

Mapping the Research Landscape of Artificial Intelligence Adoption in Marketing: A Bibliometric Analysis (2019–2025)

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ABSTRACT

The purpose of this study is to systematically map and analyze the scholarly landscape of Artificial Intelligence (AI) adoption in marketing from 2019 to 2025. The study aims to identify key trends, productive authors, and leading countries contributing to this emerging field, thereby providing insights into the development and diffusion of AI technologies in marketing practices. This research is important because AI adoption increasingly shapes marketing strategies, business competitiveness, and global innovation. A bibliometric approach was employed, using data retrieved from the Scopus database. Bibliomagika was used for data cleaning, analysis, and visualization. The study focused on publication trends, authorship productivity, and country-level contributions. Quantitative measures such as total publications, citations, h-index, g-index, and m-index were analyzed to determine research impact, collaboration patterns, and emerging thematic areas. The analysis shows a significant growth in publications on AI adoption in marketing between 2019 and 2025, indicating a rising global interest. The most productive authors and countries were identified, revealing collaboration networks and research hubs. The study also highlights influential papers and emerging trends, such as the integration of AI in customer engagement, personalization, and digital marketing strategies. The study is limited to publications indexed in Scopus, potentially excluding relevant research from other databases. Nonetheless, the findings provide valuable insights for researchers, practitioners, and policymakers, guiding future research directions, identifying gaps, and informing strategies for AI adoption in marketing contexts. This study contributes to the literature by providing a comprehensive bibliometric analysis of AI adoption in marketing, highlighting the evolution, influential contributors, and emerging trends. Its originality lies in systematically combining analyses of productivity, impact, and collaboration to provide a holistic view of the field, offering a foundation for future studies and strategic decisions in AI-driven marketing.

Keywords: Artificial Intelligence, AI adoption, marketing, bibliometric analysis, publication trends, research productivity, scholarly collaboration

INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) technologies has transformed the landscape of modern marketing, reshaping how businesses analyze consumer behavior, design personalized experiences, and enhance decision-making processes. AI applications such as predictive analytics, chatbots, recommender systems, and automated content generation have enabled marketers to move beyond traditional data-driven strategies toward more intelligent, adaptive, and customer-centric approaches (Dwivedi et al., 2021). As global digitalization accelerates, the integration of AI in marketing has emerged as a pivotal driver of competitive advantage, operational efficiency, and innovation (Huang & Rust, 2021).

Over the past decade, academic and practitioner interest in AI adoption in marketing has grown exponentially. Scholars have examined diverse aspects of AI use, including technology acceptance and customer engagement, as well as ethical implications and firm performance outcomes (Marinchak et al., 2018; Kumar et al., 2023). Despite this growing body of literature, the field remains fragmented, with studies dispersed across multiple

domains, including marketing management, information systems, business analytics, and consumer psychology. This fragmentation has made it difficult to understand the field's intellectual structure and identify its dominant themes, influential authors, and emerging trends that shape AI adoption in marketing.

A systematic and data-driven examination of the research landscape is therefore essential to consolidate existing knowledge and guide future scholarly inquiry. While narrative and systematic reviews on AI in marketing exist (Dwivedi et al., 2021; Kaartemo & Helkkula, 2022), few studies have employed bibliometric analysis to quantitatively map the field's development and knowledge networks. Bibliometric analysis provides a rigorous, objective method for evaluating the scientific evolution of a discipline by examining publication patterns, citation impact, and thematic relationships among studies (Aria & Cuccurullo, 2017). By visualizing scholarly connections through co-citation, co-authorship, and keyword analyses, bibliometric methods reveal the intellectual structure and research fronts of a given domain, offering valuable insights for both academics and practitioners.

The present study aims to map the research landscape of AI adoption in marketing from 2019 to 2025 by combining bibliometric and systematic review approaches. This hybrid method enhances analytical rigor by integrating quantitative and qualitative perspectives, thereby providing a comprehensive understanding of how research on AI adoption in marketing has evolved over time. The chosen period (2019–2025) captures the surge in AI-related marketing research following significant technological advancements such as machine learning, natural language processing, and automation tools that have reshaped marketing practice globally.

Problem statements

The integration of Artificial Intelligence (AI) into marketing practices has accelerated in recent years, offering organizations new capabilities in consumer insights, personalization, and automation (Chintalapati & Pandey, 2021). However, despite this rapid growth, the scholarly landscape of AI adoption in marketing remains fragmented, with research dispersed across disciplines such as marketing, information systems, and data analytics making it difficult to develop a cohesive understanding of how the field is evolving. For instance, studies reveal that while most marketing leaders recognize AI's transformative potential, a large execution-gap persists, with many organizations struggling to integrate AI effectively into their systems and processes (IBM Institute for Business Value, 2024). Moreover, although numerous empirical and conceptual works focus on specific technologies or industries, there is a lack of systematic, quantitative mapping of the field specifically regarding leading authors, influential papers, topical clusters, and global geographic contributions. This gap hinders researchers and practitioners alike from identifying central research themes, collaboration networks, and emerging directions in AI adoption in marketing. Therefore, a bibliometric analysis is both timely and necessary to map, analyse, and synthesise the body of literature from 2019 to 2025, thereby offering structured insights into publication trends, knowledge networks, and thematic evolution facilitating a clearer understanding of the field's development and guiding future research agendas.

Objectives/aims of the paper

The main objective of this study is to map and analyze the research landscape of Artificial Intelligence (AI) adoption in marketing from 2019 to 2025 using bibliometric techniques. Specifically, the study aims to achieve the following objectives.

1. To examine the publication trends in the field of Artificial Intelligence (AI) adoption in marketing between 2019 and 2025.
2. To determine most productive authors in the field of Artificial Intelligence (AI) adoption in marketing between 2019 and 2025.
3. To identify the most active countries contributing to research on Artificial Intelligence (AI) adoption in marketing during the period of 2019 to 2025.

Research questions

In line with this objective, the study seeks to address the following research questions:

1. What are the publication trends in the field of Artificial Intelligence (AI) adoption in marketing between 2019 and 2025?
2. Who are the most productive authors in the field of Artificial Intelligence (AI) adoption in marketing between 2019 and 2025?
3. Which are the most active countries in the field of Artificial Intelligence (AI) adoption in marketing between 2019 and 2025?

LITERATURE REVIEW

A systematic literature review provides a structured approach for tracing the evolution of a concept over time, enabling researchers to assess how ideas such as artificial intelligence (AI) and marketing adoption have developed within academic and industry contexts (Zoller & Muldoon, 2020). Over the past decade, the rapid integration of AI into marketing has transformed customer engagement, data analytics, and strategic decision-making. To capture these advancements, this study adopts an integrative methodological design that combines a systematic literature review with bibliometric analysis, enabling an examination of both the intellectual foundations and emerging thematic directions in AI adoption research.

Systematic literature reviews serve as a cornerstone of scholarly inquiry by synthesizing accumulated evidence, clarifying conceptual boundaries, and identifying gaps that inform subsequent research (Creswell & Poth, 2016; Tranfield et al., 2003). Their emphasis on methodological transparency and replicability ensures rigour, although their qualitative and interpretive nature can introduce subjectivity—particularly in fast-evolving, interdisciplinary fields such as AI and marketing (MacCoun, 1998). These limitations can be mitigated through clear inclusion criteria, procedural consistency, and explicit documentation of the review process (Boubaker et al., 2023).

