

Mapping AI Adoption in Digital Marketing: A Bibliometric Analysis, Systematic Literature Review, and Future Research Agenda

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Abstract

This study aims to map the development of artificial intelligence (AI) adoption in digital marketing, identify dominant research themes, examine methodologies, theoretical foundations, and empirical contexts, and propose future research directions. The study integrates bibliometric analysis and a systematic literature review of 94 articles published between 2018 and 2026, selected through identification, screening, eligibility, and inclusion stages. Bibliometric analysis examines publication trends, journals, countries, citations, collaboration, and keyword relationships, while VOSviewer generates network, density, and overlay visualizations. Findings reveal rapid publication growth, peaking provisionally in 2025. Dominant themes include artificial intelligence, digital marketing, machine learning, social media, generative AI, customer experience, trust, transparency, privacy, and personalization. Previous studies predominantly employ quantitative approaches, cross-sectional surveys, and structural equation modeling, with Signaling Theory among the most frequently applied theoretical foundations. Major research gaps include inconsistent definitions of AI adoption, limited longitudinal studies, insufficient integration of technological, organizational, and behavioral perspectives, and inadequate attention to ethical risks. The study contributes by combining bibliometric mapping with systematic content synthesis to develop a stage-based socio-technical understanding of AI adoption. It concludes that effective AI adoption requires integrating technological capabilities, organizational readiness, consumer responses, and responsible governance to achieve sustainable digital marketing outcomes.

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Keywords: Artificial intelligence, AI adoption, Digital marketing, Bibliometric analysis, Systematic literature review, Future research agenda.

INTRODUCTION

The development of artificial intelligence (AI) has transformed digital marketing from routine automation into data-driven decision-making, customer behavior prediction, market segmentation, personalization, social media management, content creation, and customer service. Previous studies have highlighted the growing role of AI in marketing analytics, digital transformation, communication automation, and customer interaction optimization (Ullal et al., 2021; Basri, 2020; Miklosik et al., 2019; Biswas et al., 2023; Rajendran, 2023; Nalbant & Aydin, 2023; Ziakis & Vlachopoulou, 2023). Recent research further demonstrates its contribution to generative content, customer experience management, strategic decisions, and marketing effectiveness (Yaiprasert & Hidayanto, 2023; Wu & Liu, 2024; Saura et al., 2024; Islam et al., 2024; Giannakopoulos et al., 2024). Consequently, AI has become an integral component of digital marketing infrastructure, influencing interactions among organizations, platforms, brands, and consumers.

The rapid expansion of AI research in digital marketing reflects its increasing academic relevance. An analysis of 94 Web of Science documents published between 2018 and 2026 reveals an annual growth rate of 44.49%, comprising 78 publication sources, 257 authors, and 4,838 references. The average document age is 1.93 years, with 13.63 citations per document. Publications increased after 2020, accelerated in 2024, and peaked provisionally in 2025, while 2026 remains an incomplete indexing year. These findings indicate a rapidly developing research field characterized by fragmented concepts, theoretical perspectives, methodological approaches, and empirical contexts.

Existing studies examine AI applications in marketing performance and organizational decisions (Turlakova & Shumilo, 2025; Aljumah et al., 2025; Zúñiga Vasquez & Mora Povedar, 2025; Reed et al., 2025), personalization, consumer engagement, and customer relationship management (Beyari & Hashem, 2025; Ahn & Kim, 2025; Omeish et al., 2024; Warintarawej et al., 2024). Other research explores generative AI, automated content, algorithms, and human-machine collaboration (Kaponis et al., 2025; Koli Patil & Rice, 2026; Gündüzyeli, 2024, 2025, 2026; Yildirim & Gündüzyeli, 2026). Studies by Jin et al. (2024/2025), Han et al. (2023), Liu et al. (2021/2023), He et al. (2025), and Cheng and He (2025) further investigate virtual influencers, digital agents, and consumer responses to AI-mediated communication. Despite these

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developments, AI adoption remains inconsistently defined, encompassing technology acceptance, intention to use, implementation, integration, and sustained utilization.

VOSviewer mapping identifies several interconnected themes, including generative AI, content creation, customer experience, consumer engagement, information quality, trust, transparency, privacy, and technical accuracy. The thematic clusters encompass content generation, consumer acceptance and personalization, AI-enabled services, and technical applications involving experiments and deep learning. The prominence of information and customer experience suggests that AI effectiveness depends on converting technological capabilities into meaningful consumer experiences. Meanwhile, increasing attention to privacy, transparency, and ethical implications highlights the need to integrate technical, organizational, behavioral, and governance perspectives.

