

AI-Driven Personalization in Digital Marketing: Consumer Trust, Engagement, and Purchase Behavior - A Systematic Review

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ABSTRACT

Artificial intelligence (AI)-driven personalization has increasingly transformed digital marketing by enabling firms to deliver individualized recommendations, content, and offers based on consumer data and behavioral patterns. However, the growing use of personalization also raises important questions regarding consumer trust, engagement, and purchase behavior. This study aims to conduct a systematic literature review (SLR) of research on AI-driven personalization in digital marketing to examine its implications for consumer trust, engagement, and purchase behavior. Using Scopus as the primary database, the search process identified 2,906 records and, through successive filtering and screening procedures, resulted in 51 eligible studies. Bibliometric analysis using VOSviewer and thematic synthesis were employed to identify publication trends, intellectual structures, and key research themes. The findings indicate a shift from technology-oriented research toward consumer-centered perspectives, with increasing attention to consumer experience, trust, engagement, privacy, transparency, purchase intention, and purchase behavior. The review further demonstrates that the effectiveness of AI-driven personalization is context-dependent and influenced by consumer perceptions and data-related concerns. These findings provide an integrated basis for understanding the evolving role of AI personalization in contemporary digital marketing.

Keywords: Artificial Intelligence; AI-Driven Personalization; Consumer Engagement; Consumer Trust; Digital Marketing; Purchase Behavior; Systematic Literature Review.

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INTRODUCTION

The rapid diffusion of artificial intelligence (AI) has fundamentally reshaped digital marketing by enabling firms to collect, process, and interpret large volumes of consumer data to deliver increasingly individualized marketing experiences (Al-Ababneh & Al Muala, 2025; Rane et al., 2024; Zhuk & Yatskyi, 2024). Among these developments, AI-driven personalization has emerged as a critical mechanism through which digital platforms tailor product recommendations, advertising content, promotional offers, and customer interactions according to consumers' interests, preferences, and behavioral histories (Sathya et al., 2024; C. Wang et al., 2025; Xia et al., 2024). Recent literature indicates that AI-powered recommendation systems, predictive analytics, and personalized marketing tools are increasingly embedded in e-commerce and social media environments, transforming conventional customer targeting into more adaptive and real-time decision-making processes (Alsulami et al., 2025; Diao et al., 2025; Peruchini et al., 2024; L. Wang et al., 2025). In particular, AI personalization enables marketers to move beyond demographic segmentation toward individualized interactions based on continuously generated behavioral data (Krasnov & Kurushin, 2025; Kumar et al., 2025; Youbi et al., 2025).

The growing importance of AI-driven personalization is closely associated with its potential to improve consumer experiences and influence purchasing outcomes (Lakshmi et al., 2025; Sasanuma & Yang, 2024). AI-based personalization can facilitate more relevant product discovery, reduce information-search costs, and provide consumers with timely recommendations (El Youbi et al., 2025; Henriques & Pinto, 2023; Korosi & Vinkó, 2021). Empirical evidence suggests that personalized digital experiences can contribute to customer retention and relationship development, although the magnitude of these effects depends on technological and social factors (Panya et al., 2025). Similarly, AI-driven personalization has been found to contribute significantly to purchase intention among Generation Z consumers, with personalized applications, branding, and social commerce features collectively strengthening digital purchase processes (Hasim & Nazri, 2025). AI can also predict purchase intention during an ongoing online session, allowing firms to provide real-time offers before consumers leave the platform (Esmeli et al., 2021). These developments demonstrate the increasing convergence between personalization capabilities and consumer decision-making (Li et al., 2025; Louis et al., 2024; Ma & Ye, 2025).

However, personalization does not inherently produce positive consumer responses. The effectiveness of AI-driven marketing depends substantially on how consumers perceive the technology, particularly in terms of trust, privacy, transparency, control, and perceived risk (Hoa, 2025; von Böhlen & Simberová, 2025). Dixit et al. (2025), for example, found that trust in AI was a critical determinant of behavioral intention toward AI-enabled online shopping, whereas perceived risk had a negative, although comparatively marginal, influence. Panya et al. (2025) similarly emphasized the importance of communicating data-security and privacy protections to strengthen trust in AI-powered personalization. This tension creates a fundamental paradox in personalized digital marketing: greater access to consumer data can enhance relevance while simultaneously increasing concerns about surveillance, privacy, and inappropriate data usage (Han et al., 2023; Syahraeni et al., 2025). Privacy-preserving approaches have therefore become increasingly important, with emerging frameworks seeking to enable personalized targeting while maintaining consumer control over personal data (Han et al., 2023).

