

Artificial Intelligence in Digital Marketing Performance Optimization for Micro Small and Medium Enterprises in Surakarta

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Abstract

Digital marketing has become a necessity for Micro, Small, and Medium Enterprises (MSMEs) to increase their competitiveness in the digital economy era. Artificial Intelligence (AI) plays a central role in this revolution, particularly in the field of digital marketing, by reducing targeting complexity, enabling predictive analytics, and personalizing content, which is crucial for businesses with limited resources like MSMEs. The research method used is a qualitative approach with data collection techniques through interviews, observations, and documentation, selecting Surakarta MSME respondents who had never used AI in their digital marketing. This study focuses on proving the effectiveness of using AI, which is currently a trend, in improving MSME digital marketing performance. The results of the testing documentation comparing Meta Advantage+ (AI-based) with a prospecting set up or structured control (without AI) showed a good improvement in digital marketing performance. The use of AI in digital marketing was proven to provide a substantial increase in key ad campaign performance parameters such as Click Through Rate and Conversion Rate. This optimization occurred thanks to AI's ability to analyze consumer behaviour, perform hyper-personalization targeting, and automate effective ad allocation. generally, AI assists MSMEs in product and market research, formulating marketing strategies, and increasing operational efficiency. Although AI offers great opportunities to optimize MSME performance, its implementation in Surakarta still faces a number of multidimensional challenges. The main obstacles include low technological literacy and a lack of human resources with expertise in technology within the MSME sector. Furthermore, ethical issues, such as privacy risks and the security of sensitive data in AI systems, are also concerns for business owners when creating ad campaigns. The implementation of AI through Meta Advantage+ is proven to increase efficiency, service personalization, and digital promotion effectiveness. To maximize AI potential and achieve competitive advantage, MSMEs are advised to adopt a strategic approach that prioritizes collaboration between AI and humans, accompanied by increased digital literacy and human oversight to overcome ethical and technical obstacles.

Keywords: Marketing Performance, Digital Marketing, Artificial Intelligence, MSME, Digital Economy.

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1. Introduction

In recent years, there have been very significant changes in the use of technology, both for personal and organizational use. One of the biggest changes in technology usage is the existence of Artificial Intelligence. The very rapid advancement of Artificial Intelligence technology provides opportunities for business organizations in digital marketing practices such as understanding consumer sentiment, analyzing customer satisfaction, measuring and increasing customer loyalty, and improving marketing performance [1].

The adaptation of Artificial Intelligence in the field of marketing, both conventional and digital, is a developing phenomenon. Artificial Intelligence can be used to understand the target audience (market), personalize marketing content to be relevant, and effectively monitor and evaluate marketing performance. Beyond these functions, AI also enables marketers to analyze large and complex datasets in real time, revealing behavioral patterns that were previously difficult to detect using traditional analytical tools. This capability helps businesses predict future consumer needs, segment audiences with greater precision, and

deliver tailored messages that enhance engagement. In the context of digital marketing, AI-driven systems can automate campaign optimization, allocate budgets more efficiently, and adjust targeting strategies dynamically based on audience response. As AI continues to evolve, its integration into marketing practices is expected to create more data-driven, responsive, and customer-centered approaches, ultimately improving the competitiveness and strategic decision-making of businesses of various scales, including MSMEs [2].

The development of Artificial Intelligence (AI) technology has become a major driver in industrial transformation and allows companies to utilize digital tools to reach consumers more broadly, quickly, and efficiently [3]. Amidst this global context, Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in the national economy but often face significant obstacles in aspects of marketing and technology adaptation. Therefore, the adoption of digital marketing has now become an imperative and is no longer a choice, so that MSMEs can increase their competitiveness in the digital economy era [4].

AI plays a central role in the digital marketing revolution, reducing the complexity of targeting and

classic customization [5]. Furthermore, AI allows for process automation, predictive analytics, and content personalization, which are very essential for organizations or companies with limited resources [6]. Through machine learning algorithms, AI is able to analyze large amounts of data to extract optimal insights, support more efficient and accurate data-driven decision-making, and empower businesses to monitor data in real-time to respond to customer needs quickly [3] [7].

The implementation of AI has currently penetrated digital marketing through social media. One of the social media platforms that already uses AI technology is Meta, which oversees the social media applications Facebook and Instagram [10]. Meta uses AI in the context of social media ads through the Meta Advantage+ feature as the main AI technology in optimizing digital marketing through advertisements (ads).

