

Original Article

Artificial Intelligence in Marketing and Consumer Behaviour

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Abstract

Artificial intelligence is a deal for companies nowadays especially when it comes to marketing. Companies are getting a lot of information about their customers from things like shopping and social media. People are using the internet more and more so companies have a lot of data to look at. Artificial intelligence helps companies make sense of all this data and learn what customers like and do not like. Artificial intelligence also helps companies see what is popular and what is not. So companies can use intelligence to create marketing campaigns that are just right for their customers. Artificial intelligence is really good, at helping companies understand what people are buying and why they are buying it. Businesses can develop tailored marketing strategies based on their customers' wants. In turn, this has resulted in very successful marketing campaigns. Recently, companies have started using Machine Learning, predictive analytics, chatbots, and recommendation systems in their marketing efforts. Each of these technologies enables companies to better understand what their customers want, provide individualized recommendations, and create targeted advertisements. For example, many e-commerce websites utilise AI-enabled recommendation systems to create product recommendations based on historical browsing habits and the most recent purchases of each customer when providing their customers, a personalised experience. These personalised experiences can have a lasting effect on whether or not a customer buys any given product and significantly increase the chances of a customer purchasing an item. The purpose of this research is to discover how the use of AI in marketing affects consumer behaviour by utilising secondary data sources, such as peer-reviewed journal articles, books, research papers, and reports of companies. The goal of the research is to identify the various uses, benefits, and limitations of AI in order to provide insights into how AI-based technologies currently affect the consumer decision-making process, as well as facilitate consumer engagement with companies in the marketplace. The results of this study show that through more effective data analysis, AI has significantly improved the effectiveness of companies' marketing efforts through the ability to create more targeted marketing messages to customers who want to receive them. AI technology has also increased the level of sophisticated analytics tools that are used by companies when creating marketing plans.

Keywords: Artificial Intelligence, Marketing, Consumer Behaviour, Digital Marketing, Predictive Analytics

Introduction

Technological progress has had an immense impact on how modern-day businesses operate. Due to rapid advancements in digital technology, the marketplace today is very competitive and driven by technology. One of the forms of technology introduced into business in recent years that has had a major impact on business practices has been Artificial Intelligence, which refers to computer-based systems or machines that provide functions similar to human intelligence such as the ability to learn from data, analyze data, identify patterns, and make decisions based on existing information. All of these things make Artificial Intelligence very important for organizations as they can leverage Artificial Intelligence to reduce their costs and complexity while at the same time improving their ability to make informed decisions when conducting business.

The marketing industry has also benefited greatly from the incorporation of digital technology and the use of data analytics for advanced decision support. Marketing used to be based mainly on traditional methods like mass media and general market research. But with the increasing number of digital platforms available to customers, marketers now have access to vast amounts of customer data from online activities that have been generated from the use of web and other digital technologies.

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For example, social platforms, e-commerce sites, and other digital applications all collect data on customer likes/dislikes, browsing habits, and purchasing behavior, so Artificial Intelligence provides marketers with the tools to analyze this large volume of data quickly and efficiently.

Objectives of the Study

The present study aims to achieve the following objectives:

1. To understand the concept and applications of Artificial Intelligence in marketing.
2. To examine the impact of AI technologies on consumer behaviour.
3. To analyse the advantages of using AI in marketing strategies.
4. To identify the challenges and limitations associated with AI in marketing.
5. To explore the future prospects of AI in the field of marketing.

