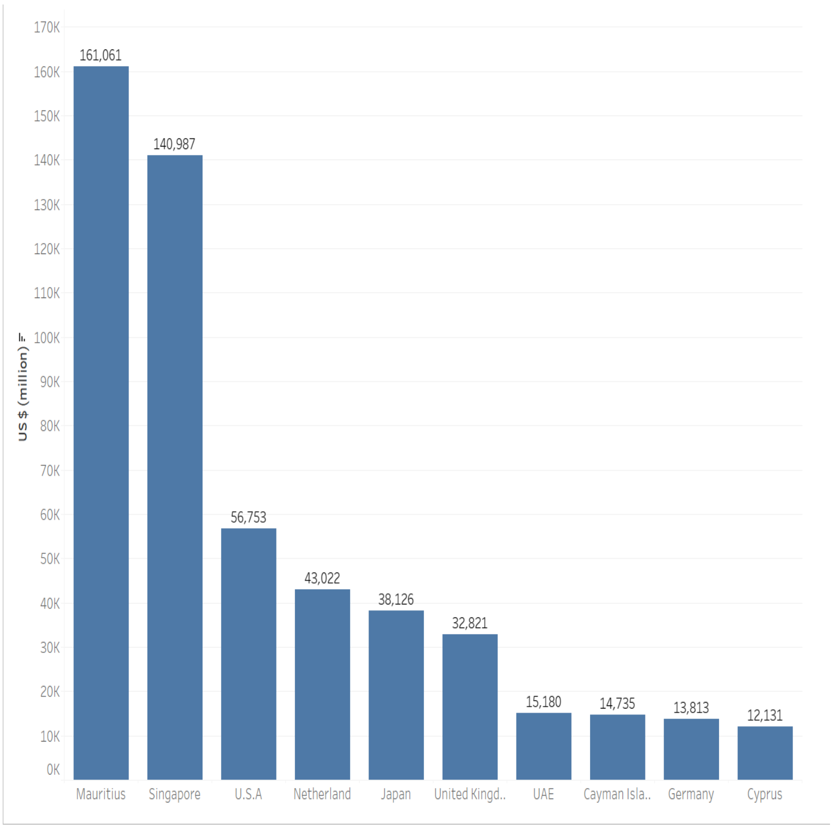

Figure 4: TOP 10 Countries By Inflow Values in US Million (Source: created using BI tools with the help of data which is collected from (dpiit.gov.in)

Statement On Country-Wise FDI Inflow From April2000 to September 2022	
Country Name	**FDI inflow (values in US million)**
Mauritius	1,61,061
Singapore	1,40,987
U.S.A	56,753
Netherland	43,022
Japan	38,126

Table 3: Top 5 Country Values in US Million (Source: Analyzed FDI Statistics from FDI fact sheet released by (dpiit.gov.in)

Table 3 shows that in the last 22 years of country investment top investors such as Mauritius have valued 1,61,061 US million.

Sector-Wise Distribution of FDI Inflows in India

The inflow of FDI in India is mostly diversified into different sectors. The top 5 most attractive sectors for investment in India according to analyses are mentioned below the top 5 sectors according to the last 22 years.

STATEMENT ON SECTOR-WISE FDI INFLOW FROM APRIL 2000 TO September 2022	
Sectors	**FDI inflow (Values in us million)**
SERVICES SECTOR	98,356
COMPUTER SOFTWARE & HARDWARE	91,799
TELECOMMUNICATIONS	39,025
TRADING	38,021
AUTOMOBILE INDUSTRY	33,774

Table 4: Top 5 sector Values in million (Source: Analyzed FDI Statistics from FDI fact sheet released by dpiit.gov.in)

Table 4 shows that the top sector that received FDI in India is SERVICES SECTOR $98,356 million and Computer Software & Hardware sector is having a good number $91,799 million.

Predict/Forecast FDI Inflows in India

Here we can Predict / forecast the FDI inflow in India using tableauup to FY. 2025 Figure 5, below shows that total inflow is increasing year by year according and it will increase by a value of 98925 million in the year 2025.

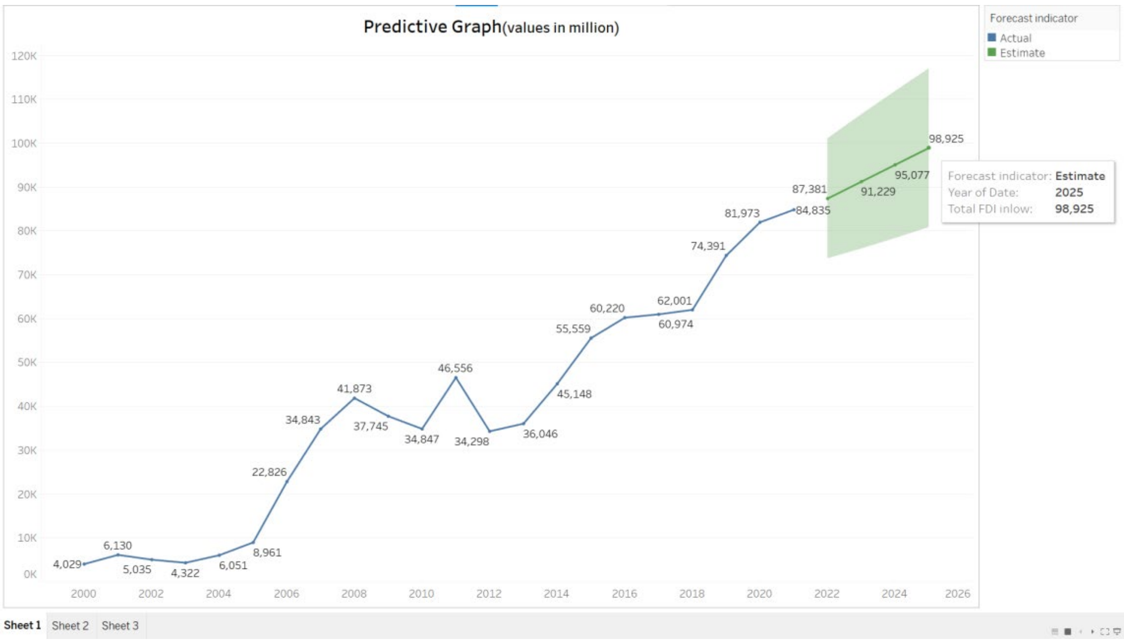

Figure 5: Predictive FDI Inflow from FY.2022-2025 (source: Researcher)

Figure 5 is created using BI tool with the help of data which is collected from the department for the promotion of industry and internal trade(dpiit.gov.in)

Conclusion

In the research, we can conclude that the appreciation rate or trend in FDI has not been very stable but has positively gone up in spite of the predominant ups and downs in the economy. Visualization and analysis of the states-wise FDI data in India show that FDI not only attracts richer states but also goes to poor states; there is a difference in both states like Maharashtra, Delhi, and TamilNaduare developed states that are the reason they received more. At the same time, FDI has proved very much helpful in the growth of poor states like Bihar and Jharkhand. Indian state governments like Madhya Pradesh, Orissa, Rajasthan, Bihar, Jharkhand, and some north Eastern States should alter norms for FDI towards giving a boost to sales, acquiring resources, improving infrastructure, increasing the supply in the market, and making it less risk-oriented. The topmostSectors that attracted foreign investment are services,computers, telecommunication, construction,and hardware. According to data analysis Mauritius, Singapore, the U.S.A, the Netherlands, and Japan, this country are leading sources of FDI. This Top 5 country covers 71% of FDI inflow in India. The decisions governing FDI have been spread over many areas that have to be streamlined or a practical policy has to be developed because of the impact of the reforms in India on the policy environment for Foreign Direct Investment. With all the measures the government has taken we can predict/forecast from the study that it will grow more and will achieve 98925 million dollars in 2025 FDI helps the country in removing infrastructure bottlenecks, increasing exports, providing skilled and trained manpower, removing local disparity in the states and helping in accomplishing an all-round development of each and every part of the states in India.

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ROLE OF LIBRARY'S E-RESOURCES IN SUPPORTING EDUCATIONAL PROGRAMS OF IIM – A USER STUDY

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ABSTRACT
Electronic resources are increasingly being used in libraries, particularly in academic contexts. Journal articles, e-books, databases, and other types of information can all be quickly and easily accessed using these services. One such academic institution that heavily relies on the library's electronic resources to support its educational programmes is the Indian Institute of Management Ahmedabad (IIM-A).The goal of this study is to determine how the educational programmes at IIM-A are supported by library e-resources. The purpose of the study is to collect user opinions regarding the usefulness, efficacy, and accessibility of the library's electronic resources in addressing the demands of the IIM-A students and teachers. The study also looks for any difficulties or obstacles that users might encounter while trying to access or use these services. A sample of 103 IIM-A students and teachers were given a survey questionnaire in order to gather quantitative data. Overall, the study indicates that students highly respect the library's electronic resources and believe they are simple to use, helpful for academic purposes, and pertinent to academic interests. Additionally, students express great satisfaction with the collection of online resources' calibre and usability. But there are still some things that could be done better, like fixing technical issues and enhancing search functionality and user-friendliness. Additionally, some students express frustration over time-sensitive access restrictions or time-consuming login/authentication procedures. The study emphasises the significance of continuing assessment and development of e-resource offerings to make sure they satisfy student demands and promote their academic performance.
Keywords: Library e-resources, academic institutions, Indian Institute of Management Ahmedabad, survey questionnaire, student and faculty perspectives, usefulness, effectiveness, accessibility, challenges, barriers, technical difficulties, search functionality, user-friendliness, satisfaction, limited access, login/authentication processes

Introduction

Electronic resources are increasingly being used in libraries, particularly in academic contexts. Journal articles, e-books, databases, and other types of information can all be quickly and easily accessed using these services. One such academic institution that heavily relies on the library's electronic resources to support its educational programmes is the Indian Institute of Management Ahmedabad (IIM-A). The goal of this study is to determine how the educational programmes at IIM-A are supported by library e-resources. The purpose of the study is to collect user opinions regarding the usefulness, efficacy, and accessibility of the library's electronic resources in addressing the demands of the IIM-A students and teachers. The study also looks for any difficulties or obstacles that users might encounter while trying to access or use these services. The Superior Post Graduate Programme in Management (PGP) is one of the academic programmes offered by IIM-A, a renowned management college in India. The IIM-A library is well-equipped with a large variety of electronic resources, including access to many databases like JSTOR, EBSCO, and ProQuest, more than 60,000 e-books, 50,000 e-journals, and more. These resources, which offer current knowledge and research in a variety of management topics, are essential for the success of the IIM-A students and faculty. The e-resources provided by the library are essential in assisting IIM-A's instructional initiatives. Research has become more convenient and accessible for consumers thanks to the availability of electronic resources, which has decreased the need for physical access to libraries. The research process is more productive when using electronic resources, which enable users to swiftly and effectively search for specific information. Access to a variety of resources in multiple forms and languages is made possible via the library's electronic resources, which support the diversified needs of the IIM-A students and faculty.

In order to support the instructional programmes at IIM-A, this study intends to obtain user perspectives on the usability and efficacy of the library's electronic resources. We will gather user feedback through focus groups, interviews, and surveys. Accessibility, usability, relevance, and quality of the library's electronic resources will all be examined in this study. The study's feedback will assist pinpoint areas where the library's e-resource collection and access might be strengthened. To sum up, it is crucial to grasp the importance of electronic resources in academic contexts that research has been done on the function of library e-resources in supporting educational programmes at IIM-A. IIM-A students and faculty have a variety of needs, and the library's electronic resources are essential in meeting those needs by offering current knowledge and research in many management-related topics. The study will identify any difficulties or impediments that users may encounter in gaining access to or using these resources, as well as important insights about the usefulness, efficacy, and accessibility of the library's electronic resources. The study's ultimate goal is to help the library's e-resource collection and access increase, hence increasing IIM-A students' entire educational experience.

Review of Literature

In recent years, there has been a lot of research on how academic research and education are supported by electronic resources. The usage of electronic resources in academic libraries and their effects on educational initiatives are reviewed in this section of the literature. Academic libraries are using more and more electronic resources to support educational initiatives. Electronic books, journals, databases, and other online assets are examples of e-resources. Numerous studies have looked into the advantages of e-resources in academic libraries, and the results show that e-resources offer up-to-date information that is not available in print form, save time, and provide quick and easy access to information (Hsieh-Yee, 2009; Laveen , Rajan, 2012; Pathak , Chavan, 2014).

According to studies, the availability of e-resources in academic libraries has raised the standard of both research and instruction. For instance, teachers and students can access a wide variety of materials from many locations, which streamlines the research process and makes it possible for researchers to obtain pertinent information fast (Khan , Jaffri, 2016; Bolaji, Yusuf, & Sowole, 2019).

Additionally, it has been discovered that using e-resources in academic libraries enhances student learning outcomes. For instance, it has been shown that e-books are very helpful for students with visual impairments because they can access the content using assistive technologies (Balaji ,Chakraborty, 2014). According to studies, e-books can improve reading comprehension and academic performance, especially for students majoring in STEM subjects (science, technology, engineering, and math) (Chen, Lin, & Chang, 2017).

Despite the well-established advantages of electronic resources, studies have also found some drawbacks to their use. For instance, lack of internet connectivity or poor technological abilities may make it difficult for students and teachers to access online materials (Laveen , Rajan, 2012; Pathak , Chavan, 2014). Additionally, some studies (Hsieh-Yee, 2009; Khan , Jaffri, 2016) have emphasised problems with the quality of e-resources, such as subpar indexing, incomplete information, and inaccuracies.

At a Jordanian university, Al-Shboul , Al-Rawabdeh (2016) looked into how electronic resources affected academic research and learning. The study indicated that students' academic performance and research production were positively impacted by the availability and utilisation of electronic resources. In particular, the study discovered that access to current and pertinent material through electronic resources helped students develop their research methods and output. The study also discovered that because electronic resources offered rapid and simple access to information, research and learning could be conducted more effectively.

Breeding , Tucker (2017) examined the function of e-books in university libraries. The survey discovered that electronic books were gaining popularity as a platform for academic reading. This was a result of the many advantages that e-books offered, including simple accessibility, portability, and the capacity to search for and highlight material. The survey also discovered that because e-books are more affordable than print books, they are frequently favoured.

Hill, Holmes in (2016) the usage of electronic resources to assist nursing education was looked into. The study discovered that because they offered quick access to current knowledge, electronic resources were highly valued by nursing educators and students. The study also discovered that electronic resources, which offered access to multimedia resources, simulations, and other interactive learning aids, enabled for more effective and efficient teaching.

A study on the utilisation of electronic resources in Chinese university libraries was done by Yu and Guo (2018). The results of the study showed that access to and utilisation of e-resources improved students' academic performance and research output. In particular, the study discovered that access to a variety of knowledge through electronic tools helped students develop their research abilities and productivity. The study also discovered that because e-resources offered quick and simple access to information, they made research and learning more productive and efficient.

A study on the use of electronic resources to promote medical education was undertaken by Liu, Li, and Li in 2018. The study discovered that e-resources were crucial in facilitating access to current and pertinent information. The study also discovered that access to multimedia resources, simulations, and other interactive learning aids made e-resources better for medical education. The study also discovered that because they provided for remote access to resources and materials, e-resources were especially advantageous for distant learning.

A study on the use of electronic resources in university libraries in Malaysia was undertaken by Moussa , Hashim (2017). The study discovered that because they offered simple access to a large variety of material, e-resources were highly valued by both students and instructors. The study also discovered that because e-resources offered quick and simple access to information, they made research and learning more productive and efficient. The study also discovered that because they provided for remote access to resources and materials, e-resources were especially advantageous for distant learning.

A study on the use of electronic resources to promote economics research and education was carried out by Salman (2017). According to the study, economists placed a high value on e-resources since they offered quick access to a variety of data and research materials. The study also discovered that access to multimedia resources, simulations, and other interactive learning aids made e-resources better for research and education. The study also discovered that because e-resources offered rapid and simple access to information, research and learning could be done more quickly and effectively.

The literature evaluation suggests, in conclusion, that electronic resources are essential for assisting educational initiatives in academic libraries. E-resources make knowledge quickly and easily accessible, raise the standard of research and instruction, and increase student learning results. To fully utilise their potential, various issues with their utilisation, such as poor quality and restricted access, must be resolved. The study on how library e-resources enhance instructional programmes at IIM-A will be guided by the outcomes of this literature review.

Objectives of the study

1. To investigate the usefulness and effectiveness of the library's e-resources in supporting the educational programs at IIM-A.
2. To examine the accessibility and ease of use of the library's e-resources for the users at IIM-A.
3. To gather user feedback on the quality and relevance of the library's e-resource collection.

Hypotheses

H1: The library's e-resources are perceived as highly useful and satisfactory in supporting the educational programs at IIM-A.
H2: Users at IIM-A face a few challenges while using the library resources.

Methodology

A sample of 103 IIM-A students and teachers were given a survey questionnaire in order to gather quantitative data. In order to collect information on the frequency of using electronic resources, accessibility, usefulness, and satisfaction levels, the survey included closed-ended questions. In order to find patterns and trends in user behaviour and preferences, the survey data was analysed using statistical tools, such as frequency analysis, descriptive statistics, and correlation analysis.

The IIM-A researcher, faculty, and student populations comprise the study's sample. The survey's participants were chosen using a random sample technique. Based on their survey results and willingness to participate, participants for the focus groups and interviews were chosen.

In a report style that included a summary of the results, conclusions, and suggestions for enhancing the library's e-resource collection and access, the study's data was examined and presented. IIM-A's library personnel received the report for their review and consideration.

Data Analysis

		Freq.	%	Valid %	Cumulative %
Valid	Student	85	82.5	82.5	82.5
	Faculty	18	17.5	17.5	100.0
	Total	103	100.0	100.0	

Table 1. Category of respondent

The table presents the frequency and percentage of respondents by their category, which includes students and faculty. Out of the 103 total respondents, 85 (82.5%) were students, and 18 (17.5%) were faculty members.

		Freq.	%	Valid %	Cumulative %
Valid	Male	53	51.5	51.5	51.5
	Female	50	48.5	48.5	100.0
	Total	103	100.0	100.0	

Table 2. Gender

The table shows the frequency and percentage of respondents by gender. Out of the total 103 respondents, 53 (51.5%) were male and 50 (48.5%) were female. Thus, there was a relatively equal distribution of male and female respondents in the study.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	3	2.9	2.9	2.9
	Disagree	5	4.9	4.9	7.8
	Neutral	3	2.9	2.9	10.7
	Agree	32	31.1	31.1	41.7
	Firmly Agree	60	58.3	58.3	100.0
	Total	103	100.0	100.0	

Table 3. The library's e-resources are easy to access.

The table shows the frequency and percentage of responses to the statement "The library's e-resources are easy to access." Out of the 103 respondents, 60 (58.3%) strongly agreed with the statement, while 32 (31.1%) agreed with it, making a total of 91.4% of the respondents agreeing or strongly agreeing that the library's e-resources are easy to access. Only a small percentage of respondents disagreed or had a neutral response to the statement, with 7.8% and 2.9%, respectively.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	6	5.8	5.8	5.8
	Disagree	10	9.7	9.7	15.5
	Neutral	4	3.9	3.9	19.4
	Agree	41	39.8	39.8	59.2
	Firmly Agree	42	40.8	40.8	100.0
	Total	103	100.0	100.0	

Table 4. The library's e-resources are useful in supporting my academic needs.

The table shows the frequency and percentage of respondents' agreement with the statement "The library's e-resources are useful in supporting my academic needs." Out of the total 103 respondents, 42 (40.8%) strongly agreed and 41 (39.8%) agreed with the statement. Only 6 (5.8%) firmly disagreed, and 10 (9.7%) disagreed with the statement, while 4 (3.9%) were neutral. This suggests that a majority of the respondents found the library's e-resources to be useful in supporting their academic needs.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	4	3.9	3.9	3.9
	Disagree	4	3.9	3.9	7.8
	Neutral	6	5.8	5.8	13.6
	Agree	42	40.8	40.8	54.4
	Firmly Agree	47	45.6	45.6	100.0
	Total	103	100.0	100.0	

Table 5. I use the library's e-resources frequently for my academic work.

The table shows the frequency and percentage of respondents' agreement levels regarding their frequency of using the library's e-resources for academic work. Out of the total 103 respondents, 47 (45.6%) strongly agreed, and 42 (40.8%) agreed that they use the library's e-resources frequently for their academic work. Only 8.8% of respondents either disagreed or were neutral on this statement. This indicates that a majority of the respondents use the library's e-resources frequently for their academic work.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	3	2.9	2.9	2.9
	Disagree	2	1.9	1.9	4.9
	Neutral	2	1.9	1.9	6.8
	Agree	28	27.2	27.2	34.0
	Firmly Agree	68	66.0	66.0	100.0
	Total	103	100.0	100.0	

Table 6. I am satisfied with the quality of the library's e-resource collection.

The table shows the frequency and percentage of respondents' level of satisfaction with the quality of the library's e-resource collection. Out of the 103 respondents, 68 (66%) strongly agreed that they are satisfied with the quality of the library's e-resource collection, while only 3 (2.9%) respondents firmly disagreed with the statement.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	1	1.0	1.0	1.0
	Disagree	6	5.8	5.8	6.8
	Neutral	1	1.0	1.0	7.8
	Agree	31	30.1	30.1	37.9
	Firmly Agree	64	62.1	62.1	100.0
	Total	103	100.0	100.0	

Table 7. The library's e-resources help me find the information I need quickly.

The table shows the responses of 103 participants to the statement "The library's e-resources help me find the information I need quickly," using a 5-point Likert scale. Out of the total respondents, 64 (62.1%) "Firmly Agree" and 31 (30.1%) "Agree" with the statement, indicating a majority of the participants found the library's e-resources helpful in quickly finding the information they need. Only 1 participant (1%) "Firmly Disagreed" with the statement.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	3	2.9	2.9	2.9
	Disagree	1	1.0	1.0	3.9
	Neutral	5	4.9	4.9	8.7
	Agree	31	30.1	30.1	38.8
	Firmly Agree	63	61.2	61.2	100.0
	Total	103	100.0	100.0	

Table 8. The library's e-resources are relevant to my academic interests.

The table shows the frequency and percentage of respondents' level of agreement with the statement "The library's e-resources are relevant to my academic interests." Out of the total 103 respondents, 63 (61.2%) strongly agreed, and 31 (30.1%) agreed with the statement, while only 1% disagreed and 4.9% were neutral. This indicates that the majority of the respondents found the e-resources relevant to their academic interests.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	2	1.9	1.9	1.9
	Disagree	2	1.9	1.9	3.9
	Neutral	3	2.9	2.9	6.8
	Agree	42	40.8	40.8	47.6
	Firmly Agree	54	52.4	52.4	100.0
	Total	103	100.0	100.0	

Table 9. I am satisfied with the accessibility of the library's e-resources.

The table shows the frequency and percentage of respondents' agreement with the statement "I am satisfied with the accessibility of the library's e-resources." Out of the total 103 respondents, 2 (1.9%) strongly disagreed, 2 (1.9%) disagreed, 3 (2.9%) were neutral, 42 (40.8%) agreed, and 54 (52.4%) strongly agreed with the statement. The cumulative percent indicates that 93.2% of respondents agreed or strongly agreed with the statement, while 6.8% were neutral or disagreed.

		Freq.	%	Valid %	Cumulative %
Valid	Firmly Disagree	2	1.9	1.9	1.9
	Disagree	4	3.9	3.9	5.8
	Neutral	1	1.0	1.0	6.8
	Agree	37	35.9	35.9	42.7
	Firmly Agree	59	57.3	57.3	100.0
	Total	103	100.0	100.0	

Table 10. The library's e-resources provide up-to-date information on various topics.

Based on the survey results, it seems that a majority of respondents agree or strongly agree with the statement that the library's e-resources provide up-to-date information on various topics. Almost 93% of respondents either agree or strongly agree, while only 5.8% of respondents disagreed or strongly disagreed. This suggests that the library's e-resources are seen as a valuable source of current information by the majority of respondents.

	Firmly Disagree		Disagree		Neutral		Agree		Firmly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
I have experienced technical difficulties while accessing the library's e-resources.	14	13.6%	21	20.4%	4	3.9%	28	27.2%	36	35.0%
The library's e-resource search function needs improvement to be more effective.	19	18.4%	18	17.5%	1	1.0%	31	30.1%	34	33.0%
The library's e-resource platform is not user-friendly and difficult to navigate.	12	11.7%	16	15.5%	4	3.9%	38	36.9%	33	32.0%
The library's e-resources require login/authentication processes that are cumbersome.	16	15.5%	18	17.5%	4	3.9%	28	27.2%	37	35.9%
The library's e-resource access is limited or unavailable during certain times, causing inconvenience.	10	9.7%	15	14.6%	9	8.7%	33	32.0%	36	35.0%

Table 11. Challenges

The table represents the responses of the survey participants regarding their experience with the library's e-resources. The five statements presented in the table are related to technical difficulties, search function effectiveness, user-friendliness of the platform, login/authentication processes, and availability of e-resources during certain times. The participants were asked to indicate their level of agreement with each statement on a five-point scale ranging from "Firmly Disagree" to "Firmly Agree." In terms of technical difficulties, 13.6% of respondents "Firmly Disagree" and 20.4% "Disagree" that they have experienced technical difficulties while accessing the library's e-resources. However, 62.2% of respondents either "Agree" or "Firmly Agree" that they have not experienced any technical difficulties. Regarding the effectiveness of the e-resource search function, 18.4% of respondents "Firmly Disagree" and 17.5% "Disagree" that it needs improvement. However, 63.1% of respondents either "Agree" or "Firmly Agree" that it is effective. Concerning the user-friendliness of the platform, 11.7% of respondents "Firmly Disagree" and 15.5% "Disagree" that it is not user-friendly and difficult to navigate. However, 68.9% of respondents either "Agree" or "Firmly Agree" that it is user-friendly. Regarding login/authentication processes, 15.5% of respondents "Firmly Disagree" and 17.5% "Disagree" that they are cumbersome. However, 63.1% of respondents either "Agree" or "Firmly Agree" that they are not cumbersome. Regarding the availability of e-resources during certain times, 9.7% of respondents "Firmly Disagree" and 14.6% "Disagree" that the access is limited or unavailable during certain times, causing inconvenience.

However, 67% of respondents either "Agree" or "Firmly Agree" that the access is limited or unavailable during certain times, causing inconvenience. Overall, the responses suggest that the majority of participants are satisfied with the quality and accessibility of the library's e-resources, but there is room for improvement in terms of technical issues, search function effectiveness, and platform user-friendliness.

Testing of Hypotheses

	N	Mean	Std. Deviation	Std. Error Mean
The library's e-resources are easy to access.	103	4.3689	.97004	.09558
The library's e-resources are useful in supporting my academic needs.	103	4.0000	1.17156	.11544
I use the library's e-resources frequently for my academic work.	103	4.2039	.99370	.09791
I am satisfied with the quality of the library's e-resource collection.	103	4.5146	.87295	.08601
The library's e-resources help me find the information I need quickly.	103	4.4660	.86109	.08485
The library's e-resources are relevant to my academic interests.	103	4.4563	.87197	.08592
I am satisfied with the accessibility of the library's e-resources.	103	4.3981	.80853	.07967
The library's e-resources provide up-to-date information on various topics.	103	4.4272	.85866	.08461

Table 12. One-Sample Statistics

The sample size (N), mean, standard deviation, and standard error of the mean are among the descriptive data given in the table for eight claims made about the library's electronic resources. The mean score was 4.37 for the statement "The library's e-resources are easy to access," suggesting that most respondents thought the e-resources were simple to use. The mean rating was 4.00, which indicates a neutral to slightly favourable response, for the statement "The library's e-resources are useful in supporting my academic needs." The mean assessment for the claim, "I frequently use the library's electronic resources for my academic work," was 4.20, meaning that respondents reported using the e-resources on a somewhat regular basis. The mean assessment for the claim, "I am satisfied with the quality of the library's e-resource collection," was 4.51, indicating a generally favourable reaction. The mean assessment for the claim "The library's electronic resources help me find the information I need quickly" was 4.47, indicating a generally favourable reaction. The mean score was 4.46 for the statement "The library's e-resources are relevant to my academic interests," suggesting a generally favourable response. The mean rating was 4.40 for the statement "I am satisfied with the accessibility of the library's e-resources," suggesting a generally favourable reaction. The mean assessment for the claim "The library's e-resources provide current information on a variety of topics" was 4.43, suggesting a generally favourable reaction. Overall, all assertions received mean scores over 4, indicating that respondents' impressions of the library's electronic resources were largely favourable. Although there was some variation in the responses, as shown by the standard deviations and the standard errors of the mean, there is some ambiguity surrounding the true population means based on the sample.

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
The library's e-resources are easy to access.	14.322	102	.000	1.36893	1.1793	1.5585
The library's e-resources are useful in supporting my academic needs.	8.663	102	.000	1.00000	.7710	1.2290

I use the library's e-resources frequently for my academic work.	12.296	102	.000	1.20388	1.0097	1.3981
I am satisfied with the quality of the library's e-resource collection.	17.608	102	.000	1.51456	1.3440	1.6852
The library's e-resources help me find the information I need quickly.	17.279	102	.000	1.46602	1.2977	1.6343
The library's e-resources are relevant to my academic interests.	16.950	102	.000	1.45631	1.2859	1.6267
I am satisfied with the accessibility of the library's e-resources.	17.549	102	.000	1.39806	1.2400	1.5561
The library's e-resources provide up-to-date information on various topics.	16.869	102	.000	1.42718	1.2594	1.5950

Table 13. One sample test

The table displays the findings of one-sample t-tests performed on replies to several e-resources-related statements made by the library. The test value is set at 3, which on the Likert scale denotes the middle ground. The participants' reactions to all of the assertions are statistically substantially different from neutral (p .001) based on the mean difference between the sample mean and the neutral point. The participants appear to generally agree with the assertions based on the fact that the mean differences for all statements are positive. The participants' degree of agreement is relatively high, as seen by the fact that the confidence intervals for the mean differences are all over 1. Overall, the findings indicate that participants believe the library's electronic resources are simple to use, beneficial, current, and relevant, and they are generally happy with the materials' calibre and accessibility. They routinely use the resources and appreciate how easy it is to obtain information there.

	N	Mean	Std. Deviation	Std. Error Mean
I have experienced technical difficulties while accessing the library's e-resources.	103	3.4951	1.48108	.14594
The library's e-resource search function needs improvement to be more effective.	103	3.4175	1.54364	.15210
The library's e-resource platform is not user-friendly and difficult to navigate.	103	3.6214	1.37994	.13597
The library's e-resources require login/authentication processes that are cumbersome.	103	3.5049	1.50733	.14852
The library's e-resource access is limited or unavailable during certain times, causing inconvenience.	103	3.6796	1.34466	.13249

Table 14. One-Sample Statistics

The table displays the descriptive data for five different e-resource-related statements. These statements gauge how challenging or inconvenient it is for users to use the library's online services. The mean value for the statement "I have encountered technical difficulties while accessing the library's e-resources" is 3.4951, which shows that users typically encounter some technical challenges when using the library's e-resources. Given that the standard deviation is 1.48108, it is likely that the responses are highly variable. The mean value of 3.4175 for the statement "The library's e-resource search function needs improvement to be more effective" shows that people do not think the search function is particularly effective. There was a broad variety of responses, as indicated by the standard deviation of 1.54364. The mean value of 3.6214 for the statement "The library's e-resource platform is not user-friendly and difficult to navigate" shows that people found the platform to be somewhat challenging to use. As indicated by the standard deviation of 1.37994, there may be some diversity in users' experiences. The mean for the statement "The library's e-resources require cumbersome login/authentication processes" is 3.5049, indicating that users do indeed believe the process to be rather cumbersome. There is some variance in consumers' experiences, as seen by the standard deviation of 1.50733. The final result shows that users find the limited or unavailable access to be rather inconvenient. The mean for the statement "The library's e-resource access is limited or unavailable during certain times, causing inconvenience" is 3.6796. The standard deviation is 1.34466, which shows that consumers' experiences can vary somewhat.

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
I have experienced technical difficulties while accessing the library's e-resources.	3.393	102	.001	.49515	.2057	.7846
The library's e-resource search function needs improvement to be more effective.	2.745	102	.007	.41748	.1158	.7192
The library's e-resource platform is not user-friendly and difficult to navigate.	4.570	102	.000	.62136	.3517	.8911
The library's e-resources require login/authentication processes that are cumbersome.	3.399	102	.001	.50485	.2103	.7994
The library's e-resource access is limited or unavailable during certain times, causing inconvenience.	5.129	102	.000	.67961	.4168	.9424

Table 15. One-Sample Test

The table displays the findings of five claims about library e-resources that were subjected to one-sample t-tests. The test value, which is the assumed population mean, the t value, the degrees of freedom (df), the significance level (Sig.) At a two-tailed test, the mean difference, which is the difference between the sample mean and the test value, and the 95% confidence interval of the difference are all displayed for each statement. The t-value is greater than the critical value of 1.96 at a 95% confidence level for all of the claims, demonstrating that the sample means deviate considerably from the test value. The sample mean and test value differences are statistically significant because the significance threshold for each assertion is less than.05. The confidence intervals do not include the test value for comments about favourable experiences using library e-resources when the mean difference is positive, indicating that the sample means are greater than the test value. It appears from this that most students concur that the library's electronic resources are simple to use, valuable, often used, pertinent to academic interests, and offer up-to-date information.