Beyond trust and purchase behavior, consumer engagement and customer experience represent important mechanisms through which personalization may generate marketing outcomes. AI-based personalization, chatbots, AI-generated content, and data analytics have been shown to enhance

customer experience and engagement in digital marketing (Rane et al., 2024; Peruchini et al., 2024). However, the relationship between AI personalization and consumer responses is not always straightforward (Shajrawi, 2025). Nevertheless, existing research remains fragmented across technological, behavioral, psychological, and marketing perspectives (El Koufi & Belangour, 2024; Henriques & Pinto, 2023). Some studies emphasize algorithmic recommendation and purchase prediction, whereas others focus on trust, customer experience, loyalty, privacy, or platform-specific personalization (Gao et al., 2021; J. Wei et al., 2023). Moreover, evidence regarding personalization is not uniformly positive; recommendation-system design can, for example, influence consumption diversity and potentially produce homogenization effects (Molai & Lee, 2022).

Accordingly, a systematic synthesis is needed to integrate the fragmented evidence and clarify how AI-driven personalization influences consumer trust, engagement, and purchase behavior, as well as how these constructs interact across digital marketing contexts. Therefore, this systematic literature review aims to unpack the mechanisms, antecedents, outcomes, and contextual conditions surrounding AI-driven personalization in digital marketing. By synthesizing existing evidence, this study seeks to develop a more integrated understanding of the relationship between AI personalization and consumer responses while identifying theoretical, methodological, and empirical gaps that can guide future research.

METHODS OF RESEARCH

This study employed a Systematic Literature Review (SLR) to examine the development, conceptualization, and implications of AI-driven personalization in digital marketing. The review was guided by four research questions (RQs) covering publication trends and intellectual structures, conceptualization and application, consumer trust and engagement, and purchase intention and purchase behavior. The research questions and corresponding objectives are presented in Table 1.

Table 1. Research Questions and Objectives

ID	Research Questions (RQs)	Research Objectives
RQ1	What are the publication trends and intellectual structures of research on AI-driven personalization in digital marketing?	To identify the publication trends and intellectual structures of research on AI-driven personalization in digital marketing.
RQ2	How has AI-driven personalization been conceptualized and applied in digital marketing?	To examine the conceptualization and application of AI-driven personalization in digital marketing.
RQ3	How does AI-driven personalization influence consumer trust and engagement?	To analyze the influence of AI-driven personalization on consumer trust and engagement.
RQ4	How does AI-driven personalization influence consumer purchase intention and purchase behavior, and what factors moderate or mediate these relationships?	To examine the effects of AI-driven personalization on consumer purchase intention and behavior, including relevant mediating and moderating factors.

Source: Author's work, 2026

The literature search was conducted using the Scopus database, considering its broad coverage of multidisciplinary research in digital marketing, business, management, computer science, engineering, and related fields. The initial search identified 2,906 records. The dataset was first limited to publications between 2021 and 2025, reducing the number of records to 729. The search was

subsequently restricted to the subject areas of Computer Science, Engineering, Business, Management and Accounting, and Economics, Econometrics and Finance, resulting in 646 records. Finally, only English-language articles were retained, producing a dataset of 457 records for screening. The search and filtering process was designed to capture research addressing the intersection of artificial intelligence, personalization, digital marketing, and consumer-related outcomes.

The screening process was conducted through title and abstract assessment, resulting in 49 records being excluded and 408 reports being sought for retrieval. Of these, 267 reports could not be retrieved, leaving 141 reports for full-text eligibility assessment. Of the 408 reports sought for retrieval, 267 (65.4%) could not be retrieved, primarily due to access restrictions, including publisher paywalls, subscription requirements, and limited institutional access to the full-text versions. As the review relied on accessible full-text studies for eligibility assessment, these reports were excluded from the subsequent screening stage. Following full-text assessment, 90 reports were excluded because of an irrelevant AI focus ($n = 1$), irrelevant consumer outcomes ($n = 2$), or a predominantly technical focus unrelated to consumer and digital marketing perspectives ($n = 87$). Consequently, 51 studies were included in the final review. The complete selection procedure is illustrated in Figure 1.

