

AN ANALYTICAL STUDY OF ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING IN 21ST CENTURY

Abstract

The shifting marketing environment has made managing the consumer experience more difficult. Due to digital marketing, consumers have an almost limitless number of new purchasing options, and the sector is expanding and developing. The demand for exceptional consumer experiences across all digital platforms is driving a variety of channels and methods via which customers may express their wants, attitudes, and views. The solution to improving the internet experience and offering individualized information is artificial intelligence (AI). The amount of customer-curated data in this seemingly limitless pool is growing. To identify the information and benefit from it, many marketers use AI. Businesses can use AI to gather and exploit specific real-time client data, and they can then use these insights to create targeted digital marketing campaigns. Although there is still an extensive amount to go before businesses make use of AI-based apps, many recognize the crucial value of implementing AI throughout digital marketing strategies to produce excellent client experiences throughout the purchasing process. This literature study examines artificial intelligence throughout digital marketing technologies that can improve client online experiences by taking into account the purchase cycle. It thoroughly examines how AI-powered digital marketing affects customer purchasing patterns.

Keywords: Human Psychology; Artificial Intelligence; Digital Marketing; Customer Decision.

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I. INTRODUCTION

Artificial intelligence (AI) may alter customer encounters in digital marketing, according to Ransbotham et al. (2017). AI lacks intuition similar to humans because it is data-driven. Machines can employ artificial intelligence, commonly referred to as human intelligence techniques, to translate data into approaches that have an impact on logical consumer decisions (Kaplan and Haenlein, 2019). When companies use digital marketing to change consumer behavior, customer happiness is more likely to increase (Ransbotham et al. 2017). Reaching the appropriate customers at the right moment is now even simpler for firms because to AI-based digital marketing (Ransbotham et al. 2017). Unexpected benefits from aggressively promoting AI innovation to improve digital marketing include a long-term cooperation that raises customer satisfaction. Organizations can benefit from big data, machine learning results, and AI-controlled chatbots. stores using AI perform five times better than traditional stores. Digital marketing has had a huge impact on consumer behavior, and consumers today want more dependable and customized services. Due to the AI innovation in digital marketing, customers may lack trust. Because of this, consumers are eager to learn more about a product prior to buying something (Singh et al. 2019). Customers today are more inclined to research a product before buying it since they are better educated (Yussaivi et al. 2019). The viability of AI-powered digital marketing has not yet been established. According to studies, if digital marketing is done incorrectly, bad things could happen (Roggeveen et al., 2021). For companies trying to integrate AI into their processes, this can be difficult, as demonstrated by Aceto, Persico, and Pescapé (2018). Because AI needs reliable and accurate marketing data, businesses who want to offer AI-based digital marketing demand an effective IT system. It is crucial to comprehend how consumers view AI innovation as an expansion of their potential for growth and how this makes brands more enticing to customers (Roggeveen et al. 2021). The outcomes of a service quality analysis are based on the relationship between the service read and prior assumptions about the potential benefits of that assistance (Nagy & Hajdu, 2021). There is a severe lack of research on how customers respond to services operated by computers, especially the caliber of the goods and services and the shopping experience that AI has made possible (Chopra 2020). Given that these services are frequently developed through self-administration innovations, their service quality is expected to be very different from that of those provided by social enterprises (Guha et al., 2020). In this article, we examine how digital marketing and AI could be combined to improve client engagement. Figure -1 and 2 both the figures show the model we created to help understand online customer attitudes and habits. The foundation of this strategy is the AI-centered ideas of service excellence, trust, and confidence. Our framework model integrates trust and confidence to close the research gap among usability, high quality and AI support, to capitalize on technical progress, and to support successful marketing campaigns. This study not only offers advice to businesses on how to create personalized AI experiences, but also makes sure that the targeted audiences benefit from the insightful data generated by using AI approaches. Additionally, it deepens our comprehension of the possibilities for cooperation among users of AI-driven devices.