Literature Review

1. Kotler and Keller (2016) explain in their publication called Marketing Management that a greater amount of today's marketing is based on data-driven decision making, as opposed to previous methods. Digital technologies now facilitate the collection and analysis of consumer data in a more streamlined manner. The authors go on to state that technologies such as Artificial Intelligence (AI) give marketers an opportunity to comprehend the needs of consumers and provide tailored marketing communications to enhance overall satisfaction and loyalty.
2. Chaffey and Ellis-Chadwick (2019) indicate that digital technologies have affected many aspects of marketing practices and have continually changed traditional marketing lists. Based on their research on digital marketing, the authors have established that AI Tools, such as predictive analytics and machine learning, can assist businesses in evaluating online consumer behaviour to create targeted marketing campaigns. Furthermore, the authors state that AI-powered marketing strategies can help businesses reach their intended audience at the right time, thus enhance the effectiveness of the marketing strategy.
3. Davenport and Ronanki (2018) studied the practical applications of Artificial Intelligence within business organisations. Their research identifies three main areas where AI is frequently used: process automation, cognitive insight and cognitive engagement. In terms of marketing, AI applications can help businesses achieve operational efficiencies and enhance the customer's experience with the business.
4. Kumar, Dixit, Javalgi, and Dass (2016) have conducted a study on the applications of Intelligent Agent Technologies (IAT) in the field of marketing. The study suggests that AI-based technologies have the ability to analyze consumer data, track consumer interactions, and offer personalized recommendations for products. The study suggests that AI-based technologies have the ability to help organizations formulate effective marketing strategies.
5. Brynjolfsson & McAfee (2017) study suggests that AI-based technologies have the ability to analyze large volumes of data and identify patterns. The study suggests that AI-based technologies have the ability to help organizations develop customized products, thus increasing consumer engagement.
6. Huang & Rust (2021) have conducted a study on the implications of Artificial Intelligence on the services sector. The study suggests that AI-based technologies have the ability to improve the quality of services. The study suggests that AI-based technologies have the ability to help employees improve the quality of services. The study suggests that AI-based technologies have the ability to improve the quality of services, especially in the areas of consumer support.
7. Aravopoulou et al. (2020) state that artificial intelligence plays a vital role in marketing analytics, segmentation and predictive modeling, which in turn aids the company's ability to make better marketing decisions and increase overall revenues. They note that while many advantages come from the utilization of AI within marketing, there are also several barriers that will need to be surmounted to enable companies to utilize AI-based marketing solutions (specifically, issues related to the use of data, privacy, ethics and overall data complexity).
8. Wedel & Kannan (2016) state that the value of marketing analytics in environments abundant with data; when used in combination with artificial intelligence as well as big data, business will be able to recognize and anticipate the behavior of consumers when making purchases and be able to design effective marketing campaigns. In addition, predictive analytics will provide the business with the ability to anticipate consumer demand to develop the most efficient ways to market their products or services.
9. Davenport (2020) mentions the ability that firms have when using AI in all aspects of their business processes to obtain; gain and maintain a competitive advantage. Through the combined use of AI along with good marketing decision making skills, companies that incorporate AI into their marketing decision making processes will have greater levels of data analytical capability, as well as an increased ability to respond to the rapidly changing marketplace and shifts in consumer behavior.
10. In his 2020 paper, Smith conducted an analysis of how AI has an impact on the consumer behaviour of digital marketing. The findings from the analysis concluded that consumers' decisions are mainly affected by some of the AI-driven technologies including: personalized suggestions, targeted ads and automated customer service. These technologies enhance the consumer experience and help to further build trust and engagement in the brand.

Research Methodology

The research will use a variety of secondary research sources, such as:

- Academic journals
- Published research papers

- Books related to marketing and technology
- Conference proceedings
- Online research articles and reports

1. **The concept of artificial intelligence (AI) as applied to marketing**

Artificial Intelligence (AI) is a type of technology that allows machines to perform functions normally performed by people (such as learning from experience, analysing data/information, and making decisions). AI can be used for marketing by examining customer data to identify patterns and provide insight that can be applied to improve marketing strategy.

One of the most common uses of AI in marketing is the recommendation system (e.g., used by e-commerce stores) whereby products presented as recommended to a customer are based on items viewed or purchased by that customer. Many businesses use chatbot applications to provide fast responses and improve customer service. Another significant use of AI in marketing is predictive analytics which allows a company to forecast market conditions (trend analysis) and likely consumer preferences.

Companies can gain better understanding of their customers and provide a higher level of personalised service through this type of technology. As a result, AI has become a very important tool within marketing for both improved operational efficiencies and increased customer satisfaction.

2. **Impact of AI Technologies on Consumer Behaviour**

Artificial Intelligence (AI) has had a profound impact on how consumers search, evaluate, and purchase goods and services in the digital marketplace. The following points illustrate how AI has changed consumer behavior:

1. **Tailored Recommendations**

AI solutions leverage consumer data, such as previous purchases, browsing habits, and online activity, to provide unique product recommendations based upon each individual user's unique interests. Tailored product recommendations make it much easier for consumers to locate products that meet their specific needs.

