

MARKETING 5.0: ADAPTATION OF TECHNOLOGY AND ARTIFICIAL INTELLIGENCE IN MARKETING STRATEGIES

Sri Wahyuni

Universitas SanggaBuana Bandung, Indonesia

*e-mail: sri.wahyuni@usbypkp.ac.id

Abstract. The digital revolution has significantly transformed marketing strategies, particularly with the emergence of Marketing 5.0, which integrates advanced technology and artificial intelligence (AI) to create more personalized and efficient customer experiences. This study aims to analyze how companies adapt technology and AI in their marketing strategies to enhance competitiveness in the digital market. The research employs a qualitative method using a case study approach on several companies that have implemented AI-based technologies in their marketing strategies. Data was collected through in-depth interviews, observations, and document analysis. The findings indicate that AI in marketing enables content personalization, automation of customer interactions, and improved efficiency in data-driven decision-making. However, challenges such as limitations in digital infrastructure and organizational resistance to technological changes remain significant barriers. This study provides insights for marketing practitioners to better understand the role of technology in developing more innovative and adaptive strategies in the Marketing 5.0 era.

Keywords: Marketing 5.0, Artificial intelligence, Marketing strategy, Digitalization, Technological innovatio

INTRODUCTION

The development of digital technology has brought major changes in the business world, including in marketing strategies. The concept of Marketing 5.0 emerged as a new approach that integrates advanced technologies, such as artificial intelligence (AI), Internet of Things (IoT), and big data, to increase marketing effectiveness and create a more personalized and interactive customer experience (Kotler, Kartajaya, & Setiawan, 2021). In this digital era, companies are required to adopt technology that can help understand consumer behavior more deeply and optimize data-driven marketing strategies. The presence of AI in marketing provides various benefits, such as automation of marketing processes, real-time analysis of market trends, and increased interaction with customers through chatbots and product recommendations based on individual preferences (Chaffey & Smith, 2022). However, not all companies are able to adapt quickly to these changes. Challenges such as the limitations of digital infrastructure, the need for competent human resources, and organizational resistance to technological change are factors that affect the effectiveness of the implementation of Marketing 5.0 in marketing strategies (Deloitte, 2023). Based on this background, this study aims to analyze how companies adapt technology and artificial intelligence in their marketing strategies to increase competitiveness in the digital market. This research also seeks to identify the challenges faced by companies in the implementation of Marketing 5.0 and provide

recommendations for strategies that can help companies in facing the era of technology-based marketing

The Evolution of Marketing: From Marketing 1.0 to Marketing 5.0

Marketing has undergone significant transformations over time, along with technological developments and changes in consumer behavior. Marketing has undergone a significant evolution from Marketing 1.0 to Marketing 5.0, along with changing consumption patterns, technological developments, and shifting customer values and preferences. Marketing 1.0 is an era where the company's main focus is on products and mass production. At this stage, marketing strategies focus more on efficiency in production and distribution, assuming that all consumers have similar needs. Companies tend to adopt one-way communication, where they simply convey product information without any meaningful interaction with customers. Along with increasing competition and awareness of different individual needs, customer-oriented Marketing 2.0 has emerged. In this era, marketing began to implement market segmentation and consumer research to understand customer preferences and provide products and services that better suit their needs. Subsequent developments brought further changes with the advent of Marketing 3.0, which not only focused on products and customers but also considered social, emotional, and sustainability values. Consumers are starting to choose products based on the values they embrace, such as concern for

the environment and corporate social responsibility. Companies that are able to demonstrate a commitment to these values will find it easier to gain customer loyalty. Then, with the rapid development of digital technology, Marketing 4.0 comes with the concept of marketing digitalization. At this stage, the internet, social media, and mobile technology become an integral part of the marketing strategy. The concept of omnichannel marketing is applied to connect various digital marketing channels, creating a more seamless and interactive customer experience. Today, the world has entered the era of Marketing 5.0, where technology is not only used as a marketing tool but also to create a more personalized and interactive customer experience. Technologies such as artificial intelligence (AI), Internet of Things (IoT), big data, and machine learning are leveraged to understand customer behavior more deeply and provide services that are more tailored to individual needs. Although technology is the dominant factor in this era, Marketing 5.0 still prioritizes a human-centric approach, where the relationship between the company and the customer is built with a more personal and emotional approach. Thus, marketing in this era aims to combine the power of technology with a touch of humanity, creating a more meaningful experience for customers while increasing the effectiveness of the company's marketing strategy.