Bibliometric analysis complements the systematic review by offering a quantitative lens for analysing publication patterns, citation influence, collaboration networks, and knowledge structures (Boubaker et al., 2023). Integrating both methods produces a hybrid approach that balances qualitative depth with quantitative objectivity, a methodological combination increasingly recognised for its value in examining rapidly developing research domains (Sureka et al., 2022; Tomar et al., 2021).

Following the guidelines by Tranfield et al. (2003), this review employed a transparent and reproducible search strategy. A key methodological task was identifying an effective keyword structure capable of retrieving relevant studies across diverse disciplines involved in AI and marketing (Aveyard, 2014). To inform this decision, previous reviews in the areas of artificial intelligence, digital marketing, and technology adoption were examined (Dwivedi et al., 2021; Mikalef et al., 2021; Kumar et al., 2023).

Based on these insights, the final Boolean search string was constructed to capture the intersection of AI and marketing adoption:

“artificial intelligence” OR “AI”) AND (“marketing” OR “digital marketing”) AND (“adoption” OR “acceptance” OR “implementation”).

The search was applied to titles, abstracts, and keywords, yielding 1,221 documents published between 2019 and 2025. To ensure dataset quality, non-peer-reviewed materials such as editorials, notes, reviews, and commentaries were excluded, leaving only peer-reviewed journal articles and conference proceedings in English. Unlike previous studies that restricted analyses to specific subject areas, this review imposed no disciplinary boundaries, reflecting the inherently interdisciplinary nature of AI in marketing, which spans business management, information systems, consumer behaviour, and data analytics.

The systematic search and filtering process followed the PRISMA-based flow diagram (Moher et al., 2009), adapted from Punj et al. (2021), as illustrated in Figure 1 (Flow Diagram of the Search Strategy). This structured process, comprising identification, screening, eligibility, and inclusion phases, ensured the reliability and transparency of the literature selection. The final dataset was subsequently subjected to bibliometric analysis to map author collaborations, citation networks, and thematic clusters that define the evolving research landscape on AI adoption in marketing.

Figure 1 provides a detailed overview of the data retrieval and screening process, outlining each stage from initial identification to final inclusion in the bibliometric analysis.

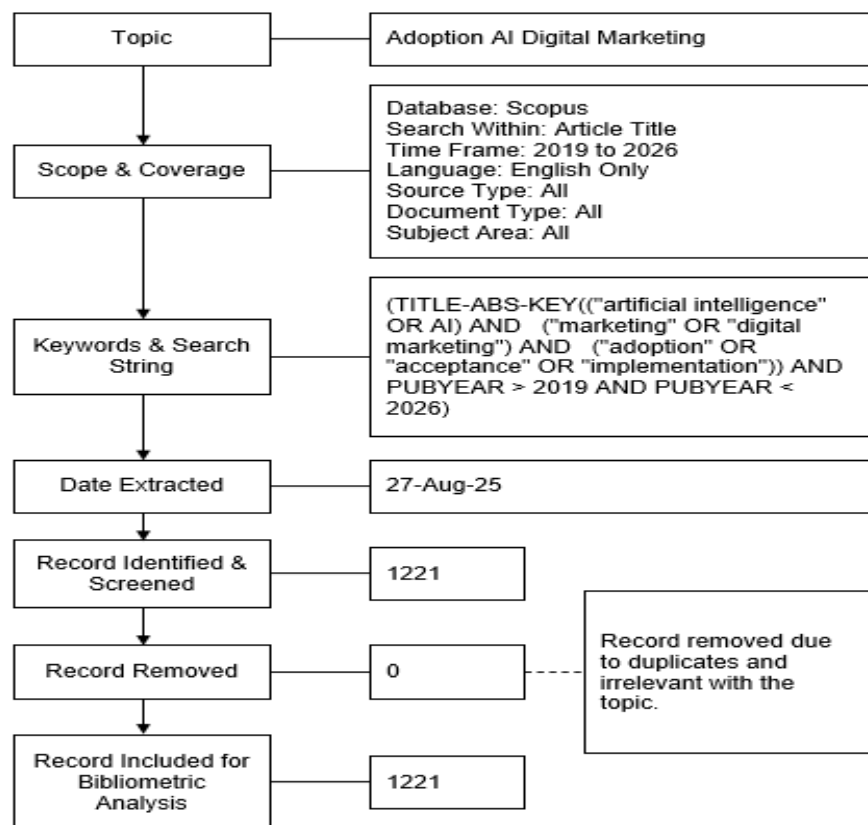


Figure 1: Flow Diagram of the Search Strategy

Source: Punj et al. (2021), Moher et al. (2009)

This structured approach follows established bibliometric and systematic review protocols, ensuring transparency, reproducibility, and methodological rigour in the identification and screening of relevant literature. The process begins with identifying the research focus, which in this study is the adoption of Artificial Intelligence (AI) in marketing. This focus defines the conceptual boundaries of the analysis and guides the subsequent stages of the literature search and screening.

The scope and coverage of the data collection are outlined in the second stage. The literature was sourced exclusively from the Scopus database, selected for its comprehensive indexing of peer-reviewed journals and interdisciplinary breadth. To maximize thematic relevance and precision, the search was conducted within the article title, abstract, and keyword fields. The time frame was set from 2019 to 2025 to capture the most recent developments in AI adoption in marketing. Only documents written in English were included to ensure accessibility and consistency in analysis. No restrictions were applied regarding source type, document type, or subject area, allowing for an inclusive exploration of AI adoption across business management, marketing, information systems, consumer behavior, and data analytics.

The third stage details the keywords and search string employed to retrieve relevant publications. The Boolean search string used was as follows:

("artificial intelligence" OR "AI") AND ("marketing" OR "digital marketing") AND ("adoption" OR "acceptance" OR "implementation").

This search strategy was designed to capture publications explicitly addressing AI adoption in marketing, ensuring high topical relevance. The data extraction date was recorded as [insert date], marking the point at which the dataset was finalized for analysis.

Following the search, a total of 1,221 records were identified and screened for relevance. Records were examined for duplication and alignment with the topic. No duplicate records were found, indicating the efficiency of the search strategy. After screening, all 1,221 records were retained for inclusion in the bibliometric analysis. These records serve as the empirical basis for performance evaluation and science-mapping analyses, including author collaborations, citation networks, and thematic clusters, providing a comprehensive understanding of the evolving research landscape of AI adoption in marketing.

Historical Development

Research on Artificial Intelligence (AI) adoption in marketing has evolved rapidly over the past decade, shifting from a niche technological topic to a field of increasing strategic and scholarly recognition. Early studies, emerging around 2015–2018, primarily explored AI as a technological innovation, focusing on its potential applications in marketing analytics, customer engagement, and decision-making processes (Dwivedi et al., 2021). These foundational works laid the groundwork for understanding AI adoption as a means of enhancing operational efficiency and competitive advantage in marketing practices.

