

## Global Research Landscape of Artificial Intelligence in Marketing: A Bibliometric and Network Analysis

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### ABSTRACT

The present research is a mapping of the global Artificial intelligence (AI) research in the marketing field, focusing on the trend of publications, intellectual organization, development of the themes, and the structure of collaborations. It is intended to give a more detailed, evidence-based review of the scholarly input, new trends, and knowledge dissemination aspects in the field. The bibliometry method was used based on the articles indexed in Scopus and published during 2010-2026. The dataset was narrowed down to inclusion criteria such as AI, digital marketing and similar keywords. Some of the analyses encompassed performance measures, co-citation mapping, key word co-occurrence and collaboration networks. Visualization and structural analysis of scholarly outputs were done with the help of such tools as VOSviewer and Bibliometrix (R). The results demonstrate that the AI marketing research is growing exponentially, and its thematic development was followed by analytics to personalization and, more recently, by generative AI applications. The most popular journals, authors and nations, mainly the USA, China, and India, were pointed out. The co-citation analysis showed that there were intellectual clusters of AI-based customer analytics, recommendation systems and marketing automation. The use of keywords like co-occurrence provided insights into new areas of research such as the generative AI, autonomous marketing systems, and ethical AI. There are collaboration networks that imply vast global business ties with a core-periphery framework. The findings are applicable to practical implications that the managers and practitioners can implement AI-facilitated personalization, predictive analytics, and automated marketing process implementation successfully. The paper is one of the first to integrate bibliometric and network analyses to map the systematic AI in marketing, with a contribution to theoretical knowledge and management advice, with open spaces and structural knowledge trends in the field.

**Keywords:** Artificial Intelligence; Marketing Analytics; Generative AI; Personalization; Recommendation Systems; Predictive Analytics; Digital Marketing; Bibliometric Analysis; Co-Citation Network; Keyword Co-Occurrence; Collaboration Network.

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### 1. Introduction

Artificial Intelligence (AI) has passed through its domain specific and computing field, becoming a strategic business requirement that is transforming business fundamental roles of commercial organizations. The state

of the art in machine learning, natural language processing, computer vision, and data analytics has widened the automated decision making frontier, making it possible to interpret complex inputs and predictive outputs with a minimum of human input (Russell and Norvig, 2021). Expensive expansion in computational capacity, omnipresent data development and algorithm development have driven AI development. This convergence has allowed AI technologies to do things that were previously viewed as futuristic, such as real time personalization, the creation of content automatically, sentiment analysis, and the ability to interact with customers in an automated way (Jordan & Mitchell, 2015).

One of the functional areas that have been largely influenced by AI adoption is marketing. The less advanced marketing used to use fixed segmentation and hand optimization of campaigns because of a small scale processing of consumer data. AI breaks these limits as it allows companies to handle large data volumes in a high velocity and high variation. The example of AI use in customer targeting, customer experience, and customer engagement automation are predictive analytics, recommender systems, and chatbots (Kietzmann, Paschen, and Treen, 2018). Marketing measurement has also been transformed by AI. Having substituted heuristic approaches, algorithmic attribution modeling provides more accurate data on channel performance and customer journeys (Wedel and Kannan, 2016).

Competitive pressure forms the strategic value of AI to firms in their quest to derive data based understanding and operational optimization. Companies that implement AI in marketing show better customer acquisition rates, customer retention, and customer lifetime value (Rust, 2020). The use of AI affects the allocation of resources by allowing the reallocation of repetitive roles to strategic innovation. Managerially, the implementation of AI in the marketing process changes the routine in organizations, and new skills in data management, ethical application of automated decision making, and cross functional cooperation between technical and marketing teams are required (Davenport, Guha, Grewal, and Bressgott, 2020).

Although the practitioner interest in the global research sphere of AI in marketing is high, the scholarly knowledge of the subject is disjointed. The literature reviews available have restricted their scope to individual AI technologies or individual applications (e.g., chatbots to automate service delivery), whereas the synthesis of the research trends and intellectual structure, as well as geographic distribution of the academic production is limited. This paper quantifies that gap with a bibliometric and network analysis to uncover the trends of scientific impact, topic focus and cooperative communities.

### *1.1. Research Gap and Rationale*

The literature on AI marketing is growing at an alarming rate, although it has found that the overall literature is limited in terms of scope, methodological rigor, or conceptual synthesis. Narrative literature reviews provide descriptive overviews of technological affordances and managerial implications without systematic mapping of intellectual contributions (Chatterjee, Nguyen, Ghosh, Bhattacharjee, and Chaudhuri, 2021). There is a paucity of systematic reviews that are conducted using systematic search guidelines and even fewer that use quantitative bibliometric approaches that have the potential to quantify research dynamics objectively. Bibliometric analysis uses the metadata of publications (e.g., citations, co authorships, keywords) to establish the works of impact, thematic groups, and patterns of collaboration to offer a reproducible basis to describe the research landscape (Donthu, Kumar, & Pattnaik, 2021).