Technology Integration in Marketing 5.0

Marketing 5.0 adopts a variety of cutting-edge technologies to optimize

marketing strategies and improve customer experience. This technology allows companies to better understand consumer behavior, offer more personalized services, and improve operational efficiency. One of the key elements in Marketing 5.0 is artificial intelligence (AI), which has a critical role in automating various marketing processes and analyzing customer data more accurately. AI is applied in various aspects of marketing, including the use of chatbots and virtual assistants that can automatically provide customer service and respond to customer inquiries in real-time. With this technology, companies can improve interaction with customers without having to rely on full human resources. In addition, AI also plays a role in personalized product recommendations, where intelligent systems can analyze customer data and provide product recommendations that suit individual preferences. This not only improves the customer experience but also drives loyalty and increased sales. AI is also used in market trend analysis, where companies can understand market dynamics in real-time and adjust their marketing strategies to be more effective in the face of rapid changes. In addition to artificial intelligence, the Internet of Things (IoT) also has a big role in Marketing 5.0, especially in improving the customer experience. IoT allows various devices to connect with each other and collect data that can be used in smarter marketing strategies. One of the applications of IoT in marketing is through smart devices and wearables, which collect data from customers to understand their behavior more deeply. With this data, companies can

offer more relevant promotions based on customer activity and preferences. In the retail industry, IoT is also utilized through smart shelves that can detect customer preferences and display appropriate promotions. Thus, the shopping experience becomes more personalized and interactive, providing added value for consumers and increasing marketing effectiveness for companies. In addition to AI and IoT, other technologies that support Marketing 5.0 are big data and marketing analytics. Big data allows companies to process large amounts of information to gain deeper insights into customers and markets. One of the main benefits of big data in marketing is its ability to perform more accurate market segmentation. With more detailed data analysis, companies can segment customers based on their preferences, behaviors, and needs, so that marketing strategies can be tailored to more specific target audiences. In addition, big data also plays a role in digital campaign optimization, where companies can measure the effectiveness of marketing campaigns in real-time and adjust strategies more quickly. With data constantly updated, companies can make smarter decisions in allocating marketing budgets and improve the effectiveness of advertising and promotions. Overall, Marketing 5.0 is an era where digital technology and artificial intelligence are used to the fullest to create a more personalized, interactive, and efficient customer experience. With the use of AI, IoT, and big data, companies can optimize their marketing strategies, increase customer loyalty, and respond to market changes more quickly and accurately. The

success of the implementation of Marketing 5.0 depends on the extent to which companies are able to integrate this technology into their operations and adapt it to the ever-evolving needs and preferences of customers.

Challenges in Marketing 5.0 Implementation

Although Marketing 5.0 offers various benefits in improving marketing effectiveness and customer experience, its implementation is inseparable from the various challenges that companies need to overcome in order for technology-based strategies to run optimally. One of the main challenges is the limitations of digital infrastructure. Not all companies, especially those still in the developing stage, have adequate technology systems to support the implementation of artificial intelligence-based marketing, Internet of Things (IoT), and big data. Many traditional businesses still rely on conventional methods in marketing, so the transition to digital requires a large investment in sophisticated technology systems. Companies that want to remain competitive in the digital age must allocate sufficient budget to develop their digital infrastructure, including in the procurement of software and hardware that supports marketing automation and AI-based data analytics. Without adequate investment, companies will find it difficult to compete with competitors who have already adopted modern marketing technology. In addition to infrastructure limitations, another challenge in the implementation of Marketing 5.0 is the

need for competent human resources (HR) in the field of marketing technology. The use of artificial intelligence, big data analytics, and digital marketing strategies requires a workforce that has specialized expertise in these fields. Unfortunately, not all companies have a marketing team equipped with enough technical skills, so they have to recruit experts or conduct training for existing employees. Companies need to realize that advanced technology will not provide maximum benefits without the support of human resources who are able to operate and optimize its use. Therefore, companies must invest in employee competency development, both through internal training and cooperation with educational institutions and digital training service providers. By having a marketing team that is skilled in data analytics, AI, and digital marketing, companies can more easily adjust their marketing strategies according to market trends and customer needs. In addition to the technical and HR aspects, another challenge that companies often face in adopting Marketing 5.0 is organizational resistance to change. Not all organizations are ready to undertake digital transformation, especially if the company culture is still oriented towards conventional methods. This resistance can come from various parties within the company, from management to employees who are worried about their workflows being disrupted due to the implementation of new technology. Some of the factors that cause this resistance include a lack of understanding of the benefits of technology, fear of changing the structure of work, and fear of losing control in the