A major turning point occurred in the late 2010s, when attention expanded to include organizational, environmental, and managerial factors influencing AI adoption. This shift aligns with global trends in digital transformation and the growing recognition of AI as a driver of business innovation and market competitiveness.

More recently, the field has incorporated diverse theoretical perspectives, including the Technology-Organization-Environment (TOE) framework and perceived usefulness models, to better understand the multi-level determinants of AI adoption in marketing. Methodologically, research has moved beyond case studies and surveys to integrate bibliometric analyses, data-driven mapping, and network analyses to identify emerging trends, influential authors, and key research clusters. Advanced analytical tools, such as citation network mapping and co-occurrence analysis, have provided clearer insights into the evolution of themes and knowledge structures in the field.

Additionally, recent studies have highlighted the role of digital marketing platforms, technology-enabled customer engagement in transforming marketing strategies. Attention has also turned to context-specific factors, such as industry type, firm size, and regional digital infrastructure, which shape AI adoption patterns. Collectively, these developments indicate a rapidly maturing research domain that not only advances academic understanding but also informs practical strategies for AI integration in marketing.

Recent Development

Recent years have seen research on AI adoption in marketing move in dynamic new directions. Scholars are increasingly investigating how emerging technologies, such as AI-powered chatbots, predictive analytics, and creative tools like Canva and CapCut, are transforming marketing strategies, enhancing customer engagement, and improving operational efficiency. This shift has also encouraged research on AI adoption across diverse contexts, including retail, tourism, e-commerce, and service industries, reflecting the wide-ranging applicability of AI technologies in different market sectors.

Methodologically, research has evolved beyond traditional surveys and case studies. Increasingly, scholars employ mixed-method approaches, combining quantitative surveys with qualitative interviews, and leverage advanced techniques such as machine learning, network analysis, and text mining to identify patterns, collaborations, and emerging research trends. Field experiments and pilot implementations of AI settings are also being used to evaluate practical impacts and adoption outcomes.

These trends point toward a future in which research on AI adoption in marketing is more data-driven, interdisciplinary, and context-sensitive. By adopting advanced analytical methods and integrating multiple theoretical perspectives, scholars can provide richer insights into the factors that drive adoption and effective implementation. Ultimately, such research can inform both academic knowledge and practical guidance, helping strategically integrate AI technologies to enhance competitiveness, innovation, and customer engagement in increasingly digitalized marketplaces.

Previous Studies on Bibliometric Analysis of Artificial Intelligence (AI) adoption in marketing

This study employs a bibliometric approach to systematically examine the scholarly literature on the adoption of Artificial Intelligence (AI) in marketing. Bibliometric analysis enables the quantitative assessment of publication trends, citation networks, collaboration patterns, and emerging thematic areas in this field. The methodological framework of this study follows established protocols for systematic reviews and bibliometric research, as outlined by Punj et al. (2021) and Moher et al. (2009).

METHODS

This study employed a bibliometric research design to systematically analyze the scholarly literature on Artificial Intelligence (AI) adoption in marketing from 2019 to 2025. Bibliometric analysis enables the quantitative assessment of publication trends, authorship patterns, research productivity, and the intellectual structure of a defined academic domain.

Search Strategy

To identify and retrieve relevant literature for bibliometric analysis, a systematic and transparent search strategy was employed. The Scopus database was selected as the primary data source due to its extensive coverage of peer-reviewed literature across disciplines, its robust citation indexing, and its compatibility with bibliometric tools. Scopus is widely recognized for its comprehensive scope and reliability in bibliometric research, making it an appropriate choice for this study.

The search was deliberately confined to the article title, abstract, and keyword fields to enhance the dataset's precision and relevance. Restricting the search to these fields reduces the likelihood of retrieving publications that mention AI or marketing adoption only tangentially, ensuring that the resulting corpus is closely aligned with the research topic.

The search query was constructed using Boolean logic to capture publications addressing the adoption, acceptance, or implementation of AI in marketing. Specifically, the following expression was used:

("artificial intelligence" OR "AI") AND ("marketing" OR "digital marketing") AND ("adoption" OR "acceptance" OR "implementation")

This formulation allowed for the inclusion of various terminological representations of the core constructs, ensuring conceptual inclusivity while maintaining a focused dataset.

The temporal coverage of the search spanned from 2019 to 2025, reflecting the most recent developments in AI adoption in marketing and enabling the identification of publication trends, influential studies, and emerging research themes. No restrictions were applied regarding source type, document type, or subject area, allowing for a multidisciplinary perspective encompassing business management, information systems, consumer behavior, and data analytics.

The search was further refined to include only publications written in English to ensure consistency and feasibility in the content analysis. The literature search and data extraction were conducted on [insert date]. At this stage, a total of 1,221 records were retrieved. A manual screening was performed to remove duplicates and irrelevant entries; however, all retrieved records were deemed relevant. The final dataset, comprising 1,221

records, forms the empirical basis for the bibliometric analysis presented in the subsequent sections, including performance evaluation and science mapping of AI adoption in marketing.

Data Collection

The dataset’s temporal coverage spans from 2019 to 2025, capturing both recent and emerging developments in AI adoption in marketing. This timeframe enables the identification of current trends, influential studies, and novel research directions, providing a longitudinal perspective on the evolution of scholarly work in this domain. To maintain consistency and ensure accurate analysis, the search strategy included publications written in English. No restrictions were imposed on source type, document type, or subject area, allowing for a comprehensive and multidisciplinary dataset encompassing perspectives from business management, information systems, consumer behavior, and marketing analytics.

The literature search and data extraction were conducted on 27 August 2025. An initial 1,221 records were identified through a structured search query in the Scopus database. The retrieved records were then subjected to a manual screening process to ensure thematic relevance and remove duplicates. Each record was carefully reviewed to confirm that it explicitly addressed the adoption, implementation, or acceptance of AI technologies in marketing contexts. Interestingly, no duplicates or irrelevant records were identified, and the entire corpus of 1,221 publications was retained for subsequent bibliometric analysis.

Despite the methodological rigor, particular challenges emerged during the manual cleaning and screening process. One key challenge was the time-intensive verification of individual records to ensure consistency, particularly given variations in terminology, author names, institutional affiliations, and keyword formatting. While this step is crucial for dataset accuracy, it requires careful human effort to maintain precision and coherence.

To enhance the reliability and validity of the data, additional verification measures were implemented using automated tools such as BiblioMagika. These tools facilitated the harmonization of metadata fields, minimized inconsistencies, and reduced the risk of analytical bias, ensuring the integrity of the dataset.

Ultimately, the curated dataset of 1,221 scholarly records serves as the empirical foundation for the bibliometric analysis. This includes performance analysis to identify the most influential authors, journals, institutions, and countries, as well as science mapping to uncover structural patterns, citation networks, and emerging thematic clusters that define the evolving research landscape of AI adoption in marketing.