However, AI adoption does not consistently generate positive outcomes. Its effectiveness depends on data quality, technological capabilities, organizational readiness, industry characteristics, and consumer acceptance (Manolică et al., 2025; Acatrinei et al., 2025; Redda, 2026; Daneshjo et al., 2026; Khan et al., 2025; Shi & Wang, 2026). Trust, perceived risk, privacy, information quality, and transparency also influence consumer responses (Kravets et al., 2025; Blanco-Ruiz et al., 2024; Jin et al., 2026; Yıldırım & Dursun, 2026; Abildaeva et al., 2026). Although AI can improve efficiency and personalization, it may also introduce algorithmic bias, manipulation, reduced authenticity, and data misuse. These concerns underscore the importance of organizational capabilities, system quality, and stakeholder implications in AI implementation (Al-Ababneh et al., 2024; Zaki et al., 2025; Saini et al., 2026; Giannakopoulos et al., 2026).

Methodologically, AI marketing research employs surveys, SEM, PLS-SEM, experiments, interviews, content analysis, text mining, and mixed methods, with cross-sectional surveys remaining dominant. Its theoretical foundations include technology acceptance, behavioral perspectives, organizational resources, credibility, signaling, and consumer trust frameworks (Fayed, 2021; Gündüzyeli, 2024, 2025, 2026; Zhao et al., 2022; Gastmann & Bastos, 2025; Aljumah et al., 2026). The predominance of single-country studies and perception-based measurements limits understanding of adoption as a dynamic process. Furthermore, the retraction of Zhao et al. (2023) demonstrates the importance of evaluating publication quality alongside bibliometric influence.

Although previous studies have examined specific AI applications, consumer outcomes, and organizational contexts, limited attention has been given to integrating bibliometric structures with theoretical foundations, methodological characteristics, adoption stages, and



responsible AI governance. To address this gap, the present study combines bibliometric analysis, VOSviewer mapping, and a systematic literature review within the same corpus. This approach enables the identification of publication patterns, thematic relationships, empirical evidence, and research limitations while supporting a stage-based socio-technical framework connecting technological capabilities, organizational readiness, consumer responses, and ethical governance.

Accordingly, the study entitled "Mapping AI Adoption in Digital Marketing: A Bibliometric Analysis, Systematic Literature Review, and Future Research Agenda" aims to systematically map and synthesize AI adoption research in digital marketing. Specifically, this study seeks to examine publication trends based on year, journal, and country of origin; identify dominant research themes and keywords; analyze the methodological approaches, theoretical foundations, and empirical contexts employed in previous studies; identify unresolved research gaps; and propose directions for future research. By addressing these aspects, the study contributes to an integrated understanding of AI adoption as a technological, organizational, behavioral, and ethical process, providing a conceptual foundation for future research and responsible digital marketing practices.

RESEARCH METHOD

This study employed a mixed-method literature review integrating bibliometric analysis and a systematic literature review (SLR) to examine artificial intelligence (AI) adoption in digital marketing. Bibliometric analysis identified publication trends, journals, countries, authors, citations, keyword relationships, and thematic developments, while the SLR examined research objectives, methodologies, theoretical foundations, empirical contexts, findings, limitations, and recommendations. Data were retrieved from the Web of Science Core Collection on July 18, 2026, using the search string ("Artificial Intelligence" OR "AI" OR "Machine Learning" OR "Deep Learning" OR "Generative AI") AND ("Digital Marketing" OR "Online Marketing" OR "Internet Marketing" OR "E-marketing" OR "Social Media Marketing" OR "Digital Advertising") across titles, abstracts, and keywords.

The initial search identified 264 records. Inclusion criteria comprised English-language original journal articles published between 2018 and 2026, directly addressing AI in digital marketing and providing sufficient information for analysis. Screening excluded 132 irrelevant records, leaving 132 articles. Document-type and publication-status screening identified 53 overlapping exclusion flags representing 37 unique records, including conference proceedings, early-access-only publications, review articles, retracted publications, and book reviews. One German-language article was subsequently excluded, resulting in 94 articles for final analysis.