The confidence intervals do not contain the test value for statements about bad encounters using library e-resources when the mean difference is positive, indicating that the sample means are higher than the test value. This shows that users generally concur that they have encountered technical issues, that the e-resource search function requires improvement, that the platform is not user-friendly, that the login/authentication processes are time-consuming, and that e-resource access is restricted to particular times or unavailable at all. As a result, the e-resource platform and services offered by the library have potential for development. Although the majority of respondents said they had good experiences using and accessing the library's electronic resources, there were some serious issues brought up regarding technical issues, search functionality, platform usability, and access restrictions. These worries were statistically significant, so it is unlikely that they were a coincidence. In order to better serve the demands of its users, the library must take these issues seriously and seek to improve the e-resource platform and services.

Findings

1. The majority of students find the library's e-resources easy to access and use for their academic needs.
2. Students who use the library's e-resources frequently report higher satisfaction with the quality and relevance of the collection.
3. Technical difficulties are a common issue encountered by students when accessing the library's e-resources.
4. Many students feel that the library's e-resource search function could be improved to be more effective.
5. The platform hosting the library's e-resources is perceived by some students to be not user-friendly and difficult to navigate.
6. Login/authentication processes for the library's e-resources are perceived by some students as being cumbersome.
7. Limited or unavailable access to the library's e-resources during certain times is a source of inconvenience for some students.
8. Students who experience technical difficulties with the library's e-resources are significantly less satisfied overall compared to those who do not.
9. Students who find the library's e-resource platform difficult to navigate are significantly less satisfied overall compared to those who do not.

10. Students who encounter issues with the login/authentication processes for the library's e-resources are significantly less satisfied overall compared to those who do not.

Conclusion

1. The majority of respondents found the library's e-resources easy to access, useful in supporting their academic needs, and frequently used them for their academic work.
2. Respondents were highly satisfied with the quality of the library's e-resource collection, finding the resources to be relevant to their academic interests and up-to-date.
3. The library's e-resources were found to be helpful in finding the necessary information quickly, indicating their value in the research process.
4. Despite the overall positive feedback on the library's e-resources, a significant number of respondents reported experiencing technical difficulties when accessing the resources.
5. Respondents felt that the e-resource search function needed improvement to be more effective, and that the platform was not user-friendly and difficult to navigate.
6. The cumbersome login/authentication processes for accessing e-resources was also a concern for some respondents.
7. E-resource access was found to be limited or unavailable during certain times, causing inconvenience to some respondents.
8. The majority of respondents found the library's physical environment to be conducive to their academic needs.
9. Respondents were satisfied with the quality of customer service provided by the library staff.
10. Overall, the survey results indicate that the library's e-resources play a vital role in supporting the academic needs of the students, but improvements can be made in terms of accessibility, user-friendliness, and technical issues.

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SERVITIZATION IN CONSTRUCTION INDUSTRY & ITS EFFECT ON BUSINESS PERFORMANCE

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ABSTRACT
Businesses have only been able to expand in the current market environment by creating new additional services that complement the value of their existing product lines. This pattern is referred to as servitization. Construction companies are changing their business strategies to include services in addition to their usual offerings, which has the effect of making their business projects organized but bit lengthy processes where servitization occurs. Construction companies' business strategies historically focused on giving value through the product. In the civil sector, the user doesn't realize the value until they receive the completed utility, at which point they cut off all communication with the builder. Construction businesses that produce projects are being forced more and more to consider the performance of those projects over their entire lifespan. In order to explore the consequences on perceived project performance, we examine these patterns in relation to the Product-Service literature (often referred to as "servitization"). In order to better understand how organizations might make the shift towards more servitized products and its impact on project performance. We recognize the need to refocus research attention on organizational routines and practices as the unit of study. We believe that routines should be studied as they develop in order to understand how a servitization culture is progressively absorbed into everyday management in construction-based organizations, rather than using servitization as the beginning point for revamping current routines. As a result, the motive of this paper is to create a structure for describing servitization in the construction sector. In particular, we want to understand how servitization impacts Project performance.
Keywords: Project performance, Service Marketing, Servitization

Introduction
Definition of major variables

DEPENDANT VARIABLE: PROJECT PERFORMANCE

The overall evaluation of whether a project has achieved its goals and complied with all schedule, cost, and scope constraints

Figure No.: 1 Definition - Project performance.

INDEPENDENT VARIABLE: SERVITIZATION

Companies in the industrial sector have only been able to expand by creating new services that complement the value of their existing product lines. This style is referred to as Servitization.

Figure No.: 2 Definition – Servitization.

It is becoming more and more obvious that modern businesses are changing in practically every industry and striving to gain the most shareholders in whatever industries they are involved in. This change takes place as businesses move from strategies centered solely on selling items to new strategies based on providing inclusive solutions made up of both products and services. The term "servitization" refers to the process of adding services to traditional offerings in order to create value.

Due to manufacturing's servitization, servitization in construction has become evident. This state is defined by service pro initiatives that lead to long term services based on utility delivery to meet constructor's business objectives. In this form of turnkey project, the goal of the contractors is shifted from the regular delivery of the facility to the provision of continuous facility-related services. This adjustment also makes project performance management more challenging to handle because it adds the operations and maintenance stage to the conventional project management cycle.

According to a number of studies on service-led projects, such projects serve as a model for an integration scheme that connects design, construction, and operations in order to meet builders' demands. Servitization is the provision of long-term operation and maintenance services based on the supply of facilities in the building industry. Large-scale engineering projects with a focus on public-private partnerships make up the majority of service-led projects since they need long-term services from the private sector (PPPs). Yet, some construction companies have started to put the servitization concept into practice since the 2010s without utilizing PPPs.
Moreover, studies have demonstrated that focusing on operational and maintainable services after the facility is delivered may divert attention from problems with the project delivery process. This idea holds that construction services are a set of duties performed by all parties involved in construction to meet the particular requirements of clients. Physical resources like personnel and equipment are required for these jobs. From a value-stream perspective, construction services are divided into; construction services material supply services, design services and other support services.

So, the goal of the current study is to develop a framework for presenting the idea of servitization in terms of how it affects how projects are perceived to perform. There is a wealth of literature that has been written specifically around the concept of servitization and concepts that are closely related to it. It draws attention to the dearth of geography literature in developing economies and demonstrates the potential of nations like India. The causes influencing the construction industry to select servitization as a growth strategy to achieve improved customer interactions and tactics to have greater control over construction project performance have been thoroughly described in the literature.

Review of literature survey
Campos (2021) off-site production is becoming a more popular manufacturing strategy in the building sector. Many tier 1 construction companies have expanded their offerings to include off-site production recently. In a similar vein, this model change is luring fresh competitors to the market. Projects are benefiting from the switch from conventional on-site construction to off-site manufacturing in terms of cost, time efficiency, sustainability, and quality enhancement. The impact of this change in manufacturing processes on the integration of services in business models for companies has not yet been fully understood. The question of whether and how industrialization affects servitization in the building industry was investigated.

Robinson (2016) how changes due to PSS allowed a multinational construction organization to adapt its revised businesses model. The study tracks the progress of one company towards servitization over a 33-month period, showing how the organization was able to capture value in creative ways by mobilizing new resources in the supply chain, generating new products and developing new service offerings. This scenario offers some helpful insights given the paucity of findings on systems integrator and servitization. Systems integrators carefully assess their place within its current value chain as they migrate towards servitized advanced business models and then continuously coordinate internal and external operations as they do so.

Nenonen (2014) servitization is thought of as a possible way for respected goods producers to grow their business, but it also comes with hazards to the brand's reputation. Although suppliers and other external partners are becoming more and more crucial to manufacturing companies' service operations, little is known about how these partners' reputations are affected. The hazards to manufacturing company's reputations from Servitization, particularly when they work with other parties. When choosing a service provider, customers often prioritize a company's reputation, but the performance of third parties during service delivery has a significant impact on this reputation. The argument that third party image concerns are strategic challenges that can influence and guide the PSS process at the levels of strategy, operations, and firm place makes a substantial contribution.

Coreynen (2018) manufacturing enterprises that move into Servitization may run into challenges when scaling up product-service systems (PSS) for future expansion. It has two primary objectives: first, to understand the internal levers that businesses can use to boost their capacity for servitization; second, to implement a new approach to assist businesses in scaling up their PSS. For these reasons, we conduct an exploratory research study of eight manufacturing organisations using the multiple-case and participatory action research methodologies. Designing or implementing PSS might be difficult for manufacturers for a variety of reasons depending on the business strategy. Additionally, they could run across organisational reasoning that hinders efforts to scale up PSS. An instruction to practitioners addressing internal Servitization barriers by offering a new technique for creating specific PSS-improving projects.

Hong (2015) the effects of product-service system (PSS) practices on company performance using survey data collected from the top growing countries. We concentrate on the processes that underlie the association between PSL and company performance. The performance of a corporation in terms of technological innovation of products and processes is favorably correlated with its use of PSS. Rather than through product technological innovation, PSS affects organizational performance through process technological advancement. To effectively harness the power of PSS, businesses should concentrate their efforts on creating a new business process or business system.

Gebauer (2019) servitization procedures and servitization in the wind to energy sector in West regions, a frame for territorial Servitization has been developed. The tabular components can be included into regional development theories, and it is compatible with ideas of knowledge intensive business services (KIBS) and industrial life-cycles (e.g., lead market models, sustainability transitions, and territorial innovation models). Servitization processes help regions by creating job opportunities, enabling effective technology resource allocation, giving new markets, boosting territorial advancement, boosting chances of ensuring employment during the consolidation period, and assuring technological advances.

Robinson (2016) the UK construction industry's Construct Co., a systems amalgamation of mechanical & electrical systems, is utilized to investigate how product technology advancement influences more environmentally friendly ways of working. They are looking for ways to use servitization to increase the overall performance systems. The aim was to comprehend why and how variable user groups within the company’s value chain were able to operate in better servitized ways as a result of emergent technology characteristics that were sparked by the incorporation of new sensors into the systems. The establishment of increased transparency between Build Co. and its clients depended on new energy-metering sensors. There were also signs of upkeep. It was also clear how equipment-condition monitoring sensors were influencing the supply chain of Build Co. in numerous ways to look into the case for introducing predictive maintenance.

Dachs (2014) a growing number of manufacturing enterprises produce and offer services in addition to or in instead of their conventional physical products. With the help of case studies, a sizable firm-level data set, and new evidence for the Servitization of European manufacturing, the research tests earlier conclusions. In contrast to the turnover of their physical products, manufacturing companies' service turnover is still modest. The level of Servitization can only in part be explained by differences in national cultures. More significant is the company's size. There is a U-shaped link between firm size and servitization, proving that both small and large businesses can profit from this process. Servitization is also linked to product complexity and a company's propensity to introduce innovative products.

Ruizalba (2016) throughout the past few decades, the pharmaceutical distribution industry has changed, as has the function of servitization in a constantly shifting market controlled by big businesses. A thorough list of the services now provided by the sector was identified by an empirical investigation of distributors in Portuguese and Spanish. These companies were contrasted in terms of their current service delivery, the extent to which added-value services were implemented, the primary drivers behind such implementation, and the degree of sector cooperation. There are some disparities between the two nations in terms of the extent and causes of value-added service deployment. The issue is distributors' propensity to broaden their core service offerings in the future in an effort to obtain a competitive edge and boost client loyalty. As a "back to basics" strategy with little differentiation, this raises questions because it could not be consistent with long-term competitiveness.

Bustinza (2015) the term "servitization" refers to a change in the organizational structure of a firm from selling items to selling a combined offering of commodities and services. An advantage in the marketplace is one effect of this change. Businesses go through phases as they develop services to set themselves apart from products and increase consumer satisfaction. Using the findings of 102 senior executives from international corporations, this study evaluates the change from basic to intermediate to advanced services. It demonstrates the growing interest in service-led strategies among manufacturing companies. It also demonstrates how important greater distinctiveness and good customer satisfaction are to gaining a competitive edge and providing better service. The value of a company's position in the value chain and the organizational design it selects to support services in effective servitization.

Objective of study
To study the impact of drivers of Servitization on project performance.
Hypothesis
1.Servitized offerings by Construction firms significantly influence Project Performance.

Figure No.: 3 Model Framework.

Research Methodology
Design of the Study
We propose a structure to support servitized business models for companies in the construction industry based on the pertinent existing literature. The significance of the suggested Servitised model is then evaluated using a number of variables that gauge the importance of services in the growth of the company. Servitized offerings to be studied as a part of each process included in completion of construction activity.

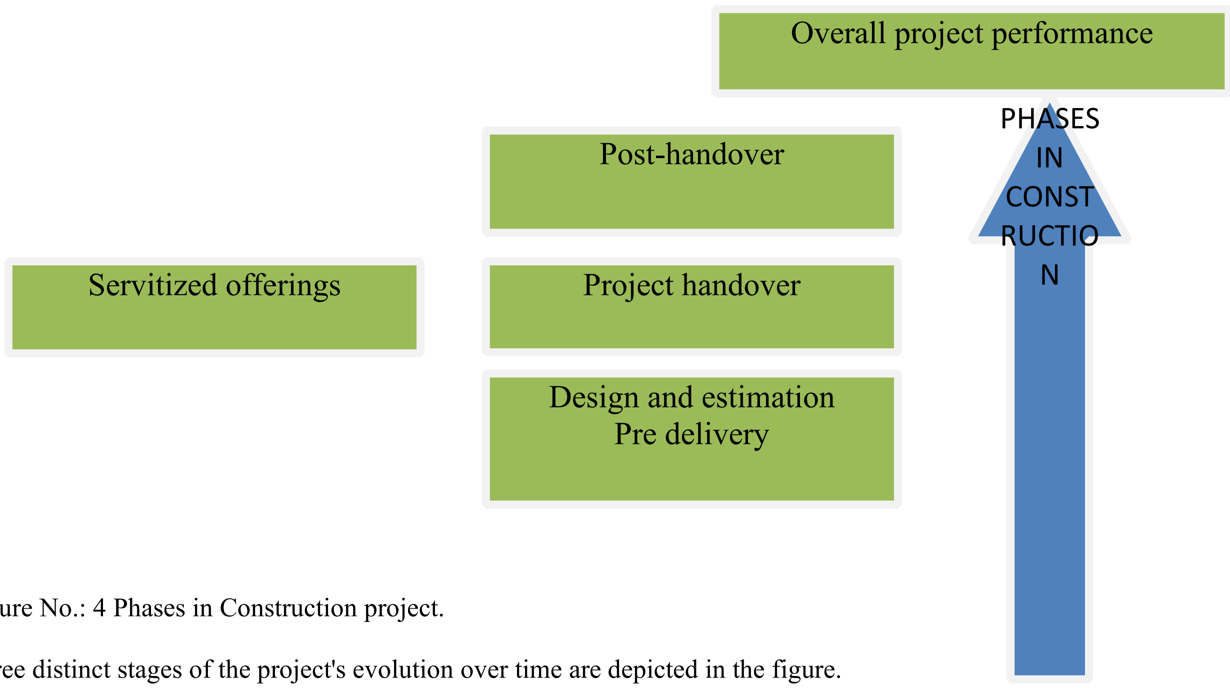

Figure No.: 4 Phases in Construction project.

Three distinct stages of the project's evolution over time are depicted in the figure.
It is crucial to remember that creating business models based on services for the civil turnkey project sector necessitates giving up the notion that value only exists during the project-delivery phase. The project should be viewed as a process with stages that come before and after the actual building or utility construction and delivery to the client. In order to make sure that the client sees value in each phase, it should figure out how to add services to each of these stages. So, a project-supplying company should carefully consider what services to incorporate during the various stages of the lifespan of the solution it offers.

Pre delivery phase:
This is the initial phase, during which the project's technical, commercial, and economic viability are developed as services. A thorough technical and economic analysis of the project will be crucial to its success. Because it will make it possible to define goals that are more achievable and give a better indication of how an investment will behave. We suggest that the planning and structural risk analysis services be included in this first step, which will also help to define more exact timelines.

Project handover phase:
In this phase, the project's core development activities—material procurement, construction, installation, and other services that are added to the construction process itself, including the creation of reports on the progress of the work and costs incurred during execution—are all included. The project's delivery to the client marks the conclusion of this phase.

Post-handover phase:
Currently, civil-based businesses should have a tendency to continue providing services after project handover. So, all services that may be offered to the client once the building is delivered are included in the handover phase. Evaluation, operation, and maintenance services will be particularly crucial since they give the business an incoming flow of cash that will fluctuate less and be more stable over time. The same services will also make it possible to gather fundamental information about how the building operates. Following analysis of this data will provide the company with knowledge and information that directly affects the design stage.

Research design, Sample frame and Size

- Proposed territory to carry out this study is limited across Pune city only.
- In spite of the base location of the organization (Viz. in Maharashtra/outside Maharashtra), research is proposed to be kept for Residential project sites with territorial location within Pune only.
- With the help of a sample study attempting to generalize for the target population, Survey Research Method is most advisable and used.
- Unit of analysis is Individual – Firms representatives [MD's, Directors, owner, proprietor, Head Marketing]
- Study used convenient samples to collect the data.
- Except demographic and organizational profile, rest of the constructs are measured by borrowing the standard scale from the literature and most of scales are measured in 5 point rating scale, all the data are perceptual, there is no absolute data to measure the performance of the firm.

Data Analysis Plan

- Basic Summary statistics – Item, Dimension and construct wise [Mean, SD, Min and Max]
- To assess the reliability – Cronbach alpha is computed dimension wise
- To Explore the relationship among the study constructs Exploratory factor analysis is used [no hypotheses tested]
- To prove the basic model, Structural Equation model is applied [Hypothesis tested]

Sampling frame

Sr. No	Type of respondents	Count
1	Construction Firms	51

Table No.: 1 sampling frame.

Demographic Distribution

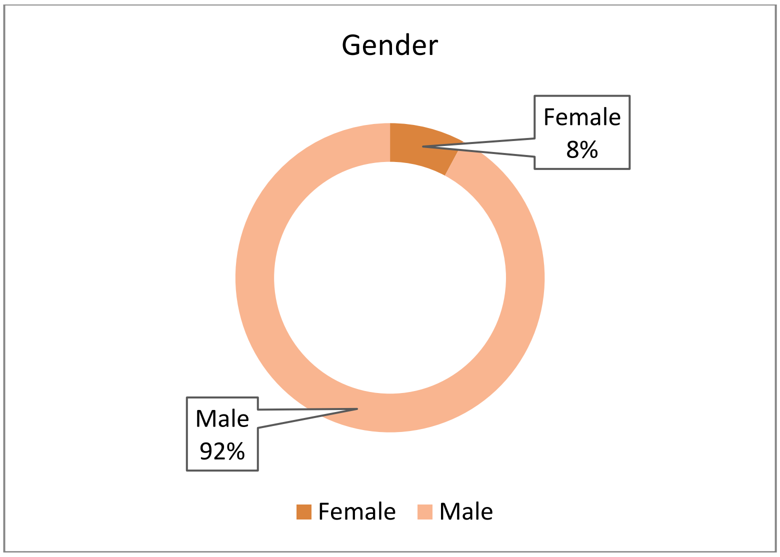

Figure No.: 5 Gender Distribution.

According to the examination of the aforementioned table with regard to gender, male respondents scored 92.16%, the maximum possible, while female respondents scored 7.84%, the lowest possible.

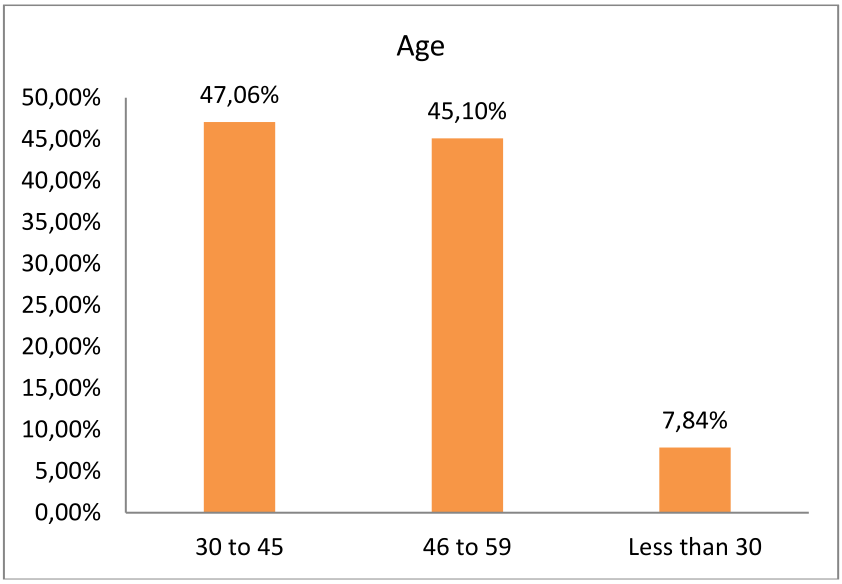

Figure No.: 6 Age.

According to the analysis of the aforementioned table with respect to age, respondents aged 30 to 45 received the maximum score of 47.06%, those aged 46 to 59 received the score of 45.10%, and respondents aged less than 30 had the lowest score of 7.84%.

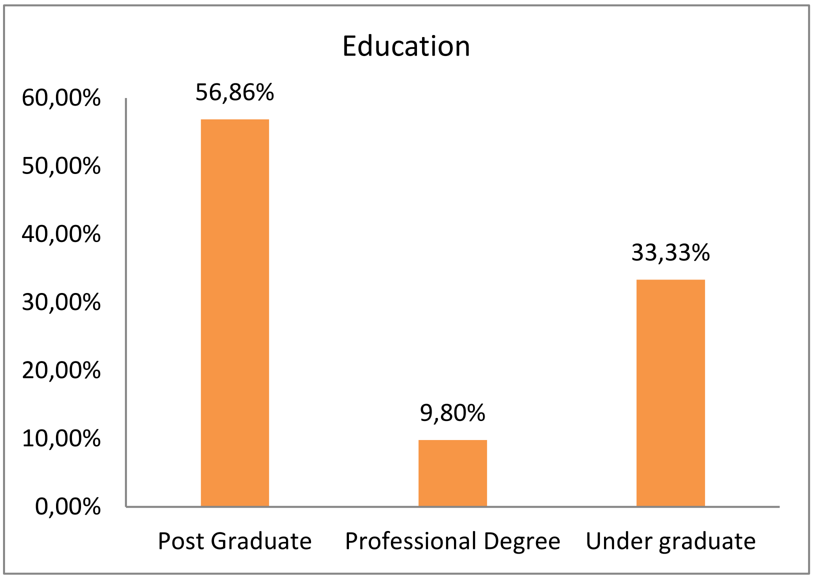

Figure No.: 7 Education.

According to the study of the above table with regard to education, respondents with postgraduate degrees scored the highest 56.86% while respondents with undergraduate degrees scored the lowest 9.80%.

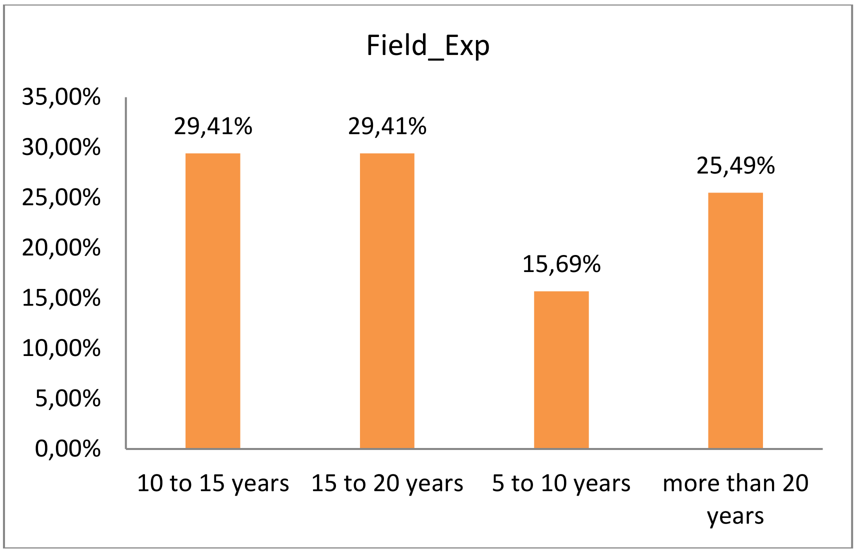

Figure No.: 8 Field Experience.

On the analysis of the above table with refer to Field Experience, 10 to 15 years & 15 to 20 years respondents achieved the highest & similar score of 29.41%, more than 20 years respondents achieved the score of 25.49% while 5 to 10 years respondents achieved the lowest score of 15.69%.

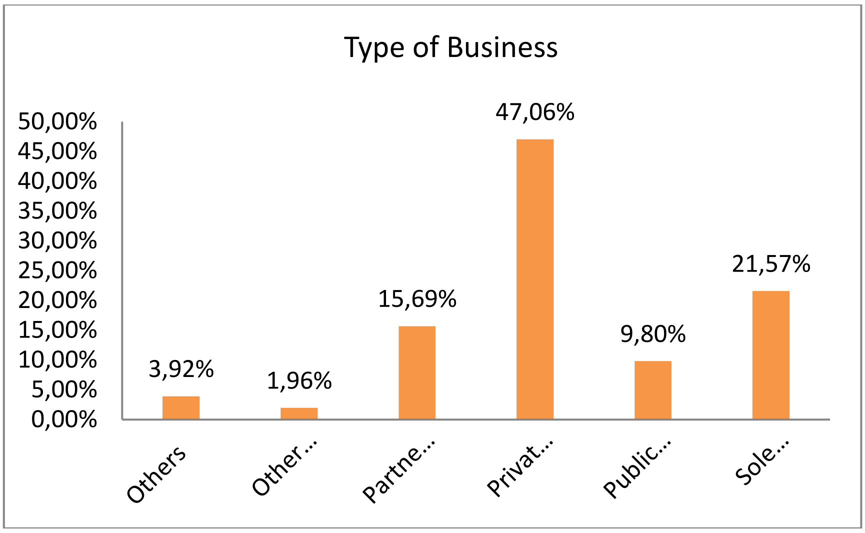

Figure No.:9 Type of Business.

On the analysis of the above table with refer to type of Business, Private Ltd Company achieved the highest score of 47.06%, Sole proprietorship achieved the score of 21.57%, Partnership achieved the score of 15.69%, Public Ltd Company achieved the score of 9.80%, Others achieved the score of 3.92% while Others, please specify achieved the lowest score of 1.96%.

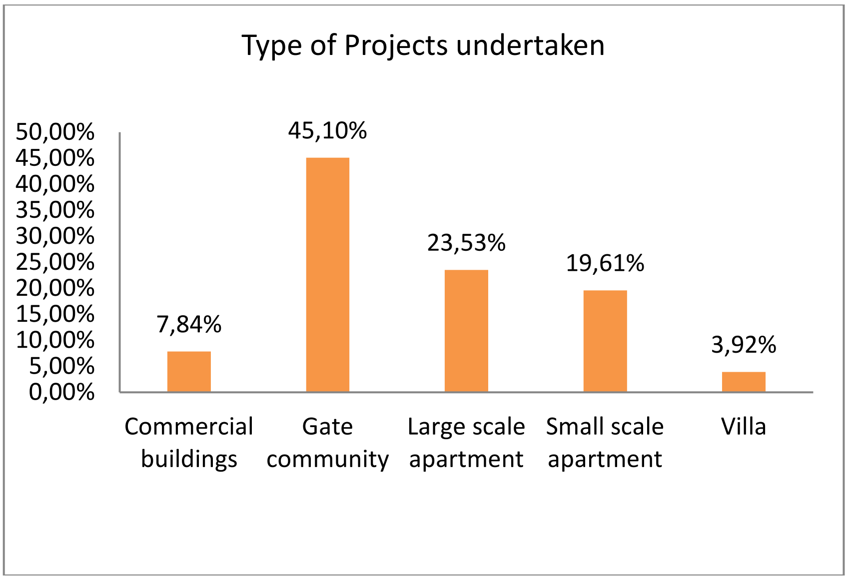

Figure No.: 10 Type of Project Undertaken.

On the analysis of the above table with refer to type of projects, Gate community achieved the highest score of 45.10%, large scale apartment achieved the score of 23.53%, Small scale apartment achieved the score of 19.61%, Commercial buildings achieved the score of 7.84%, while Villa achieved the lowest score of 3.92%.

	vars	mean	sd	min	max
DR01	1	4.22	0.50	3	5
DR02	2	4.61	0.57	3	5
DR03	3	4.20	0.89	2	5
DR04	4	4.43	0.57	3	5
DR05	5	4.24	0.74	2	5
DR06	6	4.37	0.75	2	5
DR07	7	4.36	0.56	3	5
DR08	8	4.44	0.58	3	5
DR09	9	4.31	0.76	2	5
DR10	10	4.51	0.54	3	5
DR11	11	4.29	0.61	2	5
DR12	12	4.41	0.67	2	5
DR13	13	4.39	0.53	3	5
DR14	14	4.47	0.61	3	5
DR15	15	4.27	0.72	2	5
DR16	16	4.41	0.73	2	5
DR17	17	4.35	0.48	4	5

Table No. 2 Drivers of Servitization - Basic Analysis

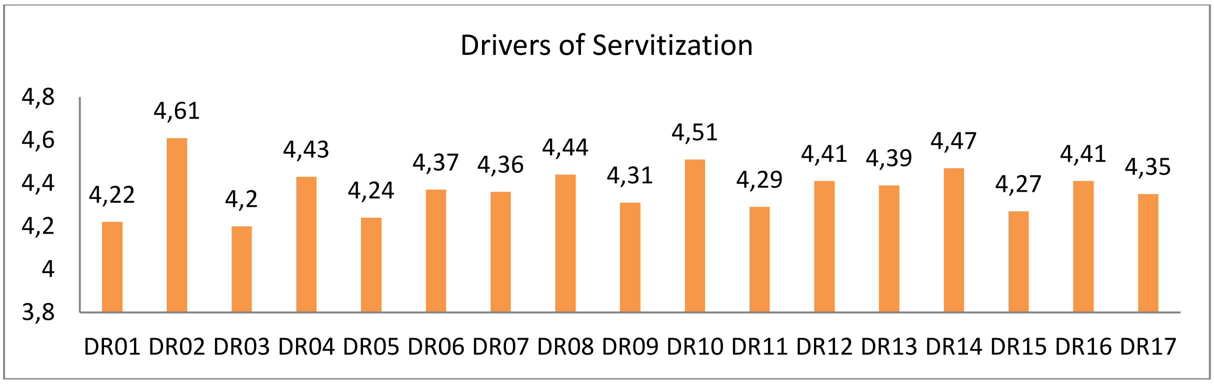

Figure No.: 11 Drivers of Servitization- Mean Bar Chart.

DR02 received the greatest mean score of 4.61, followed by DR01 with a mean of 4.22, DR04, DR09, DR14, DR17 with mean scores of 4.43, 4.31, 4.47, and 4.35, respectively, and DR03 with a mean of 4.20. DR03 received the lowest mean score of 4.20. Standard deviation ranged from 0.48 to 0.89 for all of the above constructs.

	vars	mean	sd	min	max
PP01	31	4.25	0.69	2	5
PP02	32	4.43	0.57	3	5
PP03	33	4.45	0.61	3	5
PP04	34	3.49	1.41	1	5
PP05	35	4.78	0.46	3	5

Table No.: 3 Project Performance - Basic Analysis

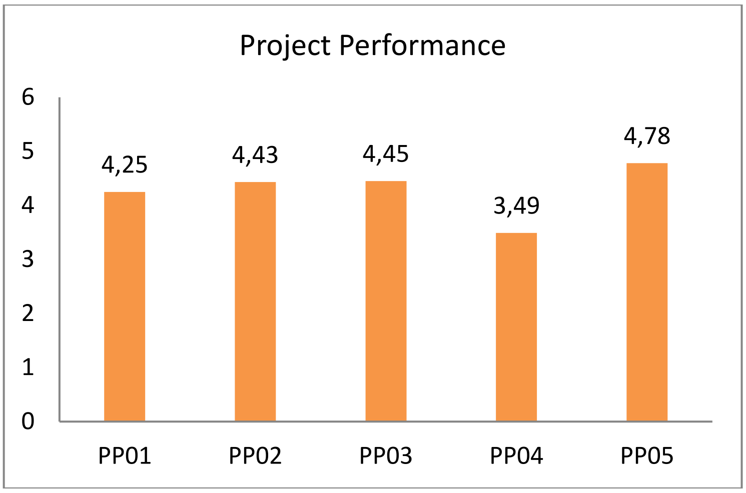

Figure No.: 12 Project Performance - Mean Bar Chart.

According to an examination of the aforementioned table involving Project Performance, PP05 received the highest mean score of 4.78, followed by PP01 with a score of 4.25, PP02 with a score of 4.43, PP03 with a score of 4.45, and PP04 with a score of 3.49. Standard deviation ranged from 0.46 to 1.41 for all of the above constructs.

Constructs Name	Cronbach Alpha	Mean	Std	No of items
DRI: Drivers	0.718	4.369	0.278	17
PRJ: P Perf	0.699	4.359	0.366	8

Table No.: 4 Reliability test and Descriptive Tests.

A reliability coefficient is alpha. It is frequently used to assess a psychometric test's internal consistency or reliability. The Cronbach alpha for the majority of the constructions is greater than 0.5, according to a review of the aforementioned table.

This aims to understand the influence of drivers on project management. Drivers are the independent variable, project performance is the dependent variable and market orientation is the mediating variable in the present study. The relationships between these variables were hypothesized and the role of these variables in influencing the outcome variables was statistically tested and analyzed.