II. REVIEW OF LITERATURE

The possibilities are endless thanks to technology's advancements and the increasing significance of AI in digital marketing. According to Campbell et al. (2020), artificial intelligence (AI) is apparently being used more and more in economic enterprises for risk

assessment, customer research, and finding business processes to communicate with target clients. Along with affecting business models, customer service alternatives, marketing practices, and marketing tactics, the usage of AI in digital marketing will also have an impact on consumer behavior. The major goal of AI in the field of online advertisement is to give a more reliable and interesting environment for digital marketing, rather than completely replacing human behavior in crucial decisions. It will enable marketers to swiftly determine a prospective customer's demands and modify the artificial intelligence (AI) they use in digital marketing in order to enhance sales (Campbell et al. 2020). Future digital product creation, particularly in digital marketing, is expected to be significantly influenced by AI. Retail AI investment surpassed \$2 billion in 2018 and is projected to reach \$7.3 billion in 2022, citing Juniper Research (Smith 2018). Retailers are attempting to inform customers on how to utilize AI to impact consumer behavior by using a variety of resources, such as chatbots that are controlled by AI, big data, and customer information. An earlier study anticipated that AI would have the greatest impact on digital marketing. Global corporations value traditional customers per unit at a rate that is many times higher than in retail. High levels of personalization will consequently be encouraged along with increased use of digital marketing products (Keiningham et al. 2017). Kiron and Schrage (2019) assert that businesses and consumers alike may rely on advancements in value-adding technologies. They can communicate and collaborate via a digital platform. Despite the fact that this is a likely result of businesses and marketing compositions adopting AI technology, experts are concentrating on how AI is frequently employed to develop innovative strategies (Garbuio & Lin 2019). Garbuio and Lin (2019) describe virtual consumer engagement as the behavioral indicators that consumers exhibit when a company or brand is the subject of their interest in the age of technology as a result of their own sources of encouragement. This development in AI-based digital marketing companies is the result of the automation of numerous marketing-related tasks and data products that can be utilized to aid AI (Bag et al. 2021). This calls for the organic management of data, a coordinated effort of applying artificial intelligence to digital marketing apps, and the dissemination of suggestions back to these numerous industries (Haenlein & Kaplan 2019). Finding efficient ways to handle and analyze this data in order to provide intelligent data and foster consumer trust is one of the issues that digital marketers face as a result of the growing amount of data that is available (Wirth 2018). While highlighting the relationship between big data and customer interaction practices, it's crucial to carefully consider how the firm plans to establish trust by utilizing big data and artificial intelligence to impact consumer behavior (Hoff & Bashir 2015). The positive aspect is that artificial intelligence (AI) technologies enable service providers to handle and respond to massive volumes of data in real-time, automate customer interactions, and give clients with individualized experiences (Vargo & Lusch, 2014). AI is quickly becoming into a crucial marketing tool in crisis situations (Abadir et al. 2020). The consumer buying habits and tastes observed by customer relationship managers have altered AI company goals and tactics (Ramkissoon,, & Mavondo 2019). Merendino and colleagues' (2018) analysis revealed that board decisions are also impacted by the digitization of information. Even when AI is used sparingly, development can be hindered, according to Kim et al. (2019), because of the dependence on data, the quantity and quality of work, and a lack of AI capabilities. Production could be greatly improved by combining artificial intelligence (AI) technologies with rather considerable business and marketing transcribing talents. By answering natural language conversational enquiries, chatbots powered by artificial intelligence (AI) on digital marketing platforms direct users to streamline human contact (Chopra 2020).

They are unable to solicit human aid in nurturing communications, but they are nonetheless capable of providing methodical investigation with an informed account (Brandtzaeg, 2017). People behave quite differently when it comes to preferences based on how they feel about worth and transparency (Hoff & Bashir 2015). According to Chopra (2020), chatbots can recognize social intelligence, the presence of society, human psychology, skills, and usability in relation to social demands. Chatbots are used to create messages because they can distinguish different psychological kinds and connect with human tendencies to create unique suggestion frameworks (Haenlein & Kaplan 2019). These AI-enabled solutions, which are presently used by many businesses, can offer digital marketing buyers personalized recommendations to assist customers in selecting the best products and services (Haenlein & Kaplan 2019). Artificial intelligence applications for client decision-making are a poorly researched topic. To close this study gap, a detailed analysis of the scientific literature has been conducted.

