

IMPLEMENTATION OF AI TECHNOLOGY IN DIGITAL TRANSFORMATION OF MARKETING STRATEGY: A LITERATURE REVIEW

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Abstract

The implementation of artificial intelligence (AI) technologies in the digital transformation of marketing strategies is increasingly the focus of attention of researchers and business practitioners. This research reviews the current literature on the application of AI in marketing, highlighting how this technology can improve operational efficiency and effectiveness of marketing decisions. Through the literature review, AI provides companies with the ability to devise marketing strategies that are more targeted and responsive to market changes. However, the adoption of AI poses challenges such as the need for technical expertise and concerns over data privacy issues. This study underscores that the successful integration of AI in marketing requires a balance between technological innovation and effective risk management.

Keywords: Implementation, AI Technology, Digital Transformation, Marketing Strategy, Literature Review

Introduction

As the digital era continues to develop, companies in various industries are increasingly encouraged to adopt advanced technology to improve their operational efficiency and competitiveness. One technology that is now in the spotlight is Artificial Intelligence (AI). Artificial intelligence (AI) is a branch of computer science that aims to create systems that can perform tasks that usually require human intelligence (Chui et al., 2016). These tasks include learning from experience, recognising patterns and images, understanding natural language, making decisions, and solving problems. AI utilises various techniques such as machine learning, neural networks, natural language processing, and advanced programming algorithms to analyse data and produce expected outputs. With these capabilities, AI has become a key component in the digital transformation of various industries, from healthcare to finance to marketing (Yao & Ling, 2020).

AI has great potential to revolutionise various aspects of business, including marketing strategies. Digital transformation accompanied by AI implementation offers a variety of new opportunities, ranging from increased marketing personalisation,

campaign automation, predictive analysis, to improved customer service through chatbots (Brynjolfsson & McAfee, 2014)

A marketing strategy is a comprehensive plan designed by a company to promote and sell its products or services in order to achieve a sustainable competitive advantage in the marketplace. This strategy includes identifying target markets, understanding consumer needs and preferences, and formulating an effective marketing mix that includes product, price, promotion, and distribution (Kowatsch & Maass, 2012) . In addition, marketing strategy also focuses on setting short- and long-term goals, competitor analysis, and utilising various communication channels to increase brand awareness, attract new customers, and retain existing customers. With a structured and data-oriented approach, marketing strategy becomes an essential element in helping companies achieve growth and reach their business goals (Deloitte Insights, 2019) .

The increasing use of AI in marketing is spearheaded by the need to understand and utilise consumer-generated big data. With AI's analytical capabilities, companies can glean deeper insights from this data, providing a clearer picture of consumer behaviour and preferences. As a result, companies can more efficiently target their audiences and create more targeted marketing campaigns (Rust & Huang, 2020) .

However, despite the promising potential and benefits, the implementation of AI in marketing strategies also presents a number of challenges. These include issues such as technology integration, implementation costs, data security, and internal resistance to change. In addition, there is a gap in understanding among practitioners regarding how best to utilise AI in a marketing context (Davenport, 2018) .

As such, this literature review aims to gain a deeper understanding of how AI technologies are implemented in digital marketing strategies. By exploring previous studies, this research will identify the impacts and benefits of AI implementation, as well as examine the challenges that may be faced.

Research Methods

The study in this research uses the literature method. The literature research method, or literature review, is a technique used in research to collect and analyse existing information from various written sources relevant to the topic under study. Through this method, researchers identify, evaluate, and synthesise previously published scientific works, journal articles, books, reports, and other documents (Firman ;, 2018) (Suyitno, 2021) . The aim is to understand the latest developments in the field, identify knowledge gaps, and determine the direction of further research. Literature research methods usually involve a systematic search of existing literature, selection and screening of credible sources, and critical analysis of relevant findings. Thus, this method helps in providing a strong theoretical and empirical context for

further research as well as ensuring that the research conducted is based on a solid foundation (Jelahut ., 2022)

Results and Discussion

Implementation of AI Technology in Digital Marketing Strategy

The implementation of artificial intelligence (AI) technology in digital marketing strategies has become a significant trend, having a major impact on various aspects of marketing. First of all, AI enables more effective and efficient personalisation in marketing (Kaplan & Haenlein, 2019) . With big data analytics, AI can understand individual consumer preferences and behaviours, so companies can tailor their messages and offers to each customer specifically. For example, machine learning algorithms can predict which products a customer is most likely to buy based on his or her past search activity, and then display relevant adverts across different digital platforms (Ransbotham et al., 2017) .

