

ROLE AND POTENTIAL OF BIG DATA IN DIGITAL MARKETING – A LITERATURE REVIEW

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ABSTRACT

The way businesses run has drastically changed since the advent of the Internet and digital media. Consumers spend a significant portion of their life online and primarily profit from it, which significantly alters both consumer behaviour and corporate marketing strategies. Big data has several advantages and can be quite important in digital marketing. The increased use of digital channels by customers is a result of technological improvements, which also enable marketers to collect excessive amounts of data about consumers, store that data, and utilize it whenever and however they see fit. Big data helps organizations identify the unmet needs and expectations of customers so they can succeed in business long-term. Despite the significance of big data analytics for business marketing, there is little research on this topic. The goal of the research paper is to explain the role and potential of big data in the perspective of digital marketing to add to the body of knowledge. To accomplish this goal, a thorough analysis of the literature that covers big data's definition, elements, sources, function in digital environments, and applications in business is conducted.

Keywords: Big data, Digital Marketing, Significance, Role, and Potential

Introduction:

The way businesses run has drastically changed since the beginning of the Internet and digital media. The Internet is regularly used by more than 3 billion people worldwide to do shopping, have fun, and make new friends (Chaffey, 2019). Clients spend a significant portion of their life online and primarily profit from it, which significantly alters both consumer behaviour and corporate marketing strategies (Chaffey, 2019).

The advancement of digital technology has resulted in a daily transformation of the marketing strategies used by companies to achieve an economical advantage by satisfying customer wants and expectations as well as adhering to the current environment. Consumers can readily use a variety of technical platforms, including desktop, laptop, smart phone, and tablet devices. Customers have access to a variety of product, service, and price options from many vendors in the digital environment, which also makes the purchasing process quicker and simpler.

Big Data

As a result of technology improvements, customers are engaging in an increasing number of activities through digital channels, giving businesses access to a wealth of consumer information that can be stored and used as needed. Using traditional marketing techniques to reach clients is practically impossible today. This is mostly a result of the methodologies' inability to identify client needs and expectations and to gather sufficient data about them. Businesses must generally make far better assumptions and judgements in the highly competitive business world of today. The future of enterprises depends greatly on conducting thorough market analysis.

There are numerous ways to characterise big data. (Manyika, 2011) defined "big data" as datasets that are too large to be accessed, stored, managed, or analysed using standard database software tools. Big data, or enormous information clusters, are believed to include details on customers from sources including social network posts, geotagging, and sensor outputs (Johnson, 2012). With the growth of e-commerce, more businesses are beginning to pay attention to how customers' online research affects their decision-making process about consumer behaviour (Neirotti and others, 2016). These days, businesses can gain a variety of information into how customers browse online thanks to the continually evolving eye-tracking sensor technology. Analysing data from sensors that record customer successes during online purchases allows for the customization of web sites, the issuance of personalized advertisements, and the execution of marketing activities (Fu, 2020). As a result of technology improvements, businesses now interact with customers virtually less, but by carefully analysing massive data clusters, they are learning more and more about them every day.

Big data is a component that has a lot to offer businesses if it is properly gathered, stored, and analysed. Businesses may gain a competitive edge by developing strategies that meet the needs and expectations of their

customers by utilising data that is large in volume and persistence, obtained from several sources, proven to be secure and trustworthy, and likely to be beneficial.

Digital Marketing

Businesses today encounter a data explosion because of conducting a variety of activities through digital platforms. Businesses care more than ever about data analysis and digital marketing to recognize the effects of marketing initiatives. Many digital marketing methods, such as text messaging sent from mobile devices, digital promotion, and digital media, do not require the Internet (Yasmin, 2015). Digital marketing is the method used by companies that use digital technologies to achieve their marketing goals.

Digital marketing is the process of streamlining marketing activities with the aim of encouraging consumer interaction, participation, and feedback. Businesses engage with customers in an interactive way by using digital marketing techniques (Zahay, 2021). The main objective of digital marketing is to establish interactive customer communication through digital platforms (Yasmin, 2015). Businesses must place a high priority on building relationships with customers and other partners through digital channels to take advantage of the new opportunities that these relationships can present. Making efficient and effective use of digital marketing can change production and delivery procedures and allow companies to provide a range of consumption patterns (Munar and Jacobsen, 2013).