The new literature on bibliometrics covers the AI in business sub-areas, yet a thorough examination with a specific foundation in the marketing field is underdeveloped. Previous bibliometric research has focused heavily on AI in healthcare, manufacturing and operations research; marketing has been scanning or absorbed within larger sections of management (Jebble et al., 2018). This compromises the capability to position AI marketing research systematically in the academic ecosystems and practice trajectories. In particular, it is not agreed on which themes of AI marketing research take the center of the stage, what takes the major part in it, and how research clusters change over time.

Network analysis augments bibliometric inquiry since it models structural relations in scholarly ecosystems. Co citation networks display foundational work that grounds disciplinary development whereas co authorship networks display collaborative systems that could have an impact on knowledge dispersion (Borner, Chen, and Boyack, 2003). Mapping patterns of co occurrence of keywords explain conceptual associations and emerging issues. These approaches have not been implemented fully with regard to AI in marketing restrictive meta scientific learning of the intellectual architecture of the discipline. In the absence of such analysis, researchers and practitioners would be unable to have a rigorous evidence base to discover research frontiers and benchmark scholarly influence and predict future directions.

The research will be inspired by the necessity to fill such gaps by systematic and quantitative analysis of AI in marketing research. The reason is to come up with a replicable and objective summary of the area revealing structural trends to be used in theory creation, underscoring untapped zones, and favorable planning of research strategies. The bibliometric model applied in this paper follows the best practices in charting the body of scientific knowledge since it provides reproducible metrics and network representations to elucidate the field boundaries and thematic development.

### *1.2. Objectives and Structure*

The main objective of this research will be to map the global research environment of Artificial Intelligence (AI) in marketing with the help of bibliometric and network analysis, reflecting upon the trends in publication patterns, actor networks, thematic clusters, and collaborative networks to gain a systematic insight into how the field of research was formed, influenced, and its intellectual organization.

Certain goals include the following. First, to analyze the trend of publications, measures of annual growth of publications and citation patterns will be evaluated to get evidence-based information about the development of AI marketing research, including visualization. Second, in a quest to determine top journals, the influence of each of them measured by total citations, h-index, and impact factor, and a tabular account of the top ten of these outlets. Third, in order to assess the majority of prolific authors, identifying the productivity and citation impact on an individual basis in order to identify those who are making theoretical and empirical contributions. Fourth, in order to examine geographical and institutional performance, we will discuss key players, which include the USA, China, the UK, and Europe, and network visualizations will display structural positions and collaboration patterns. Fifth, to identify publications that have been cited highly, it is possible to find seminal works that influence future studies. Sixth, in order to perform co-citation network analysis, it is necessary to uncover intellectual clusters, e.g., AI-based customer analytics, recommendation systems, and marketing automation. Lastly, to conduct keyword co-occurrence and collaboration network analyses, it is necessary to uncover the thematic clusters, such as predictive analytics, AI-enabled customer experience, and digital marketing automation, and visualize how knowledge is produced and shared in the global research networks.

The rest of the paper is structured in the following way. *Section 3* provides the methodology, data collection, data cleaning, and data analysis methods. *Section 4* brings out findings of descriptive and network analyses, including publication trends, scholarly influence, collaboration patterns, and structures of the thematising. *Section 5* discusses the interpretation of the results through the available literature, theoretical and managerial implications, and provides future research directions. *Section 6* provides the conclusions, limitations and recommendations.

## **2. Literature overview**

### *2.1. Artificial Intelligence in Marketing*

Artificial Intelligence (AI) has emerged as a cornerstone of marketing technology and allows companies to automate processes and provide personalized experiences at scale based on large volumes of data and insights.

Artificial intelligence systems include machine learning algorithms, natural language processing and deep learning systems that manipulate complex data structures with capabilities vastly beyond those of conventional analytical systems (Russell and Norvig, 2021). Through this technological capacity, key marketing processes are being transformed as the firms are able to streamline decision making, refine customer targeting as well as improve interaction across digital touchpoints.

One of the most developed AI uses in marketing is personalization. Historical segmentation methods are based on the demographic or general behavioral features. Conversely, personalization through AI employs real time information, predictive algorithms to customize the content, offers and recommendations on a one-on-one basis (Arora, Dreze, Ghose, Hess, and Shankar, 2008). Using customer purchase history and browsing behavior, as well as interaction patterns, companies can send contextualised messages, which enhance customer relevance and conversion. The item to item collaborative filtering is a classic example of Amazon, in which a recommender system is used to generate significant incremental revenue by recommending items that meet an individual preference (Linden, Smith, and York, 2003).

AI-driven customer analytics also increase the capability of firms to derive actionable information on data. Predictive models are used to predict risk of churn, segment customers based on lifetime value and predict demand in different markets. Such analytical powers allow planning and dynamic resource allocation by making strategic decisions founded on probabilistic evaluations and not heuristic evaluations (Wedel and Kannan, 2016). The level of analysis and attribution also offered by AI facilitate higher levels of attribution modeling in which marketing touchpoints are assessed by the means of algorithms, rather than being examined by means of heuristic approaches (Wiesel, Pauwels, and Arts, 2011).