2. **Enhanced Product Discovery**

Most online retail sites use recommendation engines to recommend to users items they have previously searched for or purchased. Recommendation engines help customers discover new products and variations of products they may have never considered. Therefore, customers can discover many more options than would have been available.

3. **Speedier Deciding on Things to Buy**

Using an AI-based recommendation system will enable your customers to make faster decisions about what they want to buy. When the AI recommendations system gives them appropriate products to consider, the consumer can quickly compare their various choices before making a purchasing decision.

4. **Improving the Shopping Experience**

AI contributes to improving the total shopping experience by making online shopping sites easier and more engaging. AI technology can also provide a way for purchasers to make decisions based upon behaviours exhibited in the market. By making more relevant products available to a given customer through analysing all of the above, this increases the likelihood that they will make a purchase.

5. **Instant Support with Chatbots**

AI chatbots are commonly being used by numerous businesses in order to facilitate immediate help to their customers. They can answer typical questions, provide information about products, and guide customers through the buying process. This reduces customer wait time and helps with providing a more satisfying experience for the end-user.

6. **Enhanced Customer Engagement**

Using marketing techniques such as personalized advertising and targeted promotions improved customer engagement/ interaction between customers and businesses.

7. **Better Service for Customers**

Using artificial intelligence will help firms address the repeated concerns of their clients more effectively through programming that understands the repeated nature of the many queries clients will ask. Along with an overall decrease in response times, these programs will enable companies to provide their customers with better customer service.

8. **Anticipation of Consumer's Needs**

By taking data on trends in purchasing behaviour, businesses can anticipate and determine how to provide future recommendations for products that consumers may want to purchase based on previous purchase trends and as a result ultimately be able to manipulate consumer purchasing decisions.

9. **Improved Convenience of Online Shopping**

Numerous tools powered by artificial intelligence such as automated recommendations, intelligent search tools and voice-powered shopping will help provide a more efficient online shopping experience than was previously available. These types of technological advances will not only provide convenience to customers but will also streamline the overall purchasing process.

10. **Privacy and Security Challenges with Data**

Even though many businesses use artificial intelligence for marketing purposes, they will encounter similar challenges of privacy and security as customers continue to grow increasingly conscientious of how companies gather and use their personal data and thus it will require businesses to be more transparent and present within their use of data collected from customers in order for them to gain the trust of the consumer.

Advantages of Using AI in Marketing Strategies

Organisations who use AI to assist them in creating effective marketing strategies reap a variety of benefits; the main benefits include the following:

1. Speedy, Accurate Measurement of Data

By measuring vast amounts of consumer data at speed and with precision, AI enables marketers to better understand consumer purchasing patterns and choices.

2. Deeper Understanding of Customer Behaviour

Through using AI software, firms gain an in-depth understanding of consumer needs and wants. By analysing data from a variety of different sources, firms are able to ascertain what types of product offerings customers are looking for, and how they will respond to different advertising types from firms.

3. Tailored Marketing Strategies for Each Individual Customer

AI allows organisations to develop tailored marketing strategies for individual customers; therefore, organisations can develop an individualised marketing campaign for every customer, resulting in a higher level of satisfaction among customers.

4. Higher Levels of Customer Engagement—Personalised Marketing and Targeted Advertising

Products will engage customers to a higher degree when marketed with a personalised message, along with targeted advertising messages; as a result of these marketing strategies, firms will establish stronger relationships between brands and their customers.

5. Marketing Automation

Tools powered by artificial intelligence can automate a number of marketing activities such as email marketing, posting to social media and responding to customers. This can free up time that would otherwise have been spent doing manually conducted work and result in increased levels of efficiency.

6. Cost Savings

Automation and efficient processing of data can significantly lower organizations' operating costs by allowing companies to carry out their marketing functions more effectively, while using fewer employees than they would have to if they performed these operations manually.

7. Predictive Analytics

AI can assist companies with determining future trends in their industry, as well as predicting when consumers will demand certain items. By having this information, companies will be better able to plan their marketing strategies and make better overall decisions for their business.

8. Improved Advertising Effectiveness

AI allows companies to display relevant ads to specific audiences based on their likes and dislikes, as well as the types of things that they have done previously. Thus, companies may increase the likelihood that consumers will respond to an advertisement as a result of using AI in their advertising efforts.