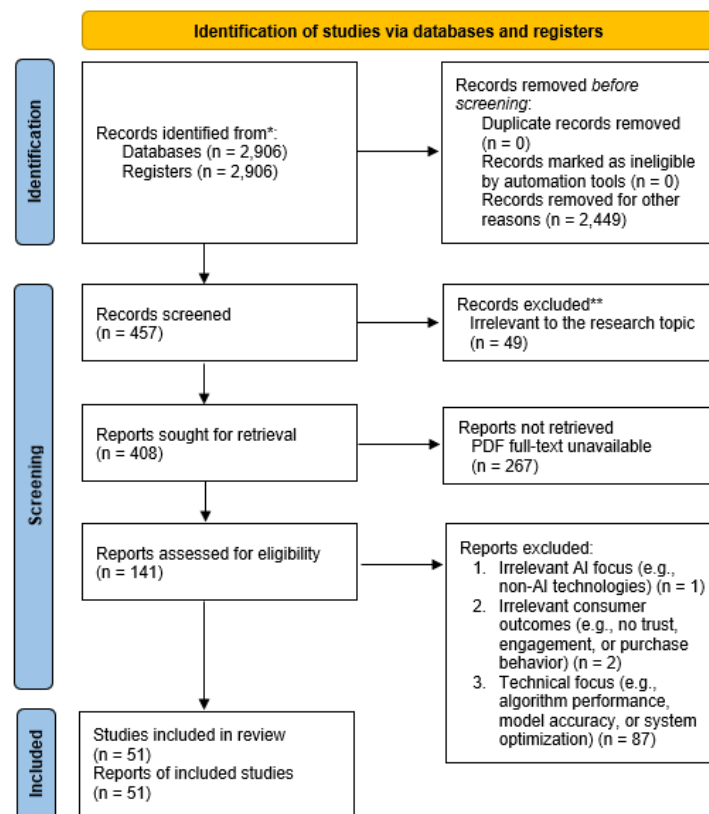


Figure 1. PRISMA Flow Diagram of the Study Selection Process

Source: Author's work

The inclusion and exclusion process was designed to ensure that the selected studies were directly relevant to the research questions. Studies were excluded when AI was not substantially related to personalization, when consumer outcomes were outside the scope of the review, when the research focused exclusively on technical system development, or when the context was unrelated to digital marketing and digitally mediated consumer behavior. This screening approach enabled the final dataset

to concentrate on studies examining AI-enabled personalization and its consumer- and marketing-related implications.

Data from the 51 included studies were systematically extracted according to publication characteristics, research context, AI-driven personalization applications, consumer-related constructs, research methods, and major findings. The methodological quality of the included studies was also assessed using the Mixed Methods Appraisal Tool (MMAT) to evaluate the appropriateness of the study designs, sampling strategies, measurements, data collection procedures, and analytical approaches. The quality appraisal was conducted to identify potential methodological weaknesses and assess the risk of bias across the included evidence. The extracted evidence was subsequently synthesized thematically according to RQ1–RQ4, with particular attention given to the relationships among AI-driven personalization, consumer trust, engagement, purchase intention, and purchase behavior, including reported mediating and moderating factors.

To address RQ1, bibliometric analysis was conducted using VOSviewer. Keyword co-occurrence analysis was employed to identify the major research themes and intellectual structures within the literature. Network visualization was used to examine relationships among frequently occurring keywords, while overlay visualization was applied to observe the temporal development of research themes. Density visualization was further used to identify dominant and emerging areas of research. The bibliometric mapping was complemented by thematic synthesis to provide a broader interpretation of how AI-driven personalization research has evolved and how its technological, psychological, and behavioral dimensions are interconnected.

RESULT AND DISCUSSION

Result

Overview of the Selected Studies

The final dataset comprised 51 studies published between 2021 and 2025, reflecting the growing academic interest in AI-driven personalization in digital marketing. The number of publications increased substantially over the period, from 3 studies in 2021 and 2 in 2022 to 7 in 2023, 9 in 2024, and 30 in 2025, indicating a rapid expansion of research in this field.

The selected studies cover diverse digital marketing contexts, including e-commerce, online retailing, social commerce, digital advertising, and recommendation systems. The technologies examined range from machine learning and predictive analytics to AI-based recommendation and personalization systems. Earlier studies primarily focused on purchase prediction and recommendation applications (Esmeli et al., 2021; Korösi & Vinkó, 2021), while later research increasingly addressed customer experience, privacy, personalization, retention, and consumer decision-making (Han et al., 2023; Sasanuma & Yang, 2024).