Recommendation systems, which are a subdivision of personalization and predictive analytics, have taken over digital platforms. Such systems apply collaborative filtering, content based filtering or a combination of the two to provide individualized recommendations about products, content or services (Ricci, Rokach, and Shapira, 2011). The recommendation engine of Netflix is an example of how AI can be used to promote engagement and retention through content delivery in accordance with the previous and presumably preferred interests of users. It has been researched that the effectiveness of recommendation systems is positively related to user satisfaction and revenue performance (Gomez Uribe & Hunt, 2016).

Another important use of AI in marketing is chatbots and smart virtual assistants. When using natural language processing (NLP) and conversational AI, chatbots improve the process of customer service interaction, qualification of the leads, and simple support services without a human operator (Lu et al., 2019). Chatbots minimize the time lag of response and the cost of operation and offer universal service delivery. They have a wide range of utility, in simple questions to complex problems solution when integrated with the CRM systems.

Most AI-based marketing apps rely on predictive analytics to predict the future based on the past. Machine learning applications forecast the behavior of customers like churn, the reaction to an offer, and the purchase probability (Shmueli and Koppius, 2011). These predictions guide the planning of campaigns, pricing policies and inventories. The predictive analytics is also able to optimize media by making predictions on the likely outcome of the ad spend on various combinations.

All these AI applications are transforming the art of marketing to shift toward a proactive rather than a reactive approach to marketing, which is data driven. The speed of computing power and the expansion of digital interaction information remain to increase the extent of AI impact on marketing.

## 2.2. *Previous Review Studies*

There is a variety of AI-oriented studies in the marketing literature, including both narrative review articles and systematic review articles and meta-analyses. Narrative reviews represent descriptive summaries of AI technologies and their use in the marketing context, highlighting general patterns and new themes. As an

illustration, Kietzmann, Paschen, and Treen (2018) describe the idea of using AI to enhance the effectiveness of the advertising process, reach to customers, and strategic decision making without the implementation of explicit systematic search protocols. Narrative reviews are useful in conceptual framing, but they are not very methodologically transparent and repeatable, which reduces the usefulness of determining field wide patterns.

Systematic reviews put in place a structured search criteria and inclusion/exclusion protocols to ensure that research findings are synthesized in a rigorous way. Chatterjee, Nguyen, Ghosh, Bhattacharjee, and Chaudhuri (2021) carried out the systematic review of AI adoption in marketing and revealed technological drivers, organizational factors, as well as the lack of research. Their article is a conceptual effort demonstrating how multi faceted AI adoption can be, but with little quantitative evaluation of the research output or trends. Systematic reviews are more transparent compared with the narrative methods, but they tend to follow a thematic synthesis, instead of quantitative research structure measurement.

Meta analyses are statistical methods that are used to combine outcomes of empirical studies. Formal meta analyses are uncommon in the field of AI in marketing because of the heterogeneity of methods and outcome measures as well as situations. The lack of meta analytic evidence indicates the disciplinary heterogeneity of AI studies and the difficulty of finding metrics of common effect across studies. This scarcity highlights the constraints of the classical review methods in the ability to capture the depth of dynamics of AI in marketing research.

Reviews that are available indicate a number of limitations. To begin with, the majority of literature reviews focus on a thematic discussion rather than quantitative mapping of the research space. This narrows down on perceiving the dissemination of research outputs in journals, authors, and geographic locations. Second, review studies have seldom employed bibliometric measures (i.e. citation counts, co authorship, etc.) to measure influence and intellectual structure. Third, the reviews that are available tend to be confined to topic or technology (e.g., chatbots, personalization) as opposed to covering the entire scope of AI marketing research. These restrictions inhibit knowledge growth over time and the attempt to discern the structural patterns in academic production.

### *2.3. Need for Bibliometric Investigation*

Bibliometric research provides an orderly methodology of mapping structural and dynamic features of scientific research. Bibliometric approaches measure scholarly output, impact, and intellectual connectivity (Donthu, Kumar, and Pattnaik, 2021), unlike narrative review or systematic reviews, which focus on thematic interpretation. Science mapping which is one of the fundamental bibliometric methods, represent the relationships between publications, authors, and concepts visually to show how the field of research is structured. Science mapping, through co citation network analysis, will identify clusters of research that encompass intellectual subfields or paradigms through which a researcher can identify foundational work and new directions in the field.

Knowledge structure analysis builds upon science mapping to criticize the conceptual architecture of a domain. The frequency of the co occurrence of keywords, e.g., the number of times a term containing a keyword is used in the metadata of published publications, is analyzed to give empirical data regarding thematic concentrations. This type of analysis clarifies themes of research and relations among them with a focus on prevailing concepts and gaps in the literature. The context of AI in marketing is that the co occurrence of keywords can distinguish the focus of research on personalization, predictive analytics, machine learning applications, and customer engagement strategies.

The citation network analysis also helps in the flow direction of influence within the publications. Citation networks by their modeling of article citation behavior reveal seminal literature upon which the field builds itself. The determination of highly cited nodes in a network is of use in the identification of the foundation theories and methods that have influenced the manner in which future inquiry has taken shape. Furthermore, co

authorship network analysis identifies the patterns of collaboration showing how the knowledge is produced on both geographic and institutional bases. Such analyses give one an idea about social organization of research communities.