To test the proposed hypothesis, Partial least square structural equation modeling (PLS-SEM) was used. Partial least square structural equation modeling (PLS-SEM) is a new generation of statistical software that is user friendly and uses the least square method to calculate structural equation modeling rather than the covariance-based method. Ordinary Least Squares (OLS) Regression was used as the estimation method. PLS SEM included two models: the outer model, also known as the measurement model, and the inner model, also known as the structural model. The outer model was validated using the measurement items' outer loadings and path coefficients. The constructs in the study were tested for reliability and validity. The construct reliability was determined using Cronbach's alpha, composite reliability, and AVE. The measurements' validity was determined using discriminant validity. The proposed model was also tested using R square values. The path coefficients' significant values were used to assess the significance of the relationship between the variables under consideration. The section that follows goes into detail about the measurement model and structural model.

	R Square	R Square Adjusted
Project Performance	0.364	0.364

Table No.: 5 Table Representing R Square Values

Testing of hypothesis using t values and p values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Drivers - Project Performance	0.414	0.437	0.131	1.42	0.031

Table No.: 6 Bootstraps results.

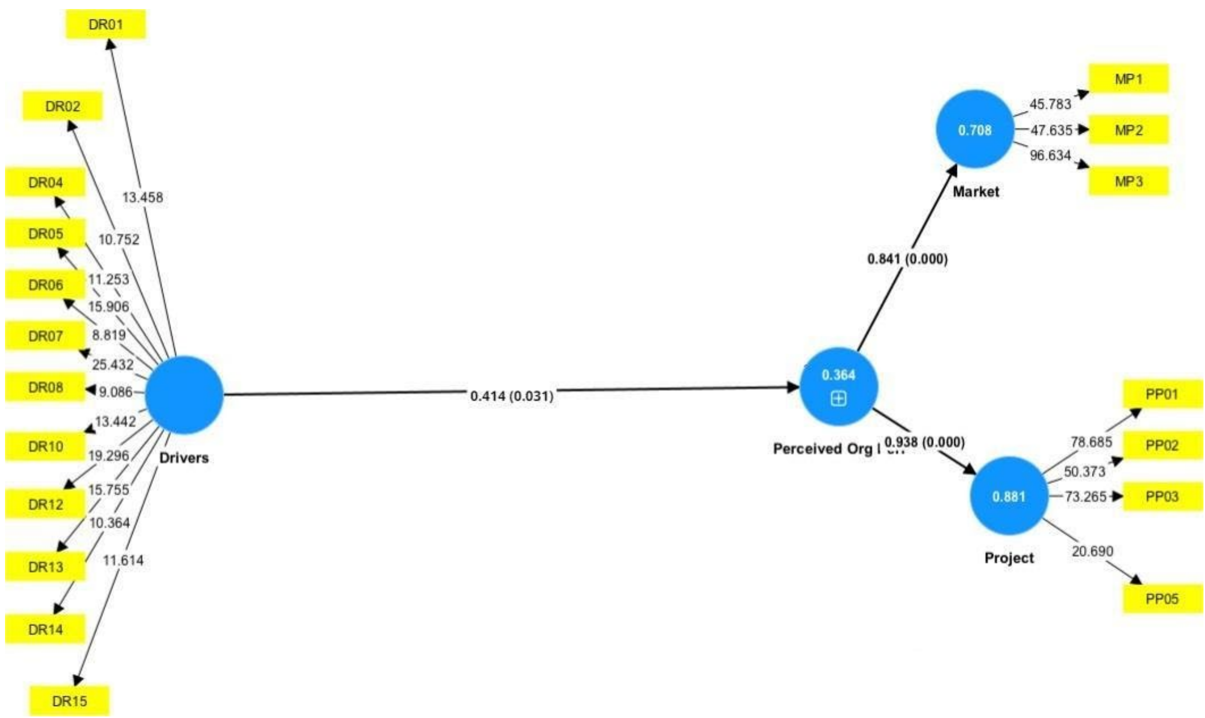

Figure No.:13 Bootstraps results- SEM Loading diagram.
Source: prepared using SPSS statistics by IBM

Finding and Conclusion

Hypothesis was proposed to understand the significant influence of drivers on project performance. To test this hypothesis, the p values and t value statistics were considered. If the p value was found to be less than 0.05, then the relationship was considered to be significant. From the above table we can understand that the t value was found to be 1.422 and the p value was found to be .031. From this we can understand that the null hypothesis was rejected. This tells that there is moderate relationship exists of drivers on project performance. Thus having a glance on total study it can be concluded that Servitized offerings by Construction firms significantly influence Project Performance.

Reason for moderate relation amongst Variables

To understand the variables influencing Project performance other than drivers of Servitization, an unstructured open ended interviews for builders especially owners of organization were carried out.To back up the study and to provide valid scope of future study, an unstructured interview were taken from 25 Number of builders who were amongst the respondents of total study.

Following Question were asked with the room of spontaneity to evaluate remaining constructs which affect perceived project performance other than Servitized market offerings.
1. Do you think improvement in service marketing capabilities can solely influence perceived project performance?
2. What all are the factors you practise to enhance the project performance of the firm?
3. Can service marketing capabilities influence project and market performance of an organization both?
4. Do you think product service literature enhances market performance for revenue generation?
On the basis of unstructured interview, a word cloud has been prepared to understand the major constructs which affects project performance other than servitized market offerings.

Figure No.: 14 Word Cloud - Unstructured interview.
Source: Prepared using www.freewordcloudgenerator.com.

Final Conclusion

Servitization enhances perceived organization performance due to.
- Improves business values in terms of market position.
- Improved responsiveness towards customers.
- Enhanced communication with customers.
- Timely handover of projects.
- Cost firmness till completion.
- Ecological and environmental assessment.
- Effective communication within department

Variables enhance perceived organization performance other than Service marketing capabilities**.**
- Adoption of latest technologies in construction industry.
- Planning & management through PMS (project management software).
- Financial management while using advance technology.
- Trained force from ground laborers to top management.
- Preventive maintenance of machineries.
- Training and skill development programme.

- Workmen safety practices.
- Government policies and developments etc.
- Lending rates by institutions, NBFC's & Banks. & many more.

Overall, the report will express the research by introducing existing literature and highlighting key findings, empirical evidence of impacts, and challenges of incorporating servitization in the Builder industry. The literature serves as the foundation for research questions, and methodology will be used to address issues that arise as a result of the integration of advanced service marketing models within Builder firms. The results and findings are revealed, along with a clear description of the responses of the many real estate companies from Pune that participated. The result will help builders to serve customers with added servitized business models to reach up to new streams of revenue, Customer retention and satisfaction.

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SOCIO-ECONOMIC PROFILE OF RURAL LABOUR HOUSEHOLDS IN PUNJAB: INTER-REGIONAL ANALYSIS

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ABSTRACT
The present paper is an attempt to analyze inter-regional variations in the socio-economic profile of labor households in rural Punjab. The study reveals that the majority of rural labour households belong to the scheduled caste category in all three regions. The non-agricultural labor households tend to have a nuclear family in the high-productivity region, while in the case of low-productivity and medium-productivity regions, they tend to be joint families. Agricultural labour households have a tendency towards joint families in all three regions. The majority of the rural labourers are living in semi-pucca houses. The living conditions of rural labour households are better in the high-productivity region as compared to the other regions. The proportion of illiterates is higher in low-productivity regions. The proportion of persons who got education up to higher secondary and graduate levels is higher in the high-productivity region. The ratio of dependents is high among rural labour households. This is due to fewer employment opportunities in rural areas.
Keywords: Rural labour, Family-type, Caste, Education, Housing Facilities.
JEL Codes: I 21, I 31, J 11, J 12.

Introduction
India is a land of villages as around two-thirds of the total labor force in the country lives in rural areas. Wage-paid employment is the main source of their livelihood. The majority of Indian workers are agricultural laborers who constitute the major segment of the rural workforce. Rural labor is the most significant factor of production from a social and economic point of view. They possess virtually no human and physical assets and derive their livelihood from wage-paid manual labor in agricultural activities. Among different economic groups, they are the least organized, most vulnerable, economically disadvantaged and highly impoverished (Sharma, 2005). They usually get low wages, the conditions of work put an excessive burden on them, and the employment they get is extremely irregular (Raju, 2017). The higher land rents, lower wage rates and higher interest rates have further increased the dependency of labourers on the employer/landlord and, many times led to perpetual bondage (Sarap, Venkatanarayana, 2016).

The system of self-sufficiency in villages was destroyed by the British rulers. The caste system prevailing in India was also responsible for the origin of the rural labour class in India. In India, landowners belonged to the upper castes, tenants to the intermediate castes and landless labour to the lower castes. According to the prevalent caste system, the Brahmins were forbidden from doing manual labour. Therefore, they leased out their land to tenants or employed the lower class, landless labourers. This led to the emergence of a landless rural labour class in India (Tandon, 1984). After the eighties, the mechanization of farm operations and other labour-saving devices resulted in a drastic cut in labour absorption in the agricultural sector. Overcrowding and growth of agricultural labourers continued unabated, given poor labour absorption in the non-agricultural sector and also inadequacies of reforms in the agrarian structure (Rajarajeswari, 2016). Moreover, formal sectors of the economy, both industrial as well as service sectors have not held good prospects for absorbing the surplus rural labour force. Therefore, it has been realized that non-farm activities in rural areas can become the primary source of employment and earnings for the rural labour force during the slack seasons. But, most employment opportunities in the non-farm sector are temporary and casual. The increasing casualization is a cause of concern as workers in this category may not get regular work and are more likely to be low-paid resulting in a higher incidence of poverty. Vulnerability and risks, the uncertainty of work, low earnings, unfair treatment by employers and lack of social protection measures are the normal characteristics of the casual workforce (Papola, Sharma, 2005).

The state of Punjab occupies an extremely important position in Indian agriculture. The transformation of agriculture in the state through an increase in area under irrigation, high-yielding varieties, application of fertilizers along with effective price policy, particularly for wheat and rice crops, has been accompanied by an increase in employment in agriculture up to the early eighties. But, this green revolution has not made any significant impact on the well-being of rural labourers. The expected hike in wages due to an increase in demand also did not take place because of the migration of labour from Uttar Pradesh and Bihar into Punjab, increasing supply and effectively suppressing levels of wages (Singh, Singh, 2016). Despite their significant contribution to the Green Revolution, Punjab's agricultural labour did not reap any benefits or see an improvement in their living conditions (Bharti, 2011).

The share of agriculture in the state's GDP and agricultural workforce in the total workforce has gone down substantially during the last three decades. There has been a moderate shift of rural workers from agriculture to non-agriculture until the late 1980s and virtual stagnation in the early 1990s (Biradar, Bagalhoti, 2001). The current scenario reveals that the agricultural sector is passing through a complex crisis of low productivity, poor competitiveness and adverse climatic conditions. Under these circumstances, this trend should have further reduced employment in the rural economy. The differences in living conditions can explain the differences in many economic and non-economic outcomes. A study of the socioeconomic characteristics of rural labourers is significant to assess the general levels of living of labour households in rural Punjab.

Literature Review

The green revolution and new economic policy had not brought a significant socioeconomic and political change in the life of the rural labourers. All the indicators related to the well-being of rural labourers indicated that the new economic policy has worsened the lives of rural labour instead of improving them (Jha, 1997). The percentage of landless labourers as a proportion of the rural labour force increased from 1991 to 2001. About 61 per cent of the rural households either had no land or own an uneconomic holding of less than one hectare. They had low social status with no bargaining power. They were often facing the problem of seasonal unemployment and under-employment due to the seasonal nature of agriculture and the absence of alternative working occupations. These agricultural labourers were under the slavery system and unorganized (Khan, 2013). The non-viability of farming forced a large number of marginal farmers to join the rank of labourers or industrial workers in Punjab. Due to this, agricultural labour had become the largest rural worker category in Punjab after cultivators. The rural labour households in Punjab showed the existence of indebtedness, low level of literacy rate and uncertainty and causality in employment (Singh, 2009).

The proportion of rural workers with primary education was 32 per cent and with secondary-level educated workers was 39 per cent. The marital status, the number of dependents and social overhead capital positively affect the labour force participation rate. The number of livestock, spouse participation in economic activity and size of land holding harmed rural labour force participation (Faridi, Basit, 2011). About 59 per cent of agricultural labourers were illiterates in the Nellore district. All the caste categories were concentrated in the family size groups of 3 and 4, 5 and 6 persons in a household. About 67 per cent of males and 60.60 per cent of females were in the working age group. The majority of workers were engaged as agricultural labourers (Naidu, Mohan and Pratap, 2015). The agricultural labourers were the victims of social, political and economic exploitation and discrimination. Almost 43 per cent population of the agricultural labour households were illiterate and 82.52 per cent belonged to the scheduled castes category (Singh, Singh, 2016). The agricultural labour households were characterized by low and irregular earnings, a decline in the level of employment and income, low consumption and a high level of indebtedness. The majority of these agricultural labourers belonged to scheduled castes and scheduled tribes (Raju, 2017). The majority of the households belonged to the scheduled castes which were already socially and economically backward. 97 per cent of the sampled labour households were living in their own houses but the average number of rooms was just 2.35. Only basic amenities were available to the households. About 33 per cent of the persons were earning and the remaining 67 per cent were non-earners (Chaudhary, Singh, 2021).

The agricultural labourers were placed at the bottom of the economic ladder. During the current situation of agrarian crisis in the state of Punjab, these labourers are living in deplorable conditions. Their income level was too low to cover their domestic needs. The incidence of poverty and indebtedness among them was higher (Uppal, Kaur and Singh, (2018). The rural labour households were characterized by low earnings, a decline in income, low consumption and high debt, and remedies will have to be found to generate more employment and income (Anand 2022).

Objectives of the study

The present paper is an attempt to analyse the region-wise socio-economic profile of the rural labour households in Punjab. More specifically, the objectives are:

1) To analyse the caste and family structure of the rural labour households in Punjab.
2) To examine the housing conditions of rural labour households in Punjab.
3) To examine the educational and economic status of the sampled population.

Research Methodology
The study is based on primary data. For the purpose of data collection, a multi-stage stratified random sampling method has been used. The sample design is a three-stage stratified sample given as under:

(i) Selection of districts;
(ii) Selection of villages; and
(iii) Selection of households

For data collection, the whole state has been divided into three regions based on agricultural productivity namely low, medium and high productivity regions. One district has been selected from each region. The Mansa district from low productivity region, S.B.S. Nagar from medium productivity region and Ludhiana from high productivity region has been selected. One village has been chosen from each development block of the three selected districts. There are five development blocks in the Mansa district, five in the S.B.S. Nagar district and twelve in the Ludhiana district. Thus, in all, twenty-two villages have been selected from the three districts under study. One-tenth of the households from the total number of rural labour households in the villages have been selected randomly for the survey. Thus, in all, 530 rural labour households have been selected from 22 villages. Out of 530 rural labour households, 163 from Mansa district, 175 from S.B.S. Nagar and 192 from Ludhiana district have been selected. Out of 530 rural labour households, 229 households are agricultural labour households and 301 are non-agricultural labour households in all three districts. Out of 229 selected agricultural labour households, 99 households are from the Mansa district, 49 households are from the S.B.S. Nagar district and 81 households are from the Ludhiana district. Out of 301 selected non-agricultural labour households, 64 households are from the Mansa district, 126 households are from the S.B.S. Nagar district and 111 households are from the Ludhiana district.

Primary Data Analysis
Caste-wise distribution of rural labour households
In India, caste plays an important role as far as the socio-economic condition of any community is put under consideration because most of the decisions of a family or person belonging to any community are determined by the caste factor. The caste-wise distribution is given in Table 1. The table indicates that the majority of the sampled rural labour households belong to the scheduled caste category in all three regions. This proportion is 88.96 per cent in the low-productivity region, 88.57 in the medium-productivity region and 85.94 per cent in the high-productivity.

Caste	Agricultural Labour	Non-Agricultural Labour	All Labour Households
	Low-Productivity Region		
GC	5 (5.05)	3 (4.69)	8 (4.91)
BC	7 (7.07)	3 (4.69)	10 (6.13)
SC	87 (87.88)	58 (90.62)	145 (88.96)
Total	99 (100.00)	64 (100.00)	163 (100.00)
	Medium-Productivity Region		
GC	2 (4.08)	3 (2.38)	5 (2.86)
BC	3 (6.12)	12 (9.52)	15 (8.57)
SC	44 (89.80)	111 (88.10)	155 (88.57)
Total	49 (100.00)	126 (100.00)	175 (100.00)
	High-Productivity Region		
GC	5 (6.17)	4 (3.60)	9 (4.69)
BC	8 (9.88)	10 (9.01)	18 (9.38)

SC	68 (83.95)	97 (87.39)	165 (85.94)
Total	81 (100.00)	111 (100.00)	192 (100.00)

Source**:** Field Survey, 2015-16
Note 1**:** GC-General Caste, BC-Backward Class and SC-Scheduled Caste
2**:** Figures in brackets are column-wise percentages
Table 1: Caste-wise Distribution of Rural Labour Households in Different Regions

For the agricultural labour households, 87.88 per cent of households belong to the scheduled castes in the low-productivity region. The corresponding figures are 89.80 and 83.95 per cent respectively in medium and high-productivity regions. In the case of non-agricultural labour households, the scheduled caste category represents 90.62, 88.10 and 87.39 per cent of sampled households in low, medium and high-productivity regions respectively. The proportion of backward caste rural labour households is 9.38, 8.57 and 6.13 per cent respectively in high, medium and low productivity regions. This proportion is slightly higher for the agricultural labour households in high and low-productivity regions than non-agricultural labour households. About five per cent of households in high and low-productivity regions and about three per cent in medium-productivity regions belong to the general caste. This proportion is slightly higher for the agricultural labour households in all three regions than for non-agricultural labour households.

Family type and family size of rural labour households
Table 2 manifests the average family size of the sampled rural labour households across the regions. The average family size of the rural labour households is 5.17, 5.38 and 4.97 in the low-productivity, medium-productivity and high-productivity regions, respectively. Moreover, it is pertinent to mention that the family size for the agricultural labourers in the low-productivity, medium-productivity and high-productivity regions is 5.12, 5.20 and 5.07, respectively. The table puts forth a clear contrast of the prevalent family type in each region of the state. For the low-productivity region, it has been found that 44.79 per cent of the total rural labour households have nuclear families, while the remaining 55.21 per cent have joint families. In the medium-productivity region, 44.57 per cent of the total rural labour households have nuclear families, while the remaining 55.43 per cent have joint families. In high-productivity regions, 49.48 per cent of the total rural labour households have nuclear families, while the remaining 50.52 per cent have joint families.

Description		Agricultural Labour	Non-Agricultural Labour	All Labour Households
Low-Productivity Region				
Family Type	Nuclear	44 (44.44)	29 (45.31)	73 (44.79)
	Joint	55 (55.56)	35 (54.69)	90 (55.21)
	Total	99 (100.00)	64 (100.00)	163 (100.00)
Family Size		**5.12**	**5.22**	**5.17**
Medium-Productivity Region				
Family Type	Nuclear	22 (44.90)	56 (44.44)	78 (44.57)
	Joint	27 (55.10)	70 (55.56)	97 (55.43)
	Total	49 (100.00)	126 (100.00)	175 (100.00)
Family Size		5.20	5.56	5. 38
High-Productivity Region				
Family Type	Nuclear	36 (44.44)	59 (53.15)	95 (49.48)
	Joint	45 (55.56)	52 (46.85)	97 (50.52)
	Total	81 (100.00)	111 (100.00)	192 (100.00)
Family Size		5.07	4.86	4.97

Source: Field Survey, 2015-16
Note: Figures in brackets are column-wise percentages.
Table 2: Family Type and Family Size of Rural Labour Households in Different Regions

We can see that among the non-agricultural labour households, it is the high-productivity region that tends to have a nuclear family, while in the case of low-productivity and medium-productivity regions, the non-agricultural labour households tend to have joint families. Agricultural labour households have a tendency towards joint families in all three regions.

Housing condition of rural labour households

Table 3 focuses on the housing characteristics of labour households across the different regions in rural Punjab. About 67 per cent of the sampled rural labour households are living in semi-pucca houses in the low-productivity region. This proportion is 53.14 and 45.32 per cent, respectively in medium and high-productivity regions. About 27 of the sampled rural labour households are living in pucca houses in the low-productivity region. In medium and high-productivity regions, about 39 and 53 per cent of sampled rural labour households are living in pucca houses. When we compare agricultural and non-agricultural labour, the proportion of labourers living in semi-pucca houses is higher for non-agricultural labourers in all the regions. The proportion of labourers living in pucca houses is higher for agricultural labourers in all the regions.

Description		Agricultural Labour	Non-Agricultural Labour	All Sampled Rural Labour
Low-Productivity Region				
House Type	Katcha	06 (6.06)	04 (6.25)	10 (6.13)
	Semi-pucca	64 (64.65)	45 (70.31)	109 (66.88)
	Pucca	29 (29.29)	15 (23.44)	44 (26.99)
	Total	99 (100.00)	64 (100.00)	163 (100.00)
Housing Condition	Good	33 (33.33)	25 (39.06)	58 (35.58)
	Average	59 (59.60)	34 (53.13)	93 (57.06)
	Dilapidated	07 (7.07)	05 (7.81)	12 (7.36)
	Total	99 (100.00)	64 (100.00)	163 (100.00)
Toilet	Yes	92 (92.93)	62 (96.88)	154 (94.48)
	No	07 (7.07)	02 (3.12)	09 (5.52)
	Total	99 (100.00)	64 (100.00)	163 (100.00)
Source of Drinking Water	Hand pump	18 (18.18)	08 (12.50)	26 (15.95)
	Tap	71 (71.72)	51 (79.69)	122 (74.85)
	Others	10 (10.10)	05 (7.81)	15 (9.20)

	Total	99 (100.00)	64 (100.00)	163 (100.00)
Medium-Productivity Region				
House Type	Katcha	7 (14.28)	7 (5.56)	14 (8.00)
	Semi-pucca	20 (40.82)	73 (57.94)	93 (53.14)
	Pucca	22 (44.90)	46 (36.50)	68 (38.86)
	Total	49 (100.00)	126 (100.00)	175 (100.00)
Housing Condition	Good	14 (28.57)	40 (31.75)	54 (30.86)
	Average	31 (63.27)	79 (62.70)	110 (62.86)
	Dilapidated	04 (8.16)	07 (5.55)	11 (6.28)
	Total	49 (100.00)	126 (100.00)	175 (100.00)
Toilet	Yes	47 (95.92)	123 (97.62)	170 (97.14)
	No	02 (4.08)	03 (2.38)	05 (2.86)
	Total	49 (100.00)	126 (100.00)	175 (100.00)
Source of Drinking Water	Hand pump	12 (24.49)	20 (15.87)	32 (18.29)
	Tap	36 (73.47)	98 (77.78)	134 (76.57)
	Others	01 (2.04)	08 (6.35)	09 (5.14)
	Total	49 (100.00)	126 (100.00)	175 (100.00)
High-Productivity Region				
House Type	Katcha	01 (1.23)	03 (2.70)	04 (2.08)
	Semi-pucca	36 (44.45)	51 (45.95)	87 (45.32)
	Pucca	44 (54.32)	57 (51.35)	101 (52.60)
	Total	81 (100.00)	111 (100.00)	192 (100.00)
Housing Condition	Good	37 (45.68)	64 (57.66)	101 (52.60)
	Average	42 (51.85)	45 (40.54)	87 (45.31)
	Dilapidated	02 (2.47)	02 (1.80)	04 (2.09)
	Total	81 (100.00)	111 (100.00)	192 (100.00)
Toilet	Yes	80 (98.77)	109 (98.20)	189 (98.44)
	No	01 (1.23)	02 (1.80)	03 (1.56)
	Total	81 (100.00)	111 (100.00)	192 (100.00)

Source of Drinking Water	Hand pump	12 (14.81)	15 (13.51)	27 (14.06)
	Tap	65 (80.25)	87 (78.38)	152 (79.17)
	Others	04 (4.94)	09 (8.11)	13 (6.77)
	Total	81 (100.00)	111 (100.00)	192 (100.00)

Source**:** Field Survey, 2015-16
Note**:** Figures in brackets are column-wise percentages
Table 3: Type of House, Housing Condition, Toilet Facility and Source of Drinking Water of Rural Labour Households in Different Regions

If we notice the housing conditions in this region, 35.58 per cent of the sampled rural labour households have houses of good condition. Moreover, 57.06 and 7.36 per cent of the rural labour households have average and dilapidated houses in the low-productivity region. 33.33, 59.60 and 7.07 per cent of the agricultural labourers have houses of good, average and dilapidated condition. The proportion of the sampled non-agricultural labourers living in good, average and dilapidated houses is 39.06, 53.13 and 7.81 per cent, respectively. 94.48 per cent of rural labour households have toilet facilities. About 75 per cent of rural labour households use public taps for drinking water. It is pertinent to note that 71.72 and 79.69 per cent of sampled agricultural labour and non-agricultural labour households respectively use public taps as the main source of drinking water in this region. In the medium-productivity region, we find that 62.86 per cent of the sampled rural labour households have houses of average condition, respectively. The proportion of the sampled rural labour households having toilet facilities is 97.14 per cent. Similarly, this proportion is 95.92 and 97.62 per cent for the agricultural labourers and non-agricultural labourers, respectively. A large proportion of the sampled rural labour households (76.57 per cent) have public taps as a source of drinking water. In the high-productivity region, we find that 52.60, 45.31 and 2.09 per cent of the sampled rural labour households have houses of good, average and dilapidated condition, respectively. This proportion for the agricultural labourers is 45.68, 51.85 and 2.47 per cent, respectively. The proportion of the sampled non-agricultural labourers living in good, average and dilapidated houses is 57.66, 40.54 and 1.80 per cent, respectively. The proportion of sampled rural labour households having toilet facilities is 98.44 per cent. Similarly, this proportion is 98.77 and 98.20 per cent for the agricultural labourers and non-agricultural labourers. A large proportion of the sampled rural labour households have public taps as a source of drinking water.

Thus, the living conditions of rural labour households are better in the high-productivity region as compared to the other regions as large strata of rural labourers have the facilities such as pucca and good-condition houses.

Sex ratio and education level
The information regarding the sex ratio and education level of the sampled rural labour households is given in Table 4. Sex ratio and education are important predictors and the most widely and frequently used indicators that capture distinctive aspects of socio-economic status.

Description	Agricultural Labour	Non-Agricultural Labour	All Labour Households
	Low-Productivity Region		
Male	267	186	453
Female	240	148	388
Sex ratio	899	796	857
	Medium-Productivity Region		
Male	132	372	504
Female	123	329	452
Sex ratio	932	884	897

	High-Productivity Region		
Male	220	276	496
Female	191	264	455
Sex ratio	868	957	917

Source: Field Survey, 2015-16
Table 4: Sex Ratio of Sampled Population in Different Regions

The table depicts that the sex ratio in the low-productivity region for the rural labour, agricultural labour and non-agricultural labour households is 857, 899 and 796, respectively. Alternatively, the sex ratio in the medium-productivity region is 897, 932 and 844, respectively for the rural labour, agricultural labour and non-agricultural labour households, respectively. The corresponding figures for the high-productivity region are 917, 868 and 957, respectively. Hence, these figures reveal that rural Punjab has a higher proportion of males than females across the regions.

It can be asserted from Table 5 that the proportion of illiterates among rural labour households is higher in the medium-productivity region followed by the low and high-productivity regions. Among the literates, in the low-productivity region, 27.92, 23.37, 18.94, 8.36 and 0.86 per cent of the sampled rural labour persons are educated up to the primary, middle, matric, higher secondary and graduate levels, respectively. In the medium-productivity region, 30.71, 23.83, 16.07, 5.68 and 0.55 per cent of the population of rural labourers have got education up to the level of primary, middle, matric, higher secondary and graduate levels, respectively. Also, for the high-productivity region, 32.82, 21.19, 18.66, 8.45 and 1.54 per cent of the population of rural labourers have been educated up to primary, middle, matric, higher secondary and graduate levels, respectively. The proportion of illiterates is also higher in the medium-productivity region followed by the low and high-productivity regions for the agricultural labourers. Among the literates, in the low productivity region, 29.47, 23.78, 16.67, 7.52 and 1.22 per cent of the sampled agricultural labour persons are educated up to the primary, middle, matric, higher secondary and graduate levels, respectively. In the medium-productivity region, 29.44, 25.80, 18.15 and 4.03 per cent of the population of agricultural labourers have got education up to the level of primary, middle, matric and higher secondary levels, respectively. For the high-productivity region, 35.95, 18.23, 16.20, 8.60 and 1.02 per cent of the population of agricultural labourers have been educated up to primary, middle, matric, higher secondary and graduate levels, respectively.

Description	Agricultural Labour	Non-Agricultural Labour	All Labour Households
	Low-Productivity Region		
Illiterate	105 (21.34)	62 (19.31)	167 (20.55)
Primary	145 (29.47)	82 (25.55)	227 (27.92)
Middle	117 (23.78)	73 (22.74)	190 (23.37)
Matric	82 (16.67)	72 (22.43)	154 (18.94)
Higher Secondary	37 (7.52)	31 (9.66)	68 (8.36)
Graduation	06 (1.22)	01 (0.31)	07 (0.86)
Total	492 (100.00)	321 (100.00)	813 (100.00)
	Medium-Productivity Region		

Illiterate	56 (22.58)	156 (23.39)	212 (23.16)
Primary	73 (29.44)	208 (31.18)	281 (30.71)
Middle	64 (25.80)	154 (23.09)	218 (23.83)
Matric	45 (18.15)	102 (15.29)	147 (16.07)
Higher Secondary	10 (4.03)	42 (6.30)	52 (5.68)
Graduation	0 (0.00)	05 (0.75)	05 (0.55)
Total	248 (100.00)	667 (100.00)	915 (100.00)
	High-Productivity Region		
Illiterate	79 (20.00)	79 (15.31)	158 (17.34)
Primary	142 (35.95)	157 (30.43)	299 (32.82)
Middle	72 (18.23)	121 (23.45)	193 (21.19)
Matric	64 (16.20)	106 (20.54)	170 (18.66)
Higher Secondary	34 (8.60)	43 (8.33)	77 (8.45)
Graduation	04 (1.02)	10 (1.94)	14 (1.54)
Total	395 (100.00)	516 (100.00)	911 (100.00)

Source: Field Survey, 2015-16
Note 1: Minors below 4 Years are excluded. Their total number is 109.
2: Figures in brackets are column-wise percentages
Table 5: Education Level of Sampled Population in Different Regions

In the case of sampled non-agricultural labourers, the proportion of illiterates is again higher in the medium-productivity region followed by the low and high-productivity regions. Among the literates, in the low productivity region, 25.55, 22.74, 22.43 and 9.66 per cent of the sampled non-agricultural labour persons are educated up to the primary, middle, matric and higher secondary, respectively. In the medium-productivity region, 31.18, 23.09, 15.29 and 6.30 per cent of the population of non-agricultural labourers have got education up to the level of primary, middle, matric and higher secondary, respectively. Also, for the high-productivity region, 30.43, 23.45, 20.54 and 8.33 per cent of the population of non-agricultural labourers have been educated up to primary, middle, matric and higher secondary, respectively.

The above analysis shows that there is a positive relationship between education and the productivity of the region. The proportion of illiterates is higher in the low-productivity region. On the other hand, the proportion of persons who got education up to higher secondary and graduate levels is higher in the high-productivity region.

Age-wise distribution

It can be observed from Table 6 that 62.99 per cent of the rural labour population appears in the working age groups of 15-60 years, in the low-productivity region, 65.16 in the medium-productivity region and about 66 per cent in the high-productivity region. On the other hand, the proportion of dependents is 36.98, 34.94 and 34.06 per cent in low, medium and high-productivity regions, respectively. The proportion of the population that appears in the working age groups of 15-60 years for agricultural labour is 59.76, 62.75 and 62.29 per cent in the low, medium and high-productivity regions, respectively. The corresponding figure for non-agricultural labourers is 67.97, 66.05 and 68.70 per cent in the low, medium and high-productivity regions, respectively. The percentage of dependent people in the age group of 0- 15 and above 60 years is higher for agricultural labour households than non-agricultural labour households in all three regions.

Age (In Years)	Agricultural Labour	Non-Agricultural Labour	All Labour Households
	Low-Productivity Region		
0-15	161 (31.76)	83 (24.85)	244 (29.01)
15-30	87 (17.16)	90 (26.95)	177 (21.05)
30-45	144 (28.40)	81 (24.25)	225 (26.75)
45-60	72 (14.20)	56 (16.77)	128 (15.22)
Above 60	43 (8.48)	24 (7.18)	67 (7.97)
Total	507 (100.00)	334 (100.00)	841 (100.00)
	Medium-Productivity Region		
0-15	75 (29.41)	191 (27.25)	266 (27.83)
15-30	50 (19.61)	176 (25.11)	226 (23.64)
30-45	75 (29.41)	178 (25.39)	253 (26.46)
45-60	35 (13.73)	109 (15.55)	144 (15.06)
Above	20 (7.84)	47 (6.70)	67 (7.01)
Total	255 (100.00)	701 (100.00)	956 (100.00)
	High-Productivity Region		
0-15	116 (28.22)	139 (25.74)	255 (26.81)
15-30	92 (22.38)	146 (27.04)	238 (25.03)
30-45	110 (26.76)	134 (24.81)	244 (25.66)
45-60	54 (13.15)	91 (16.85)	145 (15.25)
Above	39 (9.49)	30 (5.56)	69 (7.25)
Total	411 (100.00)	540 (100.00)	951 (100.00)

Source**:** Field Survey, 2015-16
Note**:** Figures in brackets are column-wise percentages
Table 6: Age-wise Distribution of Sampled Population in Different Regions

The above analysis shows that the proportion of the working population is slightly higher in medium and high-productivity regions than in the low-productivity region. The proportion of the working population is higher for non-agricultural labour households than agricultural labour households in all three regions.