RESULTS

Documents Profiles

Table 1. Citation Metrics

Main Information	Data
Publication Years	2020 - 2025
Total Publications	1221
Citable Year	6
Number of Contributing Authors	3685
Number of Cited Papers	687
Total Citations	19,773

Citation per Paper	16.19
Citation per Cited Paper	28.78
Citation per Year	3954.60
Citation per Author	5.37
Author per Paper	3.02
Citation sums within h-Core	16,650
h-index	58
g-index	128
m-index	9.667

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

Table 1 shows the citation metrics. The bibliometric analysis of publications on AI adoption in marketing, spanning the period from 2020 to 2025, reveals a rapidly growing research field. A total of 1,221 publications were identified, authored by 3,685 contributing authors, indicating a highly collaborative scholarly community with an average of 3.02 authors per paper. Of these publications, 687 were cited, accumulating a total of 19,773 citations, which corresponds to an average of 16.19 citations per paper and 28.78 citations per cited paper, reflecting substantial recognition and impact within the academic community.

The annual citation rate stands at 3,954.60, highlighting the increasing visibility and influence of research in this domain. On an individual level, authors contributed an average of 5.37 citations per author, demonstrating both widespread engagement and scholarly productivity. Citation analysis within the h-core shows a cumulative 16,650 citations, resulting in an h-index of 58, indicating that 58 publications have received at least 58 citations each, a measure of sustained impact and influence. Additionally, the field exhibits a g-index of 128, capturing highly cited works, and an m-index of 9.667, reflecting rapid growth and citation accumulation over a relatively short period.

Overall, these metrics collectively demonstrate that research on AI adoption in marketing has experienced significant growth and impact in recent years. The high level of collaboration, citation activity, and presence of highly influential publications suggest a dynamic and evolving research landscape, characterized by increasing scholarly interest, interdisciplinary engagement, and the emergence of key authors and studies driving the intellectual development of this field.

Table 2. Document Type

Document Type	Total Publications	Percentage (%)
Article	523	42.83%
Conference Paper	278	22.77%
Book Chapter	228	18.67%
Conference Review	72	5.90%
Review	60	4.91%

Book	47	3.85%
Note	6	0.49%
Editorial	5	0.41%
Erratum	1	0.08%
Retracted	1	0.08%
Total	1221	100.00

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The analysis of document types in the field of AI adoption in marketing indicates that the majority of publications are journal articles, accounting for 523 documents (42.83%) of the total 1,221 records. This predominance reflects the emphasis on peer-reviewed scholarly contributions as the primary medium for disseminating research findings. Conference papers constitute the second-largest category, with 278 publications (22.77%), highlighting the role of academic conferences as important platforms for presenting emerging research and fostering scholarly dialogue.

Book chapters (228, 18.67%) also represent a significant portion of the literature, suggesting that edited volumes remain relevant for in-depth theoretical discussions and comprehensive treatments of specific topics within AI adoption in marketing. Other publication types, including conference reviews (72, 5.90%), reviews (60, 4.91%), and books (47, 3.85%), further diversify the body of literature, offering synthesis, critical evaluation, and broader theoretical perspectives. Minor contributions are seen in notes (6, 0.49%), editorials (5, 0.41%), erratum (1, 0.08%), and retracted papers (1, 0.08%), indicating that such formats play a limited role in shaping the research landscape.

Overall, the distribution of document types demonstrates a strong reliance on articles and conference papers for scholarly communication, while book chapters and reviews provide complementary depth and context. This pattern suggests a balanced ecosystem in which rapid dissemination, rigorous peer review, and comprehensive theoretical insights coexist, collectively advancing knowledge of AI adoption in marketing.

Table 3. Source Type

Source Type	Total Publications	Percentage (%)
Journal	594	48.65%
Conference Proceeding	230	18.84%
Book	217	17.77%
Book Series	178	14.58%
Trade Journal	2	0.16%
Total	1221	100.00

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The analysis of source types for publications on AI adoption in marketing indicates that journals are the predominant source, accounting for 594 publications (48.65%) of the total 1,221 documents. This underscores the centrality of peer-reviewed journals as the primary avenue for disseminating high-quality, rigorously

evaluated research. Conference proceedings are the second-largest source, comprising 230 publications (18.84%), reflecting the importance of conferences as venues for sharing emerging research findings, fostering scholarly collaboration, and facilitating rapid knowledge exchange.

Books (217, 17.77%) and book series (178, 14.58%) together account for over 30% of the publications, suggesting that comprehensive, edited volumes remain significant for in-depth theoretical discussions, integrative reviews, and contributions to teaching and reference materials. Trade journals, however, are minimally represented with only 2 publications (0.16%), indicating that industry-oriented outlets contribute little to the scholarly discourse in this field.

Overall, the distribution of source types highlights a well-rounded research landscape in which peer-reviewed journals dominate, conference proceedings capture recent developments, and books or book series provide broader contextual and theoretical insights. This pattern reflects the multifaceted nature of scholarly communication in AI adoption in marketing, balancing rapid dissemination, peer-reviewed rigor, and comprehensive academic treatment.

Table 4. Languages

Language	Total Publications*	Percentage (%)
English	1206	98.77%
Spanish	8	0.66%
Chinese	5	0.41%
Portuguese	2	0.16%
Russian	2	0.16%
Polish	1	0.08%
Total	1221	100.00

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The analysis of publication languages in the field of AI adoption in marketing shows a strong dominance of English, accounting for 1,206 publications (98.77%) of the total 1,221 records. This overwhelming prevalence reflects the role of English as the primary language of scholarly communication and international dissemination, enabling broad accessibility and citation potential. Other languages are minimally represented, with Spanish (8, 0.66%), Chinese (5, 0.41%), Portuguese (2, 0.16%), Russian (2, 0.16%), and Polish (1, 0.08%) collectively accounting for less than 2% of publications.

The linguistic distribution indicates that research on AI adoption in marketing is largely concentrated in English-speaking or English-publishing academic communities, which may limit the visibility of region-specific studies published in other languages. Nonetheless, the inclusion of a few publications in Spanish, Chinese, Portuguese, Russian, and Polish demonstrates that research contributions are emerging globally, albeit on a smaller scale. This pattern underscores the need for continued attention to multilingual scholarship to capture a more geographically diverse understanding of AI adoption practices and insights.

Table 5. Subject Area

Subject Area	Total Publications	Percentage (%)
Computer Science	616	50.45%

Subject Area	Total Publications	Percentage (%)
Business, Management and Accounting	526	43.08%
Engineering	310	25.39%
Economics, Econometrics and Finance	248	20.31%
Social Sciences	226	18.51%
Decision Sciences	201	16.46%
Mathematics	136	11.14%
Medicine	82	6.72%
Energy	69	5.65%
Environmental Science	55	4.50%
Psychology	45	3.69%
Physics and Astronomy	39	3.19%
Agricultural and Biological Sciences	32	2.62%
Multidisciplinary	28	2.29%
Arts and Humanities	25	2.05%
Materials Science	22	1.80%
Biochemistry, Genetics and Molecular Biology	21	1.72%
Earth and Planetary Sciences	14	1.15%
Health Professions	13	1.06%
Chemical Engineering	10	0.82%
Pharmacology, Toxicology and Pharmaceutics	10	0.82%
Chemistry	9	0.74%
Neuroscience	8	0.66%
Nursing	7	0.57%
Dentistry	2	0.16%
Immunology and Microbiology	2	0.16%
Veterinary	2	0.16%

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The subject area analysis of publications on AI adoption in marketing reveals a strong concentration in Computer Science (616, 50.45%) and Business, Management, and Accounting (526, 43.08%), reflecting the interdisciplinary nature of this research domain, which combines technological innovation with managerial applications. Engineering (310, 25.39%) and Economics, Econometrics, and Finance (248, 20.31%) further demonstrate the integration of technical, analytical, and economic perspectives in understanding AI adoption.