The bibliometric methods are especially useful in any field that is developing rapidly, as it is the case with AI in marketing; the amount of research and the variety of methods make the traditional review methods less effective. The bibliometrics nature of quantitative research is what makes it possible to objectively measure research growth and influence and structural trends over time. Such methodological rigor can be used to support replicability and scalability, where future researchers can update and scale up analyses in the changing field. Due to the weaknesses of the current reviews and the broadness of the scope of application of AI in marketing, bibliometric research is required to enable a full, evidence based map of the research field.

### **3. Methodology**

#### *3.1. Research Design*

The research design is based on a bibliometric research design that will allow quantifying and visualizing the scholarly terrain of Artificial Intelligence (AI) applications in marketing. Bibliometrics offers objective, reproducible data on the patterns of publications, academic impact, and intellectual organization, which allow gaining these insights that are not possible with traditional narrative reviews (Donthu, Kumar, and Pattnaik, 2021). The method would enable the discovery of the influential journals, authors, institutions, and countries by using descriptive metrics, network analysis, and visualization. In addition, bibliometric approaches can be used to identify new research topics by comparing key word co-occurrence and co-citation networks, and this will give a detailed map of areas of intellectual focus. It is specifically a quantitative methodology that would be applicable in areas that have a high growth and diversification rate, e.g. AI in marketing where the number of publications and contributions across disciplines presents a challenge to the standard synthesis. The research combines performance analysis, structural mapping and collaboration network assessment to produce an in-depth picture of research dynamics and knowledge flows.

#### *3.2. Data Source and Search Strategy*

The Scopus database was identified as the primary source of data since it covers a wide range of peer-reviewed journals, citation metadata, and indexing of the research output on the business, management, and computer science domains. Scopus offers detailed metadata that bibliometric research requires; such as author affiliations, keywords, citations, and references.

The search strategy was devised to retrieve publications that represent AI applications in marketing since 2010 to 2026.

The Boolean search query used was as follows:

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TITLE-ABS-KEY ( "Artificial  
Intelligence" OR "AI" AND "Marketing" ) AND PUBYEAR > 2009 AND PUBYEAR < 2027 AND ( LIMIT-  
TO ( EXACTKEYWORD , "Artificial Intelligence" ) OR LIMIT-TO ( EXACTKEYWORD , "Marketing" ) OR LIMIT-  
TO ( EXACTKEYWORD , "Digital Marketing" ) OR LIMIT-TO ( EXACTKEYWORD , "Ai" ) OR LIMIT-  
TO ( EXACTKEYWORD , "Artificial Intelligence Technologies" ) OR LIMIT-TO ( EXACTKEYWORD , "Digital  
Transformation" ) OR LIMIT-TO ( EXACTKEYWORD , "Ai Technologies" ) OR LIMIT-  
TO ( EXACTKEYWORD , "Generative Artificial Intelligence" ) OR LIMIT-TO ( EXACTKEYWORD , "Market  
Research" ) OR LIMIT-TO ( EXACTKEYWORD , "E-commerce" ) ) AND ( LIMIT-  
TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )
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The inclusion criteria were as follows: the peer-reviewed journal articles, published in English, directly paying attention to AI in marketing, digital marketing, or other technological applications. The period 2010-2026 guarantees the inclusion of the recent trends, such as machine learning, deep learning, generative AI, and digital transformation. The articles used had to be devoted to the theories, application, or empirical research of AI technologies in the marketing context. They eliminated conference papers, book chapters, editorials, and non-English publications to ensure the same data and quality of data.

### *3.3. Data Cleaning and Screening*

After retrieval, the dataset was then subjected to a thorough cleaning and screening process to maintain accuracy and reliability. First of all, the duplicate records were pointed out and deleted with the help of document identifiers and titles. Second, publications that were not relevant to the field of AI in marketing were filtered out by checking the title, abstract, and keywords. Articles that are mainly dedicated to the AI field in irrelevant areas (e.g., healthcare, manufacturing, or robotics) and do not concern marketing use were filtered out. Third, metadata were normalised to respond to discrepancies in the metadata of author names, institution names and keyword format, which is essential to proper network mapping and bibliometric measurements. As an example, differences in initials of authors or institutional abbreviations were harmonized. Also, the spelling mistakes and synonym variations of keywords were harmonized to ensure the co-word and co-citation analysis is consistent. Following the cleaning process, the final dataset contained 1,842 articles that were eligible to be included in further bibliometric analysis to make the analyses relevant to the intellectual and structural trends in AI marketing research.

### *3.4. Bibliometric Tools used*

To avoid methodological biases, the study took various bibliometric and visualization instruments that are highly acclaimed in Scopus Q1 publication.

Network visualization was done using VOSviewer allowing the visualization of co-citation, co-authorship and co-occurrence network of keywords. Its clustering methods recognize thematic and collaborative patterns in the data which enables them to clearly represent research communities and intellectual cliques (van Eck & Waltman, 2010).