marketing process. To address this, companies must take the right approach in managing change, such as providing education on the benefits of technology, conducting training for employees, and gradually integrating technology in business processes so that adaptation can run more smoothly. In addition to internal challenges within the company, there are also external challenges that need to be considered, namely data security and consumer privacy. In the digital age, more and more customer data is being collected by companies for marketing analysis and personalization purposes. However, it also poses risks related to data security, especially if the company does not have adequate protection systems in place. Customers' trust in companies is highly dependent on how their data is managed and protected from potential misuse or information leaks. Therefore, companies must ensure that their data security systems meet applicable standards and comply with data protection regulations, such as the General Data Protection Regulation (GDPR) in Europe or related regulations in their respective countries. In addition, companies also need to be transparent in their handling of customer data, for example by providing clear privacy policies as well as options for customers to control how their data is used. Overall, while Marketing 5.0 offers many advantages in terms of marketing effectiveness, service personalization, and improved customer experience, its implementation is inseparable from the various challenges that must be overcome. Limited digital infrastructure, the need for a competent workforce, resistance to

change, and data security issues are some of the main obstacles that companies need to pay attention to. Therefore, companies that want to succeed in adopting Marketing 5.0 must have a mature strategy in managing change, investing in technology and human resource development, and ensuring that customer data is managed securely and in accordance with applicable regulations. Thus, they can harness the full potential of modern marketing technologies and remain competitive in the ever-evolving digital age.

Successful Strategies in Adopting Marketing 5.0

To overcome the challenges in implementing Marketing 5.0, companies need to implement a comprehensive strategy so that digital transformation can run effectively and provide maximum benefits. One of the main steps to take is to invest in digital technology. Companies need to allocate sufficient budget to improve digital infrastructure to support technology-based marketing. This includes the procurement of qualified hardware and software, the implementation of artificial intelligence (AI) in data analysis and customer personalization, and the development of digital platforms capable of supporting omnichannel marketing strategies. With a robust infrastructure, companies can optimize interactions with customers, improve marketing efficiency, and respond to market trends more quickly and accurately. In addition, investments in digital technology also allow companies to automate various marketing processes,

reduce operational costs, and improve the effectiveness of data-driven marketing strategies.

However, advanced technology will not provide maximum benefits without human resources (HR) who have the appropriate skills. Therefore, companies need to focus on training and human resource development to improve employee competencies in the fields of artificial intelligence, data analytics, and digital marketing. Ongoing training is essential for employees to understand and master the use of technology in marketing, so that they are able to process data more effectively and make more accurate data-driven decisions. In addition, companies can also collaborate with educational institutions or professional training institutions to provide courses and certifications for employees in the field of digital marketing and modern marketing technology. By having a competent team, companies can optimize the use of technology in marketing and stay competitive in the digital age. In addition to investing in technology and human resources, companies also need to transform organizational culture so that technology adoption can run more smoothly. One of the biggest challenges in the implementation of Marketing 5.0 is the organization's resistance to change. Many companies still have a rigid work culture and are less open to technological innovation, thus hindering the process of adopting digital-based marketing strategies. To address this, companies must build a more flexible and innovative organizational culture, where all members of the company understand the importance

of technology in supporting business growth. Company management must be active in driving change by educating employees about the benefits of technology, adopting a gradual approach to implementing innovation, and creating a work environment that supports creativity and collaboration. With the right cultural transformation, companies can more easily adapt to technological developments and increase the effectiveness of digital-based marketing. In addition, companies must also implement strict data security policies to maintain customer trust. In the digital age, companies collect and store various customer data that is used for marketing analysis and personalization. However, if this data is not managed properly, the risk of data leakage and misuse can occur, which can damage the company's reputation as well as reduce customer trust. Therefore, companies must ensure that the data security systems used are compliant with applicable regulatory standards, such as the General Data Protection Regulation (GDPR) in Europe or data protection regulations in their respective countries. Steps that can be taken include data encryption, the use of layered security systems, and the implementation of transparency policies in customer data management. In addition, companies must also provide options for customers to control how their data is used as well as ensure that their personal information is not misused for irrelevant purposes. With a strict data security policy, companies can increase customer trust as well as ensure that data-driven marketing strategies can run safely and effectively. Overall, the implementation of Marketing 5.0 can

provide many benefits for companies, but it also requires the right strategy so that the existing challenges can be overcome properly. By investing in digital technology, improving human resource competencies through continuous training, transforming organizational culture to be more open to innovation, and implementing strict data security policies, companies can optimize the use of technology in marketing and increase competitiveness in the digital era. Success in adopting Marketing 5.0 depends not only on the technology used, but also on the organization's readiness to adapt to changes and its ability to manage customer data securely and responsibly