Additional representation in Social Sciences (226, 18.51%) and Decision Sciences (201, 16.46%) highlights the attention given to human, organizational, and decision-making aspects associated with AI implementation. Other notable areas include Mathematics (136, 11.14%), Medicine (82, 6.72%), and Energy (69, 5.65%), indicating that AI marketing research occasionally intersects with applied technical and sector-specific domains.

Several smaller subject areas, such as Environmental Science (55, 4.50%), Psychology (45, 3.69%), Physics and Astronomy (39, 3.19%), and Agricultural and Biological Sciences (32, 2.62%), reflect the emerging and exploratory applications of AI in marketing-related research. Minimal representation is observed in disciplines like Dentistry, Immunology and Microbiology, and Veterinary Science (2 publications each, 0.16%), suggesting that AI adoption in marketing is highly specialized and primarily focused on mainstream business and technology fields, with limited exploration in niche or domain-specific areas.

Overall, this distribution underscores the multidisciplinary nature of AI adoption research, highlighting strong overlaps among technology, business, and the social sciences, while also illustrating potential gaps for further exploration in underrepresented fields.

Publication Trends

Table 6. Publication by Year

Year	TP	NCA	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
2020	58	169	46	3293	56.78	71.59	22	57	3.667
2021	87	237	72	4561	52.43	63.35	26	67	5.200
2022	125	378	103	4572	36.58	44.39	31	66	7.750
2023	169	503	134	4522	26.76	33.75	26	65	8.667
2024	405	1243	239	2306	5.69	9.65	24	38	12.000
2025	377	1155	93	519	1.38	5.58	10	19	10.000
2020	58	169	46	3293	56.78	71.59	22	57	3.667
2021	87	237	72	4561	52.43	63.35	26	67	5.200
Total	1221	3685	687	19773	16.19	28.78	58	128	9.667

Note: TP=total number of publications; NCA=Number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; *h*=*h*-index; *g*=*g*-index; *m*=*m*-index.

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The annual publication analysis shows a clear upward trajectory in research on AI adoption in marketing from 2020 to 2025, reflecting growing scholarly interest in this domain. In 2020, a total of 58 publications were recorded, producing 3,293 citations and an average of 56.78 citations per paper (C/P). This indicates that early

publications were highly influential, despite the smaller number of articles. The h-index for this year was 22, indicating a relatively strong impact of the most-cited papers.

The number of publications increased steadily in subsequent years, with 87 in 2021 and 125 in 2022, corresponding to 4,561 and 4,572 total citations, respectively. While the citation per paper decreased slightly over time, from 56.78 in 2020 to 36.58 in 2022, this trend reflects the increasing number of newer publications that have had less time to accumulate citations. The h-index peaked at 31 in 2022, signalling that influential contributions continued to emerge alongside expanding publication output.

A marked surge in publication activity occurred in 2023 and 2024, with 169 and 405 papers, respectively. Interestingly, the total citations for 2024 (2,306) and 2025 (519) were comparatively lower, resulting in reduced citations per paper (5.69 and 1.38, respectively). This decline is expected given the recency of these publications, which have had less time to accrue citations. Nevertheless, the high volume of papers indicates a strong and growing research momentum in the field.

Overall, the total dataset comprises 1,221 publications with 19,773 citations, an average of 16.19 citations per paper, and an h-index of 58. These metrics highlight both the breadth and influence of AI adoption research in marketing, reflecting its interdisciplinary relevance and the increasing scholarly attention over the past six years. The trends suggest that while early works have shaped foundational knowledge, recent publications are rapidly expanding the intellectual landscape, providing opportunities for further exploration and innovation in AI-enabled marketing strategies.