III. OBJECTIVE

1. To identify the consumer buying behavior is influenced by AI
2. To study the AI in digital marketing to beneficial for better marketing decisions

IV. RESEARCH METHODOLOGY

The Scientific research has been done on the review of the literature taken from academic studies, conference papers, and articles on the use of AI breakthroughs. The field of AI and digital advertising surveys were compiled and discussed between 1972 and 2021. The systematic literature review had been carried out using secondary sources of data. The simple descriptive statistical methods were used. The examination and discussion of the studies in the broader context of the literature review focused significantly on the study aims, results, and conclusions.

V. ANALYSIS, DISCUSSION AND FINDINGS

Since 1971 through June 2021, we looked at the development of the literature in the sectors relating to the use of AI in digital marketing. This development, shown in Figure 1, has risen swiftly and tremendously over the past ten years, certifying to the growing scientific curiosity in employing AI in digital marketing. We can see that between 2017 and June 2021, there was a significant increase in the use of artificial intelligence in digital marketing across the globe (53.7% of 4497 scholarly articles).

AI in digital marketing ,consumer diction and human psychology:

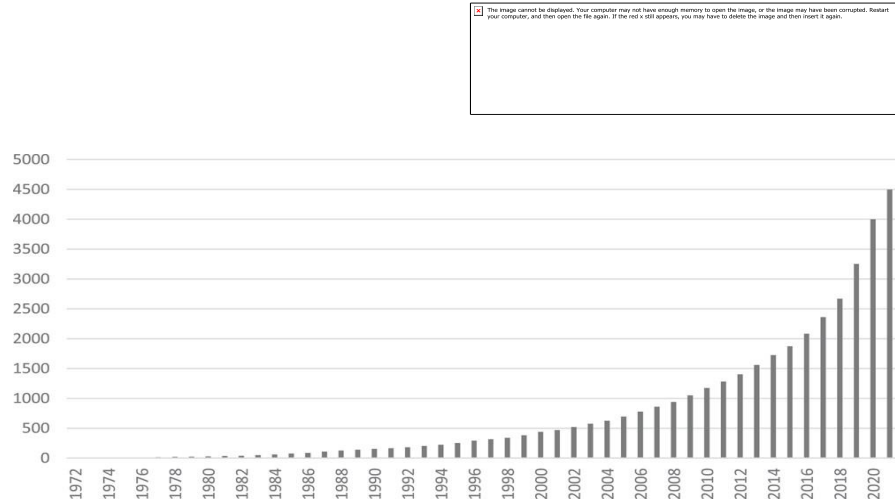


Figure 1: AI in Digital Marketing, Consumer Decision and Human psychology
Source of Data: <https://onlinelibrary.wiley.com/doi/full/10.1002/mar.21619>



Figure 2: Artificial Intelligence in Digital Marketing in 21st Century
Source of Data: <https://link.springer.com/article/10.1007/s43039-022-00057-w>

1. Discussion of Results

- **Use of Artificial Intelligence in selected Shopping behavior**

H₁: Artificial intelligence can Improve Customer Experiences and affect how people shop for products and services.

According to a recent study (Pires et al. 2015), the four components of the consumer behaviors are cognitive, psychological, physical, and social. Social factors also define the psychological temperament of the customer's point of view or the underlying perceptions of society (Keiningham et al. 2017). According to Jarrahi (2018), with the aid of AI developments and a common understanding of standard language usage, humans may evaluate customer input and draw conclusions at a significant, realistic, and speedy rate. As a result, AI is perhaps one of the most significant online advertising instruments for companies looking to grow their customer base over time (Haenlein & Kaplan 2019). Online businesses frequently relate AI with the use of vision-driven photography, virtual and augmented reality, forecast inventory management, and other digital marketing tools (Singh et al. 2019). If you want to enhance the customer experience, it is crucial to completely comprehend the consumer, their purchasing patterns, and their previous interactions. Because it uses information about customers and their profiles to suggest consumer interaction in the context of digital marketing, this technology can help people understand concepts more quickly (Ransbotham et al. 2019).