Economic status

The data showing the economic status of the sampled rural labour population is provided in Table 7. In the low-productivity region, the proportion of earners, earning dependents and dependents is 30.56, 21.88 and 47.56 per cent, respectively.

Economic Status	Agricultural Labour	Non-Agricultural Labour	All Labour Households
	Low-Productivity Region		
E	145 (28.60)	112 (33.53)	257 (30.56)
ED	124 (24.46)	60 (17.97)	184 (21.88)
D	238 (46.94)	162 (48.50)	400 (47.56)
Total	507 (100.00)	334 (100.00)	841 (100.00)
	Medium-Productivity Region		
E	87 (34.12)	257 (36.66)	344 (35.98)
ED	61 (23.92)	111 (15.84)	172 (17.99)
D	107 (41.96)	333 (47.50)	440 (46.03)
Total	255 (100.00)	701 (100.00)	956 (100.00)
	High-Productivity Region		
E	120 (29.20)	179 (33.15)	299 (31.44)
ED	141 (34.30)	85 (15.74)	226 (23.76)
D	150 (36.50)	276 (51.11)	426 (44.80)
Total	411 (100.00)	540 (100.00)	951 (100.00)

Source**:** Field Survey, 2015-16

Note 1**:** E-Earning, ED-Earning Dependent and D-Dependent 2**:** Figures in brackets are column-wise percentages

Table 7: Economic Status of Sampled Population in Different Regions

In the medium-productivity region, the proportion of earners, earning dependents and dependents amongst the sampled rural labour households is 35.98, 17.99 and 46.03 per cent, respectively. For agricultural labourers, this proportion is 34.12, 23.92 and 41.96 per cent, respectively. The table further exhibits that among non-agricultural labourers, the number of earners, earning dependents and dependents is 36.66, 15.84 and 47.50 per cent, respectively. In the high-productivity region, the proportion of earners, earning dependents and dependents amongst the sampled rural labour households is 31.44, 23.76 and 44.80 per cent, respectively. For agricultural labourers, this proportion is 29.20, 34.30 and 36.50 per cent, respectively. The table further exhibits that among non-agricultural labourers, the number of earners, earning dependents and dependents is 33.15, 15.74 and 51.11 per cent, respectively. The above analysis shows the proportion of dependents is negatively related to the productivity of regions. This is due to fewer employment opportunities in rural areas. This is the depth of the situation that persons who are earning have to bear the burden of the dependents.

Findings

The above analysis shows that a large proportion of the scheduled castes people work as low-paid agricultural labourers and non-agricultural labourers for their livelihood and occupy the lowest position in rural Punjab across the regions. But the proportion of the scheduled castes households is slightly lower in the high-productivity region. The proportion of illiterates is higher in the low-productivity region. On the other hand, the proportion of persons who got education up to higher secondary and graduate levels is higher in the high-productivity region. In all the regions, the rural labourers have minimum access to various facilities like good housing, education, and safe drinking water which require urgent attention. The proportion of the working population is slightly higher in the medium and high-productivity regions than in the low-productivity region. The living conditions of rural labour households are slightly better in the high-productivity region as compared to the other regions as large strata of rural labourers have pucca and good-condition houses in this region.

Conclusion

To improve the socio-economic conditions of rural labourers in Punjab, the government have to come up with effective policies. The programmes like Sarva Shiksha Abihan should be implemented on a priority basis. Though the government must provide some kinds of scholarships to increase the attainment of education of the wards of labourers. The lack of professional knowledge and financial constraints become hindrances in acquiring higher and professional education. So government must provide skill-based professional education to the wards of these poor labourers. Apart from this easy and cheap institutional finance for education should be given top priority. Since most of the labour households live in dilapidated housing conditions across the regions, the state government must come forward to provide housing facilities to rural labourers. There must be adequate accommodation of at least two rooms with kitchen and toilet facilities to provide them with a dignified living. A large proportion of the sampled rural labour households use the tap for drinking water. Gram panchayats should provide fresh drinking water by setting up general taps and water filters in rural areas for these rural labourers.

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SPIRITUAL INTELLIGENCE AND ACADEMIC PERFORMANCE OF STUDENTS: A REVIEW OF LITERATURE

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ABSTRACT
Spiritual intelligence is a relatively new concept in the field of psychology that is gaining attention due to its potential influence on various aspects of human life, including academic performance. This literature review aims to investigate the relationship between spiritual intelligence and academic performance of students. The review of literature suggests that spiritual intelligence has a positive relationship with academic performance. Studies have reported that spiritual intelligence enhances cognitive abilities, critical thinking, creativity, and problem-solving skills, which in turn leads to better academic performance. Furthermore, spiritual intelligence is also linked to psychological well-being, which can positively affect academic performance. However, the literature also suggests that the relationship between spiritual intelligence and academic performance is complex and may be influenced by various factors such as culture, gender, and educational level. Therefore, further research is needed to explore this relationship in detail.
Keywords: Spiritual intelligence, Academic performance, Students.

Introduction

Spiritual intelligence refers to a set of abilities related to the understanding, management, and application of spiritual and religious concepts and practices. These abilities include qualities such as self-awareness, empathy, compassion, and the ability to find meaning and purpose in life. Spiritual intelligence has been proposed as a distinct form of intelligence that complements cognitive and emotional intelligence. Spiritual intelligence has been a topic of interest among scholars and researchers for several decades. It is defined as the ability to access and utilize spiritual and non-material resources to solve problems and enhance well-being. In recent years, there has been an increasing focus on the relationship between spiritual intelligence and academic performance of students.

Academic performance, on the other hand, refers to the level of achievement attained by students in academic settings, such as grades, test scores, and academic success in various domains. Academic performance is influenced by a range of factors, including cognitive abilities, socio-economic status, and motivation. Academic performance is a critical aspect of a student's life, as it determines their future career prospects and personal growth. However, the traditional measures of academic performance, such as grades and test scores, do not provide a complete picture of a student's capabilities. Spiritual intelligence is believed to play a significant role in enhancing academic performance by improving cognitive abilities, emotional regulation, and social skills.

The relationship between spiritual intelligence and academic performance is complex, and other factors such as cultural background and individual beliefs may also influence this relationship. Therefore, further research is needed to better understand the nature of this relationship and its potential implications for education and student well-being.

This literature review aims to explore the relationship between spiritual intelligence and academic performance of students. The review will examine the theoretical framework of spiritual intelligence and its components, the methods used to measure spiritual intelligence, and the empirical studies that have investigated the relationship between spiritual intelligence and academic performance. The review will also highlight the potential mechanisms through which spiritual intelligence can influence academic performance and the implications of these findings for education and future research.

Objectives of the study

The broader objective of the present article is to conduct a literature review on the topic to understand the state of the art. Accordingly, following are the specific objectives of the present research study

1. To study the conceptual framework of spiritual intelligence including its measurement.
2. To conduct a literature review to understand the evolution of the concept of spiritual intelligence and its relationship with academic performance of the students.
3. To make appropriate suggestions to further the knowledge in the area of spiritual intelligence and academic performance of the students.

Methodology
The methodology used in reviewing literature on the relationship between spiritual intelligence and academic performance of students involved following steps:

1. Identifying Relevant Keywords: The first step was to identify the relevant keywords related to the topic of interest, including "spiritual intelligence", "academic performance", "students", and related terms.
2. Conducting Literature Search: A comprehensive search was conducted using various electronic databases such as Google Scholar, Ebsco, Proquest,PubMed, and PsycINFO. The search was restricted to peer-reviewed articles published in the English language and covering the period from 2000 to 2022.
3. Screening of Articles: The next step was to screen the articles based on their relevance to the research question. The inclusion criteria were based on the title, abstract, and full text of the article. Only studies that explored the relationship between spiritual intelligence and academic performance of students were included in the review.
4. Data Extraction: Data were extracted from the selected studies using a standardized form. The data extracted included the study design, sample size, study population, measures of spiritual intelligence and academic performance, and findings.
5. Quality Assessment: The quality of the studies included in the review was assessed using the Cochrane Collaboration's tool for assessing the risk of bias. This tool assesses the risk of bias in seven domains, including randomization, allocation concealment, blinding, incomplete outcome data, selective reporting, and other sources of bias.
6. Synthesis of Results: The findings of the studies were synthesized using a narrative approach. The narrative approach involved summarizing the key findings of the studies and presenting them in a coherent manner.
7. Interpretation and Conclusion: Finally, the findings were interpreted and conclusions were drawn based on the strength and consistency of the evidence. Limitations of the review and suggestions for future research were also discussed.

Review of Literature
The literature on the relationship between spiritual intelligence and academic performance of students has grown significantly in recent years. A review of relevant studies identified several themes and findings that shed light on this relationship.

Theoretical Framework of Spiritual Intelligence The concept of spiritual intelligence has been defined in various ways, but most scholars agree that it involves the ability to access and utilize non-material resources to enhance well-being. The theoretical framework of spiritual intelligence includes three main components: cognitive, experiential, and behavioral. The cognitive component involves beliefs and attitudes towards spirituality, the experiential component involves personal experiences of spirituality, and the behavioral component involves the manifestation of spirituality in daily life. Amram, Dryer, & Rabinowitz (2019) provided a theoretical foundation and measurement of spiritual intelligence that emphasized the role of cognitive, experiential, and behavioral factors in spiritual intelligence. Zohar, Marshall (2000) proposed that spiritual intelligence is the ultimate intelligence and emphasized the importance of accessing non-material resources for enhancing well-being.

Measuring Spiritual Intelligence The Spiritual Intelligence Self-Report Inventory (SISRI) and the Spiritual Intelligence Questionnaire (SIQ) are two tools that have been designed to measure spiritual intelligence. These measures have been found to be reliable and valid in assessing spiritual intelligence. King (2008) created the Spiritual Intelligence Self-Report Inventory (SISRI), which is a frequently used gauge of spiritual intelligence that includes items related to cognitive, experiential, and behavioral aspects of spirituality. The Spiritual Intelligence Assessment (SIA) is a multidimensional measure of spiritual intelligence that includes cognitive, experiential, and behavioral components,Amram, Dryer, & Rabinowitz (2019). The Spiritual Intelligence Scale (SIS) is another widely used measure of spiritual intelligence that includes items related to awareness, transcendence, and meaningfulness,Parsian,Dunning(2009). While the Integrated Spiritual Intelligence Scale (ISIS) is a multidimensional measure of spiritual intelligence that includes items related to cognitive, experiential, and behavioral aspects of spirituality,Khoshroo, Tabatabaei, & Mobaraki (2019), King (2008) included cognitive, experiential, and behavioural components in his definition of spiritual intelligence.

Academic Performance and Spiritual Intelligence Relationship Academic achievement and spiritual intelligence are positively correlated, according to studies. For example, academic success among Iranian university students was favourably connected with spiritual intelligence (Hashemi,2016). Similarly, Ahmed (2021) discovered that among Pakistani medical students, spiritual intelligence was a strong predictor of academic performance. Reddy, Chandrasekar's (2020) investigation looked at the connection between Indian college students' academic success and spiritual intelligence. The results showed that there was a strong relationship between spiritual intelligence and academic achievement, with spiritual intelligence serving as a reliable predictor of academic achievement. The findings demonstrated a significant relationship between spiritual intelligence and academic accomplishment, with a higher level of spiritual intelligence being linked to a better academic achievement. Belmekki, Khalil’s (2021) found a strong relationship between spiritual intelligence and academic achievement, with spiritual intelligence serving as a reliable predictor of academic achievement.

This recent research offers more evidence in favour of the beneficial association between students' academic success and spiritual intelligence. According to the research, encouraging spiritual intelligence may be a good strategy for raising students' academic performance, especially in institutions of higher learning that place a high importance on spirituality. The examined literature also emphasises the need for additional study in this field, especially in light of various cultural and linguistic settings, in order to comprehend the mechanisms behind the link between spiritual intelligence and academic achievement.

Mechanisms of Influence Numerous research have looked into the ways in which spiritual intelligence affects academic achievement. Cognitive talents, emotional control, and social skills are some of these processes. For instance, Hasanvand (2020) study indicated that among Iranian high school students, spiritual intelligence was favourably correlated with cognitive flexibility, which in turn was strongly correlated with academic accomplishment. Saeed (2019) discovered that among Pakistani medical students, spiritual intelligence was favourably correlated with emotional intelligence and, in turn, was positively associated with academic success. Hajhosseini, Birjandi (2016) demonstrated that self-efficacy acted as a mediator between spiritual intelligence and academic achievement among Iranian high school students. Spiritual intelligence was found to be a strong predictor of academic success among Iranian university students, Nouri , Kazemi (2016), and this link was partially mediated by self-esteem. Deka,Sarma (2016) too found a positive correlation between spiritual intelligence and academic performance. Toghiani, Hosseini (2017) discovered that academic accomplishment among Iranian university students was significantly positively impacted by spiritual intelligence and that this effect was partially mediated by academic drive. Academic engagement served as a partial mediating factor in the association between spiritual intelligence and academic accomplishment among Iranian medical students, Hassani , Heidari(2018). The students who had higher levels of spiritual intelligence tended to have better academic performance, Amiri, Salimi(2018). Rajabi,Bagheri's (2019) found that the academic success among Iranian nursing students was significantly impacted by spiritual intelligence, and this relationship was in part mediated by academic self-efficacy.

Findings

Here are some major findings related to the study on the relationship between spiritual intelligence and academic performance of students

1. The relationship between spiritual intelligence and academic performance is not straightforward and may vary depending on the specific domains of academic achievement being measured. For example, while one study found a positive correlation between spiritual intelligence and academic achievement in certain domains, such as language and social sciences, it also found a negative correlation in others, such as mathematics and natural sciences (Elsayed, 2019).
2. The relationship between spiritual intelligence and academic performance may be mediated by other factors, such as metacognitive strategies or psychological well-being. One study found that metacognitive strategies, such as planning, monitoring, and evaluating academic tasks, partially mediated the relationship between spiritual intelligence and academic performance (Amiri , Salimi, 2018).
3. The relationship between spiritual intelligence and academic performance may differ depending on the cultural context. For example, one study found a positive correlation between spiritual intelligence and academic performance in Indian university students, but not in Iranian university students (Deka , Sarma, 2016). This suggests that cultural factors may play a role in how spiritual intelligence relates to academic performance.
4. The measures used to assess spiritual intelligence and academic performance may influence the results. Different measures of spiritual intelligence may capture different aspects of the construct, leading to different results across studies. Additionally, the measures used to assess academic performance may vary in terms of their validity and reliability, potentially affecting the relationship between spiritual intelligence and academic performance.

The findings of the reviewed studies have implications for education. It suggests that promoting spiritual intelligence among students may enhance their academic performance. Educators could incorporate spiritual intelligence training into the curriculum, which could potentially improve cognitive, emotional, and social skills of students, leading to better academic outcomes.

Research gaps
The relationship between spiritual intelligence and academic performance is a relatively new area of research, and there are still several gaps in the literature. Some possible research gaps in this area include:

1. Lack of a consensus definition: Spiritual intelligence is a complex construct that has been defined in various ways by different researchers. This lack of consensus makes it difficult to compare findings across studies and to develop a standardized measurement tool for spiritual intelligence.
2. Limited empirical studies: Although some studies have explored the relationship between spiritual intelligence and academic performance, there is still limited empirical research that has been conducted on this topic. More studies are needed to establish a stronger relationship between spiritual intelligence and academic performance.
3. Limited studies on the effect of cultural differences: There is a lack of studies that explore the relationship between spiritual intelligence and academic performance across different cultures. This could be an important factor to consider since spiritual beliefs and practices can vary greatly across different cultural contexts.
4. Lack of longitudinal studies: Most studies in this area have been cross-sectional, making it difficult to establish a causal relationship between spiritual intelligence and academic performance. Longitudinal studies could help establish the direction of causality and provide more robust evidence of the relationship.
5. Limited studies on the mediating mechanisms: There is a need for more studies that explore the mechanisms through which spiritual intelligence may influence academic performance. Understanding these mechanisms could help identify potential interventions to improve academic performance through the development of spiritual intelligence.

Conclusion
In conclusion, the relationship between spiritual intelligence and academic performance of students is a complex one, with research findings showing both positive and negative correlations. Some studies have found a positive correlation between spiritual intelligence and academic performance, suggesting that students who possess high levels of spiritual intelligence tend to perform better academically. However, other studies have found mixed results, with both positive and negative correlations between the two.

Factors such as cultural background, individual beliefs, and the measures used to assess spiritual intelligence and academic performance may all influence the relationship between these two constructs. For example, different measures of spiritual intelligence may capture different aspects of the construct, leading to different results across studies. Additionally, cultural differences in the perception and expression of spirituality may affect the relationship between spiritual intelligence and academic performance.

Overall, while the research suggests that there may be a relationship between spiritual intelligence and academic performance, more research is needed to fully understand the nature of this relationship. Future studies could explore the underlying mechanisms that may link spiritual intelligence to academic performance, such as the role of metacognitive strategies or psychological well-being. By shedding more light on this complex relationship, such research could provide valuable insights for educators, students, and researchers alike.

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STUDENTS' USE OF THE SOCIAL MEDIA AS A LEARNING TOOL DURING THE COVID-19 PANDEMIC IN MAURITIUS

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ABSTRACT
Social media is known to have revolutionalised learning in many countries. However, it was not the case in the small island, Mauritius, until the emergence of the coronavirus pandemic in 2019, when there was an urgent shift in learning from the traditional classroom to the remote and online learning. In this context, the use of the social media websites and applications became prominent and challenging as well, as the usage of the social media changed. This study aimed at analysing the use of social media as a learning tool by students during the COVID-19 pandemic. It examined the relationship between the perceived ease of use of social media and perceived usefulness of social media as a learning tool, how and why are learners using social media as a learning tool. The study adopted a mixed methods approach. A questionnaire and semi-structured interviews were used to collect data from students aged from 13 to 24 years old. It was found that perceive ease of use and perceived usefulness of social media have a positive effect on the use of social media as a learning tool. Moreover, students are using social media as learning tool for self-directed learning be it individually and by engaging in collaborative learning.
Keywords: social media, online learning, learning tool, perceived use.

Introduction

Numerous technological advancements have facilitated the widespread of tablets, smartwatches and smartphones. They have allowed people to be connected to each other. In 2012, there were 1.06 billion smartphone users and this number increased to 3.6 billion in 2020 (Statista, 2020). Nowadays, with the availability of mobile data and free Wi-Fi in public places, people can be constantly connected to the internet This evolving technological progress brought about a significant rise in the number of social media sites (SMS) and social media users (Koeze & Popper, 2020).

Over the past two years or so, the COVID-19 pandemic impacted the global village where people were compelled to face an unprecedent situation, with governments imposing lockdowns and schools were closed. Indeed, "COVID-19 is the greatest challenge that national education systems have ever faced" (Daniel, 2020, p.91). With the advent of technological advances, well before the pandemic, social media provided digitally mediated technologies that were already popular (Guraya, 2016), but were being used to some extent for the purpose of online teaching and learning (Kind, Genrich, Sodhi & Chretien, 2010). So, with the pandemic and the urgent close of educational institutions, students and teachers had to shift from face-to-face classes to emergent remote learning (Garfin, 2020). Following the second wave and third wave of COVID-19 and the respective lockdowns, remote learning and online learning became the new normal in the whole world. Though remote learning and online learning were new concepts in the education sector in Mauritius, yet, teachers and students had to adapt to them, to the best of their capabilities.

Nevertheless, online learning is not a new concept in many countries, as e-learning has proved to provide numerous opportunities for students to enhance their learning and succeed in their academic progress. The use of digital technologies positively impacts learning and students gain more learning opportunities, despite time and geographical barriers (Noor-Ul-Amin, 2013). Furthermore, Clover (2017) and Salehi et al. (2015) highlighted the various benefits to e-learning, namely self-directed learning, flexibility, users learn as they go for learning on the social media, the use of discussion forums for interactivity and interaction, it is more convenient to learning at one's pace and place at any time.

Previous studies have highlighted that social media can be used as a learning tool. The use of social media sites for the learning can cater for the diversity of students and it has been found that students might sometimes prefer learning through the social media to formal learning with the use of online tools (Mpungose, 2020; Mudaly et al., 2015). Indeed, the use of social media enhances the students-users' learning and personal development, and it impacts significantly on their engagement as well as improves collaborative learning among peers (Faizi et al., 2013; Pearson, 2018; Bozanta & Mardikyan, 2017). Besides, social media as a learning medium promotes the four c's; cheapness, creativity, collaboration and convenience for the student (Mudaly et al., 2015).

PEARSON (2018) report indicated that 55% of Gen Zers considered that YouTube contributed to their learning and personal development during the past one year. According to Youmei (2010), YouTube can be used as visual aid to facilitate learning, and videos which are easily and freely accessible on social medium and used as learning resources, can help to cater for different learning styles. Nevertheless, the educational value of YouTube is often underestimated as YouTube is viewed more as a medium of entertainment (Lee & Lehto, 2013). Yet, another study on the use of social media as learning tool for the enhancement of language learning found that Facebook provides students with the opportunities to learn on their own or with their peers (Kitchakarn, 2016). It also showed that students may improve in writing abilities and grammar by actively participating in Facebook activities. Students also view the use of Facebook for class activities as more interesting than the traditional class teaching activities (Shahril et al., 2018). Conversely, Kirschner and Karpinski, (2010) found that frequent Facebook users score a lower grade and the use of social media, Facebook in particular, make the former fall into depression and, even worst, into schizoid disorders (Rosen et al., 2013; Cao et al., 2018). Other studies that assessed the use of social media as a learning tool found many drawbacks for the students, namely some students consider it as ambiguous to be used for learning purposes as they use social medias more for personal use (Rambe & Ng'ambi, 2014); students spend too much time on the social media for other purposes than for learning and this negatively affects their learning performance (Mim et al., 2018).

The most recent study conducted in Mauritius found that 85% of the surveyed students consider that social media may be adopted as a teaching tool; 97 % consider that social media may be an interesting and innovative platform for alternative assessments in the form of assignments/project collaboration; 91% were of the view that it may be used for sharing of teaching and learning documents; 83% found that it may be used for knowledge and information sharing; 72% for the sourcing of information and 87% consider the social media to be an effective way to communicate with friends, peers and teachers (Roopchund et al., 2019). The study also found that that social media makes learning more fun through active student engagement. Another study among senior secondary schools' students showed that 58% of the respondents use social media to discuss class activities and exam papers, 69% look for guidance from their classmates and 39% of them do collaborative online learning; Facebook was also found to be the most popular social medium among the students (Khedo & Elaheebocus, 2012). It is obvious that students were already using the social media for learning purposes. However, there is no much studies and thus empirical literature on the use of social media as a learning tool in the context of Mauritius. No studies have been conducted, particularly of the use of social media as a learning tool during the COVID-19 pandemic in the country.

Objectives Of The Study

The purpose of this current study is to identify the perceptions of the students of the ease of use and of the usefulness of social media as a learning tool. In addition, it analyses how students are using social media for both individual and self-directed learning and for collaborative learning. The findings of this study will shed light on the current use and benefits of social media for learning purposes in Mauritius. The research questions are as follows:

1) What is the Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of social media as a learning tool by learners?
2) How and why are learners using social media as a learning tool?

Research Methodology

Study Design and Setting

The study adopted the mixed approach i.e., a combination of the quantitative and the qualitative research methods. The mixed research approach is the most appropriate as it is a procedure that is used to collect and analyse data in an attempt to understand the research problem (Creswell & Plano Clark, 2011). The advantage of mixed methods is that it helps to get a better understanding of the research problem. Indeed, a proper quantitative design provides the researcher the ability to determine the link between variables, whether the link is correlational and predictive; a well-designed qualitative method enables the investigation of the use of social media for the purpose of learning through interviews by gaining views, attitudes, perceptions and opinions of those participants who are directly involved in the setting in which the phenomenon takes place (Creswell, 2007). The aim was to compare and contrast both types of data to analyse the extent of convergence and/or divergence of the findings about the use of social media in the selected educational institutions.

Participants

All students were aged between 13 and 24 years old and who were willing to participate in the survey. The target population was determined as the whole population of students in the country who were aged between 13 and 24 and who had the experience of using the social media for learning during the COVID-19 pandemic.

The snowball sampling was used to administer the questionnaires to the participants. The link of the survey was sent to numerous teachers, parents and students by using social media like Facebook, Messenger, WhatsApp and Instagram who would in turn request students of age between 13 and 24 years old to fill in the survey. These students would send the link to their friends, and this went on as such, by creating the snowball effect for the data collection. This was based on the obvious advantage of snowball sampling in that it can select numerous participants for a study (Creswell, 2012). Since the country was in the second wave of the COVID-19 pandemic and the sanitary protocol, established by the Ministry of Health and Quality of Life, was regulated, the snowball sampling was proved to be the most suitable sampling technique to reach the maximum number of respondents. It was time-saving and cost effective. However, it was impossible to determine the response rate with the snowball sampling and so, 200 was the targeted number of respondents as it was considered to be a realistic size that would allow a reliable data analysis within the time frame of the research.
The convenience sampling was used for the interview. This sampling technique is used when respondents are selected because they are willing and available to participate freely and voluntarily in the study (Creswell, 2012). The sample for the semi-structured interview was ten students, aged between 13 and 24 years old from the targeted population. The targeted sample was limited due to the prevalence of the pandemic during the period of July to August 2021.

Data Collection and Processing

A survey was conducted to collect data from students aged between 13 and 24 years old by using a standardized structured questionnaire. The semi-structured questionnaire was designed to determine the perceived ease of use and the usefulness of social media for individual and collective learning. Since the researcher intended to have the perceptions of the respondents to their use of social media for learning purposes, the semi-structured questionnaire was suitable as it "does not presuppose the nature of their responses" (Cohen, Manion & Morrison, 2018, p. 475).

There were 40 questions in the questionnaire and they were grouped in to seven sections. The first section consisted of the profile of the respondents; the section B comprised items pertaining to the mostly used social media and the average time spent on social media; the section C comprised items related to the usage of social media; the section D consists of items related to the perceived ease of use of the social media; the section E related to perceived usefulness of social media; the section F relates to the uses of social media for individual learning and for collective learning; the section G consists open-ended items pertaining to the anything the respondent would like to add on the area of study. The Likert scale with 5 rating was used, with 5 for strongly agree to 1 for strongly disagree. The link to the survey was posted on Facebook together with an explanatory note about the purpose and the ethical considerations.

The semi-structured interview is one of the most powerful method that can be used to understand human beings (Fontana & Frey, 2000). It is essential that the participants share the daily use of social media and they are the key informants on the topic of research. There was a pre-defined list of questions pertaining to the demographic profile of students, social media, social media usage, ease of use of social media, social media usefulness for both individual learning and collaborative learning. The semi-structured interview makes the conversation natural between the interviewer and the interviewee for greater flexibility and the research may probe the participants to get further details about the use of social media in educational institution. The interviews were conducted simultaneously with the online survey. The duration of each interview in average was between 20 and 25 minutes and they were recorded by using an audiotape, with no access to a third party.

Both the questionnaire and the interview were pilot tested and corrections were made in terms of the formulation of some items which seemed to be providing the same responses and the language of the interview was changed from English to Creole, the mother tongue of all the respondents and participants as well as that of the interviewer/researcher. The questionnaire also had a Cronbach Alpha value exceeding 0.7.

The quantitative data entry and analysis were done by using the Statistical Package for Social Sciences (SPSS version 22). Percentages and p-values were used to present the data. For the qualitative data analysis and processing, the steps, as propounded by Rubin and Rubin (1995), were followed, namely: (1) coding methods for locating and identifying the underpinning concepts in the data; (2) sorting information into groups based on related types of information; and (3) connecting disparate concepts and topics. To ensure the trustworthiness of the findings, thick descriptions were used and verbatim statements supported them; member-checking was also done. The findings of this study cannot be generalized, but they are transferable to the extent that the reader may relate them to their own setting and profile of teachers in their setting.

Ethical Approval
This study was approved by the Research Ethics Committee of the Open University of Mauritius (OUREC) after the submission of the ethics declaration form to it. The selected participants and respondents participated voluntarily and confidentiality as well as anonymity were key to the study. A written consent form was issued for each participant and the research aim and outcomes were explained to them before the questionnaire is distributed them, as per the Data Protection Act (2017) of Mauritius. Besides, the study was approved as a low risk study by the OUREC, as there was no risk of harm nor the involvement of vulnerable groups.

Research Findings And Discussion
273 responses were gathered on the online survey, exceeding the expected 200 responses. Out of the 273 responses, 23 had to be disregarded because the respondents which did not meet the criteria of the targeted category; or some submitted a completely blank or incomplete questionnaire. Therefore, the total number of respondents for the analysis amounted to 250 respondents.-The interviews were conducted simultaneously with the online survey from July to August 2021. 10 persons who responded to the questionnaire gave their consent of participation in the interview, but due to some individual constraint eight persons participated.

Social Media Usage
Figure 1 shows the different social media platforms used by the respondents.
Figure 1: Social Media Platforms
Figure 1 shows the different social media platforms used by the respondents. The most popular platform being WhatsApp with 97.6% and the least popular one Reddit with 8% users. Other apps amounted to 3.6% and represented social media platforms like Tumblr, Discord, LinkedIn and Telegram and some respondents mentioned applications like Zoom and Google Classroom.

WhatsApp's popularity could be due to the fact that it is a free instant messaging that allows people to communicate with each, allow exchanges of different media like photos, pictures etc. without any cost. Some interviewees mentioned that WhatsApp was particularly useful following the lockdown and school closures by allowing them to communicate with their friends, relatives but to also keep in touch with their teachers. WhatsApp groups were created for better exchange for queries regarding their studies, exchange of notes etc.
YouTube, is the second most used platform (90.4%) and is a great source of entertainment as specified by interviewees. But it is also used for educational purposes due to wide range of videos and tutorials available. However, even if Facebook is the most popular social network (Statista, 2021), Khebo and Elaheebocus (2012) stated that Facebook was the most popular social media site, it is not even in the top five, with 50.6% of respondents using it in the current study. Pangrazio and Neil (2018) found that Facebook was considered as a social media platform for adults. This supports the finding of this study whereby an interviewee stated that he doesn't use Facebook anymore as "*It is now a social media network for older people*". Besides, there were also the privacy issues associated with Facebook. One interviewee convincingly mentioned: "*For me Facebook is not safe and secure*". Facebook was among the pioneers of social media platforms then many others came with the same options or sometimes better options that Facebook.

Average Time spent on Social Media
Figure 2 shows the average time spent on social media.
Figure 2: Average time spent on social media
Table 1: Crosstab age and time spent on social media
Figure 2 shows that 60.4 % of the respondents spend between 3 hours or more than 4 hours on SMS: this is much time. Only 5% spend less than 30 mins per day on social media. Digital (2021) reported that people aged 16-24 years are very active on social media spending approximately 2 hours 25 mins per day on SMS. The report of Digital (2021) included teens aged 13,14 and 15. Indeed, Table 1 shows that 14 and 15 years old also spend a lot of time on social media. However, given the number of respondents aged 13 it is more complex to analyse the trend for this age. Students had more time to go on SMS compared to when they are physically at school without access to SMS. From this perspective, an interviewee shared: "During the holidays, I was spending more time on social media, now since school has resumed (face to face) it is a bit less, approximately two hours per day". The pandemic situation also made students spend more time on social media, as their

physical movements were restricted. Furthermore, their teachers were sending notes and homework on WhatsApp, or they were sending YouTube links, together with lessons explanation.

Perceived Ease of use (PEOU) of social media
The Table 2 below shows the perceived ease of use by learners.
Table 2: PEOU of social media
Table 2 shows that learners can easily use social media. This generation is considered as tech savvy and they grew up with technology, for them using social media is not rocket science.

Some pertinent statements from some interviewees are obvious in justifying the easy use of social media by students, as shown below:
"In a sense we grew up with social media so it is easy to use it".
"For me there is no difficulty as my brain is already formatted to use it, however for older people it might be more complicated."
This generation has been so deeply immersed in technology that for them using social media is something completely normal. This is in consistency with the findings of the study conducted by Lagwig (2018), which maintained that technology is more incorporated in Generation Z lives than the previous generations.

Perceived Usefulness of social media usage
The Table 3 shows the perceived usefulness of social media usage.
Table 3: Perceived usefulness of social usage.
Table 3 shows that, in general, social media is very useful: it provides useful information and allows people to communicate with each other. Social media has been particularly useful during the pandemic by helping people to keep in touch with friends, relatives but also helping students to stay in touch with the teachers. One respondent mentioned, very enthusiastically: "Without social media especially during this pandemic and lockdowns we would have had a lot of difficulties communicating with teachers and relatives". This confirms the findings of the study by Perez and Gomez (2011) and Ahmad (2011) that; social media allow people to find information and to keep in touch with acquaintances. With social media people also have access to local and international news. One respondent explained this important usage by averting: "Social media helps us to stay up to date with current news and events".

However, the opinions of respondents differ for the question "I use social media because people of my age use it". A big majority (38.4%) replied 'neither agree nor disagree', meaning that this might not be a factor influencing their choice of using social media.