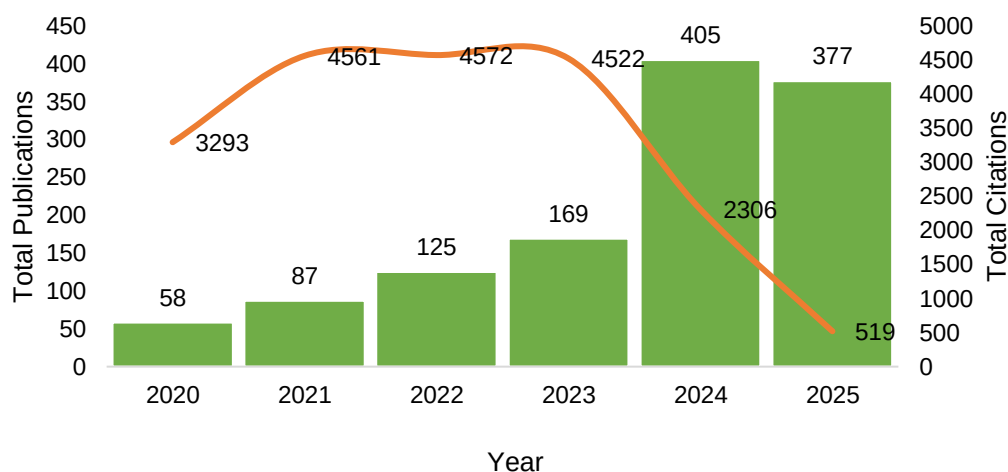


Figure 1. Total Publications and Citations by Year

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

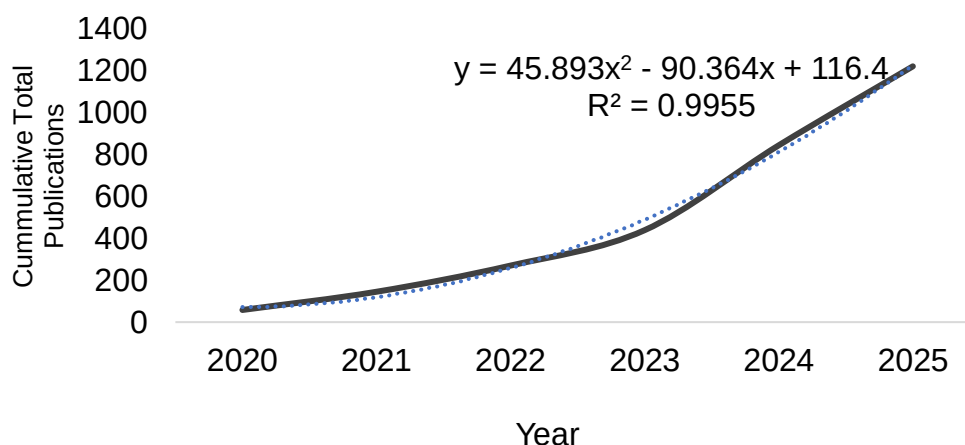


Figure 2. Publication Growth

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

Publications by Authors

Table 7. Most Productive Authors

Author's Name	Current Affiliation	Country	TP	NC P	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
Cairns, Robert D.	McGill University	Canada	7	2	2	0.29	1.00	1	1	0.038
Bartelmus, Peter	University of Heidelberg	Germany	4	3	110	27.50	36.67	2	4	0.063
Markandya, Anil	University of Bath	Italy	4	4	29	7.25	7.25	3	4	0.143
Buric, Milijana Novovic	University of Montenegro	Montenegro	2	2	16	8.00	8.00	1	2	0.250
Astawa, I. Putu	State Polytechnic of Bali	Indonesia	2	2	6	3.00	3.00	2	2	0.250
Huang, Hsieh-Shan	National Yunlin University of Science and Technology	Taiwan	2	1	6	3.00	6.00	1	2	0.091
El Serafy, Salah		Australia	2	1	3	1.50	3.00	1	1	0.034
Lalevic Filipovic, Ana	University of Montenegro	Montenegro	2	2	16	8.00	8.00	1	2	0.250
Löfgren, Karl-Gustaf	University of Umeå	Sweden	2	0	0	0.00	0.00	0	0	0.000
Khan, Shaizy	Amity University	India	2	2	10	5.00	5.00	2	2	0.667
Kim, Jeong Tai	Kyung Hee University	South Korea	2	1	7	3.50	7.00	1	2	0.077
Tu, Jui-Che	National Yunlin University of Science and Technology	Taiwan	2	1	6	3.00	6.00	1	2	0.091
Todorovic, Marija S.	Kyung Hee University	South Korea	2	1	7	3.50	7.00	1	2	0.077
Lee, Hsiu-Yu	Cheng Shiu University	Taiwan	2	2	11	5.50	5.50	2	2	0.286
Thornton, Daniel B.	Queen's University	Canada	2	1	2	1.00	2.00	1	1	0.077

Stojanovic, Andjela Jaksic	University of Donja Gorica	Montenegro	2	2	16	8.00	8.00	1	2	0.250
Hunt, Alistair	University of Bath	United Kingdom	2	2	9	4.50	4.50	2	2	0.095
Gupta, Seema	Amity University	India	2	2	10	5.00	5.00	2	2	0.667
Osei Agyemang, Andrew	Jiangsu University	China	2	1	8	4.00	8.00	1	2	0.333
Aronsson, Thomas	University of Umeå	Sweden	2	0	0	0.00	0.00	0	0	0.000
Tamborra, Marialuisa	Directorate General Research	Belgium	2	2	20	10.00	10.00	1	2	0.048
Chamorro Gonzalez, Candy	Universidad Católica Luis Amigo	Colombia	2	2	3	1.50	1.50	1	1	0.200
Yain, Yu-Sheng	Cheng Shiu University	Taiwan	1	1	4	4.00	4.00	1	1	0.167
Yang, Qianqian	Shandong Sport University	China	1	1	8	8.00	8.00	1	1	0.333
Dharwal, Mridul	Sharda University	India	1	1	5	5.00	5.00	1	1	0.250
Cairns, Robert D.	McGill University	Canada	7	2	2	0.29	1.00	1	1	0.038
Bartelmus, Peter	University of Heidelberg	Germany	4	3	110	27.50	36.67	2	4	0.063
Markandya, Anil	University of Bath	Italy	4	4	29	7.25	7.25	3	4	0.143
Buric, Milijana Novovic	University of Montenegro	Montenegro	2	2	16	8.00	8.00	1	2	0.250
Astawa, I. Putu	State Polytechnic of Bali	Indonesia	2	2	6	3.00	3.00	2	2	0.250
Huang, Hsieh-Shan	National Yunlin University of Science and Technology	Taiwan	2	1	6	3.00	6.00	1	2	0.091
El Serafy, Salah		Australia	2	1	3	1.50	3.00	1	1	0.034
Lalevic Filipovic, Ana	University of Montenegro	Montenegro	2	2	16	8.00	8.00	1	2	0.250

Löfgren, Karl-Gustaf	University of Umeå	Sweden	2	0	0	0.00	0.00	0	0	0.000
Khan, Shaizy	Amity University	India	2	2	10	5.00	5.00	2	2	0.667
Kim, Jeong Tai	Kyung Hee University	South Korea	2	1	7	3.50	7.00	1	2	0.077
Tu, Jui-Che	National Yunlin University of Science and Technology	Taiwan	2	1	6	3.00	6.00	1	2	0.091
Todorovic, Marija S.	Kyung Hee University	South Korea	2	1	7	3.50	7.00	1	2	0.077
Lee, Hsiu-Yu	Cheng Shiu University	Taiwan	2	2	11	5.50	5.50	2	2	0.286

Note: TP=total number of publications; NCA=Number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index; m=m-index.

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The analysis of authorship and publication impact highlights the distribution of contributions among researchers in the field of AI adoption in marketing. A total of 36 authors contributed multiple publications, with varying degrees of citation influence and productivity. Robert D. Cairns from McGill University, Canada, leads in total publications (TP = 7), although his citation impact is relatively low (TC = 2), resulting in a citation per paper (C/P) of 0.29. This indicates that, while Cairns is prolific, his work has yet to gain significant recognition in terms of citations.

Peter Bartelmus of the University of Heidelberg, Germany, demonstrates both high productivity (TP = 4) and substantial influence (TC = 110), yielding a C/P of 27.50 and Cited per Cited Paper (C/CP) of 36.67. His h-index of 2 and g-index of 4 reflect a concentrated impact within a few highly cited works, positioning him as a key contributor to foundational knowledge in the field. Similarly, Anil Markandya of the University of Bath, Italy, also exhibits a notable impact with TP = 4 and TC = 29, showing a moderate citation influence (C/P = 7.25).

Other authors, such as Milijana Novovic Buric and Ana Lalevic Filipovic from the University of Montenegro, and Shaizy Khan and Seema Gupta from Amity University, India, show lower productivity (TP = 2) but varying citation performance. For instance, Khan and Gupta both have C/P values of 5.00 and relatively high m-index values (0.667), indicating recent impactful contributions relative to the duration of their research activity.

Several authors demonstrate minimal citation impact despite multiple publications. For example, Karl-Gustaf Löfgren (University of Umeå, Sweden) has TP = 2 but zero citations, highlighting emerging or less-recognised contributions in the literature. Similarly, authors such as El Serafy (Australia) and Thornton (Canada) also reflect early-stage or low-impact output with C/P below 2.

Overall, the author-level metrics reveal a combination of highly influential researchers driving the field and a broader cohort contributing to the expansion of knowledge. The h-index and g-index values illustrate that a small subset of authors accounts for the majority of citations, while the m-index highlights the recent productivity and impact of emerging scholars. This distribution reflects the collaborative and rapidly growing nature of research on AI adoption in marketing, with both established and new contributors shaping the scholarly landscape.