Digital technology and data analysis may help businesses modify and expand the scope and function of their marketing initiatives (Shah and Murthi, 2021). Data analysis may help businesses understand how various marketing strategies, such as sales development, delivery, rate (pricing), product features, and TV and print advertisements, affect market share, sales income, or the brand value of a product's brand. It motivates companies to focus more on their clients' needs and exert more effort to give them memorable experiences. Customer experience has now taken the place of the idea of customer satisfaction, which serves as the foundation for marketing (Sheth and Kellstadt, 2021). Businesses continue to exist in the digitalizing world because they attach the necessary importance to data analysis and gain from digital marketing strategies.

Literature Review

People now live in a digital world where data is abundant, and technology is developing quickly. Today, marketing research and activities heavily rely on information gathered through digital sources. Technology's integration into company life makes marketing communication more difficult. Businesses must thoroughly analyse marketing performance in order to find a solution to this issue (Buhalis and Volchek, 2021). Almost no sector today has not been significantly impacted by big data analysis.

The results of big data analysis may give businesses detailed information on how their operations are performing across a range of industries, including health, tourism, business, and transportation (Benjelloun, 2015). Tourism organisations may employ digital data analysis to better understand the needs, desires, expectations, and preferences of their clients so that they can make decisions that will please them and provide them unique and lasting knowledge (Mariani, 2018). However, big data analysis in the healthcare sector provides businesses with accurate information to increase productivity and efficiency of healthcare expenditures and services, access more exact information about diseases and patients, and provide patients a more individualised service (Benjelloun, 2015). The financial industry also gains a lot from big data analysis. The ability of banks to better serve their customers, collect a wealth of data on them, implement security measures, and allow clients to conduct all manner of financial dealings through digital networks (Srivastava and Krishnan, 2015). The use of big data in agriculture has numerous advantages for the sector. Big data analysis makes it possible to analyse production strategies, adapt production schedules to climate predictions, assess supply and demand based on location and customer profiles, make decisions based on climate predictions, and assess the performance of smart receptors (Benjelloun, 2015). As can be shown, big data analysis can assist a variety of enterprises in decision-making, the development of plans and policies, and the enhancement of their revenue and ability to compete.

Businesses can get data through a variety of digital means. All types of online communication, including blogs, e-mails, sensors, and e-government activities, fall under this category. It also includes connections on regularly used social media platforms, activity on electronic banking accounts, and connections on search engines (Blazquez and Domenech, 2018). The location information provided by mobile devices, GPS, call logs, Bluetooth signals, and personal information obtained from Internet page activity (Wamba, 2017). Due to the importance of the Internet, smartphones, and other smart sensors in people's lives, many organisations now conduct their marketing operations in digital settings (Blazquez and Domenech, 2018). Businesses are using the proliferation of sensors and wireless Internet to collect various types of data in order to develop strategies for

extending the lifespan of their products (Kusiak, 2017). Data that businesses may review is collected through consumers' shopping searches, store visits, purchases of items they had intended to buy but changed their minds about and returns of such products (Xie, 2016). Consumers might leave several digital traces while using the Internet (Blazquez and Domenech, 2018). Marketers can now acquire geographic data to map out consumers' global movement and, using this mapping, make assumptions about where customers are located (Zheng, 2021). While businesses can understand consumer behaviour, they also have the chance to take part in a wide range of marketing activities, such as offering consumers advice or advertisements depending on where they are or could be (Zheng and others, 2021). Businesses can uncover previously unknown consumer information and better understand customer behaviour by combining real-time (such as geolocation) and enormous amounts of data (such as purchase history of customers) (Erevelles, 2016). Businesses must utilise big data to create new things and make crucial decisions (Tellis, 2009). Businesses can learn more about themselves thanks to reaching larger volumes of data, which can help them accept a more in-depth and comprehensive viewpoint on themselves (Barton and Court, 2012). As data's content becomes more comprehensive, marketers may see new gaps and comprehend client behaviour (Erevelles, 2016). Businesses can identify areas they previously neglected or missed, provide customers with unique experiences, and create a variety of tactics. (Barton and Court, 2012). In the digital age, there have been many changes and variations in how customers access information, engage with others, find brands they like, and most significantly, make purchases (Xu, 2016). Due to this circumstance, corporations can gather customer information that is very specific or even personal. (Wooff and Anderson, 2015). Businesses have easy access to all kinds of personal information, including the networks that customers use and the length, frequency, and timing of their visits. (Li and Kannan, 2014), Customers' IP addresses, view histories, search terms, device and browser information, session lengths, locations, educational background, gender, and age data (Ghose and Todri, 2015).

Objectives Of The Study

1. To add to the body of knowledge by clarifying the function and possibilities of big data in the context of digital marketing.
2. To study the literature of the Role and potential of big data in the digital environment.