Data were extracted using a structured worksheet covering bibliographic information, research methods, theories, empirical contexts, findings, and limitations. VOSviewer was employed to visualize bibliometric networks and thematic relationships, while systematic content analysis was used to synthesize research patterns, identify knowledge gaps, and formulate future research directions.

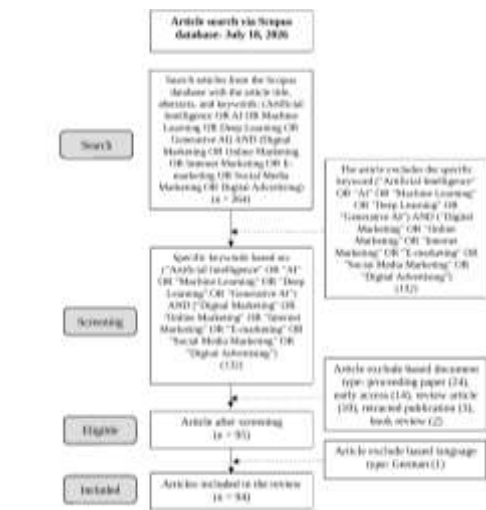


Figure 1. Article Selection Following the PRISMA Protocol

Data analysis involved two complementary stages. First, descriptive bibliometric analysis examined publication trends, journals, countries, authors, affiliations, citations, and keywords. VOSviewer generated network, density, and overlay visualizations to identify thematic clusters and temporal developments. Second, content analysis classified articles by methodology, theory, empirical context, AI applications, adoption drivers, marketing outcomes, and governance issues. The findings were compared and integrated to identify research patterns, inconsistencies, and gaps, address the five research questions, and formulate a future research agenda.

RESEARCH RESULTS

Results of Document Identification and Selection

The Web of Science Core Collection search identified 264 records. Topic screening based on the predefined AI and digital-marketing terms excluded 132 records that did not meet the substantive scope, leaving 132 records for document-type and publication-status screening. The database export contained 53 exclusion flags across proceeding-paper, early-access, review-article, retracted-publication, and book-review categories. Because several records carried more

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than one status label, these flags corresponded to 37 unique records; after their removal, 95 records remained. One German-language record was then excluded at the eligibility stage, producing a final sample of 94 articles. The sequence 264 → 132 → 95 → 94 is used consistently in the PRISMA diagram and Table 1.

Table 1. Stages of Article Selection

Stage	Description	Number of documents
Identification	Documents from the initial search	264
Keyword and substantive screening	Records excluded as outside the topical scope	132
Document-type and publication-status screening	37 unique records excluded after deduplicating 53 overlapping document/status flags	37
After screening	Records remaining after topical and status screening	95
Eligibility / language screening	German-language record excluded	1
Final inclusion	Articles included in bibliometric analysis and SLR	94

The revised selection flow distinguishes category-level exclusion flags from unique excluded records so that each PRISMA stage can be verified arithmetically. The final sample therefore consists of 94 eligible articles published during 2018–2026. All 94 articles were used for bibliographic analysis, and their substantive contents were coded for methods, theories, contexts, findings, limitations, and research recommendations. Publication metadata included year, source, author, affiliation, country, keywords, and citations; these data form the basis for the publication-trend and thematic analyses reported below.

General Characteristics of the Dataset

The final dataset consists of 94 documents from 78 publication sources. These documents involve 257 authors and contain 4,838 references. The average number of authors is 2.94 per document, while 17 documents were written by a single author. The proportion of publications

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involving international collaboration was 25.53 percent. The average document age was 1.93 years, and the average citation count was 13.63 citations per document. The keyword content consisted of 141 Keywords Plus and 400 author keywords.

Table 2. Summary of Bibliographic Characteristics

Indicator	Result
Publication period	2018–2026
Number of documents	94
Number of publication sources	78
Number of authors	257
Number of references	4,838
Average authors per document	2.94
Single-authored documents	17
International collaboration	25.53%
Average document age	1.93 years
Average citations per document	13.63
Keywords Plus	141
Author keywords	400

After all screening stages, the analytical dataset contained 94 eligible journal articles from the Web of Science Core Collection. Records flagged as proceeding papers, early-access-only items, review articles, retracted publications, book reviews, or non-English publications were removed before the substantive synthesis, with overlapping database status labels deduplicated at the record level. The retained articles were distributed across journals in marketing, communication, computing, information systems, electronic commerce, and sustainability. The 78 publication sources indicate that most journals contributed only one or a few articles, while authorship was also distributed across many researchers rather than concentrated in a single author group.