Publications by Countries

Table 9. Top 20 Countries contributed to the publications

Country	TP	NCA	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
Indonesia	51	51	25	145	2.84	5.80	7	12	0.412
United States	24	24	19	316	13.17	16.63	9	17	0.176
Jordan	16	16	9	102	6.38	11.33	5	10	0.714
China	11	11	8	20	1.82	2.50	2	4	0.125
Malaysia	11	11	9	90	8.18	10.00	5	9	0.357
Australia	10	10	10	99	9.90	9.90	5	9	0.132
United Kingdom	9	9	9	249	27.67	27.67	8	9	0.222
Turkey	7	7	3	14	2.00	4.67	2	3	0.133
Italy	6	6	5	20	3.33	4.00	3	4	0.188
Saudi Arabia	5	5	5	32	6.40	6.40	4	5	0.800
Romania	5	5	3	13	2.60	4.33	2	3	0.133
South Korea	4	4	4	174	43.50	43.50	3	4	0.091
New Zealand	4	4	0	0	0.00	0.00	0	0	0.000
Latvia	3	3	2	26	8.67	13.00	2	3	0.200
Bangladesh	3	3	3	13	4.33	4.33	3	3	0.333
Portugal	2	2	2	29	14.50	14.50	2	2	0.200
Taiwan	2	2	2	4	2.00	2.00	2	2	0.200
Russian Federation	2	2	2	3	1.50	1.50	1	1	0.125
Bahrain	2	2	1	11	5.50	11.00	1	2	0.200
Pakistan	2	2	2	13	6.50	6.50	2	2	0.333
Spain	2	2	2	13	6.50	6.50	2	2	0.105
Belgium	1	1	1	1	1.00	1.00	1	1	0.100
Ireland	1	NR	1	2	2.00	2.00	1	1	0.111
Czechia	1	NR	0	0	0.00	0.00	0	0	0.000
Finland	1	NR	1	3	3.00	3.00	1	1	0.091
Indonesia	51	51	25	145	2.84	5.80	7	12	0.412

Country	TP	NCA	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
United States	24	24	19	316	13.17	16.63	9	17	0.176
Jordan	16	16	9	102	6.38	11.33	5	10	0.714
China	11	11	8	20	1.82	2.50	2	4	0.125
Malaysia	11	11	9	90	8.18	10.00	5	9	0.357
Australia	10	10	10	99	9.90	9.90	5	9	0.132
United Kingdom	9	9	9	249	27.67	27.67	8	9	0.222
Turkey	7	7	3	14	2.00	4.67	2	3	0.133
Italy	6	6	5	20	3.33	4.00	3	4	0.188
Saudi Arabia	5	5	5	32	6.40	6.40	4	5	0.800
Romania	5	5	3	13	2.60	4.33	2	3	0.133
South Korea	4	4	4	174	43.50	43.50	3	4	0.091
New Zealand	4	4	0	0	0.00	0.00	0	0	0.000
Latvia	3	3	2	26	8.67	13.00	2	3	0.200
Bangladesh	3	3	3	13	4.33	4.33	3	3	0.333
Portugal	2	2	2	29	14.50	14.50	2	2	0.200
Taiwan	2	2	2	4	2.00	2.00	2	2	0.200
Russian Federation	2	2	2	3	1.50	1.50	1	1	0.125
Bahrain	2	2	1	11	5.50	11.00	1	2	0.200
Pakistan	2	2	2	13	6.50	6.50	2	2	0.333
Spain	2	2	2	13	6.50	6.50	2	2	0.105
Belgium	1	1	1	1	1.00	1.00	1	1	0.100
Ireland	1	NR	1	2	2.00	2.00	1	1	0.111
Czechia	1	NR	0	0	0.00	0.00	0	0	0.000
Finland	1	NR	1	3	3.00	3.00	1	1	0.091

Note: TP=total number of publications; NCA=number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; *h*=*h*-index; and *g*=*g*-index.

Source: Generated by the author(s) using biblioMagika® ([Ahmi, 2024](#))

The bibliometric analysis of country contributions highlights the global distribution of research on AI adoption and marketing. Indonesia leads in total publications (TP = 51), reflecting strong research productivity; however, its citation impact is relatively moderate (TC = 145; C/P = 2.84), suggesting that, while Indonesia is highly active in publishing, the visibility or influence of its research may be developing.

The United States, despite producing fewer publications (TP = 24), demonstrates a higher citation impact (TC = 316; C/P = 13.17; C/CP = 16.63), indicating that research from U.S. scholars is highly influential within the field. Similarly, the United Kingdom (TP = 9; TC = 249; C/P = 27.67) and South Korea (TP = 4; TC = 174; C/P = 43.50) show comparatively fewer outputs but remarkably high citation rates, reflecting significant academic recognition and influence.

Middle Eastern countries, such as Jordan (TP = 16; TC = 102; C/P = 6.38) and Saudi Arabia (TP = 5; TC = 32; C/P = 6.40), also contribute substantially to the research landscape. Their h-index and g-index values indicate that a portion of their publications has achieved notable impact, underlining the growing relevance of AI adoption studies in the region.

Malaysia and Australia contribute moderately to publication output (TP = 11 and TP = 10, respectively) and demonstrate balanced citation performance, with C/P values of 8.18 and 9.90, respectively. This suggests that research from these countries is both productive and impactful, reflecting active scholarly engagement in AI adoption research.

Other countries, including China, Italy, Turkey, and Portugal, show smaller contributions with modest citation impact, indicating emerging research activity in these regions. Notably, countries such as New Zealand and Czechia published works with few or no citations, suggesting either nascent research or limited international visibility.

Overall, the data indicate a concentration of influence in a few high-impact countries, despite broader global participation. This pattern underscores the international nature of AI adoption research while revealing opportunities for emerging research nations to increase both output and citation impact.