Recent studies further demonstrate a shift toward consumer-centered outcomes, particularly customer retention, purchase decisions, and brand-related responses (Panya et al., 2025; Shajrawi, 2025). Overall, the literature indicates an evolution from technical applications of AI toward broader investigations of personalization and consumer behavioral outcomes.

Intellectual Structure and Research Themes

VOSviewer Network Visualization

Figure 2 presents the VOSviewer network visualization of keyword co-occurrence in research on AI-driven personalization in digital marketing. The visualization reveals several interconnected

research themes centered on artificial intelligence, e-commerce, sales, deep learning, and machine learning. The strong connections among these terms indicate that AI-driven personalization research is closely associated with technological capabilities and their application in digital commerce. The network also highlights related themes such as predictive analytics, user behaviors, recommendation systems, customer segmentation, and collaborative filtering, demonstrating the importance of data-driven approaches in understanding and influencing consumer behavior.

A distinct consumer-oriented stream is represented by keywords such as customer experience, trust, purchase intention, loyalty, and algorithmic transparency. These terms are connected to artificial intelligence and AI-powered personalization, suggesting an increasing research interest in the consumer consequences of AI-enabled marketing. Meanwhile, terms such as big data, supervised learning, adversarial networks, federated learning, and convolutional neural networks represent the technological foundations supporting AI-based personalization. Overall, the network indicates that the field integrates technological development with consumer-oriented marketing outcomes.