Publication Trends by Year

The number of publications was one article in 2018 and remained one article in 2019. Output increased to three articles in 2020 and seven articles in 2021. In 2022, five articles were recorded, increasing to nine articles in 2023. The number reached 17 articles in 2024 and

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increased to 32 articles in 2025. The 2026 data recorded 19 articles at the time of data collection. The total number across all years was 94 articles.

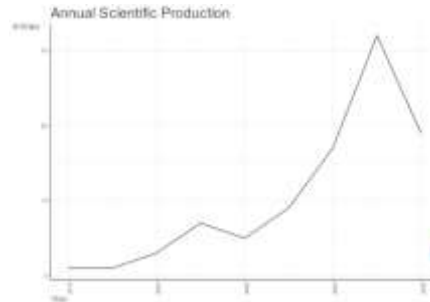


Figure 2. Annual Scientific Production Based on Web of Science Data

The annual publication growth rate in the dataset was 44.49 percent. Articles from the 2018–2021 period had higher average annual citation rates than articles from more recent years. The highest average citation value appeared among publications around 2019. Average citations declined in 2022, increased again in 2023, and declined for publications from 2024–2026. The publication life-cycle curve produced a coefficient of determination of approximately 0.914. The highest point on the curve occurred in 2025.

Distribution of Publication Sources, Authors, Affiliations, and Countries

Sustainability was the source with the highest number of publications, with four documents. Journal of Theoretical and Applied Electronic Commerce Research published three documents. Asia Pacific Journal of Marketing and Logistics, Australasian Marketing Journal, Communication Today, Computers, Electronic Commerce Research, IEEE Access, Information, and Journal of Marketing Communications each published approximately two documents. The remaining articles were distributed across journals that each contributed one or a few publications. The total number of identified publication sources was 78 journals or outlets. These data were compiled from the source metadata of the analyzed documents.



Figure 3. Publication Sources with the Highest Number of Documents

Gunduzeyli B was recorded as the most productive author, with four documents. Kumar S produced three documents. Aljumah AI, El Refae G, Giannakopoulos NT, Gupta R, Hanif S, He J, Jurisova V, and Kanellous N each produced approximately two documents. Istanbul Topkapi University was the affiliation with the highest contribution, with nine articles. Al Ain University produced seven articles and Rey Juan Carlos University produced six articles. AGR University Athens, Lehigh University, and University of St. Cyril and Methodius each produced approximately four articles.

China ranked first based on the corresponding author's country. It was followed by India, the United States, Saudi Arabia, Turkey, the United Kingdom, and the United Arab Emirates. Chinese publications were dominated by single-country articles but also included internationally collaborative articles. India and the United States had both domestic and cross-country publications. By country citation count, the United Kingdom had approximately 250 citations and the United States approximately 210 citations. India ranked next with more than 100 citations. Other countries in the citation group included Romania, Saudi Arabia, Spain, Slovakia, Turkey, Greece, and the United Arab Emirates.

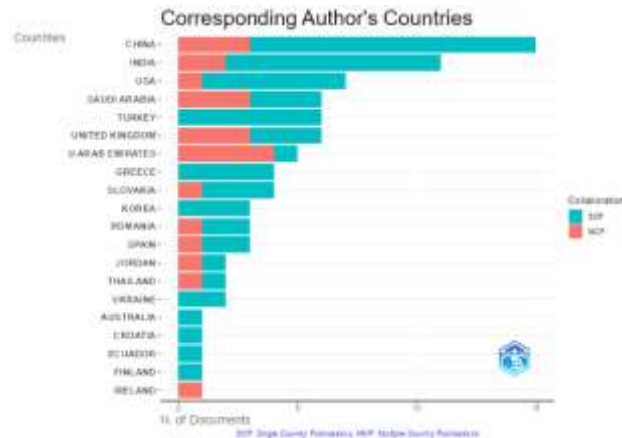


Figure 4. Distribution of Publications by Corresponding Author's Country

Keywords and Research Themes

The keywords artificial intelligence and digital marketing each appeared 44 times. Other variants of the term artificial intelligence appeared approximately 16 times. Machine learning appeared approximately 12 times, while AI, marketing, social media, and social media marketing each appeared approximately 11 times. The terms management and personalization also appeared among the relevant keywords at lower frequencies. The metadata contain variations of terms referring to similar concepts, including artificial intelligence and AI. These keywords were used for co-occurrence analysis and thematic clustering.