Statistical analyses and performance evaluation and descriptive bibliometrics were done with Bibliometrix (R package). It gave metrics such as the number of publications, the number of citations, the values of the h-index, and the yearly growth rates. Another feature that allowed constructing advanced networks and temporal evolution of topics, which were necessary to determine new topics in AI marketing research, was provided by bibliometrix (Aria and Cuccurullo, 2017). Bibliometrix R was used in identifying co-citation cluster and research frontiers. Its burst detection algorithms pointed out what publications were influential and what topics were evolving fast so that it gave an insight into both the foundations and new trends. The use of these tools together will guarantee descriptive and relational analysis, which will present strong and replicable studies that can be applied to high-impact bibliometric research.

### *3.5. Bibliometric Techniques*

The research used various methods of bibliometrics to represent various aspects of AI marketing studies. The research productivity and impact were measured through performance analysis at various levels such as publications, citations, journals, authors, institutions, and countries. Such metrics as total publications, total citations, h-index, and impact factor were used, which made it possible to identify high-performing entities. First, Co-citation analysis determined how often pairs of publications are cited together and gave an insight into the structure of the intellectual and the foundations of the field. This methodology finds groups of works that academically define the area of theory, methodology, and application, including AI-based customer analytics, recommendation systems, and marketing automation. *Second*, Thematic patterns and research trends were

identified by the co-word analysis (keywords co-occurrence). The keywords were frequently used together like predictive analytics, personalization, and digital marketing, which helped to cluster the main research topics, discover the conceptual connections, and new themes. Third, Collaboration network analysis investigated structural relations between authors, institutions, and countries. Co-author networks were created to determine research communities, knowledge centers and transnational research teams, emphasizing the role of geographic and organizational factors in determining research output.

These methods can be used in combination to offer complementary insights: performance metrics give the measurement of scholarly impact, co-citation and co-word analyses give the analysis of intellectual and thematic organization, and collaboration networks give the picture of social relations of knowledge creation. Altogether, these approaches constitute a strong system of comprehending the evolution, influence, and organization of AI in marketing studies, which makes it possible to identify the gaps in the research and the ways to move forward, based on the evidence.

#### 4. Results

##### 4.1. Publication trend

The exponential growth trend (Fig-1), in scientific production in the AI marketing research is evident during the period between 2010 and 2026, as shown in the figure uploaded. The output in terms of publications was rather low and constant in the period between 2010 and 2015, with an average of around 17 articles annually. This time is associated with the infantile stage of AI implementation in marketing as preliminary research centered on theoretical frameworks and initial applications of machine learning and analytics. Since 2016, the sphere has been characterized by a severe rise in productivity. The number of publications per annum has increased in 2019 to 67 (as compared to 28 in 2016), which is a sign of growing academic interest due to the development of big data infrastructure, AI algorithms and computational affordability. The peak rose drastically after 2022 where the highest rate of 674 articles was achieved in 2025. The peak is indicative of the adoption of generative artificial intelligence, complex predictive analytics, and automation of digital marketing in the academic literature, and the increased need of AI insights in practice. The minimal decrease in 2026 to 167 articles could be due to unfinished indexing, or incomplete publication lag, which is typical of bibliometric data of the latest year. The citation trends even though not shown in the figure generally follow the pattern of publication volume, implying that the most cited foundational material still plays a role in the direction of research, as the new studies increase the diversity of the themes.

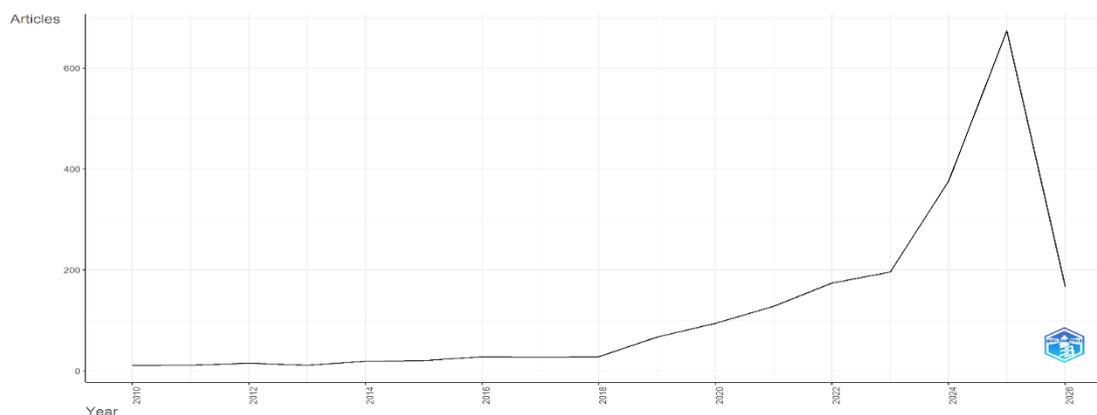


Fig-1: Publication trend

Source: Authors Own compilation using Bibliometrix R

This trend suggests that AI in marketing shifted to the stage of high-growth and mainstream research. The rise in publications is associated with the developments in technology, the adoption of the technology by the industry, as well as multidisciplinary research partnerships between the fields of marketing, computer science, and data analytics. On the whole, the tendency highlights the value of systematic bibliometric mapping to reveal powerful contributions, new areas, and gaps in the research in a fast-developing area.