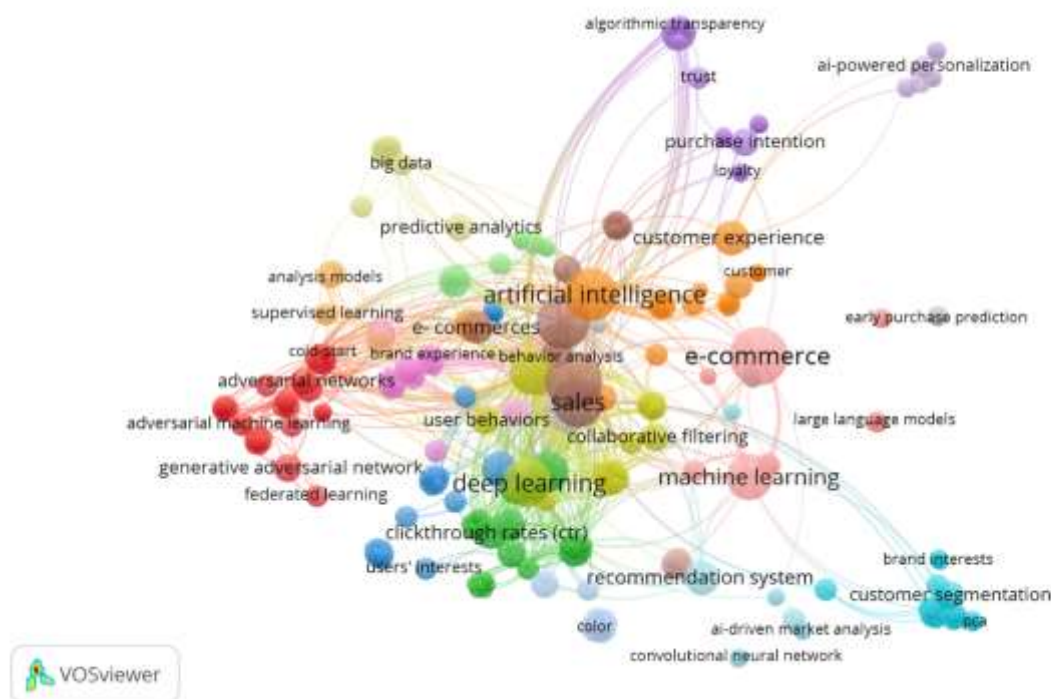


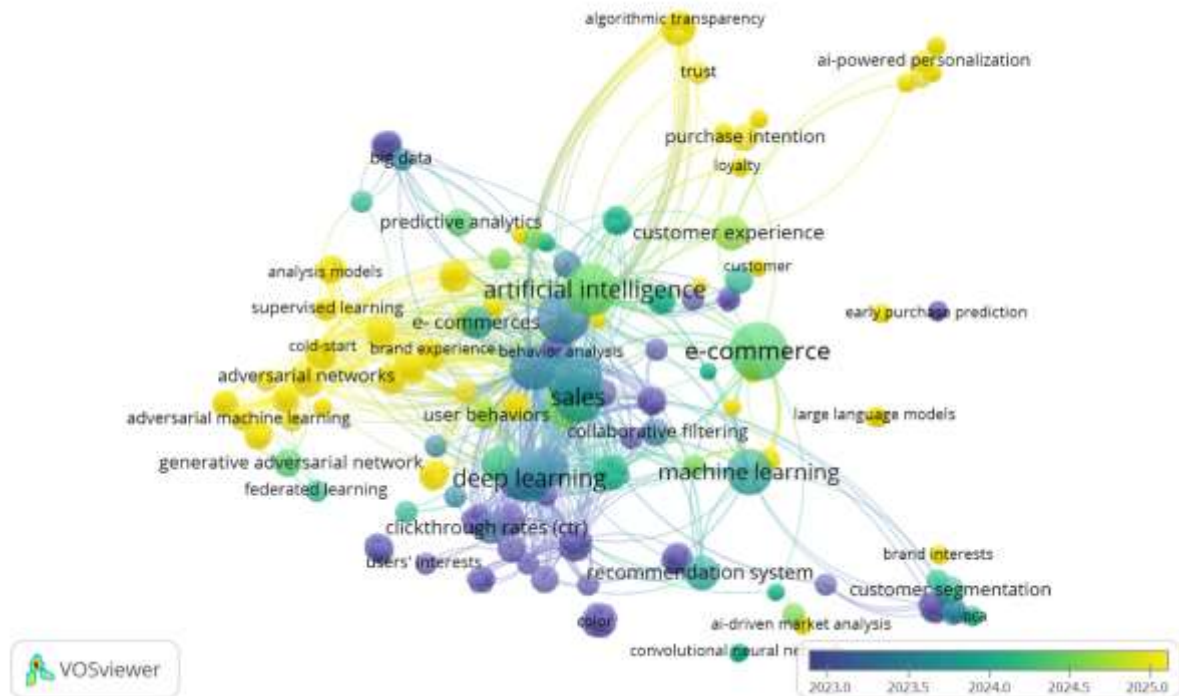
Figure 2. VOSviewer Network Visualization of Keyword Co-occurrence
Source: Author's work

VOSviewer Overlay Visualization

Figure 3 illustrates the temporal evolution of the identified research themes based on the average publication year of the keywords. The visualization indicates a shift from predominantly technical and computational topics toward more consumer- and marketing-oriented themes. Earlier research is associated with terms such as deep learning, machine learning, collaborative filtering, and recommendation systems, reflecting the technological foundation of AI-enabled personalization.

More recent research is represented by keywords including AI-powered personalization, algorithmic transparency, trust, purchase intention, customer experience, and loyalty. This temporal pattern suggests that research has progressively moved beyond the development of AI technologies toward understanding how these technologies shape consumer perceptions and behavioral responses.

In particular, the emergence of trust, transparency, and AI-powered personalization as recent themes indicates increasing attention to the responsible and consumer-centered application of AI in digital



marketing.

Figure 3. VOSviewer Overlay Visualization of Research Themes
Source: Author's work

VOSviewer Density Visualization

Figure 4 presents the keyword density visualization, where areas with higher density represent themes that occur more frequently and have stronger connections within the literature. The most prominent concentration is observed around artificial intelligence, sales, deep learning, e-commerce, and machine learning, indicating that these concepts constitute the core of the research landscape.

Moderate-density areas include customer experience, predictive analytics, user behaviors, recommendation systems, and purchase intention, demonstrating their growing relevance to AI-driven digital marketing. Meanwhile, relatively dispersed themes such as algorithmic transparency, trust, AI-powered personalization, large language models, and customer segmentation indicate more specialized or emerging research directions. These patterns suggest that the field is gradually expanding from technological optimization toward issues involving consumer trust, personalization, experience, and purchasing behavior.