9. Improved Customer Service

With the help of AI, companies can now provide instant answers to customer inquiries through chatbots and virtual assistants. As a result, customers can feel satisfied with their interactions with the company, and communication between companies and customers will be greatly improved.

10. Competitive Position

Companies that implement AI will be able to adapt more quickly to changes in their industries and their customers' needs; so as such, they will have a competitive edge over other businesses in the marketplace.

4. Challenges and Limitations of AI in Marketing

Even though Marketing can benefit greatly from the use of AI Technology, there are also many challenges and limitations to it. Below are the five points describing these challenges and/or limitations:

1. Concern with Data Privacy

AI systems will only function correctly if they contain a high level of consumer data to work from. Both and/or improper handling of these data sets can create privacy violation and/or misappropriation of personal data.

2. Risk of Cybersecurity

Increased data storage will promote an increased risk for both data theft and/or a cyber-attack therefore, the implementation of strong security systems is critical in securing sensitive consumer information.

3. Costly Implementation

The cost for the implementation of AI Technology is extremely high (software, infrastructure and skilled labour); therefore, it can be very difficult for a small or medium-sized business to afford.

4. Reliance on Quality Data

In order to have effective AI systems, there must be accurate and high-quality data inputted. If the data used for input to any form of analysis is incomplete, outdated or incorrect, then the outputs generated by AI will not be accurate or reliable.

5. Algorithmic Bias

Algorithmic bias can occur when AI systems are developed by utilizing biased data and/or inaccurate datasets. If AI systems are developed utilizing either or both of these, then the marketing decisions created will be equally inaccurate and/or unfair to the marketing environment.

6. Lack of Human Interaction

Too much use of automating systems such as chatbots might reduce the amount of direct human interaction between companies and their clients, which can negatively impact personal relationships between them and their clients; thus leading to decreased trust.

7. Technical Complexity

AI is also very technical and may require highly specialized knowledge in order for it to be able to operate properly or administer correctly; therefore, if a company has no employees who are skilled at using AI, this creates problems.

8. Ethical Issues

The implementation of an Artificial Intelligence (AI) marketing strategy brings about some ethical questions regarding how consumer data will be collected, analyzed, and utilized for the purposes of targeted promotion to those individuals being marketed to.

9. Overdependence on Technology

Organizations that become too dependent on Artificial Intelligence (AI) may experience severe difficulties when technical systems malfunction or fail due to computer programming errors or other causes. Nonetheless, there are still times when exercising human judgment may be required in order for organizations to make effective strategic decisions.

10. Resistance to Buying AI

There is a tremendous level of resistance displayed by some organizations, and also most consumers, who do not know enough about AI technology or fear losing jobs, concern about the potential of data being stolen, or that they are unsure that data obtained through Artificial Intelligence (AI) will be used for the stated purpose.

5. Future Prospects of AI in Marketing

The future of Artificial Intelligence in marketing is seen as very promising, considering the growth and advancements being made in the field of technology. The future prospects of AI in marketing can be explained by the following points:

1. Growth of Personalized Marketing

The future of AI in marketing is seen as helping businesses develop personalized marketing strategies by analyzing the preferences, behavior, and shopping habits of consumers as individuals.

2. Improved Customer Relationship Management (CRM)

The future of AI in marketing is seen as helping businesses develop improved customer relationship management strategies.

3. Accurate Prediction of Consumer Behaviour

The future of AI in marketing is seen as helping businesses develop improved marketing strategies by accurately predicting consumer behavior.

4. Use of Voice Assistants in Marketing

The future of AI in marketing is seen as helping businesses develop marketing strategies using voice assistants, where consumers can easily search and purchase products using voice assistants.

5. Integration of Augmented Reality (AR)

The integration of Augmented Reality with AI technology will allow the consumer to have a virtual experience of the product before buying.

6. Advanced Data Analytics

In the future, AI technology will help organizations have a better understanding of the market by being able to analyze complex data.

7. Enhanced Customer Experience

The AI technology is likely to continue enhancing the customer experience.

8. Automation of Marketing Processes

The AI technology is likely to automate some of the marketing processes.

9. Innovation in Digital Marketing

The AI technology is likely to innovate digital marketing by creating smart ads.

