

ARTIFICIAL INTELLIGENCE AS A SUPPORT FOR DIGITAL MARKETING STRATEGY PERSONALIZATION: A SYSTEMATIC LITERATURE REVIEW

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Abstract

The utilization of Artificial Intelligence (AI) in digital marketing has continued to expand. However, existing studies remain fragmented, necessitating a comprehensive understanding of its role in marketing personalization. This study employs a Systematic Literature Review (SLR) method on publications from 2020–2025 to analyze the contribution of AI in supporting the personalization of digital marketing strategies. The literature was selected using the PRISMA and PICO frameworks and subsequently analyzed thematically, with quality appraisal conducted using the Mixed Methods Appraisal Tool (MMAT). The findings indicate that the effectiveness of AI-based personalization is determined by the quality of consumer data, AI's analytical and predictive capabilities, content personalization strategies, as well as ethical and privacy considerations. AI has been shown to enhance message relevance, consumer engagement, and loyalty, although it continues to face challenges such as data integration, human resource readiness, implementation costs, and privacy concerns. This study also identifies research gaps related to the long-term impacts of AI-driven personalization on consumer trust and ethical issues, which remain underexplored.

Keywords: Artificial Intelligence, Digital Marketing, Personalization, Machine Learning

1. INTRODUCTION

The advancement of digital technology has driven significant transformations across various sectors, including marketing. One technology that has been increasingly utilized is artificial intelligence (AI). According to Jaya (2018) as cited in Pakpahan (2021), AI is a branch of computer science that focuses on the development of systems or machines capable of performing tasks that resemble human abilities. In line with this view, Yani (2024) explains that AI is a technology based on machine learning designed to emulate human cognitive processes, with advantages in data storage capacity and processing capabilities. The ability of machine learning to learn from previous data makes AI particularly relevant in supporting more accurate and efficient decision-making.

In the marketing context, AI, particularly machine learning, is widely utilized to analyze patterns of consumer behavior, predict purchasing decisions, and optimize advertising targeting and also product recommendation systems. The application of

this technology has become increasingly important alongside the growth of digital marketing as a form of modern marketing that relies on digital technologies and internet connectivity to build active and sustainable consumer engagement (Ratnasari & Ali, 2025). This transformation has shifted marketing practices from conventional approaches toward data and technology driven strategies, in line with consumers' growing reliance on digital devices to compare product information. These conditions encourage firms to leverage various digital marketing channels, including one-way channels such as websites and email as centers for information and promotion, as well as two-way communication channels such as social media, which require more open interactions between companies and consumers. Social media has not only altered the nature of relationships between sellers and customers (Hennig-Thurau et al., 2010), but has also demanded the delivery of messages that are more informative and authentic, rather than merely sales-oriented promotions (Weinberg & Pehlivan, 2011). This highlights that the integration of AI, digital marketing, and appropriate channel selection constitutes a critical factor in contemporary marketing strategies.

Beyond technical aspects, (Victor, 2025) notes that the use of AI in personalizing digital marketing strategies raises serious concerns regarding consumer data privacy and security. Several studies indicate that consumers tend to resist personalization perceived as overly intrusive, particularly when they feel they lack control over their personal data. Therefore, firms must balance the use of AI for marketing purposes with the application of ethical principles and data protection regulations in order to maintain consumer trust (Shafik, 2025). Conversely, (Zed et al., 2024) explain that the appropriate implementation of AI in digital marketing personalization enables firms to build stronger relationships with consumers through relevant and consistent interactions across multiple digital channels, thereby increasing loyalty and repeat purchase decisions. AI thus functions not merely as a supporting technological tool, but as an integral component in the formulation of consumer-oriented digital marketing strategies (Huda, 2025). Nevertheless, academic studies on the holistic integration of AI in personalization remain fragmented (Zed et al., 2024).

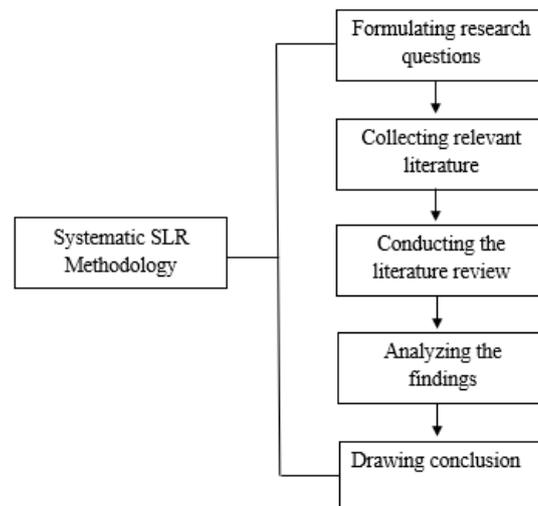
Research on AI in digital marketing has expanded, however, it remains fragmented, with some studies emphasizing technical aspects such as machine learning and predictive analytics, while others focus on digital marketing strategies and the effectiveness of personalization (Rolando, 2024). This condition has resulted in an incomplete understanding of the role of AI in supporting the personalization of digital marketing strategies. Research findings reveal diverse perspectives, ranging from increased consumer engagement and loyalty to ethical, privacy, and organizational readiness challenges (Hidayanti, 2025). Therefore, this study is structured as a literature review aimed at examining and integrating various scholarly findings on the role of Artificial Intelligence in supporting the personalization of digital marketing strategies, in order to map research developments, identify research gaps, and

synthesize scientific evidence for the development of AI-based digital marketing strategies.