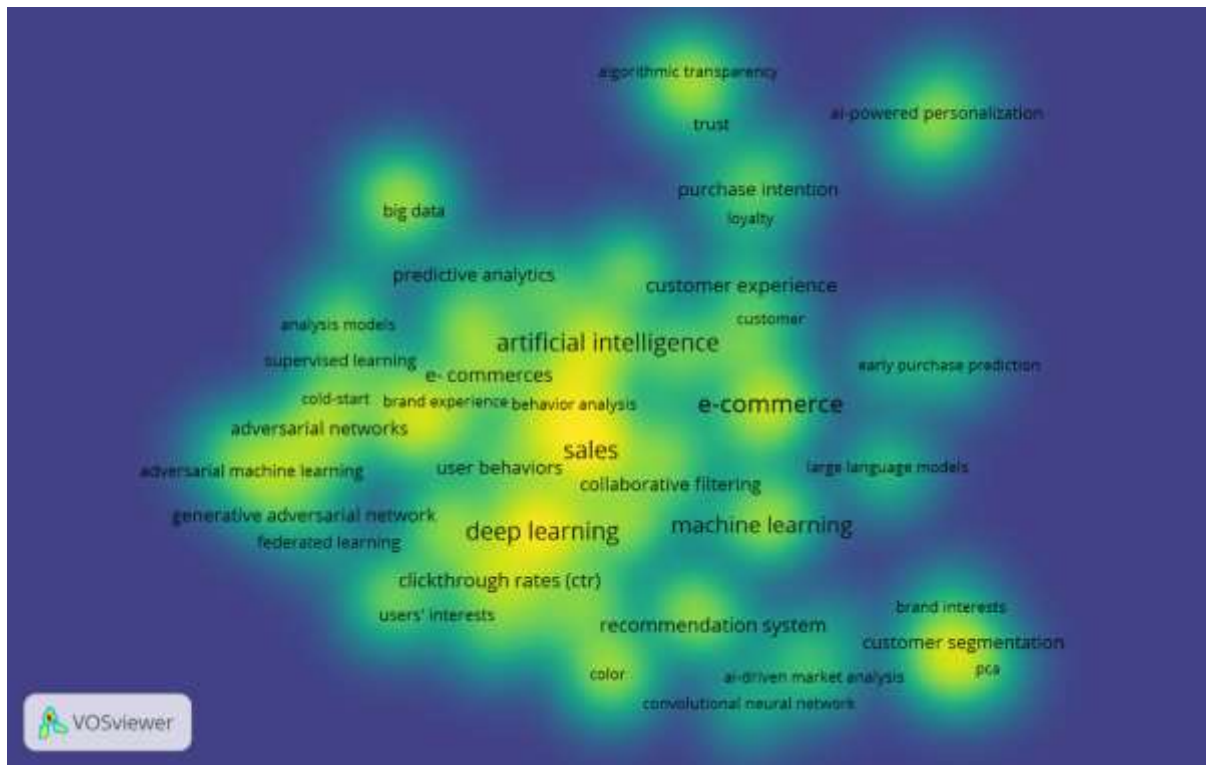


Figure 4. VOSviewer Density Visualization of Research Themes
Source: Author's work

Thematic Findings

The thematic synthesis of the 51 selected studies reveals five interconnected themes that characterize the development of AI-driven personalization in digital marketing: AI-enabled recommendation and personalization, data-driven consumer profiling and prediction, customer experience and engagement, consumer trust and responsible personalization, and purchase intention and behavioral outcomes. These themes demonstrate the evolution of AI research from technological optimization toward increasingly consumer-centered applications.

AI-Enabled Recommendation and Personalization

The first dominant theme concerns the use of AI and machine learning to provide personalized recommendations and marketing interventions. Recommendation systems represent one of the most established applications, using user–item interactions and behavioral data to identify consumer preferences and improve product recommendations (Gao et al., 2021; Xia et al., 2024). Machine-learning-based systems have also been applied to targeted sales promotion and real-time marketing, enabling firms to identify potential buyers and deliver personalized offers during ongoing shopping sessions (Esmeli et al., 2021; Korösi & Vinkó, 2021; Seo & Yoo, 2023). More recent studies extend these capabilities through deep learning, multimodal information, and adaptive recommendation architectures to address dynamic consumer preferences and information overload (Diao et al., 2025; Sathya et al., 2024; Z. Wei et al., 2025). This indicates that personalization is increasingly moving from static recommendation toward dynamic, context-aware, and behavior-responsive marketing.

Data-Driven Consumer Profiling and Behavioral Prediction

A second theme focuses on the use of AI to understand, segment, and predict consumer behavior. Customer segmentation has been implemented using clustering techniques based on behavioral and transactional characteristics, enabling marketers to identify distinct customer groups and develop more targeted strategies (Hussein et al., 2024; Ullah et al., 2023). Other studies employ predictive analytics and deep learning to anticipate purchasing trends, click-through rates, and consumer responses (Ma & Ye, 2025; Yang et al., 2022; Zhang et al., 2023). This stream suggests that AI-driven personalization relies heavily on the ability to transform large-scale behavioral data into actionable consumer profiles. Consequently, personalization increasingly functions not only as a recommendation mechanism but also as a predictive marketing capability.