Meta Advantage+ is designed as an end-to-end automation package that utilizes AI to automate various aspects of advertising, ranging from audience targeting to creative optimization, as well as simplifying campaign management, reducing manual workload, and assisting in more optimal, effective, and efficient ad delivery [9]. The system integrates machine learning algorithms capable of continuously analyzing user behavior patterns, assessing content performance, and reallocating resources in real time to the best-performing ad sets [11]. By automating these processes, Meta Advantage+ not only minimizes human error but also enhances strategic precision, enabling advertisers particularly MSMEs with limited manpower to achieve higher campaign productivity [12]. Furthermore, this AI-driven approach ensures that advertisements are delivered to the most relevant audience segments at the right moment, ultimately improving engagement rates, maximizing return on ad spend, and supporting more sustainable digital marketing growth [13].

The advantages of AI in Meta Advantage+ open up great opportunities for Micro, Small, and Medium Enterprises (MSMEs). MSMEs themselves have a strategic role, contributing around 60% to the national Gross Domestic Product (GDP) and absorbing more than 97% of the workforce [4]. However, MSMEs often face challenges regarding technology implementation and limited human resources [8]. Therefore, AI adoption is very important to increase MSME competitiveness in the digital economy ecosystem [4]. AI in Meta Advantage+ allows MSMEs to perform hyper personalization, where marketing messages, product recommendations, and ads are uniquely tailored for each customer, which directly increases conversion rates. Apart from personalization, AI increases operational efficiency because it is capable of automating repetitive tasks, such as content scheduling and ad optimization [9].

Thus, by utilizing AI using Meta Advantage+, MSMEs can have more time to focus on creative strategies and better business development. Additionally, Meta

Advantage+ supports predictive analytics and sentiment analysis, allowing MSMEs to formulate marketing strategies and develop more relevant products. Through these advanced analytical capabilities, business owners are able to anticipate emerging market trends, identify shifts in consumer preferences, and evaluate the potential performance of future campaigns with greater accuracy. This not only enhances strategic decision-making but also reduces the risks associated with trial-and-error marketing approaches. By relying on AI-driven insights, MSMEs can improve product innovation, tailor promotional messages more effectively, and strengthen customer engagement. Ultimately, the adoption of Meta Advantage+ helps MSMEs build a more adaptive and data-informed marketing ecosystem that supports sustainable business growth [3].

Understanding the target audience or target market and personalizing marketing content with AI can provide brand awareness and influence consumer purchasing decisions, which will also impact marketing performance. Thus, this research investigates whether the utilization of Artificial Intelligence has an impact on improving marketing performance, specifically effective and efficient digital marketing, for Micro, Small, and Medium Enterprises (MSME) actors, particularly those in Surakarta.

Surakarta is a city in Central Java Province, also known as Solo. The city is known as a centre of Javanese culture with a strong cultural heritage and is a key tourist destination. Its status as a tourist destination opens up economic opportunities, reflected in the increasing number of MSME practitioners in Surakarta. Based on data from the Surakarta Department of Cooperatives and Small and Medium Enterprises, there were 15,485 MSMEs in 2024, an increase from the 2023 total of 13,203 MSMEs.

2. Research Method

This study uses a qualitative approach method where qualitative research is inductive, and researchers generally explore meanings and insights into specific situations [14]. In this study, qualitative methodology is used by the researcher as a tool to design the study, collect, and analyze the data. Data is gathered from careful observation, including descriptions in a deep context accompanied by notes from interview results, as well as data analysis. In this study, the data collected was obtained from respondents using a purposive sampling technique, which is a sample collection technique with certain considerations. This technique is used to select samples that are specific and relevant based on determined criteria [15].

This approach is used to determine the effectiveness of using Artificial Intelligence, which is currently a trend in improving digital marketing performance for Micro, Small, and Medium Enterprises in Surakarta. The depiction of this trend will be related to the systematics of meaning disclosure that every research must involve an explicit, disciplined, and systematic approach to find

the most appropriate results [16]. The methods or techniques used in data collection in this study are interview, observation, and documentation methods. Interviews were conducted to obtain direct answers to questions posed to gain a deep understanding of their experiences, perceptions, and views regarding the research topic [17], while the objects to be interviewed are Micro, Small, and Medium Enterprise actors in Surakarta who have never used Artificial Intelligence in their digital marketing activities.

Then, observation was carried out with the aim of obtaining an understanding of the observed object accurately and becoming an important technique in qualitative research, where the researcher actively observes and records behaviour, interactions, and contexts occurring in the situation being studied [18]. The observation carried out in this study is direct observation when Micro, Small, and Medium Enterprise actors utilize Artificial Intelligence in digital marketing activities. Meanwhile, the documentation method is carried out aiming to collect data by taking existing data as documents such as sales reports and other notes [19].