MATERIALS AND METHODS

This research uses a qualitative approach with a case study method to explore how companies adopt and adapt artificial intelligence (AI) technology in their marketing strategies. The main focus of this research is to understand how AI contributes to increasing the effectiveness of digital marketing as well as enriching the customer experience in the Marketing 5.0 era. This approach was chosen because it allows for a more in-depth analysis of the phenomenon of AI implementation in marketing based on the first-hand experience of companies that have adopted it. The study highlights how companies, particularly in the e-commerce and digital-based services sectors, are integrating AI into their marketing strategies to optimize marketing campaigns, improve efficiency in data management, and accelerate analytics-driven decision-making. The e-commerce

and digital-based services sector was chosen as the main focus of the research because the adoption rate of AI in this sector is higher than in other industries, given its highly technology-dependent business characteristics in understanding customer behavior and managing digital interactions. To obtain relevant data, this study uses purposive sampling techniques in the selection of research subjects, which is a method of selecting samples based on certain criteria that are relevant to the purpose of the research. The main criteria used in sample selection are companies that have implemented AI in their marketing strategies for at least two years. Companies that meet these criteria are considered to have sufficient experience in technology adaptation and have produced data that can be analyzed in more depth. In addition, the study includes companies engaged in digital marketing in Indonesia, both large and medium-scale, as the impact of the application of AI in marketing can vary depending on the scale and resources owned by the company. By considering the differences in business scale, this study is expected to provide a more comprehensive understanding of how AI is applied in the context of digital marketing in different types of organizations, as well as the challenges faced by each company in adopting this technology. In this study, the conceptual definition used includes three main variables that are the center of the study. The first variable is the implementation of AI in marketing which acts as an independent variable. The implementation of this AI is measured based on several key indicators, such as the use of artificial

intelligence technology in customer data analysis, marketing campaign automation, and customer experience personalization. AI enables companies to analyze customer data more efficiently, identify individual preferences, and design marketing strategies that are more accurate and relevant to market needs. The second variable is digital marketing effectiveness and customer experience, which serve as dependent variables. The effectiveness of digital marketing is measured based on increasing customer conversion rates, optimizing marketing costs, and the company's ability to respond quickly and adaptively to changing market trends. Additionally, customer experience is measured by how far AI-based personalization can improve customer interaction with brands and drive long-term loyalty. The third variable in this study is the challenge in the implementation of AI technology as a moderation variable. These challenges include the readiness of digital infrastructure within the company, internal policies that support or hinder technology adoption, and the level of resistance of organizations to technology-based changes. The readiness of digital infrastructure is a key factor in the successful implementation of AI, because without an adequate technology system, companies will have difficulty managing and processing the data needed to optimize AI in marketing. In addition, the company's internal policies, including regulations related to customer data protection and technology governance, can also affect the effectiveness of AI implementation. Organizational resistance to change is another challenge that needs

to be considered, as the implementation of AI often requires changes in work structures, operational systems, and employee mindsets, which are not always easily accepted by all members of the organization. The scope of this research focuses on technology-based marketing strategies in the Marketing 5.0 era, with a particular focus on how companies are adopting AI to improve customer experience, optimize marketing campaigns, and improve efficiency in data management and analytics-based decision-making. To obtain richer and more in-depth data, this study used various data collection techniques, including in-depth interviews with marketing managers and technology experts at the companies that were the subject of the study. This interview aims to gain first-hand insight into how companies are leveraging AI in their marketing strategies, the challenges faced in the implementation process, and the benefits felt by companies and customers. In addition to interviews, this study also observed the implementation of AI in corporate marketing campaigns, thus allowing researchers to understand firsthand how AI technology is used in daily marketing practices. These observations include an analysis of various AI-based marketing campaigns, including the strategies used to attract customers, how AI is applied in market segmentation, as well as how these technologies affect customer interactions with brands. To complement the data obtained from interviews and observations, this study also uses document analysis, such as the company's annual reports, internal publications, as well as secondary data from industry

