



Artificial Intelligence and the Future of Digital Marketing

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ABSTRACT

This research aims to explore the use of artificial intelligence (AI) in digital marketing among MSME practitioners in Indonesia. In an increasingly evolving digital era, understanding and implementing AI technology becomes crucial for MSMEs to improve their competitiveness and marketing effectiveness. This study involved 50 respondents who are MSME actors and used a quantitative method with questionnaires to collect data. The results indicate that 72% of respondents have a basic understanding of AI; however, only 44% have implemented AI-based tools in their marketing strategies. Furthermore, linear regression analysis revealed a significant relationship between the use of AI and increased sales, with a regression coefficient of 0.75 ($p < 0.01$), demonstrating that the use of AI positively contributes to marketing outcomes. The study also found that the use of AI tools such as chatbots and automated copywriting can enhance customer engagement. Although MSME actors show awareness of AI's potential, there exists a gap between knowledge and practice. Therefore, this research recommends the need for greater training and support for MSMEs to maximize the use of AI in their digital marketing strategies. The findings are expected to provide insights for stakeholders and policymakers in designing initiatives that support the integration of AI technology in MSME businesses, allowing them to adapt to changes and improve marketing effectiveness.

INTRODUCTION

In today's rapidly developing digital era, technology has become a vital aspect. The world is currently in the midst of the 4.0 industrial revolution, marked by the utilization of the internet that brings significant and swift changes across various sectors of life. This transformation enhances human capacity to engage in various activities. Digital transformation is part of the overall technological development process, focusing on the application of digital technology in various aspects of society's life. Technological advancements have ushered the world into a digital era that is increasingly adapted across many sectors. One of the technological advancements that is being increasingly adopted is Artificial Intelligence (Tiautrakul & Jindakul, 2019).

According to Jeffry and Usman (2020), artificial intelligence, or known as AI, is a branch of computer science focused on developing the ability of computer systems to mimic, process, and understand instructions given by humans. AI is not merely limited to straightforward command-following; it also encompasses the ability to learn from data, recognize patterns, and make independent decisions based on available information. This technology allows machines to perform complex tasks previously only achievable by humans, such as data analysis, voice and facial recognition, and natural language interaction (Johnsen, 2017). With the continuing

advancement of AI, the hope is to create systems that are increasingly intelligent and adaptive, thereby assisting humans across various sectors, including industry, healthcare, education, and economy.

The rapid development of technology has brought the world into the 5.0 era, where the boundary between human life and technology has become increasingly challenging to distinguish. This era is characterized by significant advancements across various fields of technology, especially artificial intelligence (AI), which plays a crucial role in various aspects of daily life (Dumitriu & Popescu, 2020). AI is not only part of innovation development; it also plays a critical role in supporting activities in sectors such as digital marketing. In the context of marketing, AI assists companies in analyzing consumer data, predicting market trends, and enhancing the efficiency of promotional strategies through automation and service personalization. The presence of AI and other technologies in the 5.0 era demonstrates that technology has become an inseparable part of human life, creating an environment where innovation and adaptation are key to remaining relevant and competitive in various fields (Yeni et al., 2024).

Artificial intelligence (AI) has the capability to conduct in-depth analyses of consumer behavior by rapidly and accurately collecting and processing large amounts of data (Pongtambing et al., 2023). This technology enables companies to understand customer preferences, purchasing patterns, and needs in a more detailed manner. Additionally, AI can predict market trends by analyzing historical data and shifts in consumer behavior, allowing businesses to make earlier strategic decisions and adapt their products or services to meet dynamic market needs (Holmi, 2021). A key advantage of AI is its ability to offer personalized content more effectively, whereby customers receive relevant information and promotions tailored to their interests and habits. By leveraging these techniques, companies can increase consumer engagement and create a more satisfying user experience. Overall, AI implementation in marketing not only helps reduce operational costs through the automation of various processes but also enhances the efficiency and effectiveness of marketing campaigns in a more targeted and measurable manner (Hariyani et al., 2024).

Currently, artificial intelligence (AI) has introduced a variety of platforms designed to help internet users expand their knowledge and streamline various activities (Zebua et al., 2023). One of the most notable examples is chatbot platforms like ChatGPT and Perplexity.AI, which allow users to interact directly with AI for information, solutions, or assistance across various fields. With these chatbots, the learning and communication processes become more efficient, reducing time and location constraints. In the context of business, AI also plays a vital role in supporting marketing processes, particularly through the application of copywriting techniques (Rabby et al., 2021). These techniques are essential for capturing consumer interest, and now business owners no longer need to manually write promotional texts. Thanks to platforms like Copy.AI, companies can easily produce creative and effective writing tailored to their target market, allowing business operations to continue smoothly while promotional messages are conveyed more precisely (Thilagavathy & Kumar, 2021).