The data analysis process was carried out by means of data reduction, drawing conclusions/data presentation, and verification. In this case, the data is analyzed by recording data as it is, without interference from theories that have been read or paradigms held so far [20]. Data obtained through interviews, observations, and documentation are arranged systematically by organizing data into categories, describing them into units, choosing which are important and will be studied, and finally making conclusions.

3. Result and Discussion

The implementation of AI on Meta Advantage+ shows great potential in improving MSME digital marketing performance. AI functions as a support tool capable of providing insights into consumer behaviour and assisting marketing. This refers to the results of using Meta Advantage+ on MSMEs in Surakarta which includes Reach, Impressions, Frequency, CTR (Click Through Rate), and Conversion Rate. In practice, AI-driven optimization within Meta Advantage+ allows advertisements to be automatically directed toward the most relevant audience segments based on real-time data analysis. This enables MSMEs to allocate their advertising budgets more efficiently while ensuring that promotional messages reach individuals who are most likely to engage with the content. Moreover, the system continuously learns from campaign performance, thereby enhancing targeting accuracy, refining ad placement, and ultimately improving overall marketing effectiveness. The observed improvements in key digital marketing metrics among MSMEs in Surakarta demonstrate how AI integration not only streamlines marketing processes but also contributes to increased customer engagement and higher conversion outcomes. Next Reach Rate on Table 1.

Table 1. Reach Rate

Set Up	Reach Rate
Meta Advantage+ (AI)	1.08
Prospecting (Without AI)	0.71

This parameter reflects the level of unique reach that sees the ad at least once. This is a fundamental measure of the awareness successfully achieved. Using the same ad content, in this test, Meta Advantage+, which is AI-based, had a reach level of 1.08 higher than the prospecting set-up (structured control), which recorded a reach level of 0.71. This difference indicates that AI-driven optimization is more effective in identifying and targeting potential audiences within the same market context. Meta Advantage+ is able to automatically learn from audience interaction patterns, adjust delivery in real time, and distribute ads to users who are most likely to view and respond to the message. As a result, MSMEs benefit from a broader and more efficient audience exposure without increasing advertising effort or cost. The significant improvement in reach highlights the added value of AI integration in enhancing awareness-building strategies within digital marketing campaigns. Next Impression Rate on Table 2.

Table 2. Impression Rate

Set Up	Impressions Rate
Meta Advantage+ (AI)	1.76
Prospecting (Without AI)	0.95

The Impressions parameter shows the rate of how many times the ad is displayed, including repeated views to the same individual. Using the same ad content, this test found that Meta Advantage+ recorded an impressions rate of 1.76, which is almost double (1.85x) the impressions rate of 0.95 obtained through the prospecting set-up. This significantly higher impression rate demonstrates Meta Advantage+ superior capability in maximizing ad visibility within the platform. Through AI-driven optimization, the system is able to secure more effective ad placements and continuously adjust delivery patterns to ensure that the advertisement appears in high-opportunity spaces. As a result, ads are shown more frequently to relevant audiences, increasing the potential for message retention and brand reinforcement. This outcome further highlights the advantage of leveraging AI in digital advertising, as it enables MSMEs to benefit from broader exposure and improved ad distribution without additional manual adjustments. Next Frequency on Table 3.

Table 3. Frequency

Set Up	Frequency
Meta Advantage+ (AI)	1.63
Prospecting (Without AI)	1.33

Frequency is calculated from Impressions divided by Reach. This parameter shows the average ad exposure per person and serves as an important indicator of how consistently the audience encounters the promotional message. Meta Advantage+ has a Frequency of 1.63,

slightly higher than the prospecting set-up with a frequency of 1.33. The frequency of 1.63 on Meta Advantage+ reflects the system's deliberate decision to expose ads slightly more often to audiences considered to have higher potential for engagement or conversion. This pattern highlights the strength of AI-driven optimization, where the system analyzes user interaction signals such as prior clicks, viewing behaviour, and demographic relevance to determine the ideal repetition needed to increase message recall without causing ad fatigue. By maintaining a balanced yet strategic level of exposure, Meta Advantage+ helps ensure that MSMEs' promotional messages remain visible and memorable to target audiences, thereby supporting stronger branding outcomes and increasing the likelihood of conversion. Next Click Through Rate on Table 4.