#### 4.2. *Leading Journals Analysis*

The review of the 10 most active journals in the domain of research on AI in marketing demonstrates the disciplinary and scholarly interest. First in the list are the Journal of Retailing and Consumer Services (64 articles), Sustainability (Switzerland) (43 articles) and the IEEE Access journal (37 articles). The other prominent publications are Applied Marketing Analytics (30), Journal of Business Research (27), and Expert Systems with Applications (26) which shows that there is a combination of marketing, management and technology-oriented journals. The existence of interdisciplinary journals like the IEEE Access demonstrates the incorporation of the computer science approach in marketing research.

High impact is demonstrated in terms of citation and visibility in these journals, which indicate that they are the preferred sources of publishing the research on AI applications such as predictive analytics, personalization, recommendation systems, and automation of digital marketing. The theoretical background is supported by leading marketing journals, including the Journal of the Academy of Marketing Science, whereas the methodological/application-oriented contribution is facilitated by technology-oriented journals.

*Table-I: Most Relevant Sources*

Sources	Articles
JOURNAL OF RETAILING AND CONSUMER SERVICES	64
SUSTAINABILITY (SWITZERLAND)	43
IEEE ACCESS	37
APPLIED MARKETING ANALYTICS	30
JOURNAL OF BUSINESS RESEARCH	27
EXPERT SYSTEMS WITH APPLICATIONS	26
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	23
PSYCHOLOGY AND MARKETING	21
INTERNATIONAL JOURNAL OF HUMAN-COMPUTER INTERACTION	17
JOURNAL OF THE ACADEMY OF MARKETING SCIENCE	17
INDUSTRIAL MARKETING MANAGEMENT	13
INFORMATION (SWITZERLAND)	13
JOURNAL OF DIGITAL AND SOCIAL MEDIA MARKETING	13
COGENT BUSINESS AND MANAGEMENT	12
INTERNATIONAL REVIEW OF MANAGEMENT AND MARKETING	12
PLOS ONE	12
COMPUTERS IN HUMAN BEHAVIOR	11

INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT	11
JOURNAL OF RESEARCH IN INTERACTIVE MARKETING	11
ELECTRONIC COMMERCE RESEARCH	10
EUROPEAN JOURNAL OF MARKETING	10
INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS	10
JOURNAL OF THEORETICAL AND APPLIED ELECTRONIC COMMERCE RESEARCH	10
APPLIED SCIENCES (SWITZERLAND)	9
COMPUTER-AIDED DESIGN AND APPLICATIONS	9

*Source: Authors own*

Representation in the publications indicates that AI in marketing is an inter-viewe field, in which the dissemination of knowledge cuts across applied business journals and technical publications. This tendency highlights the importance of the scholars who need to address the marketing theory as well as the computational approaches to the positioning of their work. The fact that a relatively few journals are dominant shows that there is concentration in high-impact journals, which can be easily used to identify influential journals and direct researchers in their selection of journals to be disseminated.

#### 4.3. *Most Influential Authors*

The authorship analysis in AI marketing research shows the existence of a highly concentrated body of scholars leading to the production of knowledge and influence. Wang X has the highest productivity of 20 articles, then Wang Y (16), Li Y (15) and Zhang C (13). The situation with contribution is also fractionalized, which means that such authors do work together on a large scale, which is the interdisciplinary and multi-institutional nature of the discipline. In addition to them, we should single out Zhang Y (13), Dwivedi YK (11), and Kumar V (11), the authors of the research on the topics of AI-based customer analytics, recommendation systems, and predictive marketing.

The impact of citation is also very close to productivity, which indicates that prolific authors are also effective in the intellectual development of the field. The initial works of Wang X and Li Y have provided the theoretical foundations of machine learning, digit-marketing automation, and AI-based personalization leading to theory adoption, as the theoretical frameworks are frequently referenced in further studies. In much the same way, researchers such as Dwivedi YK and Kumar V make a connection between marketing strategy and technology adoption, enhancing the translational significance of AI studies.

The fact that the publications are concentrated on a comparatively small group of authors, means there exists a core knowledge-producing community, which sets the thematic trends and creates methodological standards. The patterns of co-authorship imply a high level of collaboration, both on the institutional and global levels, which highlights the global and networked nature of AI marketing research. New researchers are becoming members of this network and it leads to diversification of the research themes such as generative AI, predictive analytics, and digital transformation in the marketing environment.

All in all, the discovery of these powerful figures gives a map of how to comprehend the most important figures, the pillars, and networks that form the discipline and bail out future studies and scholarly ventures.

Table-II: Most Influential Authors

Author	Articles	Articles Fractionalized
WANG X	20	6.39
WANG Y	16	4.95
LI Y	15	4.73
ZHANG C	13	3.98
ZHANG Y	13	5.15
DWIVEDI YK	11	1.70
KUMAR V	11	2.65
LI X	11	2.83
WANG L	10	2.39
WANG S	10	3.17

Source: Authors own

#### 4.4. Highly Cited Articles

A description of publications with the highest number of citations in AI marketing research identifies the seminal publications that form the field. The article by Dwivedi YK (2023, International Journal of Information Management) (822 citations) is the most cited one and indicates its impact in the field of streamlining AI frameworks with the marketing strategy and digital transformation. Next, Park S-M (2022, IEEE Access) and Dwivedi YK (2021, International Journal of Information Management) have high impact (290 and 266 citations) and focus on the practical use of AI in customer engagement, personalization, and predictive analytics.