reports and relevant academic studies. This secondary data is used to enrich research findings and ensure a broader perspective in understanding the phenomenon of AI implementation in digital marketing. The data processing technique in this study was carried out through thematic analysis, which aims to identify patterns and relationships between the variables studied. The data obtained from interviews and documents were analyzed using a coding approach, where the findings were grouped into categories or themes that emerged during the research process. This approach allows researchers to systematically organize the data and highlight the most relevant aspects of understanding how AI is applied in digital marketing as well as the challenges faced in the process of adapting this technology. To ensure the validity of the data, this study uses the source triangulation method, which is by comparing the results of interviews, observations, and documents to ensure the consistency and reliability of the findings. This approach refers to the recommendations of Creswell (2014) in qualitative research, which emphasizes the importance of using multiple data sources to gain a more holistic understanding of the phenomenon being studied. With this research approach, it is hoped that a deeper understanding of the role of AI in marketing strategies can be obtained, not only in improving the effectiveness of digital marketing and customer experience, but also in identifying the main challenges faced by companies in adapting Marketing 5.0. The results of this research are expected to contribute to the development of technology-based marketing strategies,

both for academics who research the field of digital marketing and for practitioners who are directly involved in the design and implementation of AI-based marketing strategies. In addition, the findings of this study are also expected to provide insight for companies in designing more effective strategies to face the challenges that arise in the AI adoption process, as well as provide practical recommendations for companies that want to integrate AI in their marketing strategies to increase competitiveness in the increasingly dynamic digital era.

RESULTS AND DISCUSSION

The results of this study clearly show that the implementation of artificial intelligence (AI) in marketing strategies has had a significant impact on the effectiveness of digital marketing as well as customer experience. Based on interviews conducted with a number of marketing managers from various e-commerce and digital services companies, it was found that AI has played a very important role in various aspects of marketing, such as marketing campaign automation, personalization of content for customers, as well as real-time analysis of consumer behavior. One of the respondents from the e-commerce sector revealed that the use of AI in customer data analysis has allowed companies to provide more relevant product recommendations to consumers. The impact is very positive, where in the past year, the customer conversion rate has increased by 20%. This statement is reinforced by a study conducted by Huang and Rust (2021), which mentioned that AI

contributes significantly to increased customer engagement by offering marketing strategies that are data-driven and able to respond to individual needs more accurately.

Furthermore, through thematic analysis of interview data, this study managed to identify three main themes that reflect how the implementation of Marketing 5.0 through AI has brought major changes in the company's digital marketing strategy. The first theme is to increase efficiency in digital marketing campaigns. Companies that have adopted AI in their marketing strategies report that they experience increased efficiency in managing marketing budgets as well as increased customer conversion rates. A digital marketing manager revealed that before implementing AI, companies had to allocate a sizable budget to digital advertising, which didn't necessarily result in the right target customers. However, once AI is applied, digital marketing systems are able to target more specific audiences based on more in-depth data analysis. This results in a reduction in marketing costs of up to 30% without reducing the effectiveness of the campaign, and even increases sales rates. These findings are in line with research conducted by Jarek and Mazurek (2019), which showed that companies that utilize AI technology in marketing can optimize marketing budgets by increasing precision in market segmentation as well as targeting strategies. The second theme that emerged in the study was how AI-based personalization has enabled a more interactive customer experience tailored to individual preferences. AI is not only used

in customer segmentation, but also in tailoring product recommendations, crafting more relevant marketing messages, and providing faster and more efficient customer service. One of the managers of a digital service company stated that AI has helped companies in understanding customer behavior patterns more accurately. With these insights, they can craft more targeted promotions, which ultimately impacts increased customer loyalty. These findings support the hypothesis that the implementation of AI in digital marketing can improve the customer experience through the delivery of more personalized content and services. These results are also supported by a study conducted by Davenport et al. (2020), which highlight that AI is able to improve data-driven decision-making thereby allowing companies to be more adaptive to changing market trends and customer preferences. However, while the benefits of AI in digital marketing are clear, the study also found that there are various challenges in its implementation. The third theme identified in the data analysis is the barriers companies face in adopting AI in their marketing strategies. These challenges include the limitations of digital infrastructure, organizational resistance to technology-based change, and the need for specialized expertise in data analysis. One of the main challenges often mentioned by respondents is that their information technology (IT) infrastructure still does not fully support the integration of AI with existing marketing systems. One of the marketing managers from the e-commerce sector stated that their company faced technical obstacles in connecting AI