Table 4. Click Through Rate

Set Up	CTR
Meta Advantage+ (AI)	1.67
Prospecting (Without AI)	0.83

Click Through Rate shows the ratio of clicks to impressions, measured in percentage. This parameter is an indicator of ad quality and relevance. The CTR of 1.67% on Meta Advantage+ and 0.83% on the prospecting set-up shows a significant difference in targeting quality. The higher CTR obtained through Meta Advantage+ indicates that the AI-driven system is more successful in delivering ads to users who have a higher likelihood of engaging with the content. This occurs because Meta Advantage+ continuously analyzes user behavior patterns, preferences, and interaction history to optimize ad placement in real time. As a result, the ads appear more frequently to audiences whose interests align with the promotional message, thereby increasing the probability of clicks. The substantial improvement in CTR underscores the advantage of AI-supported advertising in enhancing user engagement, ensuring that each impression contributes more effectively to campaign goals, and ultimately strengthening the overall performance of MSME digital marketing strategies. Next Conversion Rate on Table 5.

Table 5. Conversion Rate

Set Up	Conversion Rate
Meta Advantage+ (AI)	0.4
Prospecting (Without AI)	0.1

The rate presented in the data is calculated as Conversion Rate based on impressions; Meta Advantage+ shows a conversion efficiency four times higher from every ad impression. This substantial difference indicates that the AI-driven system is not only effective in generating visibility but also in directing impressions toward users with a higher likelihood of taking meaningful actions, such as clicking, engaging, or making a purchase. The ability of Meta Advantage+ to analyze user behavior patterns, predict intent, and optimize ad distribution in real time contributes to this superior conversion performance. Moreover, the improved conversion efficiency reflects

the platform's capacity to minimize wasted impressions, thereby enabling MSMEs to achieve better returns on advertising investment. This data reinforces the finding that Meta Advantage+ not only succeeds in generating a higher volume of impressions but also ensures that those impressions reach audiences with the strongest potential for conversion, ultimately strengthening the overall effectiveness of digital marketing efforts.

With the use of AI in digital marketing, MSME actors are assisted in product research, market research, formulating marketing strategies, helping create promotional ideas, and facilitating all activities related to the digital ecosystem. AI tools enable MSMEs to analyse large volumes of consumer data, identify emerging trends, and map customer preferences with higher accuracy, allowing businesses to make more informed and strategic decisions. Additionally, the implementation of AI makes time management more efficient and flexible, as MSME actors do not need to directly conduct field observations or manual data collection. This automation not only accelerates the research process but also significantly reduces operational and research costs. As a result, MSMEs can allocate their resources more effectively, focus on innovation and product development, and enhance their overall competitiveness in the digital marketplace.

Behind the great opportunity of using AI, the implementation of AI in Meta Advantage+ for MSMEs in Surakarta still faces a number of challenges, especially those related to internal readiness and ethical issues. Low technological literacy and limited human resources who are experts in the technology field are the main obstacles in AI adoption in the MSME sector. Furthermore, a lack of knowledge on how to use AI effectively is a major barrier to AI adoption. From the security side, it is also an important matter because business actors feel insecure about whether what is used in the AI system will maintain the confidentiality of sensitive data when business actors create ad campaigns using the help of Artificial Intelligence through Meta Advantage+.

4. Conclusion

In line with the current digital transformation trend, the implementation of AI through Meta Advantage+ in digital marketing offers a good opportunity to optimize the performance of MSMEs in Surakarta. The results of using AI in digital marketing using Meta Advantage+ show that the use of Meta Advantage+ supported by AI enables content personalization, predictive analysis, task automation, and provides a substantial increase in marketing performance metrics (such as Conversion Rate and CTR Rate) compared to ad campaign settings via prospecting set up or structured control. This optimization occurs due to AI's capability in consumer behaviour analysis, highly personalized targeting, and effective ad allocation automation. generally, AI simplifies marketing techniques and tactics, improves time management, and optimizes operational efficiency, which greatly helps MSMEs to grow and

become more competitive. However, MSMEs face multidimensional challenges, including risks to privacy and security of sensitive data, low digital literacy and a lack of competent human resources, as well as infrastructure cost barriers. To maximize the benefits of using AI in digital marketing, a strategic approach is needed that includes increasing digital literacy, human oversight for ethical and creative issues, and technological support to overcome obstacles faced by MSMEs. Overall, AI implementation has been proven to play an important role in increasing efficiency, service personalization, and promotion effectiveness. Therefore, to maximize AI's potential in achieving competitive advantage and sustainable business growth, MSMEs are advised to adopt a strategic approach that prioritizes collaboration between AI and humans.

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