2. METHODOLOGY

This study employs a qualitative research design using a Systematic Literature Review (SLR) approach as its conceptual and methodological framework. The data sources consist of secondary data, including scholarly journal articles, conference proceedings, and academic publications relevant to the topics of Artificial Intelligence, personalization, and digital marketing strategies. During the data collection stage, the authors compiled literature from various sources accessed through Google Scholar, Scopus, Web of Science, ScienceDirect, Emerald Insight, and SpringerLink. The selected articles comprise publications in both Indonesian and English, published within the last five years (2020–2025), in order to ensure the relevance and novelty of the research findings. In presenting the research data, the authors applied the Systematic Literature Review (SLR) method, with the following details:

Figure 1. Flowchart of the Systematic Literature Review (SLR) Method



As a conceptual foundation for defining the research focus, this study adopts the PICO (Population, Intervention, Comparison, Outcome) framework to clarify the scope of the study, enhance the precision of literature selection, and map the relationships among the digital marketing context, AI interventions, and the outcomes of marketing strategy personalization.

Table 1. PICO Research Framework

Component	Description
Population	Companies and organizations that implement digital marketing strategies
Intervention	The application of Artificial Intelligence (AI) in the personalization of digital marketing strategies
Comparison	Digital marketing strategies without AI or with a low level of AI driven personalization
Outcome	Improved marketing relevance, consumer engagement, loyalty, and the effectiveness of digital marketing strategies

Source: Processed data by the authors (2025)

Data collection was conducted through a systematic literature search using combinations of keywords, including “Artificial Intelligence” or “AI” and “digital marketing,” “AI-based personalization” or “marketing personalization,” “machine learning in marketing” or “data-driven marketing strategy,” as well as “consumer data analytics.” The initial search yielded a number of articles, which were subsequently screened based on predefined inclusion and exclusion criteria. The literature selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, encompassing four main stages: identification, screening, eligibility, and inclusion.

Table 2. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Type of Publication	Reputable journal articles, conference proceedings, and conceptual articles related to AI and digital marketing	Non-peer-reviewed articles, internal reports, editorials
Language	Indonesian and English	Languages other than Indonesian and English
Year of Publication	2020–2025	Prior to 2020
Research Focus	Application of AI in the personalization of digital marketing strategies	Marketing studies without relevance to AI or personalization
Text Availability	Full-text available	Full-text not available

Source: Processed data by the authors (2025)

Data analysis was conducted using thematic analysis of the articles that passed the final selection stage. Each article was examined to identify key themes related to: (1) the role of AI in consumer data processing, (2) the forms and mechanisms of digital marketing strategy personalization, (3) the impact of AI-based personalization on marketing performance, and (4) challenges and issues related to ethics, privacy, and organizational readiness. To ensure the methodological quality of the analyzed articles, this study employed the Mixed Methods Appraisal Tool (MMAT) as a quality assessment instrument, evaluating studies based on the clarity of research objectives, methodological appropriateness, data validity, and the relevance of findings (Hong et al., 2018). The processes of coding and thematic grouping were conducted systematically and validated through source triangulation to enhance the reliability and credibility of the synthesis results.

3. FINDINGS AND DISCUSSION

The results of the systematic literature review indicate that the effectiveness of implementing Artificial Intelligence (AI) as a support for the personalization of digital marketing strategies is influenced by four main variables: (1) the quality and utilization of consumer data, (2) AI technological capabilities in analyzing and predicting consumer behavior, (3) content personalization and marketing interaction strategies, and (4) ethical, privacy, and consumer trust considerations. These four variables are interrelated and play a crucial role in shaping the effectiveness of AI-based digital marketing strategies, particularly in enhancing message relevance, consumer engagement, and loyalty. The literature shows that AI enables companies to process large volumes of consumer data in real time according to individual preferences, behaviors, and interaction histories. However, technological sophistication alone is insufficient. Organizational readiness and a consumer-oriented marketing focus remain key determinants. A summary of the relationships among variables and findings from previous studies is presented in Table 3.