Table 3. Keywords with the Highest Frequencies

Keyword	Frequency
Artificial intelligence	44
Digital marketing	44
Artificial intelligence spelling variants	±16
Machine learning	±12
AI	±11
Marketing	±11
Social media	±11
Social media marketing	±11

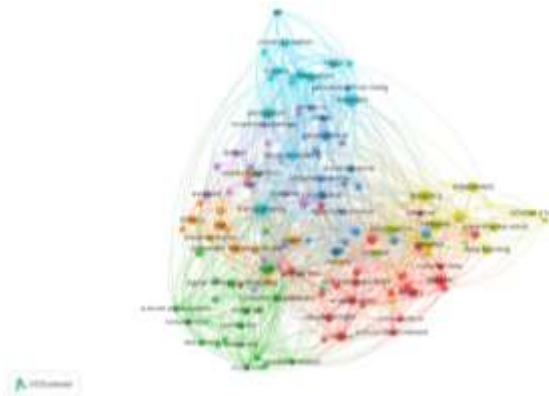


Figure 5. Network Visualization of Keyword Co-occurrence

The network visualization identifies four main keyword clusters: generative AI, ChatGPT, and content creation; trust, consumer engagement, and personalization; customer experience, AI applications, and services; and accuracy, deep learning, and experimental research. Information occupies a central position, connecting technological and consumer-related themes. The density visualization highlights solution, transparency, information, trust, customer experience, datasets, and services as prominent keywords, while privacy, ethical implications, virtual influencers, and AI-driven personalization appear in less dense areas. Overall, the findings reveal interconnected technical, behavioral, and ethical dimensions of AI adoption in digital marketing.

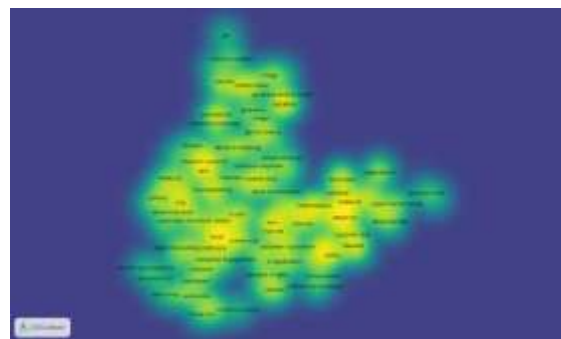


Figure 6. Density Visualization of Keywords

The overlay visualization reveals thematic shifts from technical topics, including deep learning, neural networks, datasets, and experimental results, toward generative AI, ChatGPT, content creation, accuracy, customer experience, and collaboration. Recent themes emphasize trust, transparency, privacy, risk, ethical implications, personalization, consumer engagement,

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competitive advantage, and decision-making. Keyword colors represent average publication years, indicating thematic development from approximately 2023 to 2025.



Figure 7. Overlay Visualization of the Development of Research Themes

Methodological Approaches Used

Quantitative approaches, particularly cross-sectional surveys, dominate previous research. Common techniques include PLS-SEM, covariance-based SEM, CFA, regression, ANOVA, ANCOVA, PROCESS, bootstrapping, and multigroup analysis. Covariance-based SEM was applied by Sweeney and Swait (2008), Singh and Banerjee (2021), and Kao et al. (2020), while PLS-SEM was used by Sutia et al. (2023), Alrwashdeh et al. (2022), Liu and Zheng (2024), and Ghazali et al. (2024). Walter et al. (2024) employed experimental methods, ANOVA, Tukey HSD, PROCESS, and Johnson Neyman analysis.

Table 4. Groups of Methodological Approaches

Method group	Forms identified
Quantitative	Survey, cross-sectional, experiment
Structural models	PLS-SEM, CB-SEM, CFA
Statistical analysis	Regression, ANOVA, ANCOVA, PROCESS, bootstrapping
Qualitative	Interviews, focus groups, thematic analysis
Mixed	Survey, text mining, sentiment analysis
Digital document analysis	Content analysis of websites and online content

Hussain et al. (2020) conducted 10 interviews and four focus groups, while Jiménez-Barreto et al. (2020) combined qualitative research, online experiments, and surveys. Jain et al. (2022) surveyed 1,820 users and applied text mining and sentiment analysis, whereas Medina

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Aguerrebere (2025) analyzed 100 hospital websites. Sansome et al. (2026, published online in 2025) conducted three online experiments. Sampling methods included purposive, convenience, systematic random, simple random sampling, and online respondent panels.