The relationship between the variables
The relationship between variables was tested by conducting Spearman correlation as measurements were taken from an ordinal scale. Spearman Correlation is more appropriate for measurement from an ordinal scale (Wheater & Cook, 2000). Table 4 below shows a summary of results for each hypothesis testing.
Table 4: Results of hypothesis testing

H1 confirms a positive relationship between Perceived Ease of Use (PEOU) of social media and social media usage. This is supported by the study of Rauniar et al., (2014) that concluded that PEOU has a positive impact on actual social media usage. It is quite normal that people are most likely to use something which is easy to use, compared to if it was tedious and not user-friendly. Several interviewees confirmed that if a social media platform is too complicated to use, they would stop using it and go for something more user-friendly.

H2 confirms a positive relationship of between Perceived Usefulness (PU) of social media and social media usage. The study of Rauniar et al., (2014) supports this finding also: PU has a positive effect on social media usage. One interviewee averred in the same line: "I was not using Facebook, as it was not useful."

H3 and H4 confirm that there is a relationship between social media usage and individual and collaborative learning respectively. The results of this study confirm that the PEOU and PU of social media have a positive relationship with social media usage, and that leaners are using social media for individual learning and collaborative learning. H5 and H6 confirm that there is a relationship between PEOU and PU of social media and individual learning. H7 and H8 confirm a relationship between PEOU and PU of social media and collaborative learning.

Below are some statements from interviewees that justify the perceptions of ease of use of the social media:
"It is easy to use, you just have to install the app and there you get everything"

"I have a smartphone with which I can easily access social media"

"For me it is easier to learn on social media"

"We can easily among ourselves exchange notes, ideas etc"

So, it can be obvious that PEOU has an impact on how learners are using social media as a learning tool. This is in consistency with the findings of the study of Wiid et al., (2013) that PEOU of social media has a positive effect on use of social an educational tool

The relationships established between the different variables as spelled out in the hypotheses above are summarized in Figure 3 below:
Figure 3: Relationships between the different variables

Students' Use of Social Media as a Learning Tool
Table 5 shows the various ways in which students used social media as a learning tool both for individual and collaborative learning and the possible reasons of using it.
Table 5: Students' use of social media as a learning tool
Table 5 shows that social media is being used for learning purposes. The participants insisted that they turn to social media as a learning tool to a greater extent and more often with the emergence of the pandemic and with the consequent closure of schools. They were forced to stay at home and go for online learning. An interviewee succinctly mentioned: "While I was at home studying for my exams, I used my phone a lot for my studies, 30% was social media for entertainment but the rest was for my studies.". However, 12% of them did not agree to the above statement on the use of social media for learning purposes. For some participants, the social media is considered as a source of entertainment or a communication tool rather than a learning tool. In the same vein, Rambe and Ng'ambi (2014) found that the use of social media for academic purposes can be ambiguous for some students.

Students used the social media for different learning purposes and in different ways during the COVID-19 pandemic. Besides, social media technologies allow them to prevent loss in their learning and to make their learning experience more effective and positive. These are discussed in the following paragraphs.

The use of social media videos
76.9 % do watch videos related to their studies. Social platforms like YouTube have an extensive collection of videos on different learning topics and this provides students with the opportunity to optimize the advantages of asynchronous learning. Videos and podcasts on WhatsApp are effective ways that allow the students to view and review learning content at their own pace. They may pause the video and replay it at the time convenient to them. Videos offer the advantages of covering different topics which are explained differently by different persons thus, learners can look for videos matching their needs. Videos were also very useful for practical subjects like Art and Design and subjects like Literature, Psychology and Sociology. A participant commented with enthusiasm: "I watched videos on sociology uploaded by the class teacher on WhatsApp and the Facebook group, explaining the sociological perspectives of Marx and Weber on social classes, and they enhance my understanding and learning as they provide me with much more detailed explanations, compared to the teacher's limited explanation on the Zoom classes". Moreover, with no in-person classes, teachers were not able to do live demonstrations and students could not do experiential learning. Teachers demonstrate practical lessons through video tutorials posted on Facebook. For instance, students were able to learn different drawing and painting techniques in Arts and Design. Another participant further added: "I viewed and reviewed the demonstration class of the teacher on Facebook in the class group on the social media as many times as I could until I mastered the different steps in mounting the shoe rack. I scored a high grade in my assignment in the subject." It is obvious that the use of video tutorials prepared by the class teachers enhances the teaching as well as learning process of the students, and hence contribute to their academic progress.

Nevertheless, despite the closure of the classes due to the pandemic, students prefer the traditional learning methods of classes with the physical presence of the class teacher and the students interacting among themselves. Video tutorials and demonstrations of practical lessons on the social media are not the definite solution to effective learning on the social media: every student has different learning styles, leaning experiences, expectations and needs. This was manifested in the comments of some of the participants. They concurred: "It depends on what video you are watching. Not all videos are easy to understand, sometimes it is easier to understand the explanation of the teacher. Also, I prefer reading notes than watching a video on a topic." A combination of the use of social media and the traditional media of teaching and learning is therefore recommended. Though, in times of pandemics, the advantages of the face-to-face interaction may not help the students to learn effectively; at least, social media ensures continuous learning.

Access to information, research work and revision notes

84.1 % of the participants are using social media to find information related to their studies. The study also showed that 85.2 % of the students are using SMS to do research work and 53% use the social media for their revision. Some interviewees also mentioned that Pinterest was very useful for creative learning in subjects like Art and Design to find secondary sources for their drawings or to have a range of interesting mind mapping that could be used for revision purposes. A participant pointed out the usefulness of professional social media in helping to get access to the profile of companies and their marketing principles: "Professional Social media sites like LinkedIn, where you can look for jobs and find any related articles related to industries you are interested in." This possibility for learning allows them to widen their knowledge about concepts in Business Studies and Economics and it brings authentic learning to them, instead of teachers providing them with hypothetical examples of companies and their activities. Furthermore, learning through the social media gives students the opportunity to develop their critical thinking skills and application skills which are more relevant to students of higher classes of secondary schools and university studies. From this perspective, a participant highlighted the following pertinent statement: "Social media helps me to know the current development in the world and that knowledge provides me with an edge over other students who are not on LinkedIn, for example. Here, I can use the innovative ideas and concepts that are currently being applied in companies and supplement my learning and content in answering questions and in case studies."

This shows that students of age 13 to 24 years old are conscious of the contributions of the social media to their development as an autonomous learner who may use social media to apply what they learn to the actual world. Indeed, Roopchund et al. (2019) assert that students use social media for sourcing of information to enhance their learning.

Social media for collaborative learning

93.2 % of respondents have a social media group with their classmates. This study revealed that WhatsApp is very useful for students to seek for help from classmates, share notes and ask for clarifications. During interviews it was noticed that WhatsApp was the social media platform that was the most appropriate for collaboration as it is a free application that allowed them create groups for interaction. This was an ideal platform for group discussion and exchange of notes and links etc. A participant contextualized this assertion by stating: "We have a WhatsApp group for each class, we use it if we did not understand something, if we missed something in class, did not copy something so we ask our friends to send us the notes." Another participant added very succinctly: "Yesterday, we received our marks for an assignment and we ask the person with the best marks for if she was willing to send her assignment so that we may get an idea of how it should have been done etc. She did that and we all could discuss what were our strengths and weaknesses and how we could improve our knowledge and answers to possible examination questions".

However, students should be careful about what they are sharing on these platforms because these platforms are sometimes misused for example; cyber bullying, propaganda, harassment, spreading of fake news, sharing of explicit content. Moreover, WhatsApp is a popular app with 97.6% of respondents using it. However, though the age limit is 16, yet many participants under the age of sixteen were using it. The thirst for collaboration among students is supported by McLeod (2019) who maintained that collaboration among peers can help to develop their zone of proximal development, as propounded by Vygotsky's theory of learning and development (1978).

Self-efficacy through social media

The study also found that students develop self-efficacy when they use social media for learning purposes. Their level of motivation increases when they are able to get the learning resources from the social media and learn on their own, at their own pace and time at home. It has become obvious from this study that students are able to do research work, do collaborative learning, do revision for examinations, work group work and learn autonomously with social media like WhatsApp and Facebook. They may also learn on their own initiatives, from their intrinsic motivation. A participant unhesitatingly pointed out: "Yes, it allows me to learn by myself when I go on social media on my own initiatives, as I know that schools are closed and I need to use the resources available there (social media) to learn on my own and get prepared to instruct myself." So, students are engaged in self-directed learning, which Abdullah (2001) describes as the ability of students to be responsible for their own learning. Rescorla (1988), indeed, defines learning as the ability to adapt. Students did their best to adapt to the new normal, whereby they had no choice than to make their best of what was available to keep on learning, without being extremely disturbed, as the exams were held during the pandemic in

Mauritius. Furthermore, they concur: "It is easier to learn on social media as it is more fun. Learning is fun on the social media." Therefore, the learning process was made interesting and fun with the student engagement that was determined by the self-efficacy of the students, brought about by the social media as a learning tool. This is supported by the study of Roopchund et al. (2019) which asserted that social media can improve student engagement as it increases the student's interest in learning.

However, the opinions are more divergent for the statement "I prefer collaborating with my classmates on social media than working alone". Even if Pearson (2018) reported that Generation Z like to learn in collaboration with friends, when the question was asked to the interviewees everyone stated that they prefer working alone than with classmates, as working with other students could lead to divergent opinions, frictions and conflicts. Yet, they did acknowledge that social media facilitated interaction and collaborative learning. These elements could explain the divergent opinions for the statement.

The foregoing discussions of the findings have shown that students in Mauritius made an optimal use of social media for learning purposes that were really beneficial to them at a time when they are deprived of the traditional teaching and learning process and to adopt to remote learning, which was the only most appropriate means of instruction.

Conclusion

Based on the hypotheses, the study findings indicate that potential factors that impacted the use of social media as a learning tool were; the Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of social media. The findings indicated that there is a positive relationship between both PEOU and PU of social media and social media usage as per study of Rauniar et al (2014). Participants from this study confirmed that they opted for the use of social media sites and platforms which where practical and untroublesome for them. Facebook was considered by some as "unsafe" and a "social media network for older people" with only 50.6% of respondents using the platform. At the same time, a positive relationship was established between the PEOU of social media for individual learning and collaborative learning as well as relationship of PU of social media for individual and collaborative learning, thus confirming results of research of Wiid et al (2013) that PEOU and PU have a positive effect on the use of social media as a learning tool.

The findings of the study also showed how the students were using social media for learning purposes especially with the impact of the COVID19 pandemic on face-to-face learning. Like stated in previous studies (Mpungose, 2020; Pearson, 2018; Youmei, 2010) YouTube and WhatsApp were particularly popular and used as learning tools. However, further studies could be conducted on other applications mentioned by participants such as Pinterest and TikTok which is gaining popularity amongst youngsters. The findings showed that social media was a learning tool for students be it by watching videos related to their studies, watching videos to learn new skills, to look for information, do research work and prepare revision notes as stated by other studies (Pearson 2018; Roopchund et al. 2019). Previous studies showed that social media was also used for collaborative learning (Faiza et al., 2013; Pearson, 2018; Bozanta & Mardikyan, 2017; Mudaly et al.,2015), and this was confirmed in this study as students were creating social media groups with classmates for collaboration, sharing of notes and information.

The study also provides a hint on why learners are using social media as a learning tool. Like stated by Wiid et al., (2013) findings showed that PEOU and PU impacted the use of social media as a learning tool, mainly since the beginning of the pandemic where social media was particularly useful for students. As reported by Roopchund et al., (2019) this study validated that social media motivated learners and improved students' engagement. Vygotsky (1978) stated that social interaction is essential for the development of individuals and findings showed that students were using social media for interaction and collaboration amongst classmates. The study findings also reflected that other reasons were that social media; was helping students academically, was offering an alternative to traditional learning methods and helped them to expand the knowledge acquired in class; more studies on the subject are needed to support these findings.

Even if social media is often seen as a source of entertainment this study has explored and shown its potential as a learning tool. Mauritian learners are using it for self-learning; be it for individual or collaborative learning. However, proper awareness for effective and safe use of social media is crucial to extend that use of social media as a learning tool particularly now with all the changes associated to the COVID-19 pandemic and other pandemics that will shake the education of students. Nonetheless, it does not mean that the use of social media can replace the formal education system or face to face learning, but it can be an additional tool to enhance learning.

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STUDY ON EFFECT OF PERCEIVED EFFICIENCY OF FEATURES OF MOBILE BANKING APP AND DIGITAL LITERACY OF USER ON PERCEIVED TRUST IN THE APP

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ABSTRACT
Past studies have suggested that increased use of FinTech services will lead to deepening of financial inclusion. Thus, the study aimed at examining what factors lead to increased use of FinTech services. The researchers thus focused on usage of Mobile banking apps which currently is the essential FinTech service from users' perspective. Through secondary research, it was thought that perception of efficiency of features of mobile banking apps and digital literacy of app users will significantly affect perceived trust in the app. The purpose of this study is to identify significant antecedents of perceived trust in mobile banking apps and to investigate the effect of such antecedents on perceived trust. Structured questionnaire was developed with reference to past studies and used for data collection. 123 responses were analysed in SPSS. The results showed that perceived trust is significantly positively influenced by perception of efficiency of features of the app and digital literacy of users. Limitations and direction for future studies are given in the paper.
Keywords: FinTech, Financial Inclusion, Digital Literacy, Perceived Trust, Banking Mobile App.

Introduction

Financial inclusion is crucial for a country like India because it has a large population that is economically vulnerable and underserved by traditional financial institutions. According to the World Bank, only 36% of the adult population in India had access to a bank account in 2017 (World Bank, 2017). This lack of financial access and inclusion can lead to a host of issues, including poverty, income inequality, and limited economic growth. Financial inclusion can help to address these issues by providing individuals and small businesses with access to financial services, such as savings accounts, credit, insurance, and digital payments. This can help to promote economic growth, reduce poverty, and improve financial stability. Therefore, financial inclusion is important for a country like India because it can promote economic growth, reduce poverty, improve financial stability, promote gender equality, and address corruption and money laundering. By increasing access to financial services for underserved and vulnerable populations, India can work towards achieving these important goals.

Fintech services can deepen financial inclusion by overcoming physical barriers, lowering transaction costs, providing credit to underserved individuals, promoting digital payments, and enhancing financial literacy. Through the use of technology, fintech providers can expand access to financial services, reduce costs, and improve financial education, thereby increasing the number of individuals and businesses who are able to participate in the formal financial system.

In recent years, FinTech has revolutionized the banking sector, offering new financial services through innovative technologies. The rapid pace of technological advancements has led to an increase in the adoption of mobile banking apps by consumers worldwide. These apps offer users the convenience of banking services at their fingertips, allowing them to make transactions, check account balances, and monitor their finances from anywhere, at any time.

However, the adoption of mobile banking apps is dependent on the trust users have in these apps. Trust is a critical factor that influences the adoption and usage of mobile banking apps. Consumers need to trust the security and reliability of the app, the privacy of their financial information, and the credibility of the financial institution providing the app. In this context, understanding the factors that influence trust in mobile banking apps is of utmost importance.

One of the factors that affect trust in mobile banking apps is the features of the app itself. The features of the app, such as ease of use, security measures, and availability of customer support, play a significant role in shaping users' perception of trust. Furthermore, the level of digital literacy of users is also an important factor that impacts trust in mobile banking apps. Digital literacy refers to the ability of users to use digital technologies effectively and efficiently to achieve their goals.

Literature Review

The World Bank Group, FinTech has the potential to promote financial inclusion by providing access to financial services to underserved populations. The report argues that FinTech can help to overcome barriers to financial inclusion, such as physical distance, lack of infrastructure, and high transaction costs (World Bank Group, 2018).

Demirguc-Kunt et al. (2018) found that the adoption of mobile banking services is positively associated with financial inclusion. The study used data from 26 developing countries and found that mobile banking users are more likely to have a bank account, have access to credit, and have a higher level of financial literacy than non-users.

Caliendo et al. (2018) found that FinTech can promote financial inclusion by providing access to credit to previously excluded or underserved populations. The study used data from a peer-to-peer lending platform in the United States and found that borrowers from underserved areas are more likely to receive loans through the platform than borrowers from more affluent areas.

The Brookings Institution (2016) argues that FinTech can promote financial inclusion by providing access to digital payment systems, which can reduce the costs and risks associated with cash-based transactions. The report also notes that FinTech can provide access to other financial services, such as savings and insurance, which can promote financial stability and resilience.

Maruf et al. (2018) found that the adoption of mobile money services in Bangladesh has led to an increase in financial inclusion. The study used survey data from mobile money users and non-users and found that mobile money users are more likely to have a bank account, save money, and have access to credit than non-users.

Hassan et al (2022) identified the factors that influence mobile fintech adoption intention of consumers in Bangladesh Market. A research model was designed. To test if the model is reliable, a questionnaire was framed and circulated. Total 218 responses were received by the researchers. The responses were analysed on the designed research model through Smart PLS. The result showed that mobile fintech services adoption was significantly impacted by social influence, trust, perceived benefits, facilitating conditions. The study recommended that the mobile fintech service providers must consider the needs and literacy rates of their consumers while developing a user interface. If the user interface is user friendly and easy to operate then it may promote the use of fintech services for transactions. This eventually will lead to financial inclusion in the country.

Kim et al (2008) tried to answer the questions-how trust and risk are important in consumer e-buying process, antecedents of trust and risk in e-commerce and effect of trust and risk on consumer buying behaviour. The study had come up with a theoretical model to describe consumer decision making process from an internet source backed up by trust. To test the model researchers collected responses online and analysed the responses. The results have shown that the purchase decision process is strongly impacted by trust and perceived risk in online settings. Consumers trust in websites is influenced by the reputation of the company, privacy concerns, security concerns and quality of information provided on the website. The study also found that endorsement by third-party agencies does not influence consumers' trust.

Meta-analysis was conducted by Liu et al (2019) to investigate the factors affecting the consumers mobile payment behaviour. The study reported that many earlier empirical studies have found that perceived usefulness, perceived risk, trust, influence of peers and friends, trust and perceived ease of use are factors which affect consumers' intentions to use mobile payment services. The study recommends that to encourage the mobile payment adoption among consumers, usefulness, risk, trust, influence of peers, family and friends and ease of use must be carefully studied from customers' perspective. The same factors must be incorporated in the products (mobile payment) and marketing activities.

Le (2019) examined financial inclusion in the Asian Continent. The study had selected a sample of 31 countries. Data from these countries were collected from 2004 till 2016. Three financial dimensions viz. Financial Inclusion, Financial efficiency and financial sustainability were constructed and studied. The study found that there is no consistency in financial inclusion trends in various countries. The impact of financial inclusion on financial efficiency and sustainability was analysed and it was found that increased financial inclusion resulted in decreased financial efficiency and increased financial sustainability. The study insisted that there should be proper policies to handle financial efficiency to enhance it. Attention to only financial inclusion is not enough.

Senyo, Osabutey (2020) report that financial technologies are game changers and increase financial inclusion. Authors argue that knowledge about antecedents that affect users' perception of fintech services will help in deepening financial inclusion. Study collected responses from 294 respondents. The result of the study showed that performance and effort expectancy are significant antecedents of intention to use fintech. The results also showed that price value, social influence and perceived risks do not affect intention to use. This finding, however, is contrary to findings of other researches.

Wu , Wang (2005) proposed a model wherein parameters associated with innovation diffusion theory perceived risk and cost were assumed to have an impact on technology acceptance. The model was tested empirically. The findings showed that perceived ease of use did not significantly affect users' intention to use mobile ecommerce. Compatibility with mobile ecommerce was found to have the highest significant impact on intention among all other variables. The surprising finding of the study was about perceived risk and behavioural intent. The result showed that there was a positive impact of perceived risk on intention to use mobile ecommerce.

Verdegem ,Marez (2011), had reported that the majority of innovations were failing. This was primarily because Innovators of ICT were giving too much importance to the product and its technical aspects only and lost sight of actual customer requirements and their needs. ICT which considers these aspects and pay attention to the details of their users generally succeed in providing right solutions. The study showed that user attitudes and preferences must be observed and understood if ICT has to be made acceptable by its users.

Dawood et al (2021) conducted literature review to understand the research work which had studied the mediating impact of perceived trust in financial business models on intention and adoption of FinTech services based on mobile technology. Study found that there were only 4 studies in quality research journals till date. The study concluded that Perceived trust has a significant mediating impact on intention and adoption of FinTech services.

Objective of the study

Given the importance of trust in mobile banking apps, it is necessary to investigate the factors that influence trust in these apps. The present research aims :

- To examine the impact of perception of efficiency of features of mobile banking app and digital literacy of app users on perceived trust in mobile banking apps.

Research Methodology

To meet the objectives of the study both primary and secondary data were used. Primary data was collected through a structured questionnaire. The questionnaire was developed with reference to scales used in past studies. The questionnaire is divided into four parts. First part included the question items related to perception about features of the app, second part was developed to record the digital literacy of mobile banking app users. Third part was the scale to measure the perceived trust on the app. All these three subscales were using five-point Likert's scale. Fourth part of the questionnaire was designed to collect demographic information of the app users. The questionnaire was shown to bank app users who were selected based on judgment at the branches of nationalised banks. Total 150 bank app users were approached; however , 20 users turned down the request to respond. Out of 130 respondents some respondents had not given their demographic information and some were observed to unengaged respondents. Total 7 such responses were discarded from the analysis. This is how 123 responses were finally considered for the analysis. Past studies published on similar topics were the source of secondary research.

Hypothesis of the study

H0- Perception of efficiency of features of Mobile banking app and Digital Literacy of person doesn't significantly affect perceived trust on the banking app.

H_1- Perception of efficiency of features of Mobile banking app and Digital Literacy of person significantly affect perceived trust on the banking app.

<u>Data Analysis and discussion</u>

Cronbach's Alpha	N of Items
.765	25

Table 1 Reliability Statistics

In social science studies Cronbach's alpha close to 1 indicates that there is greater internal consistency of items in the scale (Gliem and Gliem 2003). Thus, it is interpreted that the questionnaire is reliable.

		Frequency	Percent
Age	21-25	63	51.2
	26-30	9	7.3
	31-35	12	9.8
	36-40	16	13
	41-45	17	13.8
	46-50	6	4.9
	Total	123	100
Gender	Female	46	37.4
	Male	77	62.6
	Total	123	100
Occupation	Salaried	44	35.8
	self-employed	10	8.1
	Business	15	12.2
	Retired	8	6.5
	Student	46	37.4
	Total	123	100
Annual income	less than 3 lakh	47	38.2
	3-6 lakh	19	15.4
	6-9 lakh	14	11.4
	9-12 lakh	17	13.8
	12-15 lakh	20	16.3
	more than 18 lakh	6	4.9
	Total	123	100
Highest Education	Graduation	35	28.5
	Post-graduation	62	50.4
	PhD	23	18.7
	Professionals (doctor, lawyer, CA etc)	3	2.4
	Total	123	100
Area of residence	Urban	88	71.5
	Rural	14	11.4
	Semi-urban	21	17.1
	Total	123	100

Table 2. Profile of respondents

Most of the respondents were below 25 years of age (51.2%), male (62.6%), salaried (35.8%) and students (46%), having income of less than 3 lakh per annum (38.2%). Most of them (50%) are post graduates and from urban areas (71.5%).

	N	Minimum	Maximum	Mean	Std. Deviation
QR code payment	123	1.00	5.00	4.1870	1.05853
Utility bill payments feature	123	1.00	5.00	4.0407	.95298
Intelligent Chat Boat feature	123	2.00	5.00	4.0163	.94941
Account Management	123	1.00	5.00	4.0163	.84914
Deposit/ withdrawal feature	123	1.00	5.00	4.0000	.83959
Advanced security and fraud alerts	123	1.00	5.00	3.9837	.89611
Peer- to peer payment feature	123	1.00	5.00	3.8374	.81355
ATM locator	123	1.00	5.00	3.7154	1.12731
Mobile check deposit	123	1.00	5.00	3.6829	.89915
Loan Management Feature	123	1.00	5.00	3.5203	1.18287
Interest rate calculation Feature	123	1.00	5.00	3.4228	1.30578
Valid N (listwise)	123				

Table 3 Descriptive Statistics- Perception of Features of mobile app

QR code payment feature received the highest rating among all other features and interest rate calculation feature was least efficient among all.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
How would you rate your mobile literacy	123	4.00	5.00	4.5122	.50190
How would you rate your digital device handling skill	123	2.00	5.00	4.4065	.58446
How would you rate your Internet literacy (the ability to use the Internet)?	123	4.00	5.00	4.3984	.49157
How would you rate your computer literacy (the ability to use the computer)	123	4.00	5.00	4.3496	.47879
How would you rate your Web search skill on internet	123	4.00	5.00	4.3008	.46049
How would you rate your typing skills	123	2.00	5.00	4.1382	.64433
Valid N (listwise)	123				

Table 4- Descriptive Statistics -Digital literacy

Digital literacy was found to be good among the respondents. Typing skill was the lowest rated digital literacy attribute among all.

	N	Minimum	Maximum	Mean	Std. Deviation
Overall, I think that there is little benefit to using Mobile Banking apps compared to traditional financial services.	123	1.00	5.00	3.5772	1.08649
Using Mobile banking app is associated with a high level of risk.	123	1.00	5.00	3.2520	.89253
Valid N (listwise)	123				

Table 5 - Descriptive Statistics -Perceived Trust

The highest mean for perceived trust item was 3.57. This indicated that respondents have only slight trust on mobile banking apps. They are still not confident about the security of the banking app.

Hypothesis Testing

H_1- Perception of efficiency of features of Mobile banking app and Digital Literacy of person significantly affect perceived trust on the banking app.

To test this hypothesis regression analysis was used. The result of the analysis is shown below

1	.783[a]	.645	.574	.61830

Table 6- Model Summary

a. Predictors: (Constant), Digital Literacy, Features

The adjusted R square value is 0.574, it indicated that 57.4% variance in Perceived trust is explained by perception of efficiency of features and digital literacy of users.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.000	2	3.500	5.227	.007[b]
	Residual	80.354	120	.670		
	Total	87.354	122			

Table 7- ANOVA (Explanatory Power of the model)

a. Dependent Variable: Perceived Trust

b. Predictors: (Constant), Digital Literacy, Features

To check if this model has significant explanatory power, ANOVA table is observed. From the table it is seen that significance value is less than .05 (p<.05). Hence there is significant explanatory power.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.746	.467		12.699	.000
1	Features	.232	.097	.214	2.392	.018
	Digital Literacy	.407	.247	.147	4.649	.000

Table 8- Coefficients

a. Dependent Variable: Perceived Trust

From the coefficient table unstandardized coefficients of independent variables were observed and they were found to have significant impact (p<.05) on perceived trust. Thus, we fail to reject the null hypothesis 'H_0- Perception of efficiency of features of Mobile banking app and Digital Literacy of person significantly affect perceived trust on the banking app'. Therefore, we accept H_1.

From the result it is interpreted that 1 unit rise in perception of features of the app leads to .232 unit increase in perceived trust and 1 unit rise in digital literacy of users will result in .407 units in perceived trust.

Conclusion

The results showed that both variables-perception of features of mobile banking app and digital literacy of users have a significant effect on perceived trust on the mobile banking app. Therefore, to increase the trust of users on the app, marketers must also increase the perception of features. They must include features which are required by people. If user-friendly interfaces and useful features are incorporated in the app, the trust on the app will also increase significantly. Simultaneously marketers must also try to increase the digital literacy of the users by running some campaigns, holding awareness camps nearby to banks. These practices will lead to increased trust on the apps. This in turn will cause increased usage of such Fintech apps. Increased use of FinTech apps/ services of banks will lead to deepened financial inclusion in India. Therefore, the government should also encourage the development of such FinTech apps and keep on promoting digitization of essential financial services.

Sample size used in this study is relatively small to generalise the findings of the study. Further the responses were collected from one district only. Future studies may include responses from various other districts. Future studies may also identify more antecedents of perceived trust on mobile banking apps and study their relationships. Such studies will help practitioners to increase the trust in App and thus deepen the financial inclusion.

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STUDY THE ROLE OF OPERATION EXCELLENCE FOR ORCINUS PROCESS TECHNOLOGIES

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ABSTRACT
Operational excellence ensures that customer expectations are met by continuously improving the processes through which a business operates. However, it should not be considered as a strategy for pushing change, but a way of preparing and allowing employees to deal with it. The objective of the study is to understand the current state of operational excellence in Orcinus Process Technologies Private Limited and the underlying difficulties and obstacles to design a new model or approach, study the relationships between existing operational excellence techniques and innovation strategies and investigate the importance of several management functional units in the firm such as human resources, strategy, marketing, and finance in adopting operational excellence approaches. The phenomena being studied is the result of context-dependent organisational behaviour, it cannot be recreated in computer or laboratory. As a consequence, data gathering and statistical analysis were carried out objectively, with no intentional bias. During study increased evaluations were found for organisational flexibility and also the cultural commitment to excellence. The well-balanced relationship between operational excellence and organisational culture not only fostered, but also greatly facilitated, the continued expansion of organisational flexibility.
Keywords: Operational excellence, Human resources, Organisation culture, Lean, Industrial management.

Introduction

In a progressively unpredictable commercial world where uncertainty appears to be the only constant, businesses have turned to quality as well as operational excellence strategies to evolve and restore competitiveness. Operational excellence initiatives are frequently employed to figure out how to regulate changes in a timely manner, by establishing an end date for the programme. However, operational excellence should not be viewed as a strategy for promoting change, but rather as a means of equipping and enabling employees to cope with it. Organizations can pursue long-term effectiveness only when they look beyond mere cultural fit and try to foster an attitude toward excellence (Anderssom,Mandfredsson,Svensson, 2014). If these prerequisites are satisfied, we believe that operational excellence initiatives would be effective to boost organisational agility's features and enablers, positioning them as natural responses to dynamic business contexts.

In this research, different techniques and uses of operational excellence in the Orcinus process technologies private limited is checked. The company is active since year 2020 and is a quality-oriented company, offering process design, engineering, and manufacturing of the process equipment in the field of distillation, extraction, absorption, evaporation, heat exchangers, reaction system, mixing technologies, centrifuges, solar system and water treatments application. As a customer focused organization, the company strive to fully understand its customer′s needs to better anticipate their requirements. The company also offer process solutions with their in-house application like engineering and technical support services to create a competitive advantage. The company's success is based on continuous one to one interaction with its customers by giving them innovative solutions and products at a competitive price.

Background
The notion sprang organically from the Total Quality Management approach when researchers and scholars saw the necessity for a fresh method to address the high failure rates of Total Quality Management projects. Such an approach has to be less restrictive and enable resources and instructions to adjust and gain more knowledge of the cultural traits and methods of functioning for each firm (Cui, Gao, Dai, Mou, 2020). The effectiveness and growth of excellence principles and programmes expanded in the 1980s as a result of rising anxiety among western businesses about the better efficiency of Japanese enterprises, where the Deming Prize and its core concept had been created decades before. After repeated failures in applying excellent techniques and practises adopted from eastern enterprises without regard for cultural adaptations, a fundamental shift occurred in the United States in 1988, with the establishment of the Malcolm Baldrige National Quality Award and related excellence model.

Literature Review
Technologies do not control or transform organisations; instead, they are utilised by employees in such organisations to accomplish outcomes, and in that way, tools will be heavily influenced by people's existing views, beliefs, as well as operational, practises (Dev, Shankar, & Qaiser ,2020). It is exactly this mind-set and sentiment that enables operational excellence programmes so effectively, but it is also the aspect that offers the most difficult task that companies must accomplish. People's motivation and involvement are required for excellence: great leader, peak management dedication, fully engaged staff, and an excellence-oriented culture.

The Shingo Paradigm is the most renowned and widely acknowledged approach for implementing operational excellence projects. The Shingo Model is a collection of Guiding Rules that complement the company's everyday endeavours and address loopholes in the attempts toward organisational excellence. Furthermore, the Shingo Model focuses on improving the organisation's structure in order to attain certain goals in the future (Edgeman, 2019).

Organizations must evaluate how to establish an operational excellence programme before starting one. One of the reasons that a considerable proportion of quality improvement projects fail is that corporations put in a great deal of work during the approval stage and then simply forget about it afterwards (Bertels, Howard-Grenville, & Pek,2016). So, it is critical to maintain programme effectiveness, and the organisational goal creation procedure should take into account the continual quest for excellence, so that firms may remain exceptional over time.

Research Gap
If a company's objectives do not align with its culture, it will struggle to engage with the external world, and the desire for operational excellence will suffer. After the gap between culture and approach has been bridged or reduced, we can credibly speak about developing an operational excellence attitude that seeks to evolve and suit the environment.

Research Question
- What distinguishes a corporation that aims for operational excellence?
- What role do operational excellence efforts play in driving a firm to excellence?
- What operational excellence traits contribute to a company's long-term capacity to adapt to changing business environments?

Importance of the study
Techniques of operational excellence emphasise the significance of motivating employees by encouraging them to contribute to and influence the operations of an organization, resulting in a more transparent and varied company culture that draws and motivates workers.

Research Objectives
- To examine the present level of Operational Excellence, as well as the underlying issues and challenges of Orcinus Process Technologies Pvt ltd.
- To investigate the correlations between innovation strategies and existing operational excellence techniques to develop a fresh model and technique.
- To examine the significance of several management functional units such as human resources, strategy, marketing, finance etc. in implementing operational excellence methods in the Orcinus Process Technologies Pvt ltd.