In addition, AI also significantly improves automation capabilities in marketing. Through the use of chatbots and virtual assistants, companies can provide 24/7 customer service without the need for direct human interaction. Chatbots equipped with natural language processing technology can answer consumer questions, solve simple problems, and even assist with the purchasing process in a fast and effective manner. This not only improves operational efficiency but also simplifies the customer experience (Kietzmann et al., 2018) .

Furthermore, AI can also be used for search engine optimisation (SEO). AI-based systems can analyse the latest search trends and search engine algorithms to come up with more sophisticated and effective content strategies. With a deep understanding of how search engines work and what users are looking for, AI can help in better keyword placement, creation of more relevant content, and improving overall search rankings. The result is higher visibility on search engines and more organic traffic to the Company's website (Roetzer, 2022) .

Furthermore, AI plays a role in competitive analysis. With extremely fast and in-depth data analysis capabilities, AI can monitor competitor activities, identify market trends, and provide useful strategic insights to outperform competitors. This method allows companies to quickly adjust their marketing strategies according to market changes and competitor actions. This gives companies a competitive advantage that is more dynamic and responsive to external changes (Jarek & Mazurek, 2019) .

In addition to these aspects, AI also plays a crucial role in customer relationship management (CRM). By collecting and analysing customer data, AI helps in more precise targeting segments, prediction of customer behaviour, and creation of more relevant and effective marketing campaigns. The implementation of AI in CRM also helps in identifying potential churn customers so that companies can take proactive steps to retain them (Kumar & Rajan, 2021) .

Finally, the use of AI in digital marketing strategies includes more advanced analytics and reporting. AI can reduce manual workload by presenting comprehensive and easy-to-understand reports on marketing campaign performance, consumer behaviour, and return on investment (ROI). This helps marketers in making more informed and data-driven decisions (Pandey & Shukla, 2020). Thus, AI technology not only simplifies the marketing process but also increases the effectiveness and efficiency of the overall digital marketing strategy.

Impact and Benefits of AI Technology in Marketing Strategy

AI technology allows marketers to better understand consumer behaviour and preferences through sophisticated data analysis. With AI's ability to process large amounts of data and unearth valuable insights, marketing can be made more precise and relevant. Machine learning algorithms can recognise patterns from historical data and thus predict future purchasing behaviour, helping companies to create more effective and well-targeted marketing strategies (Shankar, 2018).

Another significant benefit of AI in marketing is its ability to deliver highly personalised content. By understanding consumers' individual differences and preferences, AI can generate customised experiences that increase customer engagement and loyalty. Recommendation systems, such as those used by streaming and e-commerce platforms, personalise offers based on user history and preferences, increasing the chances of conversion (Wilson & Daugherty, 2018).

AI automates various routine tasks in a marketing strategy that can take a lot of time if done manually. AI-powered chatbots, for example, can provide customer service, answer basic questions, and guide consumers through the sales funnel. In addition, AI-based email and advert automation allows marketers to focus on strategy formation and creativity, rather than on daily management (Lu et al., 2020).

AI-powered marketing can identify the most effective channels and campaigns in a faster and more accurate way. By analysing campaign results in real-time, AI enables immediate adjustments to allocate marketing budgets more efficiently, maximising ROI. This means that companies can avoid wasting resources on ineffective strategies and focus more on tactics that are proven to deliver results (Rust & Huang, 2020).