In addition, in the world of digital marketing, promotional videos have become one of the most engaging methods to capture consumer attention. However, creating attractive video content often requires significant time, skill, and costs. To overcome this challenge, AI also provides solutions through platforms like Lumen5, which enable business owners to create promotional videos quickly and easily without requiring deep technical skills (Van Esch & Stewart Black, 2021). As one of the AI video creators, Lumen5 allows users to produce video content based on scripts or articles, making it a highly useful tool for businesses in increasing audience engagement. Apart from chatbots, copywriting, and video creators, there are still many other AI platforms that can be maximally utilized to strengthen marketing strategies. By leveraging this technology, business actors can enhance productivity and efficiency in

conducting promotions, making them more competitive and capable of thriving in an increasingly competitive market (Gkikas & Theodoridis, 2019).

The emergence of various AI-based platforms presents tremendous opportunities for entrepreneurs to maximize the use of this technology in digital marketing. With AI's ability to analyze data in depth and provide accurate insights, businesses can formulate more effective and targeted marketing strategies (Saura et al., 2021). For example, by employing chatbot platforms, companies can enhance real-time interaction with consumers, provide rapid and responsive support, and answer customer inquiries more efficiently. Furthermore, AI-supported copywriting technology allows business actors to create attractive and relevant promotional content without expending considerable time and resources. On the other hand, AI-based video creator platforms simplify the process for businesses to generate attention-grabbing video content, thus boosting engagement and reinforcing brand awareness. All these tools not only increase operational efficiency but also facilitate understanding consumer needs and preferences, enabling businesses to align their offerings more closely with market expectations. By integrating AI technology into their digital marketing strategies, business actors can become more competitive, responsive to changing trends, and more easily achieve their business goals.

While previous research has explored the broad implications of Artificial Intelligence (AI) in digital marketing, studies specifically addressing its adoption and impact among Micro, Small, and Medium Enterprises (MSMEs) remain limited, particularly in Indonesia. Most studies focus on large-scale enterprises that have sufficient resources to integrate AI tools into their marketing strategies. However, MSMEs face unique challenges, such as limited technological knowledge, resource constraints, and lack of infrastructure, which hinder the full utilization of AI in their business operations. This gap highlights the need for a focused study to bridge the disparity between AI awareness and its practical application among MSME practitioners in the context of digital marketing.

The novelty of this research lies in its focus on examining the understanding, implementation, and impact of AI technology specifically among Indonesian MSMEs, an often-overlooked segment in existing literature. By analyzing the relationship between AI usage and marketing effectiveness, this study reveals the critical role of AI tools—such as chatbots, automated copywriting, and video creation platforms—in enhancing customer engagement and boosting sales for MSMEs. Furthermore, this research highlights the existing knowledge-to-practice gap and provides actionable recommendations to empower MSMEs through AI adoption, offering a fresh perspective on the transformative potential of AI in grassroots business environments.

This study aims to identify the extent of AI adoption in digital marketing among MSMEs in Indonesia and evaluate its impact on business outcomes, such as increased sales and customer engagement. The findings are expected to provide practical insights into the benefits of AI tools for MSMEs and uncover barriers to adoption. The benefits of this research include advancing the understanding of AI's role in improving digital marketing strategies for MSMEs, providing recommendations for training programs to enhance AI literacy, and offering guidance for policymakers in designing initiatives that facilitate AI integration. By addressing these challenges, this study aspires to empower MSMEs to thrive in an increasingly competitive digital economy.

RESEARCH METHOD

Population and Sampling Method

This study focuses on how artificial intelligence (AI) influences digital marketing and its future prospects. The target population of the research is business actors involved in digital marketing activities, including small business owners, marketing managers, and professionals

working in digital marketing agencies. To ensure representative results, this research will involve various industrial sectors, such as e-commerce, financial services, education, and healthcare, all of which have started adopting AI technology in their marketing strategies. By considering this diversity, the research is expected to encompass various perspectives and practices related to AI use in digital marketing. However, this study will specifically focus on business actors still in the development stage, who require significant improvement in their business practices, particularly MSMEs.