with a long-used customer management system. This integration process not only costs a lot of money, but also takes a long time for the system to operate optimally. This is in accordance with the findings of Paschen, Kietzmann, and Kietzmann (2019), who stated that the implementation of AI is often hampered by the readiness of digital infrastructure and difficulties in integrating new technologies with existing systems. In addition to technical constraints, internal resistance within organizations is also a major challenge in the adoption of AI in the marketing sector. Many employees are worried that AI-based automation will replace their role in marketing decision-making. A human resources (HR) manager at one of the e-commerce companies mentioned that at first, some members of the marketing team showed skepticism about the use of AI in the company's marketing strategy. They feel that their role will be diminished or even replaced by technology. However, after companies held training and socialization on how AI can help increase team productivity, their attitudes began to change. They realize that AI is not a substitute for human labor, but rather a tool that can improve their work efficiency by providing more accurate data-driven insights and supporting strategic decision-making. Therefore, the readiness of organizations in managing cultural change and providing training for the workforce is a key factor in the success of AI implementation. In addition, the study also found that the success rate of AI implementation in marketing is influenced by the extent to which companies are able to manage and analyze the data generated by AI. AI technology relies heavily on the

availability of large amounts of data as well as good data quality to be able to generate accurate insights. However, some of the companies that were the subject of the study admitted that they still face challenges in managing customer data. A data analyst from a digital services company stated that although their company has a lot of customer data, not all of this data can be processed optimally because there are still obstacles in data cleanliness and structuring. This is in accordance with a study conducted by Chatterjee et al. (2021), which stated that the effectiveness of AI in marketing is greatly influenced by the quality of the data used and the company's ability to manage and analyze the data. Overall, the results of this study support the hypothesis that while AI offers a range of benefits in improving digital marketing effectiveness and customer experience, companies still need to overcome various barriers in order to optimize the benefits of these technologies. Thus, the successful implementation of AI in marketing depends not only on the sophistication of the technology used, but also on the readiness of the organization to manage changes, increase data analysis capacity, and build adequate digital infrastructure. The research provides valuable insights for academics interested in the field of digital marketing, as well as for practitioners looking to adopt AI technology in their marketing strategies. With the development of Marketing 5.0, companies that can optimize the use of AI in marketing will have a greater competitive advantage in the face of the ever-changing dynamics of the digital market

Table 1: Summary of the main findings of the research related to the benefits and challenges of implementing AI in marketing based on interviews and observations of the companies that are the subject of the research.

Category	Benefits of AI Implementation	AI Implementation Challenges
Marketing Efficiency	Optimize marketing budgets and increase customer conversions	The limitations of digital infrastructure in supporting AI
Personalized	Improve customer experience through customized content and services	Organizational resistance to technological change
Data Management	Enables real-time analysis of consumer behavior	Difficulties in integrating AI with existing systems
Strategy Adaptation	Help make more accurate data-driven decisions	The need for specialized expertise in AI data analysis

Sources of summaries from various academic literature and journals Chaffey, D., & Ellis-Chadwick, F. (2020) *Digital Marketing: Strategy, Implementation and Practice* (7th ed.). Pearson, Davenport, T. H., & Ronanki, R. (2018). "Artificial Intelligence for the Real World." *Harvard Business Review*, 96(1), 108-116. Rust, R. T., & Huang, M. H. (2021). "The AI Revolution in Marketing." *Journal of the Academy of Marketing Science*, 49, 24-42.

Based on the above findings, this study confirms that companies that want to successfully adopt AI in marketing must have a clear strategy in dealing with the

challenges of technology implementation. With digital infrastructure readiness, optimal data management, and good organizational culture adaptation, AI can have a significant positive impact on digital marketing effectiveness and customer experience, as has been revealed in previous studies.