Customer Experience and Consumer Engagement

The third theme emphasizes the relationship between AI personalization, customer experience, and engagement. AI-enabled tools such as personalized recommendations, chatbots, predictive analytics, and intelligent customer-service systems can provide more relevant and efficient digital interactions (Rane et al., 2024). Research specifically examining recommendation engines shows that their effectiveness depends partly on how consumers interact with them throughout the customer journey (Sasanuma & Yang, 2024). The broader literature further connects AI innovation and personalization with enhanced customer experience and engagement, with customer experience potentially translating technological capabilities into stronger brand relationships (Peruchini et al., 2024; Shajrawi, 2025). Similarly, AI-supported personalization in live-streaming and social-commerce environments has been associated with increased consumer interaction and purchase intention (Mei et al., 2025). These findings position customer experience and engagement as important behavioral pathways through which personalization can generate marketing value.

Consumer Trust, Privacy, and Responsible Personalization

The fourth theme highlights the trust–personalization tension. Although AI personalization can increase relevance and convenience, the extensive use of consumer data raises concerns regarding privacy, transparency, and perceived control. Privacy-preserving digital marketing frameworks have therefore emerged to enable marketers to utilize consumer information while maintaining greater user control over personal data (Han et al., 2023). Recent evidence further indicates that algorithmic transparency and platform governance can strengthen trust and engagement, particularly when consumers interact with intelligent recommendation systems. Trust also appears to be an important determinant of consumer acceptance of AI-enabled shopping, while perceived risk may negatively influence behavioral intentions (Dixit et al., 2025). Other research demonstrates that trust can be shaped by contextual and consumer-specific factors, including cultural or value-based considerations in personalized e-commerce (Syahraeni et al., 2025). Thus, effective personalization depends not only on technological accuracy but also on whether consumers perceive AI systems as transparent, secure, controllable, and trustworthy.

Purchase Intention and Behavioral Outcomes

The fifth theme concerns the behavioral consequences of AI-driven personalization. Several studies demonstrate the use of AI to predict purchase intention and identify consumers with a high probability of conversion, enabling real-time offers and targeted marketing (Esmeli et al., 2021; Seo & Yoo, 2023). Empirical studies further associate AI personalization with purchase decisions, repeat

purchase intention, loyalty, and customer retention (Moodley & Sookhdeo, 2025; Panya et al., 2025). The relationship is also evident in mobile and social-commerce settings, where AI-driven personalization and related digital marketing elements influence purchase intention among younger consumers (Hasim & Nazri, 2025). In addition, AI-enhanced brand experiences may encourage repurchase decisions, suggesting that the effect of personalization can extend beyond initial conversion toward longer-term consumer relationships. However, recommendation systems may also produce unintended consequences, such as changes in consumption diversity, indicating that personalization does not necessarily generate uniformly positive behavioral effects (Molaie & Lee, 2022).

Discussion

Synthesis of Key Findings

The findings suggest that AI-driven personalization should not be understood simply as a technological tool for improving marketing precision. Although the literature demonstrates the growing use of AI for recommendation, prediction, segmentation, and targeted marketing, the effectiveness of personalization ultimately depends on how consumers interpret and respond to these practices. Earlier studies largely emphasize the predictive and computational capabilities of AI, particularly in identifying purchase intentions and optimizing recommendations (Esmeli et al., 2021; Korösi & Vinkó, 2021). More recent research, however, increasingly focuses on customer experience, trust, personalization, and behavioral responses. This shift indicates a broader transformation in the field from algorithm-centered personalization toward consumer-centered personalization.

Importantly, the findings reveal a tension between personalization and consumer autonomy. More extensive use of consumer data can increase the relevance of recommendations, but it can simultaneously intensify concerns regarding privacy, transparency, and perceived surveillance. Thus, greater personalization should not automatically be interpreted as greater marketing effectiveness. Research on privacy-preserving digital marketing demonstrates that personalization increasingly requires mechanisms that allow firms to utilize consumer information while maintaining greater consumer control. Similarly, trust has emerged as an important consideration in AI-enabled purchasing environments, suggesting that consumers evaluate not only the usefulness of personalized recommendations but also whether the underlying AI system is trustworthy (Dixit et al., 2025).