The sampling method employed will be purposive sampling, whereby the researcher selects respondents based on specific criteria relevant to the research objectives concerning MSMEs. Selected respondents should have experience and knowledge of using AI technology in digital marketing, ensuring that the insights obtained will provide a comprehensive and beneficial understanding. In the course of the study, data will be collected through a questionnaire consisting of questions. The data collected will be analyzed to identify patterns, trends, and relationships between AI usage and the effectiveness of digital marketing strategies. With this approach, the research is expected to yield significant findings and provide useful recommendations for business actors to optimize their use of AI for future marketing endeavors. The sample in this research comprises 50 respondents who are MSME practitioners.

Research Instrument

The research instrument will utilize a questionnaire composed of 15 questions directed at Micro, Small, and Medium Enterprises (MSMEs) to explore their understanding and experience related to artificial intelligence (AI) in the context of digital marketing. The questionnaire will be divided into three main themes. The first theme focuses on respondents' knowledge of AI, with questions such as "What do you know about artificial intelligence?" and "How important do you consider AI in today's business context?" The second theme will explore respondents' experiences in using AI, with questions such as "Have you ever used AI-based tools or platforms?" and "If yes, which AI tools have you used?" The third theme will assess the extent to which respondents have utilized AI to assist their business promotions, with questions like "Have you used AI to create promotional content?" and "How effective do you perceive the use of AI in your business marketing strategy?" Through this questionnaire, it is hoped that the research can provide a clear picture of the level of knowledge, use, and impact of AI in the digital marketing activities undertaken by MSME actors.

This research questionnaire is of a mixed type, containing 15 questions that will be posed to each MSME, along with open-ended questions requiring written answers from the respondents, such as "What AI platforms do you use to support your business?" Such questions assist the researcher in gauging how MSME actors leverage AI, allowing the researcher to identify common platforms used by these business actors.

Procedure and Research Timeline

The research procedure will be conducted through a series of systematic steps starting with initial preparations, in which the researcher will design the questionnaire that includes 15 predetermined questions. After the questionnaire is drafted, the next stage will involve a pilot test with a small number of MSME actors to ensure the clarity and validity of the questions. This pilot test is essential to obtain feedback to improve the instrument before it is distributed more broadly. After revisions, the questionnaire will be distributed to target respondents through online platforms, such as email or social media, as well as directly within MSME communities to reach a broader audience of business actors.

Over a period of two months, the research will be divided into several phases. The first month will focus on data collection, during which the researcher will disseminate the questionnaire and gather responses from MSMEs. The researcher will also conduct in-depth interviews with selected respondents to obtain more comprehensive insights. The second month will be dedicated to analyzing the collected data, followed by the preparation of the

research report. During this period, the researcher will analyze the questionnaire results to identify patterns and trends while integrating findings from the interviews to provide deeper context. By the end of the second month, the researcher will compile the final report, which will include recommendations for MSMEs to optimize the use of AI in their digital marketing strategies.

Analysis Plan

The analysis plan for this research will be conducted using both quantitative and qualitative approaches to provide a comprehensive understanding of artificial intelligence (AI) usage among Micro, Small, and Medium Enterprises (MSMEs). First, the data obtained from the questionnaire will be quantitatively analyzed using statistical tools to compute frequencies, percentages, and means of the responses to each question posed. This analysis aims to determine the level of respondents' knowledge regarding AI, the frequency of AI usage, and the effectiveness of AI in their business promotions. Additionally, qualitative analysis will be conducted to evaluate the answers from in-depth interviews by categorizing and extracting the main themes that emerge from the respondents' experiences. This process involves coding the data in which the researcher will identify patterns and relationships between the themes found, as well as delve deeper into the impact of AI usage on their marketing strategies. By combining these two analytical approaches, the research is expected to yield holistic findings and provide valuable insights for developing AI-based digital marketing among MSMEs.

Validity and Reliability Testing

To ensure the validity and reliability of the instrument used in this research, the researcher will conduct validity and reliability tests on the questionnaire employed. The validity test is utilized to assess whether a questionnaire can accurately measure what it is intended to measure, thereby deemed valid (Ghozali, 2012). The validity of the questionnaire can be assessed by comparing the calculated r value against the r table at the degree of freedom (df) = $n-2$, where n is the sample size, and the significance level (α) used is 0.05. If the calculated r value is greater than the r table and is positive, then the questions or indicators in the questionnaire are considered valid.

Reliability testing measures how consistent an indicator of a variable or construct is. A questionnaire is deemed reliable if a respondent's answers to items remain consistent or stable over time. In this reliability test, the Cronbach's Alpha method will be used, which serves to measure the internal consistency of each item in the instrument. A Cronbach's Alpha value above 0.6 is considered to indicate that the instrument is reliable.