Figure 1: Examples of the use of chatbots in digital marketing

Source Unsplash (unsplash.com) or Pexels (pexels.com)

An image of a chatbot showing how AI is used in interactions with customers, e.g. automated conversations on e-commerce sites.) An illustrative image of a chatbot interacting with customers in the context of digital marketing in e-commerce. This image shows how AI is used to provide product recommendations and answer customer questions through automated chat. Artificial intelligence (AI)-based chatbots have become a very effective tool in improving interaction between businesses and customers, particularly in the e-commerce sector. This technology enables automated conversations that can provide quick responses to customer inquiries, assist in the purchase process, and improve the overall user experience. In the context of digital marketing, chatbots not only function as customer service but also as virtual assistants capable of

providing product recommendations based on customers' preferences, purchase history, as well as their browsing behavior on the website. Thus, chatbots help improve business efficiency by reducing reliance on human interaction, while providing more personalized and responsive services. In addition to providing convenience in answering customer questions, chatbots also play a role in automating various aspects of digital marketing. For example, chatbots can be used to send promotional notifications, remind customers of products left in the shopping cart, as well as provide AI-based recommendations tailored to each user's preferences. In the long run, the implementation of chatbots in e-commerce not only increases customer satisfaction but also strengthens loyalty to brands by creating a smoother, more efficient, and interactive shopping experience



Figure 2 : Illustration of Augmented Reality (AR) implementation

Source Unsplash (unsplash.com) or Pexels (pexels.com)

The image above is an illustration of the implementation of Augmented Reality (AR) in product marketing. This image shows how customers can try on products virtually

before purchasing, such as in the fashion or furniture industry. a conceptual diagram that illustrates the relationship between variables in the study, such as AI technology, marketing strategies, and their impact on customer loyalty.) contains supporting data that clarifies the results of research and visualizations of the implementation of Marketing 5.0 in various industries. Augmented Reality (AR) has become an important innovation in product marketing, allowing customers to try products virtually before making a purchase. In the fashion industry, AR allows users to see how clothes or accessories will look when worn without having to physically try on them, while in the furniture industry, this technology allows customers to place 3D models of products inside their rooms to ensure design and size matches. With this feature, customers can make more accurate and confident purchasing decisions, increasing satisfaction and reducing product return rates. In addition to the implementation of AR, research on the application of technology in marketing can also be visualized through conceptual diagrams that illustrate the relationships between various variables. This diagram shows how AI technologies, including chatbots and AR, are impacting marketing strategies by delivering a more personalized, automated, and interactive experience for customers. Furthermore, a more effective marketing strategy will have an impact on increasing customer loyalty, both through higher satisfaction and stronger attachment to the brand. Furthermore, to clarify the results of the research, supporting data and visualization related to the implementation of Marketing

5.0 in various industries are very important. Marketing 5.0 refers to the use of advanced technologies, such as AI, Internet of Things (IoT), and big data, combined with a human-based approach to create a better customer experience. In various sectors, such as retail, banking, healthcare, and tourism, the implementation of Marketing 5.0 helps improve business efficiency, strengthen relationships with customers, and create more relevant and impactful marketing strategies. Thus, this research not only provides insights into digital trends in marketing but also offers strategic solutions for businesses to adapt to technological developments

CONCLUSIONS

This study confirms that the application of artificial intelligence (AI) in digital marketing strategies, which is at the core of the Marketing 5.0 concept, makes a very significant contribution to improving marketing effectiveness and customer experience. AI has opened up opportunities for companies to optimize marketing strategies through marketing process automation, data-driven personalization, and more accurate and efficient promotion planning. With its advanced analytics capabilities, AI allows companies to understand customer behavior more deeply, so marketing decisions can be made based on more accurate and relevant data. In this study, it was found that companies that have adopted AI experience increased efficiency in marketing budget allocation, which has a direct impact on increasing return on investment (ROI) in digital marketing

campaigns. Additionally, the use of AI in marketing content personalization has been shown to increase customer engagement and conversion rates, as customers receive recommendations for products and services that better match their preferences and habits. As one of the respondents from the e-commerce sector expressed, "With the implementation of AI, we can adjust our marketing strategy in real-time. The AI system is able to analyze customer transaction data and recommend products accordingly, resulting in sales conversions increasing by up to 25% in the last six months." These findings are in line with the research of Huang and Rust (2021), who stated that AI is able to improve customer engagement by creating a more personalized and relevant marketing experience. Furthermore, AI also helps in optimizing marketing strategies through the utilization of predictive analytics, which allows companies to predict market trends and customer needs in the future. With AI, companies can implement more responsive data-driven marketing strategies, reduce the risk of errors in decision-making, and increase efficiency in managing digital marketing campaigns. However, this study also reveals that the challenges in the implementation of AI are still quite significant, especially in technical and managerial aspects. Some companies still face limitations in digital infrastructure, especially when it comes to integrating AI with existing systems. An IT manager at one of the digital companies stated, "We recognize the huge potential of AI in marketing, but our infrastructure is not yet fully ready to support the adoption of this technology. The integration between AI