10. Need for Ethical and Responsible Use of AI

In the future, organizations are likely to focus on the ethical use of AI technology, incorporating the appropriate data protection measures.

6. Artificial Intelligence in marketing and its effects on consumer behavior.**1. Product Recommendation Systems**

Online shopping sites use Artificial Intelligence to recommend products to consumers depending on their shopping history.

For instance, online shopping sites like Amazon use Artificial Intelligence to provide consumers with product recommendations such as "Customers who bought this also bought..." This affects the behavior of consumers as they are likely to buy the recommended products.

2. Personalized Content and Advertisements

Artificial Intelligence is used in the development of digital platforms to provide consumers with personalized advertisements.

For instance, Netflix recommends different movies and series depending on the consumers' history, and Meta Platforms such as Facebook and Instagram use Artificial Intelligence to provide consumers with advertisements depending on their interests and behavior.

3. Chatbots and Virtual Customer Support

Artificial Intelligence is used in the development of chatbots to provide consumers with quick responses to their queries. For instance, the company H&M uses Artificial Intelligence to provide consumers with quick responses to their queries and help them find products and answer their questions regarding their orders.

4. Voice Assistants in Shopping

AI-based voice assistants assist consumers in shopping by searching for products and making purchases.

For example, Amazon Alexa and Google Assistant are AI tools that can be asked by customers to recommend or purchase products. These tools make it easier for customers to purchase products.

5. Dynamic Pricing

AI helps organizations adjust their product prices based on consumer responses, competitors, and demand. For example, Uber utilizes AI algorithms to adjust prices during peak hours. This impacts consumer decisions about when to purchase a product or service from their company.

6. Sentiment Analysis of Social Media

AI tools are utilized by organizations to analyze consumer responses, opinions, and feedback from social media platforms. For example, Starbucks utilizes AI tools to analyze consumer feedback from social media platforms. They improve their products and services based on consumer feedback.

7. Visual Search Technology

AI technology allows customers to search for products based on their visual characteristics, not text.

For example, Pinterest utilizes AI technology to enable customers to search for similar products by uploading a photo. This impacts consumer purchase decisions.

6. Findings of the Study

1. Artificial Intelligence is a vital technology used to effectively manage large amounts of data related to consumers.
2. Artificial Intelligence technologies like recommendation engines, chatbots, etc., are used in businesses to know the interests of consumers.
3. Artificial Intelligence in the marketing domain helps businesses formulate marketing strategies based on the interests of individual consumers.
4. Product recommendations and advertisements using Artificial Intelligence technologies have a major influence on the purchasing behavior of consumers.
5. Artificial Intelligence technologies help organisations improve the experience of consumers through quick responses, personalisation, etc., and ease of shopping.
6. Automation of marketing using Artificial Intelligence technologies helps organisations reduce the cost of marketing.
7. Predictive analytics using Artificial Intelligence technologies help businesses predict the demand in the market.
8. Though Artificial Intelligence in the marketing domain has many benefits, its implementation in the marketing domain generates many security and privacy challenges.
9. The high cost of implementation and the need for skilled professionals are major challenges faced by many organisations.
10. Artificial Intelligence technologies have the potential to revolutionise the marketing domain in the near future.

Conclusion

Artificial Intelligence is a new technological advancement that is changing the face of marketing. With the growth of the internet and the activities of consumers online, organisations are in a position to access large amounts of data relating to consumers. Artificial Intelligence technologies are changing the face of marketing as organisations are able to efficiently use the data to gain valuable insights into the behavior and preferences of consumers.

From the study, Artificial Intelligence plays a critical role in enhancing marketing strategies. Artificial Intelligence technologies allow organisations to personalise their marketing activities, advertise their products, and engage consumers in a better manner. Artificial Intelligence technologies such as chatbots, recommendation systems, and predictive analytics allow organisations to provide better services and improve the overall experience of consumers. However, the increased use of Artificial Intelligence in the marketing domain also poses a number of challenges.

With the evolution of technology, the position of Artificial Intelligence in the field of marketing strategies and consumer behavior is going to increase. Organizations that adopt Artificial Intelligence and fair business practices will enjoy a competitive advantage in the ever-changing field of digital marketing.

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Conflicts of interest

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