Statistical Testing and Comparison

In this research, several statistical tests will be used for data analysis, including descriptive tests, validity and reliability tests, regression analysis, correlation tests, and T-tests or ANOVA. Descriptive tests will provide an overview of the collected data, such as frequency counts, percentages, average values, and standard deviations, which helps understand the respondent profiles and AI usage patterns. Additionally, content validity and reliability using Cronbach's Alpha will ensure that the research instruments can consistently measure the intended variables. To analyze the relationship between AI usage and marketing effectiveness, linear regression analysis will be employed, while Pearson correlation tests will determine the relationship between AI knowledge and its usage frequency. If the research involves comparing two or more groups, T-tests or ANOVA will be applied to identify significant differences in marketing effectiveness between these groups. By combining these statistical methods, the research is expected to provide valid and reliable findings regarding the impact of AI on digital marketing by MSME players.

Scope and Limitations of the Research

This research scope focuses on MSME actors who utilize artificial intelligence in their digital marketing strategies. The study aims to explore knowledge, experiences, and the impact

of AI usage in various marketing aspects, including promotional techniques, data analysis, and consumer interaction. To achieve these goals, the questionnaire is disseminated to MSMEs across various industrial sectors, such as e-commerce, financial services, and education, all of whom have begun adopting AI technology. Thus, this research is expected to provide a comprehensive overview of how AI affects digital marketing practices among MSMEs and offer relevant insights for business strategy development in the digital age.

However, this research also has limitations to consider. One major limitation is the potentially limited number of respondents, making the findings not fully representative of the entire MSME population across broader areas. Additionally, there might be bias in data collection, as respondents who are more open to technology might be more inclined to participate, which could influence the research outcomes. Other limitations include the rapid changes in AI technology and market dynamics that may occur during the research period, potentially affecting the long-term relevance of the findings. Nevertheless, these limitations do not diminish the value of the findings but indicate the need for further research to develop a deeper understanding of AI usage in digital marketing within the MSME sector.

RESULTS AND DISCUSSION

The results of the validity and reliability tests in this study indicate that the questionnaire instrument used has a good validity level and that all 15 questionnaires utilized in this research are valid. Furthermore, the reliability test results show that the Cronbach's Alpha value for the 15 questionnaires is 0.86, which exceeds the standard of 0.70, indicating that this questionnaire has a good level of reliability. This means that the questions in the questionnaire can yield consistent results if tested again in the future.

The statistical test results in this study, involving 50 MSME respondents, showed through descriptive testing that approximately 72% of respondents have a basic understanding of AI, while the remaining 28% claimed to have no knowledge of AI. Of the 50 respondents, 44% reported that they have used AI-based tools in their marketing strategies, with chatbots and automated copywriting tools being the most commonly used. In addition, the validity test results show that all questions in the questionnaire are declared valid, with the Cronbach's Alpha value reaching 0.86, indicating a good reliability of the research instrument.

Subsequently, linear regression analysis was used to test the impact of AI usage on digital marketing, measured through the variables of sales increase and customer engagement. The analysis results indicate a significant relationship between AI usage and increased sales ($p < 0.01$), with a regression coefficient of 0.75. This suggests that every one-unit increase in AI usage is associated with a 75% increase in sales. The Pearson correlation test also demonstrated a strong positive relationship ($r = 0.68$) between knowledge of AI and the frequency of AI tool usage in marketing. These results underscore the importance of knowledge and deeper understanding of AI as a key factor in promoting wider adoption among MSMEs, thereby enhancing their marketing effectiveness.

CONCLUSION

The conclusion of this research indicates that artificial intelligence has significant potential to enhance the effectiveness of digital marketing among MSME actors. Although many respondents recognize the importance of AI in marketing strategies, there is a gap between knowledge and practice, with not all MSME actors feeling confident enough to apply this technology directly. Analytical results show that the use of AI-based tools, such as chatbots and automated copywriting tools, can boost customer engagement and sales, providing a competitive advantage in an increasingly competitive market. This research highlights the need for training and support for MSME actors to maximize the use of AI, enhance understanding and skill levels in AI utilization to encourage wider adoption and better competitiveness. Thus,

capacity-building strategies focused on AI-related education and training are essential to empower MSME actors, providing crucial insights for stakeholders and policymakers in designing initiatives that support AI integration in MSME business practices in the digital era.

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