and our CRM system still has technical issues that need to be resolved." In addition, organizational resistance to new technologies is also a major challenge in the implementation of AI in marketing strategies. Some companies have had difficulty adopting this technology due to concerns from management or employees about the impact of AI on their role in the organization. This is in line with the research of Paschen, Kietzmann, and Kietzmann (2019), which revealed that resistance to technological change is often caused by a lack of understanding and fear of work disruption. Therefore, it is important for companies to conduct ongoing socialization and training so that employees can better understand the benefits of AI and how it can support their work, rather than replacing their roles entirely. Another challenge found in the study is the lack of a workforce with expertise in data analytics and AI. The implementation of AI in marketing requires experts who are able to manage and analyze large amounts of data and translate the results of the analysis into effective marketing strategies. One of the respondents in this study said, "We have a huge amount of customer data, but we still have difficulty analyzing and utilizing it optimally due to the limitations of experts in the field of data science." Therefore, companies that want to adopt AI in their marketing strategies need to invest in human resource development, particularly in the areas of data science, machine learning, and artificial intelligence. In addition to these challenges, this study also has limitations in the scope and methodology used. The study only focused

on digital-based and e-commerce companies, so the results may not fully reflect conditions in other industry sectors, such as manufacturing, healthcare, or other service sectors that are also starting to adopt AI in their marketing strategies. In addition, this study uses a qualitative approach, which while providing in-depth insights into companies' experience in implementing AI, still has limitations in quantitatively measuring the impact of AI. Therefore, the results of this study still need to be further validated with a quantitative approach that can measure the effectiveness of AI in marketing with more measurable indicators, such as increased sales, customer retention rates, or marketing cost efficiency. Based on the findings of this study, there are several recommendations that can be considered both for companies that want to adopt Marketing 5.0 and for researchers who want to further explore the implementation of AI in digital marketing. Companies that want to make optimal use of AI in their marketing strategies need to invest in digital infrastructure that supports the integration of AI with existing marketing systems, including increasing server capacity, developing better data management systems, and using flexible AI platforms according to business needs. In addition, human resource development is also an important factor so that AI implementation can run well. Companies need to conduct training and upskilling for employees, especially in the areas of data analysis, machine learning, and AI programming, so that the workforce has a deeper understanding of utilizing these technologies to increase marketing

effectiveness. Given the organization's resistance to new technologies, an effective change management strategy is needed to make AI adoption run more smoothly. Socialization and education about the benefits of AI need to be carried out in stages by involving all stakeholders, so that companies can be better prepared to face digital transformation. In terms of research, a mixed-method approach is suggested in future studies to provide a more comprehensive picture of the effectiveness of AI in marketing. The combination of qualitative and quantitative data will allow for more objective measurement of AI impact, so that it can provide more accurate recommendations for companies. In addition, since the study only focuses on digital-based and e-commerce companies, future studies can be extended to other industry sectors such as manufacturing, healthcare, education, and tourism, which are also increasingly relying on AI technology in their marketing strategies. By implementing the recommendations above, it is hoped that the implementation of AI in marketing can be optimized so that it provides wider benefits for companies in various industry sectors. With a more holistic approach and a mature strategy, AI can be a very effective tool in improving business competitiveness in today's digital age.

REFERENCES

- Bala, M., & Verma, D. (2018). A critical review of digital marketing. *International Journal of Management, IT & Engineering*, 8(10), 321-339.
- Chaffey, D., & Ellis-Chadwick, F. (2019).

- Digital marketing: Strategy, implementation and practice (7th ed.). Pearson.
- Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108-116.
- Huang, M.-H., & Rust, R. T. (2021). Engaged to a robot? The role of AI in service. *Journal of Service Research*, 24(1), 30-41.
- Jarek, K., & Mazurek, G. (2019). Marketing and artificial intelligence. *Central European Business Review*, 8(2), 46-55.
- Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. Wiley.
- Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, J. (2019). Understanding the role of artificial intelligence in personalized engagement marketing. *Journal of Marketing*, 83(4), 124-137.
- Paschen, J., Wilson, M., & Pitt, L. (2020). Artificial intelligence (AI) and marketing: The evolution of marketing theory in the age of AI. *Journal of Business Research*, 117, 279-284.
- Rust, R. T., & Huang, M.-H. (2021). The service revolution and the transformation of marketing science. *Marketing Science*, 40(1), 1-19.
- Wedel, M., & Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing*, 80(6), 97-112



© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>).