This finding challenges a purely technology-driven interpretation of AI personalization. The critical issue is therefore not whether firms can personalize, but under what conditions personalization is perceived as valuable and acceptable by consumers. Customer experience and engagement may improve when personalization is relevant and useful, but these benefits can be weakened when consumers perceive personalization as intrusive or insufficiently transparent. The literature therefore points to a conditional rather than universally positive relationship between AI personalization and consumer outcomes.

Theoretical Implications

The review extends existing perspectives on digital marketing by demonstrating that technological sophistication alone is insufficient to explain consumer responses to AI personalization. The prominence of trust, customer experience, privacy, and perceived risk in the reviewed literature indicates that consumer responses are shaped by both functional benefits and psychological evaluations.

A particularly important theoretical implication is the need to distinguish between personalization capability and personalization effectiveness. AI may possess sophisticated predictive capabilities, yet consumers may not respond positively if the recommendations are perceived as irrelevant, intrusive, or opaque. This distinction helps explain why findings across studies are not always consistent. For

example, research on AI-enabled purchasing identifies trust as important, while other research suggests that perceived usefulness or ease of use does not necessarily guarantee stronger purchase responses (Dixit et al., 2025; Moodley & Sookhdeo, 2025). Therefore, future models should incorporate consumer perceptions and contextual conditions rather than assuming that technological capability directly determines behavioral outcomes.

Practical Implications for Digital Marketers

The findings suggest that marketers should reconsider the assumption that more personalization is inherently better. Effective AI personalization requires an appropriate balance between relevance and consumer privacy. Firms should therefore prioritize transparency regarding data collection, provide meaningful personalization, and avoid excessive targeting that may be perceived as intrusive.

The findings also imply that marketing performance should not be evaluated exclusively through immediate conversion or purchase intention. Customer experience, trust, engagement, and retention provide important indicators of whether personalization creates sustainable value. This is particularly relevant because AI-driven personalization can strengthen customer retention when consumers perceive the technology as useful and trustworthy (Panya et al., 2025). Consequently, personalization strategies should be evaluated not only according to their ability to increase short-term sales but also according to their effects on longer-term consumer relationships.

Integrated Interpretation of Consumer Outcomes

The literature also suggests that the relationship between personalization and consumer behavior is more complex than a simple positive effect. Personalization can facilitate product discovery and improve relevance, but recommendation systems may also narrow consumers' exposure to alternative products and influence the diversity of their consumption choices (Molaie & Lee, 2022). This raises an important issue: personalization may simultaneously improve marketing efficiency and constrain consumer choice.

This tension is particularly important for digital marketing research because successful personalization from the firm's perspective may not always correspond to a positive consumer experience. Consequently, future research should examine both the benefits and unintended consequences of AI personalization, particularly concerning consumer autonomy, privacy, algorithmic transparency, and diversity of choice.

Limitations and Future Research

The reviewed literature remains limited by its strong emphasis on purchase intention and short-term consumer responses. More research is needed to determine whether these intentions translate into actual purchasing behavior and sustained customer relationships. Longitudinal and experimental studies could provide stronger evidence regarding the durability and causal mechanisms of AI personalization.

Future research should also investigate emerging technologies such as generative AI and large language models, as their ability to generate highly individualized content introduces new questions concerning authenticity, transparency, privacy, and consumer trust. Cross-cultural research is likewise needed because consumer acceptance of personalization may vary according to cultural norms, technological familiarity, and privacy expectations.

CONCLUSION

This systematic literature review provides an overview of the development and growing importance of AI-driven personalization in digital marketing. The findings indicate that the field has expanded from technology-focused applications toward broader consumer-centered concerns, particularly trust, engagement, customer experience, and purchasing responses. The review also highlights that the effectiveness of AI personalization is shaped not only by technological capabilities but also by consumer perceptions of relevance, transparency, privacy, and value.

Overall, the reviewed literature demonstrates that AI-driven personalization represents an increasingly important component of contemporary digital marketing, while its consumer effects remain context-dependent. The study therefore highlights the need for future research to move beyond technological performance and examine actual consumer behavior, emerging AI technologies, and the conditions that shape consumer acceptance of personalized marketing. This broader perspective can support both theoretical development and more responsible implementation of AI-driven personalization in digital marketing.

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