Table 3. Relationships among Variables and Data Extraction from Previous Studies

Title	Authors & Year	Variables	Method	Research Focus	Key Findings
The Role of Artificial Intelligence in Personalizing Digital Marketing Strategies	Nabilah Fikriyah, Theodorus Sendjaja (2025)	IAI-based Consumer Data Utilization	Quantitative	Consumer data analysis for digital marketing	AI-supported consumer data utilization has a significant effect on the accuracy of personalization and the effectiveness of digital

					promotions
Artificial Intelligence-Based Marketing Strategy to Increase Consumer Loyalty in the Era of Hyper Personalization	Parmini, Ratna Yuliastuti (2025)	AI and Predictive Analytics	Quantitative	Use of AI to predict consumer behavior	AI improves the accuracy of purchase intention predictions and supports more precise marketing decision making
The Role of AI and Big Data in Optimizing Digital Marketing Strategies	Benediktus Rolando, Komang Ariyanto, Kenny Ryans Alexia, Rina Hartanti (2022)	Digital Content Personalization	Qualitative	Technology-based digital content personalization strategies	Content personalization significantly enhances consumer engagement and experience
The Role of Artificial Intelligence in Personalized and Customized Engagement Marketing: A Comprehensive Review	Benediktus Rolando (2024)	AI-Based Digital Marketing Strategies	Conceptual & empirical	Integration of AI in digital marketing strategies	AI serves as a strategic tool to improve campaign effectiveness and marketing efficiency
Artificial Intelligence in Personalized Marketing: Strategies for Enhancing Consumer Engagement	Syahrudin, Nur Fitri Hidayanti, Dedy Iswanto, Nurul Hidayati Indra Ningsih, Saba Mehmood	Customer Engagement and Loyalty	Quantitative	Relationship between digital personalization and customer loyalty	Data driven personalization positively affects customer engagement and loyalty

(2025)					
Marketing Automation and Decision Making: The Role of Heuristics and AI in Marketing	Simone Guercini (2023)	Ethics and Consumer Trust	Conceptual	AI ethics and trust in digital marketing	Consumer trust is a key success factor in AI-based personalization
Guest editorial: Artificial Intelligence (AI) for management decision-making processes. From measurement to strategy	Maurizio Massaro, Silvana Secinaro, Carlo Bagnoli, Davide Calandra (2025)	Data Privacy and Consumer Perceptions	Empirical	Consumer perceptions of AI driven data usage	Transparent personalization increases consumer acceptance of AI
The Impact of Artificial Intelligence on Digital Marketing Strategies and the Influence of Digital Stimuli on Customer Purchase Decisions	Sri Wahyuni, Rahmad Dian, Buyung Solihin, Hasugian, Azzahra Khairunnisa (2025)	AI, Digital Stimuli, Trust, Satisfaction, Purchase Decisions	Mixed Methods	Analysis of AI's role in personalizing digital marketing strategies using the S-O-R approach	AI based digital stimuli influence purchase intention and purchase decisions, with consumer trust and satisfaction acting as mediating variables
The Effectiveness of Artificial Intelligence in Developing Digital Marketing Strategies	Rhomazani, Gamaliel, Abdillah, & Gustaf (2024)	AI, Digital Marketing, Adaptation, Motivation (Dimension of effectiveness)	Qualitative	Analyzing the effectiveness of AI implementation in Shopee's digital marketing using	Shopee is considered effective in adaptation because AI can respond quickly to shopping trends and personalize product

Etzioni's
organizational
effectiveness
theory

Source: Processed data by the authors (2025)

3.1 Comparison of Research Findings

The review results indicate similarities in findings across studies concerning the strategic role of artificial intelligence in digital marketing. Most studies agree that AI contributes positively to improving the effectiveness of marketing campaigns, content personalization, and operational efficiency through the use of data analytics and automation. Conversely, several studies also highlight relatively similar barriers, such as limitations in data quality and integration, human resource readiness, and high implementation costs, particularly for small and medium-sized enterprises. These shared findings demonstrate a consistent pattern in the adoption of AI within digital marketing practices.

3.2 Dominant Approaches Used

The dominant approach employed in research on AI and digital marketing is a data and technology driven perspective, with an emphasis on personalization, customer engagement, and the optimization of marketing performance. Most studies adopt a managerial and strategic viewpoint, positioning AI as a tool to support marketing decision-making. In addition, the use of theoretical frameworks such as Socio-Technical Systems Theory and Relationship Marketing Theory emphasizes that AI is not viewed merely as a technical innovation, but also as part of a social system involving organizations and consumers.

3.3 Research Gaps

Although many studies highlight the benefits of AI, there remain research gaps concerning the long-term impacts of AI implementation on consumer trust and brand–customer relationships. Some studies emphasize the effectiveness of personalization, while others highlight consumer resistance to personalization perceived as excessive or lacking transparency. In addition, discussions on ethical issues, algorithmic bias, and data regulation remain relatively limited and have not been explored in depth, particularly within the context of emerging markets.

4. CONCLUSION

Based on the review, it can be concluded that the application of artificial intelligence in digital marketing plays a strategic role in supporting the personalization of marketing strategies through the use of data analytics and automated decision-making. The adoption of AI is driven by the availability of large volumes of customer data and the advancement of technologies such as machine learning and big data analytics, which enable improvements in campaign effectiveness, operational

efficiency, and consumer engagement. However, its implementation continues to face several challenges, including limitations in data quality and integration, a lack of competent human resources, high investment costs, as well as ethical and consumer data privacy concerns. These findings are consistent with the perspectives of Socio-Technical Systems Theory and Relationship Marketing Theory, which emphasize that the successful implementation of AI depends on the alignment of technical, organizational, and social aspects. Therefore, the use of AI in digital marketing must be designed in a planned, ethical, and sustainable manner to deliver optimal value to marketing performance.

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