- **Artificial Intelligence Empowered Service Quality**

H₂: Artificial intelligence in digital marketing raises the level of customer care and increases productivity. .

How customers view a brand's service contributions can influence efficiency and service quality. The discrepancy between expected and actual service offers is taken into account when establishing these metrics (Ransbotham et al. 2019). This concept of superior service is supported by the principle of anticipating de-affirmation. The association between customer support received and earlier predictions about the services that assistance would offer is what drives artificial intelligence assessments of service quality and operational efficiency (Haenlein & Kaplan, 2019).

There is a dearth of research on how consumers respond to machine-controlled products and services, especially those utilizing AI, despite the fact that the standardization of social services is the subject of much current research (Montes & Goertzel 2019). Due to the fact that self-management innovations are frequently at the center of the design of these services, the effectiveness of operations and service quality of services that use artificial intelligence and social services may differ dramatically.

- **Building Trust and Confidence**

H₃: Building confidence in digital platforms is made easier by artificial intelligence.

It is straightforward to build connections based on responsibility and trust through digital relationships between buyers and sellers (Jarrahi, 2018). The theory has been researched over time in a variety of contexts, such as online delivery behavior, fan websites, digital marketing, internet searches, and complete linkages in online systems (Bag et al., 2001). Any study takes into account the varied roles that trust and partnership responsibility plays in moderating interactions between customers and merchants. Trust, one of the important components, supports the confidence-responsibility theory (Wirth, 2018). Trust has been essential to the accomplishments of machine-controlled administrations since it demonstrates the relationship between people and robotization (Wirth, 2018). The use of optimism in conjunction with artificial intelligence, such as to improve exceptional customer satisfactions and accommodations, has also been demonstrated in earlier studies to change the link between various aspects (Xu et al. 2020). Given that customers want to keep control over how retailers utilize their personal information, security is seen by Hoff and Bashir (2015) as an essential element of trust.

2. **Findings:** Artificial intelligence can be used to identify trends in consumer purchasing patterns based on the items and services that consumers have already purchased. Then, in an effort to convince customers to complete a transaction, it might provide them with better informed product recommendations. AI-powered customer experience integrates services provided by computers or other devices with quality evaluations to modify the customer's information interactive journey to make it convenient and delightful. AI is revolutionizing the modern area of digital marketing by fostering consumer trust and offering personalized experiences.

VI. CONCLUSION

The delivery of goods and services to clients may change as a result of AI engineering. The outcomes of using data to analyze client behavior are very predictive, and digital marketing automation is now more responsive than ever, we can state as a conclusion. Thanks to the use of AI, businesses are better able to identify their target customers in digital marketing platforms and more clearly understand their needs and preferences. An new technological development in digital marketing called artificial intelligence has been predicted to have a greater influence on consumer behavior. According to a new marketing tactic known as AI marketing, businesses may more quickly go from automated marketing to personalized marketing. Manufacturers are now able to more thoroughly adapt their marketing and sales strategies because AI has grown more common in digital marketing. Marketers have tailored their advertising and marketing efforts to their target audiences and significantly surpassed their customers' expectations as a result of the abundance of information that is now available. Through the use of latest technology in the modern era of corporate world ,we can say that chatbots, artificial intelligence (AI) apps from digital advertising systems are linked into live chat and used to engage clients by quickly and simply replying to their inquiries. Through a deep dive, businesses may use human-produced data

and artificial intelligence technologies to create enjoyable, tailored consumer experiences and boost trust in digital platforms.

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