While AI offers many benefits, there are also challenges to overcome, including privacy and ethical concerns. Extensive use of consumer data can raise concerns about tracking and data protection. Therefore, it is important for companies to implement best practices in handling data ethically and transparently. In addition, successful integration of AI in marketing strategies requires investment in new technologies and skills, which may be prohibitive for some businesses (Huang & Rust, 2020).

Overall, AI technology plays an important role in revolutionising marketing strategies by providing deeper insights and more efficient actions. However, companies must balance these benefits with the ethical responsibilities that come with them.

Constraints and Opportunities in the Application of AI in the Marketing Field

One of the major obstacles in AI deployment is the need for adequate technology infrastructure. Many companies, especially smaller ones, may not have the resources to set up and maintain complex AI systems. This includes the need for powerful servers, large data storage, and sophisticated hardware and software. Furthermore, the integration of AI with existing systems can be a technical challenge in itself, requiring additional time and costs (McKinsey & Company, 2020).

The implementation of AI in marketing requires specialised expertise in data science, programming, and statistical analysis. Unfortunately, there is a shortage of skilled experts in these fields, which makes it difficult for many companies to find or train the necessary staff. This also includes the need to retrain existing employees to work with new technologies, which can be a significant obstacle at a significant cost (Davenport, 2018).

In an era where data is a valuable asset, there are serious concerns about how consumer data is used and protected. AI applications often involve the collection and analysis of large amounts of data, which can raise issues related to data privacy and security. Regulations such as GDPR in Europe add a layer of complexity, governing how consumer data should be managed. Companies must ensure compliance with privacy laws and be transparent in communication with customers about the use of their data (Kietzmann et al., 2018).

On the positive side, AI offers a great opportunity to create highly personalised marketing. By analysing consumer data in depth, companies can understand individual preferences, purchasing behaviour and market trends. This allows companies to target consumers with relevant and timely messages and offers, increasing the chances of conversion and customer loyalty. Machine learning algorithms can help in designing unique campaigns for each market segment (Sterne, 2017).

AI can significantly improve operational efficiency in marketing. Routine tasks such as market segmentation, ad campaign management, and customer service can be automated, saving time and resources. This allows marketing teams to focus on more creative and innovative strategies. For example, AI chatbots can handle customer queries automatically, while AI analytics can help optimise advertising spend in real-time (Agrawal et al., 2018).

One of the most powerful benefits of AI is the ability to perform predictive analytics. By processing historical data, AI models can predict future trends and consumer behaviour. This allows companies to devise more accurate and incisive proactive marketing strategies. The insights gained from these analyses can also be used for product and service innovation, which can further meet the evolving needs of the market (Dastin, 2018).

Overall, despite the obstacles that need to be overcome, the application of AI in marketing presents a great opportunity for companies to improve the efficiency, personalisation and effectiveness of their campaigns. Companies that are able to overcome these challenges can gain a significant competitive advantage in the market.

Conclusion

The implementation of AI technology in the digital transformation of marketing strategies has shown significant potential to improve operational efficiency and effectiveness. The application of AI allows companies to automate various marketing tasks that previously required human interaction, such as market segmentation, sentiment analysis, and content personalisation. By leveraging machine learning algorithms and natural language processing, companies can collect and analyse data on a large scale to identify relevant patterns and trends, thereby formulating more targeted marketing strategies.

In addition, AI supports real-time decision making by providing fast and accurate insights based on available data. For example, AI-powered chatbots can provide instant responses to customer queries, improving customer experience and speeding up service processes. AI can also predict future consumer behaviour with predictive analytics, allowing marketers to plan more effective and timely campaigns. Thus, AI not only increases productivity but also provides a competitive advantage for companies that successfully integrate it in their marketing strategies.

However, the adoption of AI in marketing also presents its own challenges, such as the need for specific skills and organisational culture change. Companies need to ensure that their workforce has adequate technical skills to manage and utilise AI technologies optimally. In addition, other challenges include data privacy issues and ethical use of AI, which require clear regulations and policies to address potential misuse. Thus, the implementation of AI technologies in marketing strategies must be accompanied by efforts to improve internal capabilities and address related ethical and legal issues.

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