Scope and Limitation
The particular approaches for achieving operational excellence will be determined by individual organisations' mission, industry, assets, and depth of understanding in their operating area. Operational excellence will mature

and get progressively conventional through time, with sufficient approval and funding to increase the field of its operations, owing to beneficial results and benefits to the company's operations, financial or operational effectiveness, and industry reputation. Unfortunately, not all contributions to a company are excellent. It is necessary to have an efficient operational strategy in place, as well as synchronisation throughout the input, output, and what the customer expects. Investigating this strategic element of operational excellence looks to be a critical future field of research based on our findings.

Research Methodology

The study design, data gathering techniques, and evaluation processes are all influenced by practical approach. The phenomena under inquiry cannot be recreated on a computer or laboratory because it is the result of context-dependent organisational behaviour. There were no intended biases in the gathering and statistical analysis of the data. There must be a unique conceptual framework created, which will then be discussed in order to offer new points of view and greatly enhance the theory based on the data obtained. It is the goal of the structured case technique to make high-quality case studies.

Research Method & Design

It was decided to use content analysis as the method for gathering and understanding the data included in the records. Inductively, groupings and responses may be generated from text data. The answer to research questions that have a more expansive investigative goal is facilitated by content evaluation. The categorization of qualitative information for the sake of analytical assessment is at the heart of this technique. The evaluation of content utilises a qualitative technique that adheres to objective, logical, and usability standards in its form.

Research Approach

As the kind of record for inquiry to find the answers to the research question, data pertaining to the business were chosen for two purposes. Firstly, the data provide brief and informative evaluations of a company and its services for stakeholders. As a result, their assessments are more authoritative and credible than alternative sources. Data pertaining to the business are created for auditors and include the company’s present condition and financial statements to represent strategies and economic success, respectively.

Analysis of Study

Due to uniformity and identical communicative formats for the company as well as product details, company data improve comparison across the Orcinus Process Technologies Pvt Ltd. information about the business is also more introspective. Company data are not doubtful owing to the utilization of keywords or terminology, as opposed to websites, product documents, or booklets that attempt to persuade clients by utilising trendy language (Oakland, 2014). Another benefit of company data is that they are undisturbed by the study method and are discreet.

The decision of an appropriate selection technique and quantity in descriptive research is based on the judgement and will be justified as appropriate for the goal. When using content assessment, there is no set number of observations (Chaffey and Smith, 2017). The company data should be determined based on the amount of information needed to appropriately address the research question, make interpretations from observations and findings, and present data in a novel and well-structured way. It is a widely used strategy in the descriptive study for locating and choosing examples that give detailed information about the topic under inquiry (Leeflang, Verhoef, Dahlström, Freundt, 2014). As a result, this enables researchers to pick examples that will best meet their study objectives. This method can also improve the generalisation of data collecting.

The administration strategic advantage was sought out in the descriptions of both companies and products as illustrated in Table 1. Most of the time, the Orcinus Process Technologies Pvt Ltd industry describes its competitors, contenders, and position in the market. When reviewing a company’s data, these elements are of value to stakeholders (Wu and Chen, 2014). As a result, the material has to be thoroughly examined in an attempt to properly identify the advantages of the firm in question.

Leaders	Leaders ensure that the corporation's scorecard balances performance and attitude.
	Leaders make certain that the consumer's opinion is recognized effectively throughout the business.
	Leaders routinely communicate all company outcomes with staff, inviting inquiries and debates.
Managers	All managers put value generation and waste removal at the centre of their leadership and development activities.
	Managers often communicate with employees the link between real outcomes and the procedures and concepts that produce them.
	Managers ensure that set metrics are oriented upwards and that they are recognised and adhered to by those who are affected by them so that individuals can identify where they stand in relation to the objectives and learn how to adjust the scale.
Associates	To comprehend cause-and-effect, all colleagues analyse outcomes methodically and raise queries.
	Employees utilise outcomes analytics to prioritise and undertake an individual effort to develop areas where change is most required.
	Employees display a strong dedication to delivering the most value to consumers while using the fewest non value-added resources possible.
	All employees endeavour to comprehend challenges from the clients' viewpoint and to optimise the continuous supply of worth to consumers.

Table 1: Administration's strategic advantages

Company's key issues in order to recognize the difficulties and problems it confronts were (i) Marketing of the product on large scale, (ii) Difficulty in customer acquisitions, (iii) supply chain management issues in getting fulfilled the delivery of customer order, (iv) vendor management issues, (v) Customer satisfaction in product quality, (vi) failure in getting re-order of the product from same customer and, (vii) delay in product delivery.

S.no.	**Types of problems**	**Description**
1	Transportation	It's difficult and expensive to move goods between the client's location (all of India) and a manufacturer's location (mostly in Pune).
2	Motion	It requires a lot of follow-ups and communication gaps from the vendor, as well as a lot of material movement from the vendor.
3	Waiting	Await and confirm the arrival of raw materials and customer orders. This is a time-consuming process.
4	Defects	Untrained workers, any vendor who happens to be available, regardless of quality or price.

Table 2: Type of problems in the company

In order to identify the bottlenecks in having the key issues at Orcinus Process Technologies Pvt ltd, the severity of each of the problem started understanding in depth. Figure No.1 illustrates the significance of key contributors for the same. Transportation of the goods and motion related to the materials and vendors have ~50 % impact in the overall problem category. It is observed as one of the key area.

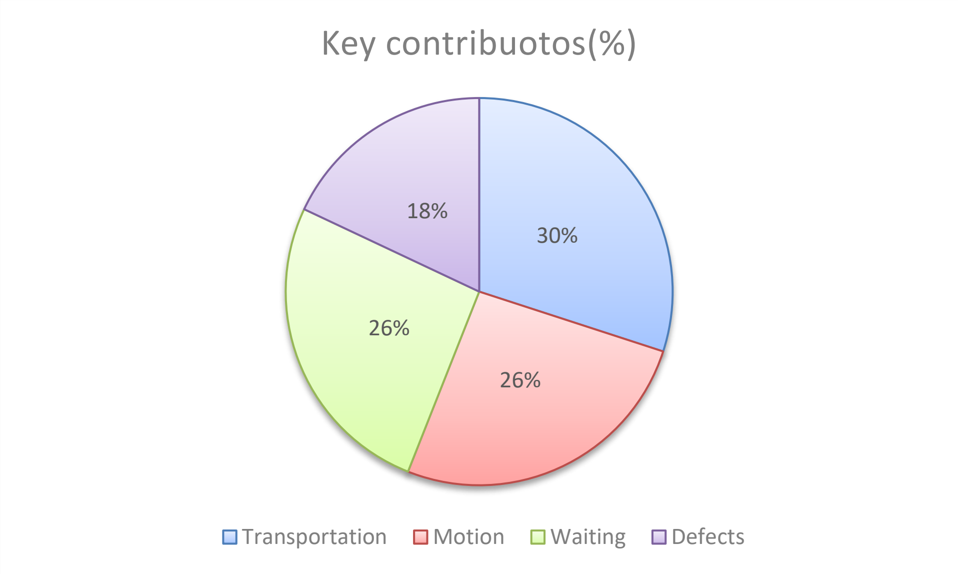

Figure No. 1: Key problem contributors in the company

It demonstrated three qualitative methods for content analysis: guided, evaluative, and traditional. For the area "operational excellence," a cumulative analysis was employed. In other words, keywords were defined throughout the textual analysis in order to determine their situational application (Belekoukias, Garza and Kumar 2014).Guided assessment, on the other hand, was used to examine customer-value activities.

The subject group operational excellence was continuously built by reviewing the types of problems in the company and making recommendations for improving operational and process efficiency. The strategy for all categories was tested prior to undertaking the full textual analysis of all data. To begin, data were analysed to determine their usefulness. The administration's flaws and shortcomings were also corrected.

Findings

A framework for operational excellence was found in the data that was analysed. At least one improvement option was offered for each and every problem that arose inside the Orcinus Process Technologies Pvt ltd. The proposed solutions to the challenges faced by the company are established in Table 3 below.

Problems	**Solutions**
Transportation	For the convenience of the customer, regional offices are linked together.
Motion	A vendor selection matrix based on geography and quality is designed.
Waiting	Regional offices were linked and monitored closely.
Defects	Based on performance matrix criteria, a benchmark analysis should be conducted for all suppliers.

Table 3: Suggested solutions for achieving operational excellence

Few months after the recommendations for the strategies outlined above, the Orcinus Process Technologies Pvt Ltd. was called and asked about the present situation of operational excellence in the company. The accompanying analysis of the findings is shown in Table 4:

Description	**Before**	**After**
Completion time of projects in development	12 weeks	9 weeks
Win rate for sales	15%	20%

Table 4: Improved organisational performance on key areas

Using Table 4, the results were summarised and compared to the original evaluation. When we were able to effectively execute the techniques, we found that the results were inspiring and gave management motivation to use similar improvement tools and procedures in other areas as well. Client profit margins increased to 24% since project completion times have been shortened from 12 weeks to 9 weeks. Sales win rates rose from 15% to 20%. They will also be able to make greater use of available resources as a result of this. An increase in total sales of 5 per cent may be attributed to the successful implementation of continuous improvement methods and processes. When this strategy was used, unfavourable feedback decreased, staffs were encouraged to form connections with one another, and a positive customer experience was fostered. As a final step, the tactics and organisational framework improvements implemented by the firm, have improved the company's ability to meet the project deadline on time.

Conclusion

Many firms have developed operational excellence as a goal to promote progress. Plans, identities, techniques, initiatives, and characters will not result in long-term transformation. True transformation is only achievable when unchanging operational excellence concepts are grasped and firmly established in mind-set. Leaders' priorities must shift to promoting concepts and ethos, while managers' priorities shift to building and coordinating processes to achieve optimum principle-based performance. The only basis on which organisational culture can be created with certainty that it will withstand the test of time is operational excellence standards. Cultures based on values reduce most of the usual variation in a company and, to a considerable degree, become more foreseeable in their capacity to perform on a corporate plan.

Future Scope

All company and management processes must adhere to operational excellence standards. Following the ideas for these procedures will assist to ensure that they are performed as soon as feasible with minimal resources. Each of these commercial and administrative assistance procedures should adhere to operational excellence guidelines consistently. As awareness grows and implementation extends throughout the organisation, a continuous culture that is continuous and self-governed emerges.

Suggestions

To be exceptional, a company must demonstrate a strong, culturally ingrained commitment to excellence as well as innovation. Excellence-driven firms should be able to improve and remain competitive over time by transforming their culture and encouraging organisational flexibility. To achieve so, extra attention must be paid to the indicated factors and enablers.

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TEACHING AND LEARNING AIDS FOR BLENDED LEARNING

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ABSTRACT
COVID-19 pandemic had forced many teachers and educators to shift to online/virtual classrooms from physical classrooms. After lockdown was over and physical classrooms were opened, it was realized that a combination of online and offline works best for students. It is thus extremely important for teachers to create lessons in a manner that is engaging, enjoyable and educative at the same time using traditional and online method. Every teacher has a unique teaching style in the classroom that makes teaching effective and there is a dearth of online tools available that can be used by them to supplement their classroom teaching. However, teachers may find it overwhelming to dig from the pile of resources available on the internet. This paper focuses on online tools that can be used by teachers along with classroom teaching. It discusses tools that are available on the internet which will help teachers and educators for blended teaching and learning in an interactive manner while ensuring high student engagement. Some tools discussed in the paper are completely free while others can be accessed using a free basic account that suffices the teaching purpose for most of the teachers. Learning Management Systems like Google classroom and Canvas Instructure, interactive lesson planning tools like Pear Deck, DirectPoll and Padlet, fun game quizzing tool Quizziz and interactive feedback collection tool Typerform are discussed at length.
Keywords: Online teaching tools, free tools for teachers, LMS, student engagement tools, interactive feedback tools

Introduction

COVID – 19 pandemic pressed a pause button in lives of almost everybody on the earth. Except essential service providers, every human being was expected to stay indoors to support governments' measures to prevent spread of the novel coronavirus from early 2020. Beginning on March 24, 2020, India was placed under complete lockdown. Even now, over 11 months later, India is seeing an increase in COVID 19 positive cases. Although there are physical limitations, existence itself is unrestricted. In the new normal, people have heavily incorporated technology into their daily lives to do both personal and professional chores in the hopes of going back to the way things used to be. Everyone has adapted technology in their own unique ways to pursue their professional and personal objectives. With blended learning, teachers can incorporate internet tools and materials into their regular lesson plans. By leveraging many of the internet tools and resources that students currently use for social networking or other entertainment purpose, blended learning aids teachers in creating an approach that is more engaging for this generation of students. In this paper, an attempt is made to study the various cutting-edge technology tools that educators around the world utilise to instruct and motivate students in an online setting.

Literature review

The use of online platforms for teaching and learning shouldn't be limited to emergency situations; rather, it can be used alongside traditional classroom instruction as part of a blended learning model of education once things have calmed down. There is a need for teacher professional development, with a focus on digital literacy and the use of ICT platforms and tools for instruction. Additionally, ICT infrastructure must be improved globally, but especially in poor nations where the digital divide prevents socioeconomically disadvantaged groups from benefiting from online education, depriving them of their fundamental right to education. (Hassan, 2020). With regard to technological developments in particular, education is a complex system that necessitates numerous viewpoints and levels of study to comprehend its contexts, dynamics, and actor interactions. When determining the appropriate method for coordinating learning objectives in technology-based implementations, educational technology capabilities (ETC) offer complementary insights. (Castro, 2019)

Blended learning is congruent with the ideals of traditional higher education institutions and has the ability to improve meaningful learning experiences' efficiency and effectiveness. (Garrison, 2004). When it comes to improving students' educational experiences, blended learning can be viewed as an effective method of remote learning. Future educational models are projected to increasingly emphasise student-student and student-instructor interaction. (Tayebinik, 2012). From administrative standpoint, blended learning offers the chance to boost an institution's reputation, increase access to its educational programmes, and cut expenses. The difficulties include integrating blended learning with institutional priorities and goals, overcoming organisational opposition to change, and lacking organisational structure and partnership and cooperation experience. (Vaughan,2007). Through adaptable online information and communication technology, fewer students in congested classrooms, and structured teaching and learning experiences, blended learning includes online learning activities and aids students in receiving meaningful education. (Kumar, 2021)

The type and scope of the emotional labour that certain lecturers go through when they adapt their teaching and learning strategies to include technology is vast. The difficulty is so great that even the most ardent proponents of online teaching techniques may think about quitting up and going back to the old-fashioned methods of instruction. (Bennett L., 2014). However, Performance during the discipline has a discernible improvement as a result of blended learning. University professors observe that when a complete approach to learning is used, pupils become more engaged. Continually improving the discipline's curriculum is a comprehensive strategy, and succeeding implementations can draw on the successful use of a variety of blended learning approaches. (Stepanova, 2020)

When planning for flexible learning, peer instruction and flipped learning should be taken into account. Even when switching between various modes becomes essential owing to changes in this pandemic, these approaches can foster learning and generate smooth active involvement in completely online and blended contexts. In these trying times, it is crucial to switch between entirely online and blended learning as and when necessary, especially for campus-based colleges that want to ensure the smooth operation of their programmes even in trying situations. (Nerantzi, 2020)

Research Methodology
Objective of the study

- To study different innovative technological tools that can be used by teachers for online/blended teaching

Scope of the study

- Considering the resource crunch that is faced by largely by teaching community; software, applications or tools that are available free of cost on the internet are highlighted in this paper.
- Tools included in the paper are related to theoretical or conceptual courses/subjects that are taught to adults who can handle/operate device on their own

The study has used online desk research methodology. Two step approach was used for the study. Google scholar was used for modulated search for innovative teaching tools that are available online. From relevant results, few promising tools were selected on the basis of ease of use and availability of those tools free of cost. Relevant information was then extracted using specific business websites.

Secondary Data Analysis

- **Google classroom**

Google Classroom is a free tool that can be used by any University that does not have enough resources to form its own LMS (Learning Management System). It aims to simplify creating, distributing, and grading assignments. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Users need a Google account to use this tool. This LMS can be accessed using computer/ laptop without any application installation. For using Google classroom on smartphone, users can download for free from app store or play store. Google Classroom reduces the paperwork for the teachers and assists in classroom management. It also helps in enhancing the student-teacher interaction and communication. Google classroom is the most downloaded LMS in the world followed by Canvas which is discussed later.

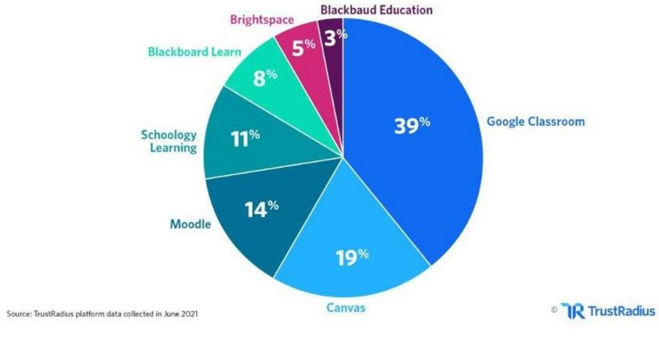

Figure 1: The most downloaded LMS in 2021 (Spirin, 2022)
Teachers need to spend some time initially to understand the various features of Google Classroom as the study suggests that a number of teachers faced initial difficulties in getting used to its functionality. (Azhar, 2018)

Teachers should also conduct a session to train students regarding the importance and use of Google Classroom in which they could explain the various features and benefits for the students. The benefits of using Google classroom in implementing education is to improve the teachers' and students' quality to use technology wisely, especially for learning process, saving time, being environmentally friendly, overcoming distance of residence, increasing collaboration among students, timeless communication, and as a secure document storage. (Ketut, 2019)

- **Canvas Instructure**

The Canvas, developed and maintained by Instructure, Learning Management System (LMS) is used in thousands of universities across the United States and internationally, with a strong and growing presence in K-12 and higher education markets (Marachi, 2020). Canvas provides a host of features to enrich teaching learning process like course delivery using different modules, discussion forums, assignments, tests, grading, feedback and many more. All functions can be used through a web based software application using the website. It can also be downloaded for free from Google store/ Apple store just like Google Classroom but with a small difference. Google classroom has only one application that can be used by both students and teachers. However for using canvas Instructure LMS, students need to download Canvas student and teacher needs to download Canvas Teacher.

- **Peardeck**

Student engagement is one of the major challenges faced by many teachers. Student performance can be increased with the help of active learning. Student engagement in classroom is essential for active learning. Pear Deck is one of the tools to improve student engagement in online environment. Pear Deck is an educational technology company offering a web-based application to schools and teachers. Teachers can create lessons with interactive slides to ensure student engagement even in online sessions.

Pear Deck is not completely free. Few basic features are available to teachers after free sign up, however to avail all features, a teacher would be required to upgrade to a premium account. A study conducted to examine the use of online portal (Pear-deck) for active learning pedagogies and its impact on students' learning outcome by comparing the results with the traditional classrooms. The results show that active learning pedagogy activities are significant factors that increase students' performance in comparison to students in traditional classroom. (Javed, 2018)

- **DirectPoll**

Teachers can use certain technological tools to check opinions of the students, decision making or for ensuring student engagement by making their vote count. DirectPoll is a free all in one package for opinion polling, entertainment, decision support as well as a service for modern learning (blended learning / flipped classroom). DirectPoll is live and everywhere. Polls can be organized spontaneously and conducted immediately. Teachers can go to the website and create polls that can be used immediately in the classroom, both physical and digital.

Teachers are required to develop polls by include questions and appropriate options as potential responses. The teacher receives a URL that can be shared with the class to conduct a poll. Participants can provide feedback or cast their votes by clicking the link to the polling website using their cellphones, tablets, or PCs. The outcomes are then live-streamed to the audience or watchers as an animated graphic. Online polls can be made. Even when a poll is in progress, questions can always be changed. DirectPoll makes it possible for the audience and the presenter to interact to a great extent.

- **Padlet**

One of the ways of optimizing student engagement is using a virtual bulletin board for fostering creativity and collaborative work by students. Padlet helps teachers to create post it notes on a wall that can be easily shared with students via a link. Students can then express their opinions openly or anonymously that can help in better class participation and engagement. Padlet is completely free. Teachers can sign up for free, create walls and share links with students. Using Padlet in instruction provides a non-threatening space for the collection and curation of collaborative classroom work as all students have the ability to contribute and learn from one another and all voices can be heard on a graffiti wall, which is an idea that strikes right at the heart of teaching profession. (Fuchs, 2014). A survey of the usability of this tool for constructing new knowledge and for collaborative learning indicated that students could learn and generate new ideas when using this tool and hence, Padlet can be used for collaborative learning in the format of a debate to get new ideas. (DeWitt, 2015)

- **Quizziz**

Student's evaluation in online environment can be done by conducting online quizzes using tools like Google forms. However, to add a fun and creative element in the entire evaluation process, quizzes can be converted into games where students login as players. Quizziz is an online free tool that can be used by teachers to create quiz style assessments. Teachers and students can access using the website or download application on their Android or iOS phone for free. Teachers can sign up for free and create a new topic related quiz or use quizzes from open source or public library. Teachers then ask students to join the game using a unique code. Teachers can be live with the students or assign it to students to solve it later.

No	Item	SD	D	N	A	SA	HS	I
1	Quizizz is interesting and fun	-	-	-	1	19	950	SA
2	Quizizz has an attractive display	-	-	-	5	15	750	SA
3	Quizizz has many challenging features	-	-	5	5	10	500	N
4	I enjoy doing the test using Quizizz	-	-	1	16	3	640	A
5	Quizizz feels like a game	-	-	4	13	3	520	N
6	Quizizz doesn't make me tense in doing the test	-	2	3	9	6	360	D
7	I can't cheat during the test using Quizizz	-	-	-	2	18	900	SA
8	Quizizz creates a competitive atmosphere	-	-	-	-	20	1000	SA
9	I feel encouraged to be number one on the leaderboard	-	2	5	6	7	350	D
10	Quizizz is better than the traditional test	-	-	-	3	17	850	SA
	Score (S)	0	4	30	60	119		
	S X Option Value	0	8	90	240	595		
	Total Score					**933**		**SA**

Note: HS = Highest Score; I = Interpretation

Figure 2: Students' perceptions of the use of Quizizz as an online assessment tool (Amalia D.,2020)

The above table shows that students feel that Quizzizz is interesting, fun, has attractive display, limits cheating, creates competitive atmosphere and is better than traditional tests. Thus, Quizizz add more value has more appeal from students perspective.

While investigating the effectiveness of Quizizz on enhancing students' learning experiences in an accounting classroom and after doing in-class exercises using Quizizz, students reported that this app brings positive impact on their learning experiences and class section in which Quizizz is applied more frequently reports higher scores on the satisfaction of using this app and higher scores on the instructor's teaching evaluation. (Zhao, 2019)

- **Typeform**

One of the paramount important tasks for teachers is to collect feedback from students regarding their teaching and evaluation methodology. Feedback gives a clear picture to educators regarding the pedagogy used by that specific teacher. Feedback in online environment can be collected using many tools. The most popular and common tool used is Google forms. However, to add more personalisation while collecting feedback, Typeform can be used by teachers to create feedback forms that students will actually like to fill in. Most of the features of Typeform are free and can be availed by signing up for a basic account from the website. Also, if a teachers wishes to use all functions, they can upgrade their subscription to premium.

The user experience of the one-question-at-a-time interface is more conversational, which leads to better responses. To fit their teaching style or student group, teachers can change the typeface, colour scheme, background, and graphics on their Typeform. Once a Typeform feedback form has been established, it is simple to share a link with students. On any device, Typeforms feel nice and look fantastic.

Findings

Integration of ICT in education is inevitable and specially after COVID-19 pandemic it has become imperative for teachers to incorporate technology in their teaching methodology. There are numerous tools available on the world wide web and after using above mentioned tools following are few key findings:

- Google Classroom is a free LMS tool from Google Inc. It provides numerous features for both teachers and students and is extremely user friendly. It is also available as mobile app on Android and iOS. With just a Gmail account, a user can use all of its features at no extra cost

- The Canvas LMS developed by Instructure is relatively complex. Teachers need email ids of all students to invite to the course class. However, the courses can be released in a phased manner for students and learners ensuring step wise learning. Also teachers can effectively use feedback at frequent internal at regular intervals using this LMS. Separate student and teacher app is also available for both Android and iOS.
- Slides can be used effectively if they are made interactive. Peardeck application allows teachers to create interactive slides. These slides can be inserted before session to understand awareness of the students about the topic, during the session to understand if the teaching methodology and pace is helping students to understand the topic and after the session to collect formal feedback regarding the entire session. This tool is specifically useful when sessions are conducted online.
- One of the major challenges faced these days by the teachers is student engagement in both online and physical classrooms. Teachers can use DirectPoll application effectively to ensure interaction in their classrooms. It is extremely easy to use both by teachers to create polls and students to cast votes or give their opinion.
- Some teachers need to conduct brainstorming activities in the class. Usually few extrovert students lead and contribute to the discussion. Padlet tool can be used by teachers to ensure contribution from each and every student. A teacher just has to create a wall and encourage students to write on the wall using their own smartphone. This ensures constructive discussion taking into consideration the viewpoint of each student. This tool is also helpful to obtain open feedback from all students.
- Quizizz is a great online free tool that helps teachers create quizzes in gamification format. This helps students to engage more and teachers to ensure that their students are grasping the concepts taught by them. The competition to score more and be the winner ensures students study well and do well in the quizzes conducted by their teachers. Progress report for each student can also be mailed to parents to track evaluation of their child.
- Typeform application helps collect feedback from the students in interactive manner as it is more conversational than tools like Google Forms. Teachers can expect more response rate using Typeform.

Limitations of the study

- Only free software, applications or tools that are available on the internet are highlighted in this paper. There are several paid tools available on the internet that can be used effectively in online teaching learning process. However, such tools are not discussed in this paper.
- Tools included in the paper are related to only theoretical or conceptual courses/subjects that are taught to adults who can handle/operate device on their own. Teachers and students face a huge challenge to deal with practical or numerical subjects in online environment. However, scope of this paper was limited to tools that can be used for theoretical subjects only and as such only few tools are discussed.
- Tools that are discussed in this paper cannot be use by kids and are meant to be used by only those students who can handle technology on their own without relying on parents/adults.

Conclusion

Teaching is one of the important roles of a teacher working in any educational institute. Teachers are very familiar with the traditional instructive lecture-type teaching format. However, there are many newer innovative teaching methods that can be used by teachers to enhance the traditional lecture format. This blended learning methodology can help to ensure best performance from the students. With the COVID-19 pandemic, teachers and students have largely embraced online teaching learning process and now most of the educational institutes are using a blend of online and offline methodology. Hence it is imperative that teachers have access to the resources to keep pace with the growing tech culture.

This paper provides few tools that may be used by teachers during online classes or compliment their traditional teaching in physical classrooms. Many tools, technologies and resources keep coming up with time. We are entering an exciting era of online teaching learning process and there are several possibilities with technology. Teachers can explore these to suit their subject and student group and accomplish more in their physical/virtual classroom by provoking student’s curiosity, boosting engagement, and leading to better learning and comprehension.

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TECHNOLOGY ACCEPTANCE MODEL FOR INCIDENTS MONITORING THROUGH CLOUD BASED PLATFORMS

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ABSTRACT
ServiceNow is a cloud-based platform for managing IT services, workflows, and processes more efficiently and effectively. ServiceNow has a centralized service desk for managing the incidents such as server failures, and applications issues. ServiceNow handles almost all kinds of IT, Cloud, Infrastructure Incidents, etc. Prometheus is open-source which has features such as real-time alerts and flexible query language for alerting event monitoring solutions. Prometheus takes help of an alert manager for generating alerts after crossing specific threshold values. This research work presents a technique to monitor service and usage checks through Prometheus. It uses Node-exporter as an agent to fetch the metrics that help to visualize data through visualization tools such as Grafana. Grafana is a data visualization tool that helps to display data into graphical representation.
The proposed model uses Prometheus with Alert-manager to integrate an operational monitoring system through ServiceNow to identify, diagnose, and resolve incidents in real time. ServiceNow provides a list of all Incidents from different tools for the operational team to handle real-time incidents and provide solutions. Quantitative based Technology Acceptance Model (TAM) is used to evaluate the system. The TAM framework helps to understand the user's acceptance level. The questionnaire is designed on the theoretical model of user satisfaction and ease of use, to evaluate the behaviour. It has been observed that users of the Incident Monitoring System are inclined to use the proposed system which makes their daily work simple.
Keywords:Technology Acceptance Model, Open-Source Cloud, Alert manager, Automotive Service Discovery, Incident Monitoring System.

Introduction

Earlier GitHub tools were used to manage cloud functionality and solve customer issues such as Incidents, Problems, and Tasks. This now uses Service to automate the cloud core functionality such as application availability, its performance & bug identification and solve customer issues of bugs by providing effective and needful solutions (Blackshaw ,Crawford, 2012) .

The challenge of monitoring the cloud performance, service availability, and Incident response management of a high-performance computing facility grows significantly as the facility employs and orchestrates more complex and heterogeneous systems and infrastructure.

However, more automation and integration are needed for collecting, aggregating, correlating, analysing, managing, and visualizing the problems present in the cloud infrastructure and for providing an effective and smooth service to the customers.

This research work presents a technique to monitor service and usage checks through an open-source tool, Prometheus. It uses Node-exporter as an agent to fetch the metrics that help to visualize data through Visualization tools such as Grafana. ServiceNow provides a list of all incidents from different tools for the operational team to handle real-time incidents and to provide solutions.

In IT infrastructure, ticketing tools play an important role in solving end user's queries who are connected remotely or within the infrastructure. Here the ticketing system helps to take user's query, process them and provide the required solutions(Gohil, Kumar, 2019). Figure 1 shows the Incident Monitoring System with automatic monitoring of tickets.

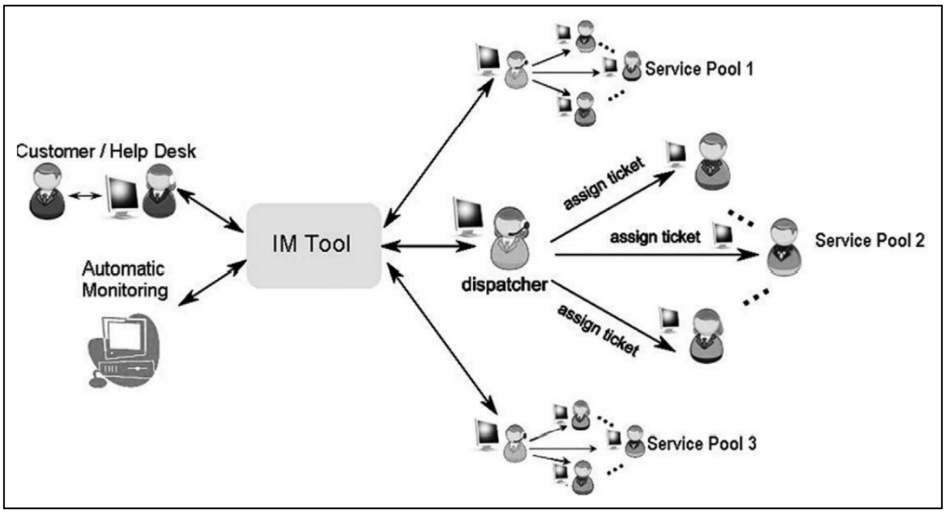

Figure 1. Automatic ticket management (Cavalcante V., 2013)

Here the ServiceNow tool is used for managing and handling tickets for integration. The most popular and similar tool is Jira. Table 1 shows the comparison of ServiceNow and Jira Service Management. Though the Jira Service Management tool is an efficient, and an useful emerging tool with an easy automation configuration system, most of the technologies such as Zabbix, Centreon and etc. already use ServiceNow for handling their problems, incidents, and tasks (Kotha, 2017).

Sr.no	Tools Comparison		
	Points	ServiceNow	Jira Service Management
1	Rank	3rd Rank in Help Desk Softwares	2nd rank in Help Desk Software
2	Pricing	$100 user/month	Free, Standard, Premium, Enterprise (Free, $20, $40, etc.)
3	Analyses	Here analysis task comes with the user	Agent solves analyses issues
4	User Interface	Customized menu and tough to use	Modern UI and easy to use
5	Integration	Over 200 apps from 118 partners	Over 1000+ integrations
6	Used by	Many organizations already using this tool	New and adaptive upcoming tool

Table 1. Comparison between ServiceNow and Jira Service Management Tools

Challenges for ServiceNow and Prometheus User

ServiceNow is a popular IT Service Management (ITSM) software. It is used by thousands of businesses to manage their workflows, problems, service requests, and IT infrastructure. Prometheus, on the other hand, is an open-source event monitoring tool for real-time alerts. It gives businesses an overview of the state of their applications, enabling them to quickly identify and avoid problems (Kotha, 2017).

To maintain a high level of availability of all systems and services, organizations can use both Prometheus and ServiceNow to control and manage different aspects of their operations. If this research uses both systems, it's essential to connect them in order to diagnose and tackle issues before they impact the availability and performance of the applications. This proposed system uses a webhook. It is a call-back function used to simplify communication between two applications. It sends information using web sockets from one part of an app to another.

Alertmanager is an open-source platform that helps to send an alert to the destination system with the help of email, slack, webhook, and telegram, etc. Prometheus is an open-source time-series monitoring tool for sending alerts with the help of Alertmanager. Webhook sends information from Alertmanager to ServiceNow using web socket. Websocket helps to pass this information from the Alertmanager to the ServiceNow on the basis of severity such as critical and low. Here to make the communication secure and to eliminate the risk of data modification or snooping by malicious agents, SSL, self-signed certificate, is used.