Theoretical Foundations and Empirical Contexts

Signaling Theory is the most frequently applied theoretical foundation, alongside Source Credibility Theory, Social Exchange Theory, Social Identity Theory, Elaboration Likelihood Model, Theory of Planned Behavior, Theory of Reasoned Action, Attachment Theory, Resource-Based View, Uses and Gratifications Theory, Prospect Theory, Persuasion Knowledge Model, Expectation-Confirmation Model, Stakeholder Theory, and Triple Bottom Line. Several studies integrate multiple theories to explain consumer responses and technology adoption (Jain et al., 2022; Ghazali et al., 2024; Liu & Zheng, 2024). Empirical contexts span banking, telecommunications, education, aviation, tourism, healthcare, retail, MSMEs, and digital platforms. AI applications include voice assistants, virtual influencers, personalization, chatbots, and content generation. Studies cover developed and developing countries, involving consumers, students, technology users, and organizational stakeholders, with samples ranging from small groups of informants to over 1,000 respondents.

List of Identified Gaps and Research Agendas

Existing research is dominated by cross-sectional designs, nonprobability sampling, perception-based measures, and single-country contexts, limiting causal inference and generalizability. Additional gaps include inconsistent AI adoption definitions, fragmented theoretical frameworks, limited behavioral evidence, and insufficient integration of privacy, transparency, trust, algorithmic bias, and organizational performance. MSMEs, developing countries, and vulnerable populations remain underexplored. Future research should develop standardized AI adoption taxonomies, employ longitudinal and experimental designs, and integrate technological, organizational, and behavioral perspectives. Recommended approaches include mixed methods, digital behavioral analysis, and cross-cultural comparisons. Priority topics include human AI collaboration, explainability, responsible AI governance, consumer well-being, marketing effectiveness, innovation, and competitive advantage.

DISCUSSION

This discussion integrates bibliometric findings, VOSviewer visualizations, and systematic



literature review results to explain AI adoption in digital marketing. The findings indicate rapid research growth alongside conceptual fragmentation, emphasizing the need to integrate technological capabilities, organizational readiness, consumer behavior, and responsible AI governance.

RQ1: Publication Trends by Year, Journal, and Country

AI research in digital marketing accelerated after 2023, driven by generative AI, automated content, and human AI collaboration. Research has shifted from predictive technologies toward customer experience, trust, transparency, and ethical governance. Publications remain dispersed across technology, marketing, and communication journals, reflecting interdisciplinary fragmentation. Publication productivity also differs from citation influence, while single-country studies limit generalizability. Evidence from India, China, the Philippines, Sri Lanka, Vietnam, and Malaysia demonstrates contextual differences in consumer behavior and digital readiness (Singh & Banerjee, 2021; Liu & Zheng, 2024; Lacap et al., 2024; Perera et al., 2023; Ghazali et al., 2024). These findings highlight the need for cross-country comparisons, particularly in developing markets.

RQ2: Main Themes and Dominant Keywords

VOSviewer identifies artificial intelligence, digital marketing, machine learning, personalization, customer experience, trust, and transparency as central themes. Information quality and customer experience connect technological capabilities with consumer responses (Jain et al., 2022; Ghazali et al., 2024). Credibility influences satisfaction, loyalty, brand equity, and customer relationships (Sweeney & Swait, 2008; Spry et al., 2011; Singh & Banerjee, 2021). Social media research further demonstrates the influence of trustworthiness, influencer credibility, parasocial relationships, and persuasive awareness (Sutia et al., 2023; Alrwashdeh et al., 2022; Liu & Zheng, 2024; Lacap et al., 2024). Emerging themes concerning privacy, transparency, and ethical responsibility indicate a transition toward responsible AI adoption (Liu et al., 2023; Saura et al., 2024).