T Davenport T (2020, Journal of the Academy of Marketing Science) is also in the top in the number of citations (256) and presents critical information on the adoption of AI and its potential effects on the operations of marketing and service automation. Such influential works as Huang M-H (2021, Journal of the Academy of Marketing Science) with 190 citations, Puntoni S (2021, Journal of Marketing) with 132 citations, and Wamba-Taguimdje S-L (2020, Business Process Management Journal) with 128 citations address issues such as AI-based customer analytics and operational integration.

Table-III: Highly Cited Articles

Paper	DOI	Total Citations	TC per Year	Normalized TC
DWIVEDI YK, 2023, INT J INF MANAGE	10.1016/j.ijinfomgt.2023.102642	3287	821.75	65.91
DAVENPORT T, 2020, J ACAD MARK SCI	10.1007/s11747-019-00696-0	1789	255.57	15.14
DWIVEDI YK, 2021, INT J INF MANAGE	10.1016/j.ijinfomgt.2020.102168	1598	266.33	15.91
PARK S-M, 2022, IEEE ACCESS	10.1109/ACCESS.2021.3140175	1452	290.40	23.22
HUANG M-H, 2021, J ACAD MARK SCI	10.1007/s11747-020-00749-9	1140	190.00	11.35
CAMBRIA E, 2016, IEEE INTELL SYST	10.1109/MIS.2016.31	1115	101.36	13.56

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WAMBA-TAGUIMDJE S-L, 2020, BUS PROCESS MANAGE J	10.1108/BPMJ-10-2019-0411	897	128.14	7.59
YOUYOU W, 2015, PROC NATL ACAD SCI U S A	10.1073/pnas.1418680112	795	66.25	9.88
PUNTONI S, 2021, J MARK	10.1177/0022242920953847	794	132.33	7.91
TOORAJIPOUR R, 2021, J BUS RES	10.1016/j.jbusres.2020.09.009	754	125.67	7.51

Source: Authors own

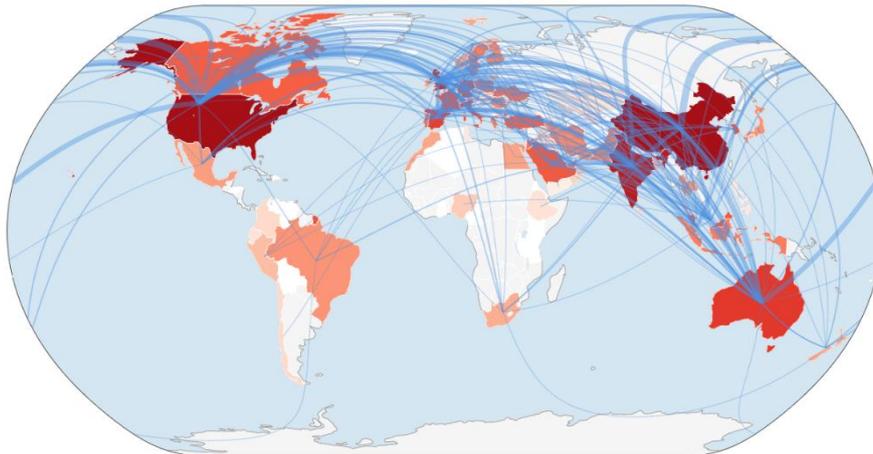
The top articles list (*Table-III*), reveals the balance in the focused development of theory and practical research between marketing science and computational science. The most popular areas of academic and practical interest are personalization, recommendation systems, predictive analytics, and digital marketing transformation, which many of those publications are devoted to. Together, these publications form the basis of knowledge, shape the research directions and influence managerial practices in AI enabled marketing, which makes them highly relevant and significant in the academic community.

#### 4.5. *The Global Collaboration Network Analysis*

The international cooperation system of AI marketing research emphasizes the widespread international collaboration, which is based on the interdisciplinary and cross-border character of the specialty. *Figure-2*, that there are high collaboration connections among the most research hubs in the world, such as the United States, China, India, the United Kingdom, and Australia, which are the central nodes of the network. These nations have the most co-authorship relationships, which supports the strong role they play in influencing the production of knowledge, as well as knowledge exchange.

The information shows that the United States and China are not merely the leaders of the publication output, but also of the global activity of collaboration, building up the strong bonds with the European, Asian, and Oceania institutions. Equally, India is highly connected, showing that it regularly cooperates with the US, UK, and China, suggesting potential research capacity as well as the internationalization of AI marketing research. European countries like Germany, France, and UK are closely woven groups meaning that they collaborate intra-continently adding to transnational alliances. The rate of cooperations depends on the country pair, and the strongest intensity is seen between North American, European, and East Asian ones. Emerging economies such as Brazil, Malaysia and South Africa are engaged in selective relationships which increases geographic diversity, but adds a lesser part in total network density.