Examples Of Businesses Using Big Data In The Digital Age

Big data helps businesses find new business possibilities and innovations, organise their everyday activities, make strategic decisions, and manage their budgets and marketing campaigns (LaValle, 2011). As a result, businesses now more than ever benefit from data collection, registration, storage, processing, and analysis.

NFLshop.com's data research revealed that ladies weren't happy with their online purchases in the summer of 2012. This happened because the retailer believed incorrectly that most women did not purchase for themselves online, but rather for gifts for their loved ones, who were primarily men. However, the research has shown that women typically shop online for themselves. Data show that the store's sales grew by 25% in a year after customising its catalogues and targeting its advertisements specifically at women (Thau, 2013).

To gather more specific information about clients' future shopping and predict an online order before the customer actually places one, Amazon has obtained a patent right to access the order history, product search history, and shopping bag records of customers shopping from businesses using big data (Banker, 2014). The attempt by Amazon to improve delivery methods rather than marketing activities exemplifies the potential power of big data analysis (Benoit and others, 2020). Using big data, Amazon is trying to grasp consumer insight and create new marketing tactics. Businesses use big data to make such drastic decisions to provide value and improve performance (Kunc and Morecroft, 2010). The updated coupons are continuously and automatically provided to customers based on customer data analysis and predictions of what customers would purchase in that month (Germann, 2014).

Target and eBay extrapolate customer looking patterns and reliability card information to better understand customer desires and expectations (Chen, 2021). While Overall Electric utilises big data to increase the productivity and effectiveness of its electricity and gas systems (Wamba 2017).

Like many other products, Nike Company bases its product development on consumer requests, keeps track of inventory, emphasizes consumer involvement in marketing initiatives, pays attention to offering customers personalized items, and increases sales as a result of customer data analysis (GalbRaith, 2014). By integrating sensors and remote application management software to collect first-hand consumer information from around four million drivers while they were on the road, Ford was able to effectively complete the necessary product renewal and design (Erevelles and others, 2016) Ford Motor, Pepsi, and Southwest Airlines look at what

customers share about themselves on social media platforms like Facebook and Twitter in order to assess the immediate effects of marketing initiatives, comprehend shifts in consumer sensitivity toward their brands, and adjust their marketing strategies as necessary (Bughin, 2010).

In conclusion, the amount of data produced through the Internet has increased in the modern world, where technology is evolving swiftly, and many different types of electronic devices may be controlled by a computer. Companies have access to a plethora of information about customer behaviour and preferences thanks to these technological gadgets (Perera, 2014). As data volume and frequency increase, businesses are benefiting more and more from big data every day (Lynch 2008). These illustrations demonstrate how big data helps firms in the era of digital marketing.

Conclusion

Big data plays a critical role in helping organisations succeed as they transition to a digital economy. Rapid technology improvements have led to consumers producing a wide variety and a lot of data. Businesses can learn more about consumer behaviour because of the volume, speed, and variety of data being produced. Businesses can fill in the gaps regarding consumers and obtain a competitive edge in the market by properly analysing those data.

Businesses must constantly contact and communicate with their clients in the highly competitive climate of today if they hope to build a lasting rapport with them. Big data can provide companies with incredibly comprehensive client information in this way. Businesses can make good judgments, come up with unique and inventive ideas, and improve corporate performance because of the information they acquire. To maintain a consumer-oriented mindset, businesses must use customer insight gained through big data and regularly update the information provided.

Findings And Recommendations

This study presents the value of big data to businesses from a marketing standpoint. According to the report, digital channels account for the great majority of customer purchases. Nowadays, big data analysis has had a significant impact and potential on practically all industries. Big data helps firms organise their everyday operations, make strategic decisions about their budgets and marketing campaigns, and find new business prospects and technological advancements (LaValle, 2011). According to the survey, firms working in a wide range of industries are becoming more and more focused on gathering, preserving, storing, processing, and analysing big data daily. As a result, employing big data in the digital age has several advantages for organizations. This study shows that big data is crucial for businesses in the digital era as they move toward digitization and long-term success. Consumers might leave several digital traces while using the Internet (Blazquez and Domenech, 2018). Businesses that keep a close eye on them can quickly grasp consumer behaviour, intentions, needs, and expectations. As a result, organizations must benefit from big data analytics if they are to please their consumers and enjoy long-term success.

Future Enhancements

This study is restricted to a thorough literature review of the role, potential, and business advantages of big data. Big data is an important topic, however, there aren't many studies on it. In upcoming research, quantitative techniques can be used to analyse consumer purchase patterns in relation to their demographic traits. Authors can conduct interviews with companies from various industries to see how they use big data for marketing purposes and how it benefits them.

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