Based on the rules/conditions set by the Alertmanager, system sends an alert. Prometheus uses to evaluate the metrics in every 10 to 15 minutes of intervals. Here metrics collect and store the data in time-series form. Metric records the information of cloud value with the timestamp. Alertmanager continuously checks the rules and generate the same type of alerts. This causes the duplication of the alerts in the queue. Therefore, to remove this de-duplicated of the alerts there is a need of filter or some mechanism.

Objectives of the Proposed System

The objectives of this study are

1. To provide an open-source solution to the problem of integration between ServiceNow and Prometheus through the secured channel of webhook in order to monitor the incidents.
2. To understand the user's attitude and behaviour towards the use of this system.

Existing systems use the tool but they are not in synchronization. Hence the integration of ServiceNow and Prometheus will be useful for IT users. This will be opensource cloud solution over the paid services such as Zigiwave.

Hence the system provides a single solution which integrates Prometheus with the ServiceNow in real time in order to detect and resolve the issues such as Request Items, Incidents, Task and Problem in the fastest way without visiting different tools on the portal. Set up seamless end-to-end data integration between both the tools to optimize cooperation between teams and help them to achieve more with less effort.

There are some of the questions which were unanswered

1. What are the possibilities of integrating Alertmanager with ServiceNow for an incident ticket generation?
2. What is the configuration required for Sending email from Alertmanager to ServiceNow which can convert it into the ticket?
3. Providing the specific severity based on "outage/issues" the ticket.
4. Automatic change of state of the ticket after the alert is generated.
5. Is there any mechanism to know the mapping of the alert with the ticket, in order to avoid the reduplication?

As discussed in the above section, integration of ServiceNow with Prometheus for generating alerts is the requirement for using a single pane. The tickets should be generated based on defined rules and the severity of the problems. For example, for server's CPU usage check, we can define percentage threshold like 75% for "High" and 90% for "Critical" severity.

Reduplication problem can be solved by adding the interval period between ticket generation. For example, if the interval of 1 hr is set and if no tickets got triggered with this problem so it will send the ticket once and keep a track. If any tickets for the same issue get generated during this time, then it will get captured by payload cluster and will be grouped and send after completion of desired time interval i.e., 1 hours.

On this basis the questionnaire is designed which contains personal information, perceived usefulness, perceived ease of use, user satisfaction (Chuttur, M.,2009).

Benefits of using Proposed System

During this research work, to reduce the human leverage task, the system is automated to synchronize the ITSM role and monitoring.

The proposed system helps to create an efficient single pane for monitoring the incidents from different sources. This gives real-time experience to handle live Incidents. Also, this automation will truly help when the servers and instance count will increase as in manual process managing is difficult by visiting different portals or applications

Methodology: Steps and procedure for Integration

These are the steps needed to be done to achieve Integration between ServiceNow and Prometheus for Incidents and problem tickets get generated.

Step1. Some pre-requisite requires to be there on the machine so these steps to be done that are:

1. Installation of the Prometheus tool on the server.
2. ServiceNow tools with admin/Editor privilege.

3. Alert manager should be installed on the same server where Prometheus is deployed
4. Check for its service running
5. Firewall port should be opened for intercommunication between the source and the destination server.
6. Self-signed SSL certificate required for secure communication between the application using web sockets.

Integrate the Prometheus open-source monitoring tool with an Event Management by adding a standard webhook in the Prometheus Alertmanager. Webhook is a way to feed the messages from the different applications to the system. This webhook will receive the alerts from Alertmanager which is generated in the Prometheus and sends the detail of the alerts.

Step2: Pre-requisites for ServiceNow for mapping Alerts:
Ensure that the Event Management Connectors (sn_em_connector) plugin is installed on the ServiceNow Platform instance.

Verify the Configuration Item (CI) for the host managed by Prometheus exist in ServiceNow. CI is the specific name for the server that ServiceNow has been stored. The Configuration Management Database (CMDB) is the ServiceNow database which stores information about all the services. CMDB stores the support information for each service offering in a Configuration Item (CI) specific to that service. Whenever alerts are triggered in the payload Virtual Machine (VM), which stores the data of alerts triggered by Alertmanager, and are send to the ServiceNow. Here ServiceNow first checks the presence of CI in CMDB. If CI exists in CMDB then only the alerts get mapped and accepted by ServiceNow. ServiceNow discovers the alerts generated by user or production environment with the help of CI.

Role required: evt_mgmt_integration
E.g.: for prod1: os_prod1_central_mon
E.g.: for prod2: os_prod2_central_mon
This CI is used to help the Prometheus tool to discover the production environment and its physical server containing the error. This helps the users to rectify easily identify the problem and provide quick solutions.

Step3: Procedure for Integration of Prometheus and Alertmanager

1. In the Prometheus instance, create an alert rule.
   a. Create a file with an extension of (.rules) for the alert rules with permission of sudo chmod 774 <filename>. Edit the file Prometheus.yml that exits under "/etc/prometheus/" following location. Add the rule file path in the Prometheus.yml file
   b. Create the alert rule as per the Prometheus format using PromQL language

2. In the Prometheus instance, add a webhook:
   a. Navigate to Alertmanager .yml and add a webhook entry in the receivers.
   b. Enter the endpoint URL in receiver's section. For example, E.g.:http://53.137.10.3:8085/alerts/OpenstackAlertmanager /addAlert
   c. Type basic_auth below http_config
   d. For a secure communication between applications, add SSL with the webhook that uses WebSocket to pass the information. For adding SSL in the webhook, create CSR i.e. Certificate Signed Request which is specially used to send the message in an encrypted format.
   e. Add a username and a password in basic_auth on /etc/alertmager, then add the webhook name created in earlier step in the receivers /route
   f. In inhibit_rules, define matching condition for an alert to get triggered and the details which need to be received by the webhook based on severity of an alert.
   g. Restart the Prometheus to reflect the changes.
   h. Restart the Alertmanager to reflect the changes.

3. The mechanism behind the Prometheus Alertmanager and ServiceNow.
   The Payload VM is created with multiple load balancer for managing the incident tickets queues. Payload VM consist of Java code function which collects the XML data triggered by the Alertmanager. This XML data gets encrypted before sending to the ServiceNow. This encrypted data then send to the ServiceNow CI. Here CI will check for the CI item's existence in the CMDB. If CI Item is found, it

maps the XML data to a table form otherwise it fails to the send data to the ServiceNow. In this case ticket will not be generated.

The above steps ensure the integration of Prometheus with the ServiceNow in order to monitor the incidents in a real-time.

Data Analysis and Result

Technology Acceptance Model (TAM) is a theoretical framework introduced by Fred Davis predicts the acceptances of a user for a new technology. The aim of the research is to develop an Incident Monitoring System and check its acceptability and the user satisfaction level (AbuDalbouh, 2013; Lee, 2003; Liu, 2014)

According to TAM, following are the parameters to be consider to evaluate the user's satisfaction.

A. Perceived of usefulness satisfaction

a. The proposed system will help to track the incidents, problems and task records into the ServiceNow Portal and get the information quickly.
b. The proposed system of tracking records will help to get the list of all the issues in a single ServiceNow portal
c. The proposed system will help to save the time and get the progress report quickly
d. The open-source cloud solution will save the time of operational team for issue tracking

B. Perceived Ease of Use

a. Learning to work on the ServiceNow portal for incident tracking would be ease for me.
b. My interaction with open-source cloud solution for tracking the incidents, problems and tasks progress would be clear and understandable.
c. I would find an open-source cloud solution for tracking on incidents, problems and tasks progress more flexible to interact
d. It is easy and user-friendly for me to become skilful at using the ServiceNow portal to track the ticket progress.

C. User Satisfaction

a. I am completely satisfied in using open-source cloud solution for tracking incidents, problems and tasks progress.
b. I found it helpful in getting details of incident, problems and tasks of the ticket description.
c. I am able to get records of the issues rapidly.
d. I believe that by using this open-source solution for tracking issues on server/ cloud will increase the quality of the service.

These are the questions given to the user in order to understand their acceptance level and user satisfaction level for the system (Masrom, M.,2007). They are asked to fill the responses for the questions in 5-scale Likert scale (1: poorly acceptable; 5: Highly acceptable). Table 2 and 3 shows the usefulness and satisfaction of accessing the system.

	Questions	**1: Poorly acceptable 2: Fairly acceptable 3: acceptable**	**4: Moderately acceptable**	**5: Highly acceptable**
Perceived of usefulness satisfaction	The proposed system will help to track the incidents, problems and task records into the ServiceNow Portal and get the information quickly.	0	3	12
	The proposed system of tracking records will help to get the list of all the issues in a single ServiceNow portal	0	0	15
	The proposed system will help to save the time and get the progress report quickly	0	6	9
	The open-source cloud solution will save the time of operational team for issue tracking	0	0	15

Perceived Ease of Use	Learning to work on the ServiceNow portal for incident tracking would be ease for me.	0	0	15
	My interaction with open-source cloud solution for tracking the incidents, problems and tasks progress would be clear and understandable	0	12	3
	I would find an open-source cloud solution for tracking on incidents, problems and tasks progress more flexible to interact	0	0	15
	It is easy and user-friendly for me to become skilful at using ServiceNow portal to track the ticket progress.	0	0	15

Table 2. Likert responses of the user for usefulness and ease of use of system

	Questions	**1: Not Satisfied 2. Slightly Satisfied 3. Satisfied**	**4: Very Satisfied**	**5. Extremely Satisfied**
User Satisfaction	I am completely satisfied in using open-source cloud solution for tracking incidents, problems and tasks progress.	0	3	12
	I found it helpful in getting details of incident, problems and tasks of the ticket description.	0	0	15
	I am able to get records of the issues rapidly.	0	9	6
	I believe that by using this open-source solution for tracking issues on server/ cloud will increase the quality of the service.	0	0	15

Table 3. Likert responses for the user's satisfaction

Table 2 and 3 shows that the users are satisfied with the use of the system as it solves the problems quickly and user can easily keep the tracks of the tokens. User uses the single portal for all kinds of tickets.

Conclusion

The proposed system integrates the ServiceNow and the Prometheus in order to monitor the incidents. The system suggests the steps to configure the Prometheus. Prometheus has the rule file which contains the condition for triggering an alert. The alerts then passed to the Alertmanager. Alertmanager uses the webhook to send a secure and encrypted information to the Payload VM.

Reduplication of similar kind of alerts in a queue can be resisted by adding the interval inside the payload VM and by keeping the alerts in the queue till the interval period gets over. Automatic incident resolution process needs to be added in order to resolve an incident by its own.

From the TAM, it is concluded that the proposed system will help the operation team to make the resolution of an incident automatically with easy and single pane portal solution.

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THE ROLE OF HRM IN INNOVATION AND ORGANIZATION PERFORMANCE

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ABSTRACT
Human Resource Management (HRM) is one way in which an organisation can stay competitive even when things are not going well. When HRM is done well, employees are more likely to be skilled and creative, which helps the organisation reach its goals. The goal of this study is to look at how HRM practises affect innovation and the performance of an organisation. With a Likert scale, a questionnaire was used to find out how respondents felt about different things. To test the model, a survey was given to 126 managers and middle managers at small and medium-sized exporting businesses (SMEs) in PCMC, Maharashtra. The research hypotheses were shown to be true when the proposed model was analysed.
HRM has a big impact on the performance and innovation of an organisation, and it was found that innovation can make an organisation perform better. However, during testing, it was found that innovation cannot really improve how well an organisation does. The one thing that made it hard for SMEs to come up with new ideas was that they did not pay enough attention to investing in human resources.
Keywords: Managers,Innovation,Competitiveness,Small Businesses,Performance

Introduction
Globalization has made it critical for the relationship to continually be ready creating contention in the business world. This condition says that the affiliation ought to continually stimulate improvement by gaining new information to finish definitive Dahie, Mohamed (2017). The last audit said that creative mind and headway in things, cycles, and organizations are critical for the affiliation's somewhat long turn of events and accomplishment Yeh-Yun Lin, Yi-Ching Chen (2007) Zhou, Shalley (2008).

Chow (2017) advancement and creative minds are moreover critical for a relationship to win in an affecting existence where contention is getting more diligently. Johannessen, Skaalsvik (2015) an imaginative affiliation has a high ground since it can answer faster to changes in the environment. Supporting the idea of HR should be the primary concern assuming you hold onto any craving to have the choice to consider novel contemplations that help the relationship with getting along honorably Rajiani, Norain (2018).

Gil-Marques, Moreno(2013),Luzon's showed that what human resource the board is done colossally means for advancement. It agrees with Sheehan, Garavan & Carbery (2013) and Lu, Zhu, Bao (2015), which is that HRM could help the relationship with devising historic contemplations. Ma Prieto, Pilar Perez-Santana (2014) showed how huge HRM is for engaging creative approaches to acting because it guarantees that all bits of an affiliation can work commendably.

Nawab, Al-Haraisa (2016) moreover attested that HRM enormously influences further creating how well an affiliation deals with its business. Sabiu, Ringim & Mei,Joarder (2019) similarly raised that HRM massively influences how well an affiliation does similarly as selecting and ending.

Little and medium-sized associations (SMEs) don't do a lot of investigation on improvement since they will commonly focus on ordinary business endeavours. Furthermore, the chance of progression is at this point thought about as something that principal medium-sized and immense associations do. Along these lines, SMEs regularly don't see how critical it is for advancement to help with chipping away at definitive execution.

HRM is one technique for looking at how different people are and to look for the best people to work for an affiliation. Teece's (2007) affiliations could use both inside and external data to answer changes in the environment and capitalize on possibilities. HRM is a thought that can simplify it for delegates in regards to sharing data Okoe, Boateng, Narteh & Boakye (2017). Considering these components, the goal of this study was to look at what HRM practices mean for advancement and the introduction of an affiliation.

Review of Literature
Florén, Rundquist & Fischer (2016) Human Resource the chiefs (HRM) is a lot of activities, works, and cycles that are interesting yet coordinated to find, train, keep, and, shockingly, let go of delegates. HRM has five areas:

execution assessment, calling the board, reward systems, getting ready, and enrolling Laursen, Foss(2003); Jiménez-Jiménez, Sanz-Valle(2005) Shipton, Fay, West, Patterson & Birdi, (2005) Tan, Nasurdin (2011).

HRM can help laborers with being more creative, which can help a relationship with being more imaginative. Headway is the technique associated with social event data, which ought to be suitably organized, facilitated, and made by Johannessen, Skaalsvik (2015). Crumpton (2012) advancement is seen as the main push toward change, but it's some different option from making changes, so it might be felt unexpected.

It's not unreasonably hard for innovative relationships to do their vision and mission and move along. Overall, the chance of execution relies upon the likelihood that an affiliation is a social occasion of helpful assets, similar to human, physical, and capital resources, that collaborate to show up at shared targets Carton, Hofer (2006). Abu-Jarad, Yusof & Nikbin (2010) legitimate execution is the limit of a relationship to show up at its goals and focuses by including its resources in a capable and strong way.

Numerous assessments have looked at how HRM affects the show of an affiliation. Batt's (2002) research showed there was a solid area between HRM, especially pay rates and manager security, and the display of an affiliation. Human resource practices can help with bargains advancement, joint efforts, and getting delegates drawn in with essentially choosing.

HRM is the most widely recognized approach to utilizing, giving inspirations, and staffing. These three things participate to impact how delegates feel about their positions El-Ghalayini (2017). Mitchie, Conway & Sheehan (2003) communicated that there is solid area among HRM and effectiveness and financial execution,Farouk, Elanain, Obeidat & Al-Nahyan (2016) HRM has a fundamental influence since it can clearly influence progressive execution.Basically no one is sufficiently thinking about guaranteeing that all delegates can act innovatively. Innovative delegates need to imagine various leveled culture Coffman (2015) so they can help each other and share considerations Okoe(2018). Heeks, Amalia, Kintu & Shah(2013) HRM could make agents feel more perfect at work and lift their ability to come up with momentous considerations, which would make affiliations more creative.

Right when HRM is run well, it gigantically influences how well an affiliation does. Al-bahhussin ,El-garaihy (2013) and Vermeeren, Kuiper, Bram & Vogelaar (2014) HRM further creates purchaser steadfastness and progressive execution by a ton. Chand, Katou (2007) HRM gigantically influences progressive execution through programs like enlistment, assurance, work plan, work design, getting ready and headway, and money structures. Wright, Gardner, Moynihan, Park, Gerhart & Delery (2000) HRM colossally influences the high ground, which can help with chipping away at legitimate execution.

HRM immensely affects how well an association does

Sheehan (2013) HRM mediations could help hierarchical development exercises positively. HRM has likewise been displayed to hugely affect representative commitment, administration, administrators' inspiration to get the hang of, advancing finding out about the way of life, and building social money to assist with supporting development. As per research done by Ma Prieto and Pilar Perez-Santana in 2014, human asset the executives rehearses are connected to the situation and determination of the right workers.

This has suggestions for inventive representative way of behaving, so it immensely affects development, Gil Marques,Moreno Luzon (2013). At the point when workers partake in exercises, they might feel more certain about them, which can prompt a more creative way of behaving.Al Haraisa, Farouk (2016) HRM immensely affects advancement. Nieves, Quintana's (2016) research showed how enrolment and choice are instituted and affect development. Lu (2015) likewise took a gander at the various pieces of HRM and found that every one of them hugely affect development.

Development is impacted by HRM amazingly

Development is a vital piece of keeping a business serious over the long haul Chen, Huo (2015). Samuel, Siagian & Octavia (2017) individuals imagine that approaching with novel thoughts is the way to winning a contest . Advancement can likewise assist organizations with making new items, further develop cycles, and even lower creation costs with the assistance of innovation Trott (2008). Ghos (2014) individuals are focusing closer on development as a wellspring of long haul upper hand.

Iscan, Goknur & Atilhan (2014) still quarrel over which job development plays in working on the presentation of an association, despite the fact that it is significant. As a rule, development is a way for organizations to make new things that make them more cutthroat Gomusluoglu, Ilsev (2009). Hierarchical development is vital for keeping an association's capacity to make long haul progress and manage changes in the rest of the world Sabiu, Mei & Joarder (2016).

Chen (2017) development is a key element that can influence the exhibition of the two workers and the association in general. A few scientists say that development is a critical piece of further developing hierarchical execution since it makes the association more compelling. Nawab(2015) an association's presentation is enormously impacted by how well it can think of ground breaking thoughts.

Various advancements made by the association can make it more cutthroat and assist the association with improvement.Valdez-Juárez, GarcaPérez de Lema & Maldonado(2016) Guzmán's concentrate on the impact of advancement on the presentation of little and medium-sized endeavours (SMEs) said that advancement is an association's need to work on its seriousness to accomplish better execution. Cho, Pucik (2005) development could make the nature of the item better.Thus, it likewise makes the business more productive and adds to its fairly estimated worth. Hua, Wemmerlov (2006) the higher the force of item changes brought about by development, the better the promoting execution, which thusly influences the presentation of the association.

Then again, development can function admirably when an imaginative worker backs it up. Getting imaginative representatives implies setting up human asset the board rehearses Nieves, Quintana (2016). This affects the presentation of the association (Budhwar).Innovation has a big effect on how well an organisation does its job.

Objectives of the study

1. To study how innovation can improve how well an organisation does its job.
2. To understand how SMEs come up with new ideas and if they pay enough attention to investing in human resources.

Hypothesis

H1: HRM immensely affects how well an association does.
H2: Innovation has a big effect on how well an organisation does its job.

Research Methodology

Individuals in this study were all part of small and medium-sized organizations (SMEs) in PCMC's five rules that trade merchandise. The objective gathering was comprised of **168** top and centre supervisors from **42 commodity SMEs**. The survey was set up in light of **eleven pointers**, every one of which had a few assertions with five potential responses: unequivocally dissent, deviate, impartial, concur, and emphatically concur.

Advancement utilizes three markers, which were utilized in the investigations. Additionally, the hierarchical exhibition utilizes four markers. At the point when the surveys were conveyed, **150** were totally and accurately finished . Table 1 shows data about individuals who partook in the exploration.

Data Analysis

	Respondents	% of Age
Gender		
Male	85	56.67
Female	65	43.33
	150 Total	
Age		
Less than 26 years	25	16.67
27-36 years	66	44
37-46 years	40	26.67
More than 47 years	19	12.67
	150 Total	

Education		
Diploma	37	24.67
Bachelors	83	55.33
Masters	30	20
	150 Total	
Experience		
6-10 years	75	50
11-15 years	38	25.33
16-20 years	25	16.67
21-25 years	12	8
	150 Total	

Table 1: Individuals who replied (Demographic Analysis)

Results

Taking a look at the legitimacy (concurrent and discriminant) of build markers, the unwavering quality of pointer blocks all in all was utilized to assess the estimation model.

Coefficients	HRM	Innovation	Organizational performance
R-square	–	0.386	0.219
Composite reliability	0.954	0.635	0.923
Cronbachs' alpha	0.798	0.648	0.882
Average variance	0.569	0.589	0.755
extracted			
Variance inflation	1.347	1.345	1.197
factors (VIFs)			
Q-square	–	0.38	0.225

Table 2. Inert variable coefficients

R-square demonstrates the way in which the reaction variable can be made sense of by the indicator factors. The R-square for business execution variable was 0.219, and that implies that the HRM variable and development meaningfully affected the exhibition of the association. The other 78.1 percent was impacted by different factors beyond the examination model and mistake. The worth of composite dependability and Cronbach's alpha were utilized to sort out how solid the instrument was. A composite dependability coefficient of more than 0.70 and a Cronbach's alpha worth of more than 0.60 show that the instrument has been solid.

The joined legitimacy was decided by the normal difference removed esteem (AVE > 0.50), which showed that the AVE esteem was above 0.50, and that implies it met the focalized legitimacy models. Similarly, the worth of change expansion factors (VIFs) is 3.3, and that implies that the model doesn't have the issue of upward, sidelong, and normal technique collinearity. For a model to be helpful for making expectations, its Q-square (Q2) esteem should be more prominent than nothing. Since the worth of Q2 was somewhere in the range of 0.380 and 0.225, the examination shows that the model was great at making expectations. Yield relationships among inert factors are connections among idle factors to assess discriminant legitimacy. The investigation showed that the base of AVE was higher than the connection between the inactive factors with a p-worth of 0.001.

This showed that the model met the rules for discriminant legitimacy. Additionally, the worth of the cross-stacking marker was more than 0.5 (Table 4), and that implies that the model met the measures for concurrent legitimacy.

Variables	HRM Practice	Innovation	Organizational Performance
HRM Practices	-0.674	0.457	0.448
Innovation	0.477	-0.778	0.346
Organizational Performance	0.448	0.446	- 0.769
HRM Practices	1,000	< 0.001	< 0.001
Innovation	< 0.001	1,000	< 0.001
Organizational Performance	< 0.001	< 0.001	1,000

Table 3: Relationships between stowed away factors

Hypothesis Testing

Construct	Item Code	Cross Loading	Type (SE) P-Value	
	Compensation	0.857	Reflect 0.073	< 0.001
	Training	0.893	Reflect 0.072	< 0.001
HRM Practices				
	Performance Assessment	0.596	Reflect 0.077	< 0.001
	Participation	0.712	Reflect 0.077	< 0.001
	Product Innovation	0.524	Reflect 0.075	< 0.001
	Process Innovation	0.864	Reflect 0.072	< 0.001
	Market Innovation	0.957	Reflect 0.071	< 0.001
	Sales Growth	0.978	Reflect - .0.7	< 0.001

Table 4. The outer model's measurement analysis

Testing the size impact (f2) can show how changes in endogenous idle factors are brought about by changes in exogenous dormant factors (Cohen, 1998). Here are the models for the (f2) region: on the off chance that the worth is between 0.02-0.15 (little impact), 0.15-0.35 (medium impact), and > 0.35 (enormous impact) (solid impact). The aftereffects of the examination (displayed in Table 3) show that the typical impact size (f2) was 0.205.

This implies that the connection between the idle factors in the exploration model framed an example of variety that was in the medium reach. In this way, by making the exploration model greater, we can in any case obtain additional total outcomes from the examination.

Findings

Human Resource Management practice (HRM) is transforming into a more critical piece of examination of human resource leaders. Considering the outcomes of this audit, HRM can help a relationship get to the next level. Moreover, an affiliation's undertakings to share experiences and considerations can be used to predict how well it will really need to consider earth shattering contemplations. HRM is one of the organization processes that can be used to take advantage of and change data. The HRM thought has been comprehensively taken on in various leveled rehearses.

Similarly, interesting HRM practices help laborers feel even more fair since they can set up a fair evaluation of their show, and fair remuneration. HRM can make agents more happy with their positions, simplify it for them to share their knowledge, and cause the work space to feel more obliging. Along these lines, these conditions can provoke the approach to acting of advancement. HRM can chip away at the usage of advancement since agents who are happy with their positions and like the affiliation will undoubtedly have to acquire from their opponents' environmental factors.The outcomes of this study showed that improvement influences how well an affiliation deals with its business. Improvement is generally speaking seen as both a superior methodology for making things and a superior methodology for running an affiliation, so it upgrades what an affiliation makes. Improvement is a way for a business to make new things, cycles, and structures to conform to an impacting world. Progression needs hypothesis support in the field of HR. Of course, this is also one of the deficiencies of SMEs, so it doesn't help the environment for progression. For improvement to create, the leaders ought to have the choice to give delegates the push they need to change their critical experience into the affiliation's assets by making new data.

Right when it is exhibited at the same time, it just so happens, this study's disclosures about progression don't figure out how HRM affects various leveled execution. This shows that HRM deals with definitive execution and makes novel considerations. Notwithstanding, headway in SMEs doesn't help with chipping away at the introduction of the affiliation, and of course a couple of examinations say that improvement is critical not only for dealing with the kind of competitors yet likewise for getting a high ground and better execution.

Conclusion

Despite the fact that there is a developing comprehension of how different HRM designs influence results at the association level and for workers, there are as yet relatively few directing systems in Maharashtra that show what advancement could mean according to various perspectives, particularly for small and medium-sized undertakings (SMEs), which are a vital piece of the country's financial development.

This study's HRM system can be utilized as a model for creating development in small and medium-sized endeavours (SMEs) in Maharashtra, which is not quite the same as the board in the west. The objective of this study was to investigate the connections between HRM, development, and how well a business does. Scarcely any examinations have been finished around here, so the outcomes we have now aren't permanently established. Since few examinations have been finished in Maharashtra, we can't contrast them with different examinations.

Regardless, the consequences of this examination can be utilized as a beginning stage to show that HRM execution as far as employing, preparing, execution assessment, investment, and reward frameworks can work on the association's presentation and permit firms to be more inventive. This shows that development related hierarchical abilities don't necessarily in all cases lead to an upper hand. The main thing may be the manner by which diligently the organization attempts to utilize these abilities to cause a HRM framework that assists individuals with going about their responsibilities better.

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THE ROLE OF INNOVATIVE INFORMATION TECHNOLOGY IMPLIES SIGNIFICANT IN DIGITALIZED SMART KONKAN

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ABSTRACT
The information technology and enabled IOT technology makes a development in the Konkan area. The various applications work on to change konkan by 'Smart Konkan'. The digitized Technology plays a vital role in various applications working with different areas of konkan. The use of technology makes development smarter than manual work. As per region of konkan area the various ways and products to be introduced for the business or money earning. The main attraction of these areas is the tourist management system.
Keywords: Smart Tourist System, Smart Bank, Digitization, Enhanced System, Smart Transportation, Smart Business

Introduction

Smart India undergoes the concept with a wide range of technology and digital applications. The new enhanced in various areas using digitization and smart enabled devices like Internet of Things. In the current situation we need to move towards an Eco – system of Smart Country and Smart India. The Smart India explore the platform to generate evolution by instruct the culture and innovation eco system with digitalization.

We need to develop the tourism places through digitization as well as using new technological concepts to make work smartly and digitally to become. Smart Tourism develops awareness regarding the Smart environment and keeping pollution under control. We need to help in awareness to all regarding Smart digitalization concepts.

This technological enhancement seen an impact on various features growth in the various applications of konkan area. IOT has allowed to innovation of different real time applications. IOT has a highly improves quality of life by enabling various applications

Konkan is a tourist place so it is more beneficial for commercial growth. So we need more focus to attract more people to these areas. Learned faculties of educated peoples can train the business executives and academicians and Researchers in Tourism places area.
That is because of the unique culture of konkan but there are some problems that may change the culture of the konkan. Due to the outsider tourists, it increases economic and suitability in growth of konkan. We need to increase publicity of truism places using digitally and social media making as '**Smart Konkan"** it changes structure of konkan by enhancement of innovative technologies used in various applications in the konkan,

Literature Review

Digitalization in the city is a place where traditional networks and services are made more flexible, efficient, and sustainable with the use of information, digital and telecommunication technologies, to improve its operations for the benefit of its inhabitants. He added that Information and communication technology (ICT) are enabling keys for transforming traditional cities to smart cities. The two closely related emerging technology frameworks Internet of Things (IoT) and Big Data (BD) make smart cities efficient and responsive(Mohanty, 2016)

If proper planning and precautionary steps are taken the village or any rural area can be developed. They concluded that the water distribution in Shirgaon may be more resourceful and helpful to the public, if prepared proper distribution plan executed" (Kondvilkar, 2022)

To meet the requirement of increasing population and to achieve sustainable development, it is necessary to use natural resources very carefully and to check over exploitation of the natural resources for human needs, economic development and the environment. The need for more food had to be met through higher yields per unit land, water, energy and time. Therefore, it is essential to use the land and water resources in the command area of the irrigation project optimally. It is essential to generate comprehensive plans for optimum utilization of land and water resources (Gavit, 2015).

Konkan region’s strength and opportunities describes for the sustainable tourism development with economic sustainability, environmental sustainability, Social sustainability and cultural sustainability and says as Konkan will become California (Patil, 2012).

Sawantwadi should be developed adopting measures such a) strengthening opportunities for local arts and crafts b) Facilitating tourism in a regional perspective c) providing employment and educational opportunities which could cater to some extent Sawantwadi population and nearby small urban centers and villages (Bhardwaj, 2011).

The chances of micro-irrigation introduces scope of employment to the agriculture for entrepreneurship development in Konkan region. It is mainly helpful for employment for konkan citizens in konkan area (Mane, 2015).
The Internet of Things (IoT) gives a new enhancement in smart hospitality services which describes many digital advantages in the applications hospitality industry. The IOT upgrade data of patients through digital, online way makes easy to access perceptions facility of patients without visit the clinic. (Elanthiraiyan, 2015).

The integrated ICT solutions play an enabling role in all “smart” solutions, smart economy, smart environment, and smart mobility. The integrated communication technology connected with network platform to share information form one point to there, which one used in smart homes and hoteling’s. (Bozkurt, 2020).

Framework described the way comprehensive development is brought about in smart villages for attaining self-sufficiency and sustainability. The proposed framework is developed to maintain ecosystem of environment (Kulkarni, 2023)

The population of water shortage done in some countries, to avoid this wastage of water supply need to do automatic digitized system for supply of water. The use of IOT technology uses sensors capturing technique to detect water level using automated system. When water sensor which detect the cross minimum and maximum water level in the tank then automated system work of ON and OFF switch of water supply (Gupta, 2016).

Objectives of the study

1) To study various applications used to develop Smart Konkan
2) To analyze usefulness of Digitization in various applications of konkan region.

The Study of Research Area

This research study going on the area of konkan in Maharashtra state, which is located in the western part of Maharashtra and has 700 km coastline. The Konkan area is well known due to its geography, culture, history, beaches, forts, foods etc. it is a famous truism place over the India. In the time of monsoon the Konkan region having heavy rainfall and the climate remains humid and hot with around temperature 30 degrees during this time. In this research paper describing that it is necessary to develop the tourism areas of konkan by digitally.


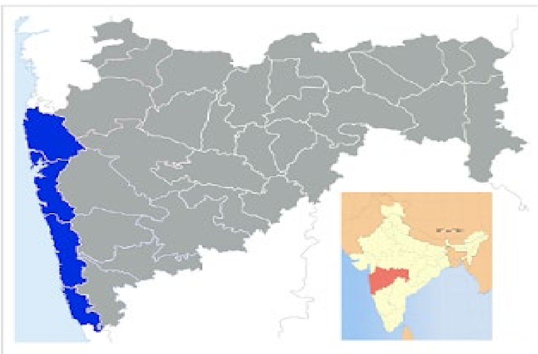

Figure 1: The study of Research Area – konkan

Source: https://www.tripsavvy.com
Source: http://konkantribune.blogspot.com

Digitization of Konkan with Innovative Enhanced Technologies

- **Internet**:
  The WWW implies the World Wide Web or Internet, it having digitized data and met the manner in which we get to data. The digitization has a huge amount of information. The digital era also used for online shopping, digital marketing, digital education, newspaper via online, online classes, online study, online banking, E-shopping, E-commerce, Search Engine, online communication using computer or cell phones for interaction with each other by using e-mail, chat, what's up, online video's etc. The current need of the world for information access via the internet for quick communication with each other and we search for information using a key word rather than flicking through an alphabetized encyclopedia.

