

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

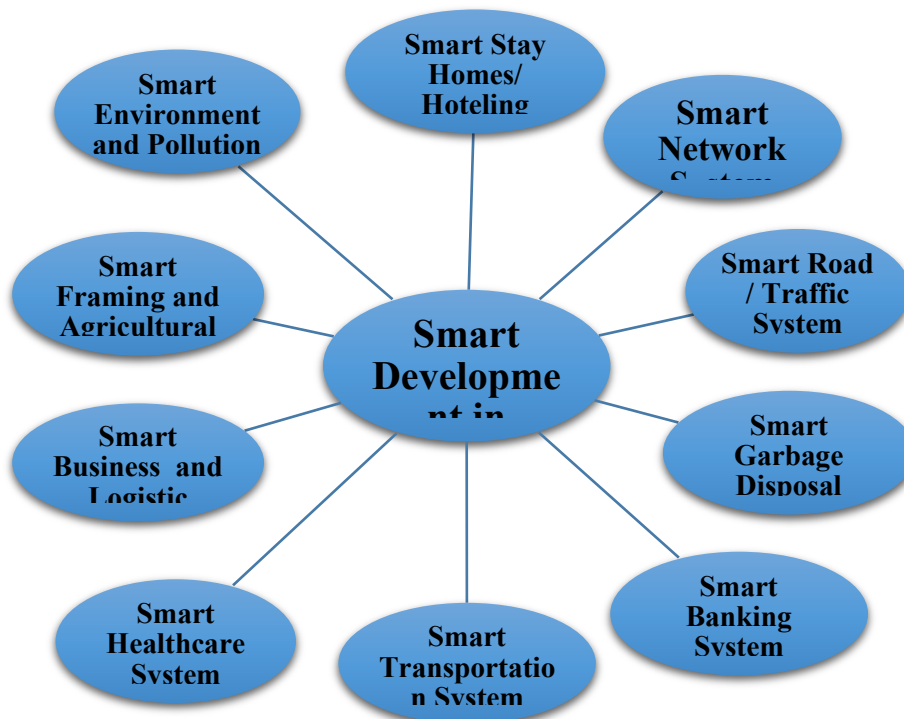


Figure No.3: Smart Applications for Development of Konkan
Source: Generated by Researcher

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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