RQ3: Methodology, Theoretical Foundations, and Empirical Contexts

Previous research predominantly employs cross-sectional surveys and structural equation modeling, limiting explanations of causal relationships and adoption processes. Alternative methods include interviews, focus groups, experiments, content analysis, and text mining



(Hussain et al., 2020; Jiménez-Barreto et al., 2020; Jain et al., 2022; Medina Aguerrebere, 2025; Walter et al., 2024; Sansome et al., 2026). Theoretical foundations include Signaling Theory, Source Credibility Theory, the Elaboration Likelihood Model, the Persuasion Knowledge Model, and technology acceptance perspectives. However, organizational and consumer theories remain insufficiently integrated. Differences in product characteristics, cultural contexts, and digital environments further affect generalizability (Park et al., 2022; Perera et al., 2023; Molinillo et al., 2022).

RQ4: Research Gaps

Seven major gaps emerge: inconsistent definitions of AI adoption, limited integration of technical and behavioral dimensions, dominance of cross-sectional designs, insufficient examination of risks, unclear conceptualization of trust, underrepresentation of organizational and employee perspectives, and weak measurement of business outcomes. Previous findings highlight relationships among system quality, perceived value, privacy, and credibility (Ghazali et al., 2024; Jain et al., 2022). Experimental studies remain limited (Walter et al., 2024; Sansome et al., 2026), while concerns regarding compulsive buying, persuasion, authenticity, and greenwashing require further investigation (Pandowo & Mamuaya, 2024; Liu & Zheng, 2024; Azazz et al., 2024). Moreover, credibility has been conceptualized differently across studies (Spry et al., 2011; Sweeney & Swait, 2008), indicating the need for theoretical clarification and standardized adoption measurements.

RQ5: Future Research Agenda

Future research should develop standardized AI adoption classifications covering technological applications, marketing functions, and adoption stages. Multilevel frameworks should integrate system quality, organizational readiness, employee capabilities, consumer experience, and performance outcomes. Responsible AI research should address transparency, privacy, explainability, fairness, and governance. Longitudinal studies, field experiments, digital behavioral analysis, and mixed methods are recommended to strengthen causal understanding. Research should also expand into developing countries, particularly Indonesia, and micro, small, and medium enterprises (MSMEs), where resource constraints and digital readiness may influence adoption.



Research Significance and Contributions

This study integrates bibliometric analysis, VOSviewer mapping, and systematic literature review to connect publication trends with theoretical, methodological, and empirical findings. Conceptually, AI adoption is positioned as a gradual process involving evaluation, experimentation, implementation, integration, and value creation. The study contributes a socio-technical perspective connecting technological capabilities, organizational factors, consumer responses, and ethical governance, providing a foundation for future research and practical implementation.

Research Implications

Academically, the findings emphasize the importance of integrated theoretical models, longitudinal approaches, and objective performance measurements. Researchers should examine technological, organizational, behavioral, and ethical factors simultaneously. Managerially, AI adoption should be evaluated through system quality, customer experience, employee readiness, trust, data security, and marketing performance. Organizations should establish transparent AI disclosure, content quality controls, human oversight, and responsible data governance to support sustainable marketing outcomes.

Research Limitations

This study is limited to Web of Science publications from 2018–2026, with incomplete indexing for 2026. Keyword restrictions, publication exclusions, metadata inconsistencies, citation-age differences, and subjective interpretation of VOSviewer clusters may influence the findings. Additionally, variations in research methods, technologies, and empirical contexts restrict direct comparisons. As the analysis examines published literature rather than actual organizational practices, its findings primarily represent the scientific knowledge structure of AI adoption in digital marketing.

CONCLUSION

This study integrates bibliometric analysis and a systematic literature review of 94 articles published between 2018 and 2026 to examine artificial intelligence (AI) adoption in digital marketing. Findings reveal rapid publication growth, particularly in 2024–2025, with China leading in publication volume and the United Kingdom demonstrating greater citation impact. Dominant themes include AI, machine learning, personalization, customer experience, trust, transparency,

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privacy, and generative AI, reflecting a shift from technical applications toward responsible and ethical AI adoption. Methodologically, research remains dominated by quantitative, cross-sectional surveys and SEM, with Signaling Theory as the most prominent theoretical foundation. Despite diverse industry contexts, existing studies face limitations involving inconsistent adoption definitions, fragmented theoretical perspectives, insufficient longitudinal research, and limited integration of organizational, technological, and consumer dimensions. By combining bibliometric mapping with systematic literature synthesis, this study identifies key research gaps and emphasizes AI adoption as a gradual socio-technical process involving evaluation, implementation, integration, and value creation. These findings provide a foundation for developing integrated theoretical frameworks and supporting strategic, ethical, and sustainable AI adoption in digital marketing.

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