- **Internet of Things (IOT) :**
  The IOT is much more than Internet-associated buyer gadgets. At some point or another, your IT association will require you to make a framework to help it. Vitality organizations as of now use arranged sensors to gauge vibrations in turbines. They feed that information through the system to figure out frameworks that dissect it to foresee when machines will require upkeep and when they will fall flat. Fly motor makers insert sensors that measure temperature, pressure, and different conditions to improve their items. Indeed, even a blessing container business can send sensors to continually screen the temperature of short-lived items. In the event that temperatures away or in travel begin to rise, they can facilitate conveyances. This has the double bit of leeway of expanding consumer loyalty while maintaining a strategic distance from item decay. A large variety of sensors including RFID, IR, and GPS, connect the buildings, infrastructure, transport, networks.

- **Big Data:**
  Big data is used to analyze, mining, storing, large and complex unstructured databases. It is used to handle the digitally captured data which is in the various formats like images, videos, sound music, files, links etc. Big data is used for discovery data and optimization of processes. Big data makes it easy to search and differentiate data like locations, Enterprise data, public data, sensor collected data, transactions, social media data etc.

- **Information and communication technologies (ICT)**:
  Information and communication technologies ICT are growing currently through enhancement in hardware and software architecture. ICT utilized for various tasks such as for information exchange and operations, cyber techniques. Information technology, the collective infrastructure, and the commercial infrastructure to exploit the collective intelligence with a combination of various smart components.

Smart Konkan

In the current era digitalization and Internet of Things plays the main role in the development of all the areas; to convert konkan by 'Smart konkan',The applications of smart konkan make innovated konkan by like Smart education, Smart Applications, Smart buildings, Smart homes, Smart farming, Smart healthcare, Smart business, Smart light systems, Smart Garbage and Waste Collection Management, Smart travel system, Smart Railway, Smart Transportation, Smart Tourist System etc.

There are various online systems established by the government to enhance in these areas such as, E-Office for digital transformation and speedy clearances, Gyansagar - An e-Learning Portal, Online Employees Self Service Portal (ESSP) is an employee's self-service portal etc. Role of Information Technology is important to eradicate crime, corruption, and unemployment in the Konkan region and in India.

Figure No. 2: Smart Konkan Area
Source: Generated by Researcher

Tourist Places in Konkan

To develop Smart Tourism we need to apply digitization in different areas of Konkan. In Konkan there are different types of tourist places like Hill Stations, Forts, Coastal Areas (Beach's), Historical / Archaeological sides places, Aquarium sides, Cultural places, wildlife (Zoo), Temples areas need to develop through information technology and automation.

In Konkan most of the tourists are attracted towards the forts that describe the konkan culture and economy. The forts in Konkan show us the history of Maharashtra's greatest kings. The rainy season most of the tourists are attracted towards the waterfalls. In recent years, there has been an increase in foreign tourists in the konkan and the environment has been better.

Smart Applications for Development of Konkan

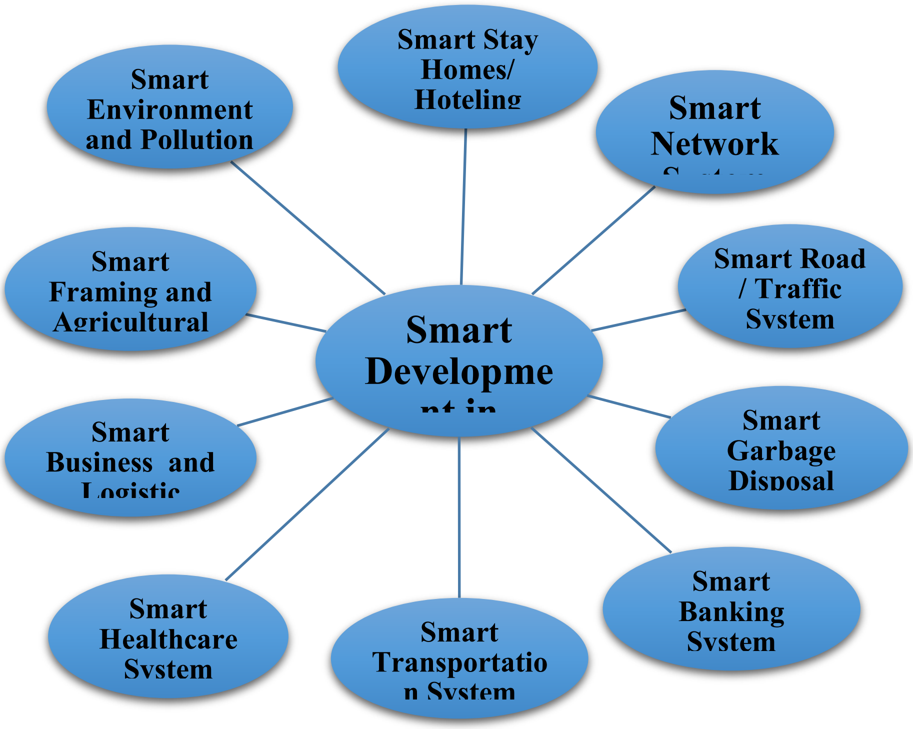

Figure No.3: Smart Applications for Development of Konkan
Source: Generated by Researcher

Different initiatives of a digitization may be taken for innovations of Konkan

- **Smart Stay Homes/ Hoteling System**

Smart stay homes and hoteling help tourists to find staying facilities easily. Smart infrastructure is more secure and safe for any tourist. It contains sensors, firmware, smart grids, smart alarm softwares, smart eco system, Smart waste management system, Smart food order system, Smart CCTV System etc. The digitized hoteling system gives information of stay homes with the help of apps, websites, social media and other digital sites.
The information of the staying facility they should give us all the information that is necessary for a tourist provided facilities such as food varieties, parking slot, Room images, Room types, room rate and surrounding location etc. The communication infrastructure facility ICT is needed in the stay homes and hotels such as wi-fi,, hotspot, fiber optics etc. The hotels and stay homes had been included in their geographic locations in the GPS system.

- **Smart Road / Traffic System**

Smart Roads and Traffic System uses a GPS system in konkan to help in tracking popular places around konkan. When tourists are facing difficulty finding their way around Konkan, to avoid this problem the GPS system makes it easy to find the distance between tourist locations to the location that we have to reach. It also helps in discovering nearest roads and where there is no traffic on the road.

The Smart Automated street light system is used in konkan for controlling overflow of power supply and reducing wastage of power. This system works automatically so as to avoid human effort. The Smart street light system installed light poles which controlled light. The sensors used to gather light intensity and accordingly control the system of LED lights by switching ON and OFF. This system has used two different types of sensors. The light sensor detects light intensity through a microcontroller and photoelectric sensor (PIR sensor and LDR Sensor). When sunlight falls on light sensors, the sensors automatically switch OFF and when light energy goes down the switch automatically goes ON. The smart system used to reduce unnecessary usage of electricity power wastage.

- **Smart Network System**

Here are different network architectures used for communication protocols such as wireless sensor network, Mobile Adhoc Network, WLAN and Internet gateway network. The hotspot is used for sharing data through unlimited Wi-Fi facilities placed in the konkan. The data or information have been shared using mobile phones, tablets and any other physical devices.

The Smart digital technology installed in konkan for continuous monitoring security purposes such as CCTV Cameras, video surveillance, alarm, QR code, GPS, sensors, LCD display etc. Then an alarm activation starts by SMS notification through GSM and email facility through the Internet. Security is an important factor in integrating security architecture.

The RFID sensors have been used for making virtual payment facilities through electronic cards in which money is added in the card by online way and stored transaction data directly to the server. This system has helped us to have no need to carry cash with us. Smart technology is one of the important features for the design, implementation of smart konkan areas. A variety of selected technologies like Resource Management system, global network facility, cyber physical system, State of Art Technology used for sustainability development of konkan areas.

- **Smart Garbage Disposal System**

The Smart Garbage and Waste Management system based on IOT technology is used for clearance of surroundings and keeping the hygienic environment of konkan. It is used for mitigating the waste and maintaining cleanliness, it requires 'smartness based waste Management system of the konkan. The sensors used in the garbage and waste Management system checks the level of over the dustbin and detects data notification given to authorized persons through the GSM and GPRS system.

- **Smart Banking System**

Smart Banking introduced various types of money transaction facilitates such as online banking, mobile banking, debit card, zelle, mobile wallet etc. Customers can easily take a photo using cutting-edge technology that is available on all types of mobile phones. Smart Banking is more secure and easy to transfer money without any difficulty. Use of smart banking helps to have no need to carry cash with us. .

- **Smart Transportation System**

Smart transportation systems make transportation secure and efficient. Need a digitized system for passengers to make it easy to interact through the system. It is necessary for konkan areas to develop various facilities like railway networks, airlines, water transport, and smart roads.
Konkan - Smart Railway System operations are fully dependent on the Information technology setup of KRCL, which uses 'Railway application package, IR Applications for Indian Railway.

- **Smart Healthcare System**

Due to the overcrowded tourists in the konkan area and less number of hospitals, this area needs a smart healthcare system. This system includes smart advanced devices, wearable devices, Digitized ambulance system, ICT facilities, and various mobile apps for online diagnoses. The information of diagnoses is transferred through an online way. One specific instance of intelligent healthcare is telemedicine. Smart healthcare can be seen as a subset of telemedicine. Information and communication technologies (ICTs) are used in telemedicine to deliver clinical healthcare over large distances or in off-the-grid settings. This strategy is especially helpful in remote areas where healthcare services are difficult to access.

- **Smart Business and Logistic System**

By Smart Utility of Information Technology (IT) we can not only transport but also export very easily different products produced in konkan. It includes various fruits and food items like Mangos, cashew nut, fish, jackfruit and its barfi etc. If digital platforms are used to promote travel and tourism business in konkan; business will blossom at a fast pace. The digital marketing and E - Business system improves the rate of selling. For example Konkan Smart Marketing & Services Pvt Ltd. Ect. The proper use of IOT technology of Smart farming: it improves the production of products, as the enabled sensor system is designed to detect moisture, humidity, temperature and ultrasonic level of the soil. The automatic farming systems used to monitor the process of maintaining the forming and watering system of the land. The automated IOT system makes logistic management easy and systematic.

The barren hills are occupied by the pastoral Bhil, Kathkari, and Konkana peoples. The main crops are rice, pulses (legumes), vegetables, fruits, and coconuts; fishing and salt manufacture are also important. The Konkan area has Industrial Development by using Maharashtra Industrial Development Corporation (MIDC) which develops the production process.

- **Smart Environment Management System**

The Smart Environment monitoring system includes different sensors and data storage capacity. It maintains the environment of buildings, hotels and other infrastructure facilities in the konkan. The interconnectivity environment sensors with different objects through the internet which are able to detect change in the environment variables in the surrounding areas. The smart environment system maintains the surroundings of the konkan.

- **Smart Framing and Agricultural**

Smart Gardening based with IOT is an important application used for maintaining a smart building environment. The implementation of the Smart Garden system detects different parameters present in the soil. This system is designed to detect moisture, humidity, temperature and ultrasonic level of the soil. The automatic gardening systems used to monitor process of maintain garden and watering system in the konkan farming areas. The warm and humid environment is very favorable for growing of mangoes, Nuts, Cocounts etc. The smart agriculture provides the digitized technology for increasing of products such as Cereals like Rice, Jowar, Maize, Ragi, Kodra , Vari, Gram, Mung, Tur, Udid, , Wal, Chawali etc. The mobile application allows the Gardening person to remotely monitor and control the Smart Garden System. The alerts system gives the notification by messages to the farming persons to control the system. This method is cost effective and time saving.

Conclusion

Konkan is no exception. In order to make konkan 'Smart', we need to use different digitized technology to make 'Smart konkan'. Also; the software applications, Mobile app, and online portals can focus on technological innovation and help to deliver a sustainable future in the konkan area. The various applications which is useful for development of konkan region.

The digitized various applications are introduced to make konkan intelligent and smart. A Comprehensive analysis of study, it is seen that the information Technology is the Game - Changer for the Konkan area. The power of digitization makes efficient work flow into the various sectors of konkan. The unlocking potential of digitization plays a significant role in the Smart Konkan.

The Prospectus of Smart Applications for Development of Konkan describes the digital phenomenon of Smart konkan in diverse sections.

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TO STUDY FACTORS INFLUENCING ADOPTION OF ERP SYSTEM IN THE AUTOMOBILE SECTOR

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ABSTRACT
The automobile industry's adoption of ERP from automotive hubs like Pune is examined in this study. This article addresses not just the amount of ERP adoption in the automotive industry in the Pune region, as well as the variables that drive ERP adoption, but also the benefits of ERP after implementation. Four key characteristics were identified as driving factors for ERP adoption, as well as ten perceived post-adoption benefits. Questionnaires and semi-structured interviews were used to gather information. Quantitative data was collected from 434 questionnaires, which was analyzed using regression and ANOVA analysis. ERP adoption opens up new business opportunities for an organization, allows it to complete specific tasks more quickly, increases productivity, allows for the purchase of products and services, provides integrated, timely, accurate, and reliable information for decision making, increases profitability, and aids in the control and monitoring of multiple projects. The findings of this study could aid automotive industry owners, managers, and others in increasing profitability, achieving better targets, and making successful management decisions. They can focus on the key drivers of ERP implementation in order to improve their performance. Many automotive company owners are working to increase their adoption levels in order to compete. This research study contributes to theory and practice by offering a solution in terms of influencing factors for automotive companies.
Keywords:ERP, Factors, Influencing, Adoption, Implementation

Introduction

Enterprise Resource Planning (ERP) is seen as a valuable tool for improving organizational efficiency since it integrates and distributes organizational systems and allows for seamless transactions and development. ERP systems have grown increasingly important to organizations of all types. Understanding the elements that influence ERP acceptance in organizations is critical to improve the quality and efficacy of ERP implementation. Others looked at success characteristics from an organizational or personal standpoint. This research develops an integrated framework that takes into account organizational, technological, personal, and environmental elements. The contributing elements have been known for a long time thanks to studies, but how those aspects effect the deployment of an ERP system in the automobile industry is still unknown. The impact of these influencing elements on the ERP user's perceived advantages was investigated in this study. According to the data, all four variables gain perceived advantages that will lead to ERP success in an automobile company.

The goal of this study was to identify factors that influence ERP adoption in the automotive industry, with a focus on the Pune region. ERPs (enterprise resource planning systems) are the foundational software for modern business information systems, as well as the usual organizational computing model (Bradford 2010). Organizations employ Enterprise Resource Planning (ERP) systems in order to reap the benefits of such technologies. ERP stands for enterprise resource planning, and it is a software package that allows businesses to manage information flow into business operations and integrate all departmental tasks into a single system (Markus, Tanis 2000). Organizations anticipate to get business benefits from ERP systems as a result of the system's output, such as more effective business processes, lower inventory, enhanced decision making, increased customer service, and business growth (Panorama 2015; Shang , Seddon 2002). Companies seek to gain a competitive edge as a result of these advantages.

In recent years, most businesses have installed Enterprise Resource Planning (ERP) programmes employing software packages such as SAP, Oracle, and BAAN, among others. Enterprise Resource Planning software is one of the fastest growing segments of the software industry (Sumner 2006). Companies are constantly seeking for methods to reduce expenses and operate more effectively and efficiently in order to remain competitive in the marketplace, and IT will assist them in accomplishing these objectives (Gurbaxani, Whang 1991).

Organizations must research the aspects that influence customer happiness in order to improve the quality of their ERP programmes, as well as their productivity and efficacy.

The goal of this research is to figure out what elements drive ERP system adoption and, as a result, how to improve an organization's success and, eventually, the ERP. This research intends to investigate driving factors by first identifying them in prior literature and then focusing on the Pune region's automobile sector through a well-designed questionnaire and interviews with ERP end-users within a business. The conclusions of this study are intended to raise awareness of the critical aspects that influence ERP system adoption and perceived benefits. This research focuses on ERP adoption and provides insights into the elements that drive ERP adoption.

Literature Review

The Enterprise Resource Planning (ERP) programme is a developing technology that falls under the umbrella of information management research. For the first time, in 1990, the Gartner Group purchased an American consulting firm, and the notion of ERP was born (Wylie 1990).

The author of this study wants to create a complete picture of ERP adoption and its possible benefits. By any means, I'd like to have a deeper understanding of the users' attitudes, habits, and perceived benefits.

The perceived benefits of ERP systems have a significant and positive impact on ERP adoption. ERP benefits organizations, according to both (Utecht 2004), by integrating operational processes to improve information flow, reduce costs, streamline business processes, increase product variety, establish links with business partners, and reduce response times to customer requirements. Companies that successfully implement integrative technology have been considered as extremely competitive on the global market.

Proposed Factors for ERP Adoption and Implementation in Automobile Sector

Multiple factors have been discussed and used in the literature on numerous occasions. These elements play an important role in ERP acceptance and implementation, providing a better knowledge of ERP adoption. The analysis of the aforementioned factors reveals that they cover the organization's broad range of activities across several industries. Such concerns give the author plenty of motivation to find some of the most important ones for creating an ERP acceptability and implementation model for the automobile industry. The author has identified a number of elements that could aid in the development of a conceptual model for ERP adoption in the automotive industry in the future. Figure 1 shows proposed influencing factors,

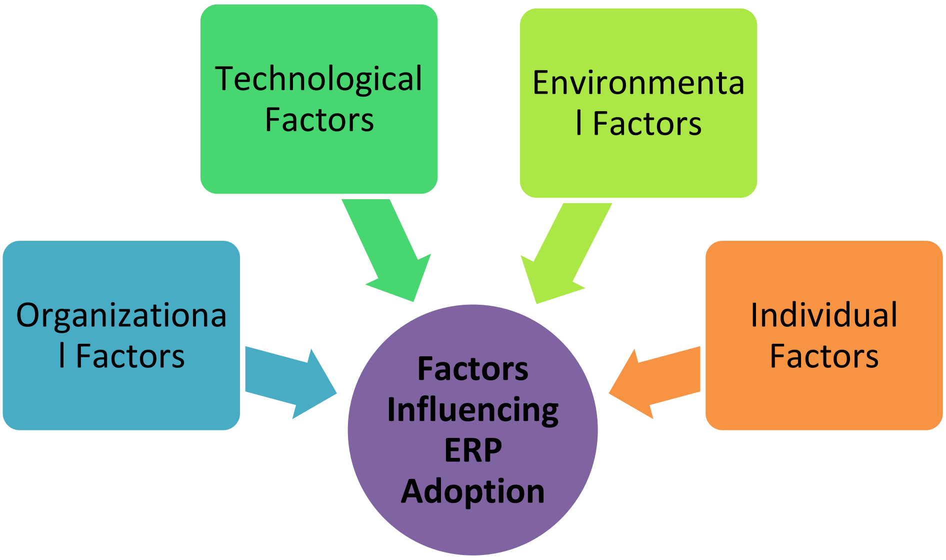


Figure 1 Proposed influencing factors

Factors Explanation

Technological Factors

(Rajemi , Egdair 2015) Understanding the impact of technology variables on the relationship between ERP and efficiency is critical to the device adoption process' success. It appears that new directions need to be investigated further, which necessitates expertise. There have been few studies that have looked at organizational success and some of the aspects that influence it, such as ERP adoption and technological factors.

The importance of understanding technology variables about the relationship between ERP and efficiency is the most important issue for the device adoption process's success. It appears that a new path needs to be investigated further, which includes recognition of this phenomenon and further analysis of the expansion of information in the practice of multiple factors in addition to the established factors.

Organizational Factors

(Dezdar , Ainin 2012) look at how organizational elements including training and education, senior management support, and enterprise-wide communication affect corporate resource planning. According to the findings, there is a link between top management support, enterprise-wide communication, and ERP training and education and successful ERP deployment.

Environmental Factors

Consumer demand, economic pressure, external pressure, internal pressure, trading partner pressure, commercial dependence, environmental uncertainty, information intensity, and network strength are all significant environmental variables, while policy regulation is not (Jang , Li 2012).

Individual Factors

It has been empirically demonstrated that various individual qualities of information system users are associated with specific rates of system use (Szajna 1996).

Research Objectives

The goals of this study, as stated in earlier, are as follows:

- To understand the factors influencing adoption of ERP.
- To study the perceived benefits of ERP adoption.
- To study relationship of position of respondents in the organization with the Perceived Benefits of ERP.

Research Hypothesis

- **H1:** There is significant impact of adoption of ERP on Perceived Benefits.
- **H2:** There is significant relationship of position of respondents in the organization with the Perceived Benefits of ERP.

Data Collection

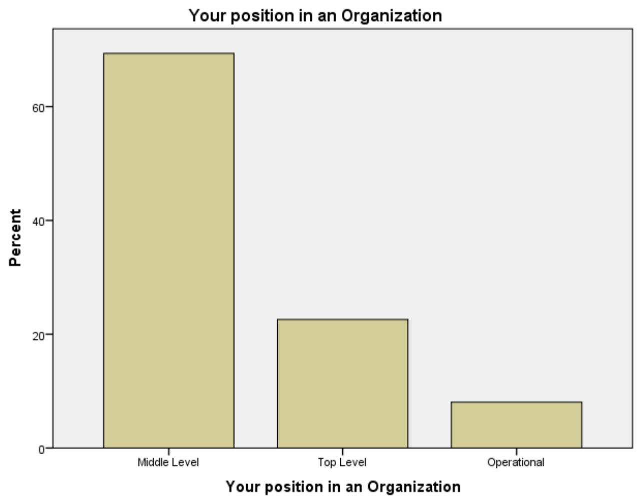
In this study, the identical questionnaire was sent in hard copy form. The respondents to the stated questionnaire were, once again, ERP users, managers, and decision makers from the individual firms who were familiar with their vision, plans, and policies. The same questionnaire was sent to the intended participants via email, together with a link to the online questionnaires and a brief description of the study objectives. Participants who had not responded in a timely manner received follow-up emails as a reminder. Finally, 434 respondents from various automobile businesses answered to the survey, the majority of them were ERP practitioners and people who had been involved in ERP deployment methods.

During personal meetings with the participants, who are ERP users, managers, and decision makers, pertinent questions were answered, and primary data was collected.

The study is based on primary data obtained through a survey questionnaire and interviews with selected vehicle companies in the Pune region. These companies have branches in Chakan, Pimpri, Chinchwad, Pune City, Pirangut, and Ranjangoan, among other places.

Analysis and interpretation

- Position of ERP user in organization



Graph 1 Position of ERP users in organization

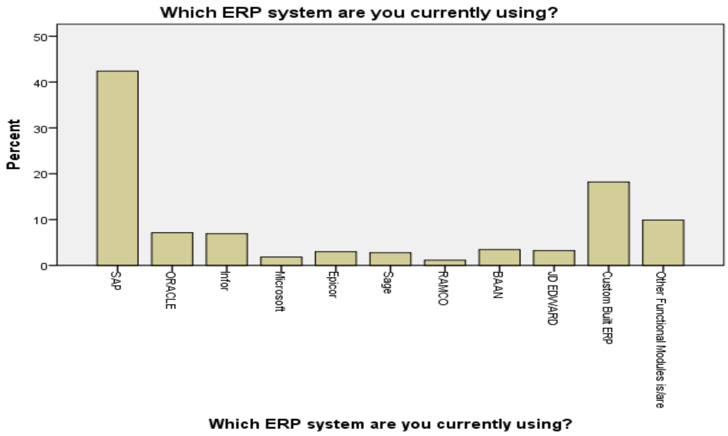
Interpretation:
69.4 percent of the 434 respondents are in a middle level position, 22.6 percent are in a top level position, and 8.1 percent are operational level ERP users. As can be seen from the table above, intermediate level ERP users were more likely to engage in the study than top level ERP users. In addition, only a small number of personnel at the operational level took part in the research.

- **Which ERP package is organizations are using**

Table 1 below presents data which ERP system organization is currently using. And graph 2 shows graphical representation of which ERP system organization is currently using.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SAP	184	42.4	42.4	42.4
	ORACLE	31	7.1	7.1	49.5
	Infor	30	6.9	6.9	56.5
	Microsoft	8	1.8	1.8	58.3
	Epicor	13	3.0	3.0	61.3
	Sage	12	2.8	2.8	64.1
	RAMCO	5	1.2	1.2	65.2
	BAAN	15	3.5	3.5	68.7
	JD EDWARD	14	3.2	3.2	71.9
	Custom Built ERP	79	18.2	18.2	90.1
	Other Functional Modules is/are	43	9.9	9.9	100.0
	Total	434	100.0	100.0	

Table 1 Which ERP system is you currently using



Graph 2 Which ERP system is you currently using

Interpretation

The SAP-ERP programme is used by 42.4 percent of the 434 respondents. It signifies that the SAP –ERP package is used by the majority of businesses.

The study's most noteworthy finding was that most organizations prefer SAP to other ERP solutions. Finally, just half of the organizations have implemented all ERP modules. It means that in the remaining 50% of businesses, all modules must be implemented.

ERP variables are explained by following abbreviations,

- Organizational Factors -ERP1
- Technological Factors- ERP2
- Environmental Factors -ERP3
- Individual Factors- ERP4

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ERP1	434	1.3000	5.0000	4.221889	.4172993
ERP2	434	1.0000	5.0000	4.040092	.4383530
ERP3	434	1.0000	5.0000	3.980645	.5170475
ERP4	434	1.0000	5.0000	4.049539	.5358975
Valid N (list wise)	434				

Table-2: Descriptive Statistics for Adoption of ERP (All components)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ERP Avg	434	1.0750	5.0000	4.073041	.3914281
Valid N (list wise)	434				

Table –3 : Descriptive Statistics for Adoption of ERP (Avg of all components)

- The descriptive statistics of the variable – Adoption of ERP with four components (Organizational factors, Technological factors, Environmental factors and Individual Factors) denoted as ERP1, ERP2, ERP3 and ERP4 says that the overall means value of all the four components is 4.07 which signifies that the respondents generally agree to the fact that adoption of ERP is essential considering all the factors in account.

The overall SD is .391, a low SD implies less deviation from the mean value. Means the respondents are consistent in their opinion.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PB1	434	1	5	3.72	.970
PB2	434	1	5	4.03	.782
PB3	434	1	5	3.94	.725
PB4	434	1	5	3.74	.900
PB5	434	1	5	4.23	.815
PB6	434	1	5	3.39	.980
PB7	434	1	5	3.76	.878
PB8	434	1	5	4.12	.882
PB9	433	1	5	4.39	.784
PB10	434	1	5	4.38	.813
Valid N (listwise)	433				

Table -4: Descriptive Statistics for Perceived Benefits (All components)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Avg Perceived Benefits	434	1.0	5.0	3.970	.4516
Valid N (list wise)	434				

Table –5: Descriptive Statistics for Perceived Benefits (Avg of all components)

According to the descriptive statistics of the variable – Perceived Benefits, which has ten components denoted as PB1, PB2, PB3, PB4, PB5, PB6, PB7, PB8, PB9, PB10, the overall mean value of all the components is 3.9, indicating that the respondents recognize that the benefits derived from the implementation of ERP system in the organization are beneficial when all the factors influencing the adoption are taken into account. The overall SD is 0.451; a low SD indicates that there is less variability from the mean. This indicates that the respondents' opinions are consistent.

Reliability and Validity Statistics for Adoption of ERP

Reliability Statistics

Cronbach's Alpha	N of Items
.833	4

Table- 6: Reliability Statistics for Adoption of ERP

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ERP1	12.070276	1.575	.671	.789
ERP2	12.252074	1.521	.683	.782
ERP3	12.311521	1.362	.681	.780
ERP4	12.242627	1.365	.638	.804

Table-7: Validity Statistics for Adoption of ERP

- **Reliability And Validity Statistics For Perceived Benefits**

Reliability Statistics

Cronbach's Alpha	N of Items
.712	10

Table- 8: Reliability Statistics For perceived Benefits

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PB1	35.98	16.504	.377	.689
PB2	35.67	17.111	.417	.683
PB3	35.75	17.073	.471	.676
PB4	35.96	17.068	.341	.695
PB5	35.46	17.337	.356	.692
PB6	36.30	16.904	.316	.701
PB7	35.94	17.020	.363	.691
PB8	35.57	16.634	.417	.681
PB9	35.30	17.692	.320	.697
PB10	35.31	17.331	.358	.692

Table-9: Validity Statistics for Perceived Benefits

Sr. No.	**Indicators**	**Cronbach Alpha for Reliability**	**According to Pearson's critical value or r product moment value**	**Validity**
1	Adoption of ERP	.833	For infinite samples in 0.05 significance level, r value is 0.073	Valid
2	Perceived Benefits	.712		Valid

Table No-10: Summary Table

- **Interpretation of Reliability and Validity**

Because all of the variables have reliability score of greater than 0.7, it is assumed that they are all dependable. The r value for infinite samples in the 0.05 significance level, according to Pearson's critical value or r product moment value, is 0.073.

The calculated correlation values for ERP1, ERP2, ERP3, and ERP4 are 0.671, 0.683, 0.681, and 0.638, respectively. All of these numbers are higher than 0.073. (r product moment value). As a result, the ERP data is assumed to be correct.

The calculated correlation values for PB1, PB2, PB3, PB4, PB5, PB6, PB7, PB8, PB9, and PB10 are 0.377, 0.417, 0.471, 0.341, 0.356, 0.316, 0.363, 0.417, 0.320, and 0.358, respectively. All of these numbers are higher than 0.073. (r product moment value). As a result, the data on Perceived Benefits is presumed to be accurate.
The position of the respondents in the organization and perceived ERP benefits are tested using a one-way ANOVA test.

Here because there are more than two samples, a one-way ANOVA is used. The dependent variable is on a scale of one to ten, while the independent variables are on a scale of one to ten.

One-Way ANOVA Test between Position and Perceived Benefits	ANOVA test significance value	Value for homogeneity of variance
	.798	.895

Table 11-Summary Table-one way ANOVA

The significance value in the One-way ANOVA is larger than 0.05, implying that the null hypothesis is accepted, i.e. that there is no significant difference between a respondent's viewpoint and the perceived advantages gained from ERP. This is a good sign that everyone in the organization, regardless of their status, recognizes the importance of ERP deployment. This emphasizes the significance of ERP installation in businesses. Regardless of position, the demand for system and process automation is of the utmost importance. The homogeneity of variance score is greater than 0.05, implying that equal variance exists.

Summary of Hypotheses- Table 12 shows the results of testing the hypotheses of the research.

	Hypotheses	Results
H1	There is significant impact of adoption of ERP on Perceived Benefits.	Accepted
H2	There is significant relationship of designation /position of respondents in the organization with the perceived benefits of ERP.	Rejected

Table-12: Summary of Results-Hypothesis

Findings

The most significant contributions of ERP systems are that they greatly cut the time necessary to perform company activities and simplify information sharing (Olhager , Selldin 2003; Lee 2010). Because they have more effective procedures, businesses provide a better working environment for their employees. ERP systems can be launched effectively from a technology standpoint during the regular phase of the ERP lifecycle, but complete performance is contingent on ERP users' willingness to use the provided system (Kwahk , Lee 2008).
According to the findings, senior management support is always required when implementing any decision in an organization. Change management is always a part of ERP implementation. Most ERP implementations necessitate business process re-engineering. ERP adoption is usually influenced by organizational structure and culture. ERP adoption is largely influenced by the size of the company. It is critical to provide training and education to ERP users in order for the technology to be used successfully. It is critical to have great communication for not just successful ERP implementation but also for accomplishing any work in a more efficient manner. ERP adoption is impossible without clear organizational goals and objectives. It is nearly hard to implement ERP in an organization if the users of the technology are not active in its use. If a company wants to implement technology, it must be ready in every way. The operational cost of ERP adoption is a critical aspect in determining the success of its implementation. The ERP package that is implemented should not be overly complex because it will damage the user's ability to use it and may result in ERP failure. Regardless of the ERP software utilized, an organization's smooth operation should be ensured. Adoption of ERP system relies heavily on technological infrastructure. The key to a successful ERP implementation is choosing the right products. High-quality organizational data and information are required for successful adoption. It is nearly difficult to implement ERP without the help of the ERP vendor. The ERP system may test and maintain uniformity in business operations. The cost of ERP maintenance is crucial in determining how far the system will be used. The use of ERP allows businesses to aim to outperform their competitors on the market. Always For ERP to be adopted successfully, it must be able to embrace technical change. The ERP system enables business owners to devise effective management strategies. The ERP operating system assists users in reducing computer anxiety. Management support and a positive mindset are essential for ERP deployment to be effective. The efficiency with which a computer is used is not as significant while using an ERP system. A well-trained ERP user can make better use of the system. For all applications, the ERP system supports creative process control technologies. The ERP system makes work easier for all enterprises.

Conclusion

The majority of these research focus on a small number of parameters that influence ERP system acceptability and usage. The goal of this investigation was to increase the number of parameters that influence user acceptability. Researchers discovered a large number of external influences from literature. The adoption influencing elements and advantages have been the focus of ERP installation studies. This research contributes to ERP installation and adoption theory, with a focus on the automotive industry. This research examines the factors that influence adoption in the areas of technology, organizations, people, and the environment. According to the findings of the study, more attention may be required to assist the automobile industry by giving context elements that may be relevant for ERP implementation.

The survey found that owners and managers in the automotive industry lacked the knowledge and resources needed to implement ERP. Have a thorough knowledge of the relevant components and information before beginning an ERP project. It will also provide an understanding of the actions that occur during the planning, execution, and comprehension of the elements that affect the technical, organizational, individual, and environmental domains of ERP implementation. The findings of the study will assist all types of automobile firms in mitigating the risks of ERP installation failures and change resistance by utilizing appropriate tools and approaches to ensure project success. Another intriguing topic would be to research firms who have already adopted and deployed ERP systems to see what missing components were the most important factors to consider in order achieving success. From the user's perspective, this will focus on the organizational, technological, individual, and environmental aspects of ERP adoption.

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