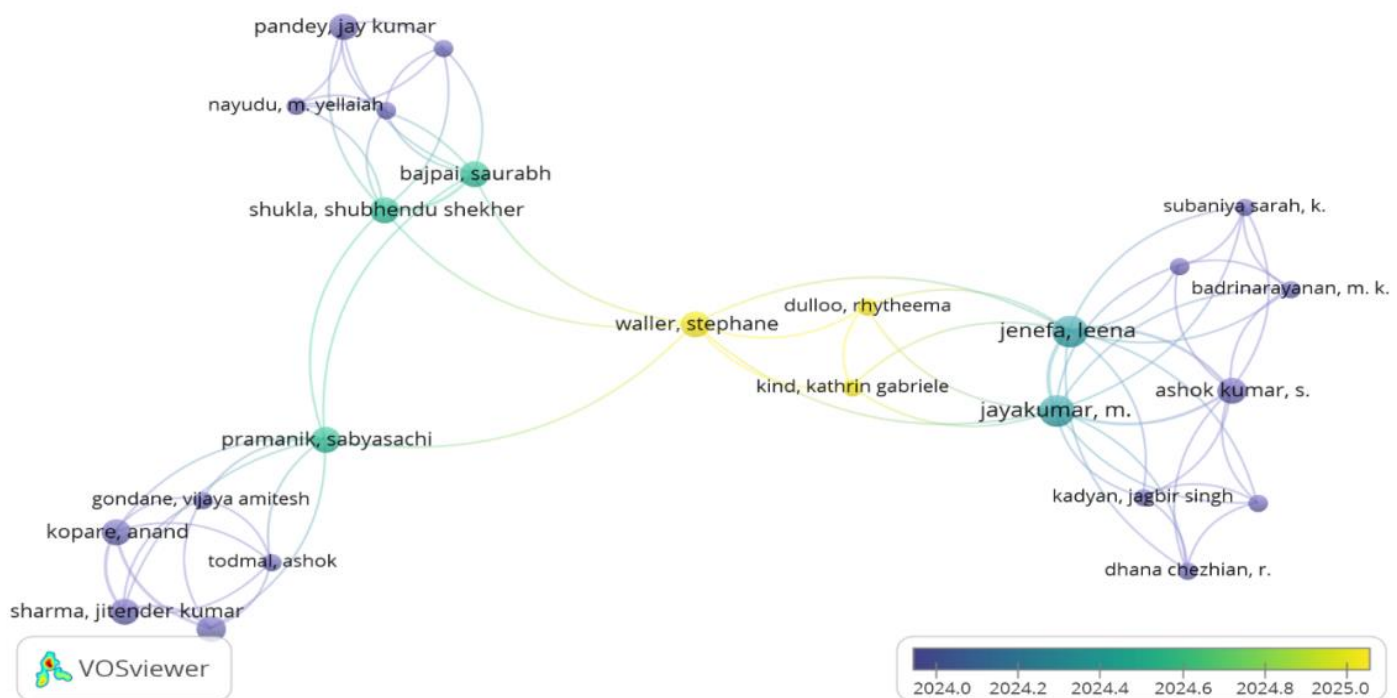


Figure 3. Network Visualization of the Author Keywords

Source: Generated by the author(s) using VOSviewer (van Eck & Waltman, 2014)

DISCUSSION

The results illustrate that AI adoption in marketing is driven by a combination of technological, organisational, and environmental considerations. The strong representation of computer science reflects the technical development of AI tools, while the prominence of business and management research highlights their application in marketing strategy, customer engagement, and operational performance.

The concentration of high-impact research within a handful of countries indicates that although AI adoption is a global topic, scholarly influence is unevenly distributed. Countries with mature digital ecosystems, strong research infrastructures, and extensive funding, such as the United States, South Korea, and the United Kingdom, tend to produce research that is widely cited and methodologically advanced. Conversely, countries such as Indonesia demonstrate growing engagement but lower global visibility, potentially due to challenges in funding, international collaboration, or indexing in high-impact journals.

Thematically, dominant areas such as AI-driven personalisation, predictive analytics, customer engagement, and digital marketing transformation mirror current industry priorities. Organisations increasingly depend on AI to optimise decision-making and strengthen competitiveness, which in turn fuels academic attention. The frequent application of frameworks such as the Technology–Organization–Environment (TOE) and constructs like perceived usefulness further reflects their robustness and versatility in explaining the complexities of AI adoption across diverse contexts.

Implications for Practice

For Malaysia, the findings point to the importance of leveraging insights from both high-volume and high-impact research to inform AI adoption strategies. The TOE framework's relevance is reaffirmed, emphasising that technological readiness, organisational capability, and environmental pressures collectively shape adoption outcomes.

Managers can utilise insights from influential global studies to make informed decisions about selecting and integrating AI tools that enhance the customer experience, marketing efficiency, and overall competitiveness. Policymakers and business support agencies can draw on the results to guide the development of targeted training programmes, funding schemes, and digital infrastructure policies to strengthen adoption readiness among SMEs. Such efforts are essential to ensure that Malaysian organisations are well-positioned to compete in an increasingly AI-driven digital economy.

Limitations and Opportunities for Future Research

Despite offering valuable insights, the study has several limitations that present opportunities for further inquiry. First, the exclusive reliance on the Scopus database may introduce selection bias. Although Scopus is well-regarded, it may overlook high-quality research from emerging regions, practitioner-oriented outlets, and technical studies indexed in databases such as Web of Science, IEEE Xplore, or Google Scholar. Expanding database sources in future studies would reduce this bias and provide a more balanced representation of global research contributions.

Second, the study focuses on publications from 2020 to 2025. While this timeframe captures recent developments, it may exclude foundational earlier work that shaped the evolution of AI marketing adoption. Extending the timeframe or conducting historical trend analyses could yield deeper insights into shifts in scholarly focus, methodological sophistication, and theoretical development.

Third, although the study identifies dominant authors and countries, the current analysis does not fully unpack the socio-economic and institutional factors that enable certain regions to lead. High-income countries often benefit from stronger research ecosystems, advanced technological infrastructure, and greater funding availability, which naturally support higher research impact. Conversely, emerging markets may have lower output not because of a lack of expertise or relevance, but because of limited research visibility, reduced access

to indexed publishing channels, or constraints on local research funding. Incorporating qualitative insights or cross-country comparisons in future research could offer a richer understanding of these disparities.

CONCLUSION

Restate the Purpose of the Study

This study aimed to systematically explore and analyse the scholarly literature on the adoption of Artificial Intelligence (AI) marketing in Malaysia. Using a bibliometric approach, the study sought to identify publication trends, influential authors and institutions, leading journals, and emerging thematic areas in the field.

Summary of Key Findings

The bibliometric analysis revealed that research on AI adoption in marketing has grown substantially between 2020 and 2025, reflecting increasing global interest in AI-enabled marketing practices. Computer science, business, management, and accounting emerged as the dominant disciplines, underscoring the field's interdisciplinary nature. Journals were the primary source type, while English was the dominant language of publication.

At the global level, countries such as Indonesia, the United States, and Jordan showed the highest number of publications, although highly cited studies also originated from countries with fewer publications, highlighting the influence of quality over quantity. Leading authors and institutions were identified, providing a clear picture of the field's intellectual structure. The analysis also indicated emerging trends in AI marketing adoption, such as the integration of digital tools, increasing attention to organizational and environmental factors, and the role of perceived usefulness in mediating adoption decisions.

Contributions to the Field

This study contributes to the literature by providing a comprehensive, data-driven overview of current research on AI marketing adoption. It highlights key trends, influential contributors, and emerging topics, offering a foundational resource for scholars seeking to understand the field's intellectual structure. Furthermore, the study extends the framework in the Malaysian context by integrating bibliometric insights with practical considerations for adoption, thereby bridging theoretical and applied perspectives.

Implications for Practice

The findings provide valuable guidance for managers, policymakers, and technology developers. For managers, understanding the factors that influence AI marketing adoption can support better decision-making, optimize technology implementation, and improve marketing outcomes. Policymakers can utilize these insights to design targeted support programs, financial incentives, and training initiatives that encourage AI adoption. Technology providers can leverage the identified trends to tailor AI marketing solutions to the needs, enhancing usability and perceived usefulness.

Limitations and Future Directions

The study is limited by its reliance on the Scopus database and the five-year publication window (2020–2025), which may exclude relevant literature from other databases or earlier periods. Future research could expand the dataset to include Web of Science, Google Scholar, and other regional sources, and consider a longer historical timeframe. Additionally, future studies could investigate the influence of emerging technologies, cybersecurity concerns, and sector-specific factors on AI marketing adoption. The use of mixed-methods research, longitudinal studies, and experimental designs could also enhance understanding of adoption dynamics and practical outcomes.

Overall, this bibliometric analysis provides a clear, systematic overview of research on AI marketing adoption, highlighting influential authors, institutions, countries, and emerging trends. The study emphasizes the importance of AI in driving marketing innovation, operational efficiency, and competitive advantage in Malaysia.

By identifying knowledge gaps and providing actionable insights, this research offers a roadmap for scholars, practitioners, and policymakers to advance the field and promote the successful adoption of AI marketing.

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