In general the global collaboration network shows that knowledge production in AI marketing is highly networked with a core periphery model; a core of dominant countries produces and determines the production of research and has influence, with peripheral countries being selectively engaged in partnerships. The given networked pattern promotes the spread of new approaches, facilitates intercultural research, and enables spreading AI technologies to marketing activities globally faster.



*Fig-2: Global Collaboration Network*

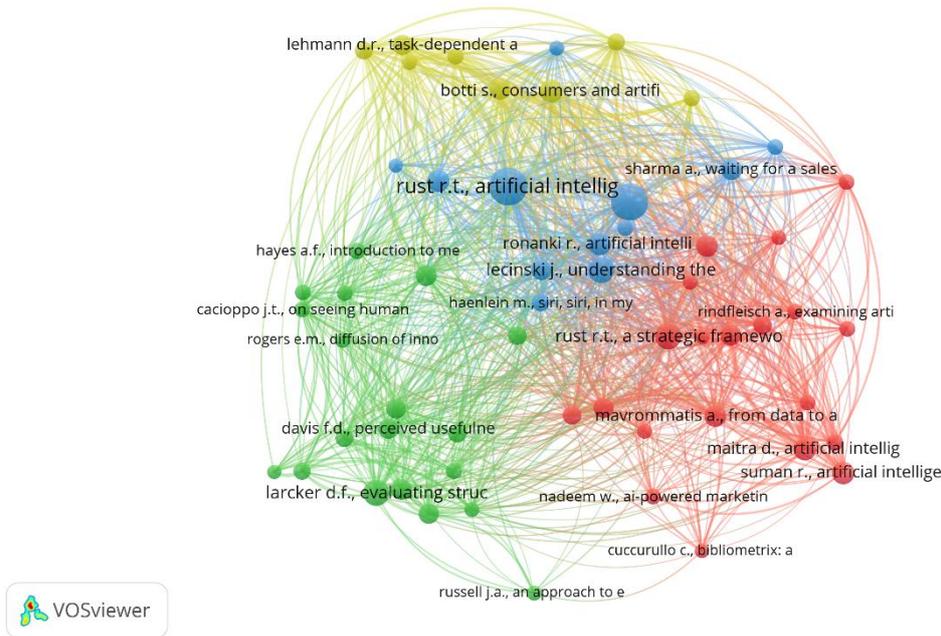
*Source: Authors Own compilation using Bibliometrix R*

#### 4.6. Co-Citation Network Analysis

The co-citation network of AI marketing research (*Figure-3*), exposes the intellectual organization of the field, showing clusters of the foundational and thematically similar studies. The network graph shows several groups, each of which corresponds to a specific area of research. One notable group (red) is dedicated to the AI-based customer analytics, which includes seminal papers that study predictive models, customer behavior modeling, and strategic marketing. Rust (2020) and Shankar et al. are key nodes in this cluster that are of high impact and that can guide the further empirical and theoretical research.

The other cluster (blue) revolves around the recommendation systems, such as the research on collaborative filtering, personalization algorithms, and digital content delivery. These studies are the methodological premises and practical in e-commerce, retail, and online services. The green cluster focuses on automation of marketing and integration of AI into the organizational processes, reflecting the research on workflow optimization, automated customer interaction, and efficiency of processes. A smaller yellow group emphasizes methodological progress, such as the early AI concepts and theoretical debates on the implementation of intelligent systems in marketing.

In the network, we can see that interconnections among clusters are very dense, which is due to the interdisciplinary character of AI marketing research. Papers that cross between more than one cluster suggest integrative research where predictive analytics is combined with personalization and automation to reflect the changing research trends. The node size is proportional to the citation impact and larger nodes correspond to foundational studies that are frequently cited throughout the discipline. In general, the co-citation analysis is a mapping of the intellectual architecture of the field, which allows recognizing the works which have influential power, the concentration of the themes, and the trajectory of the research. It shows that AI marketing research is structured in terms of the central themes of customer analytics, recommendation systems, and marketing automation, which serves as a systematic basis of the subsequent theoretical and practical inquiry.



#### 4.7. Co-Occurrence Analysis of Keywords

Network analysis (*Figure-4*), shows groups of commonly used terms, which represent thematic focal points and new issues in the field. The largest group that was captured by a green color is around Artificial Intelligence, Machine Learning, and Generative AI which suggests that synthetic approaches and their implementation in the marketing environment are core. Marketing analytics, consumption behavior, and social media marketing are the keywords that underline the introduction of AI technologies into consumer analysis and digital marketing strategies.

One of the red clusters highlights recommendation systems, the learning systems, and deep learning and shows the research dedicated to the algorithmic personalization, predictive model, and content optimization. This group coincides with applications of AI that help to increase customer interactions, personalize e-commerce, and conduct focused advertising campaigns. There is the blue cluster with a focus on algorithms, signal detection, and drug safety/administration, which implies interdisciplinary integration of AI techniques into domain-specific marketing scenarios, such as health-related and regulatory ones.

The network also tracks emergent themes such as ethics, consumer trust, data privacy which are represented in purple nodes which were a result of increasing interest in responsible AI implementation in marketing activities. This shows that scientists are more actively incorporating social, ethical and regulatory aspects in AI applications, as transparency, responsibility and consumer protection are of high priority.

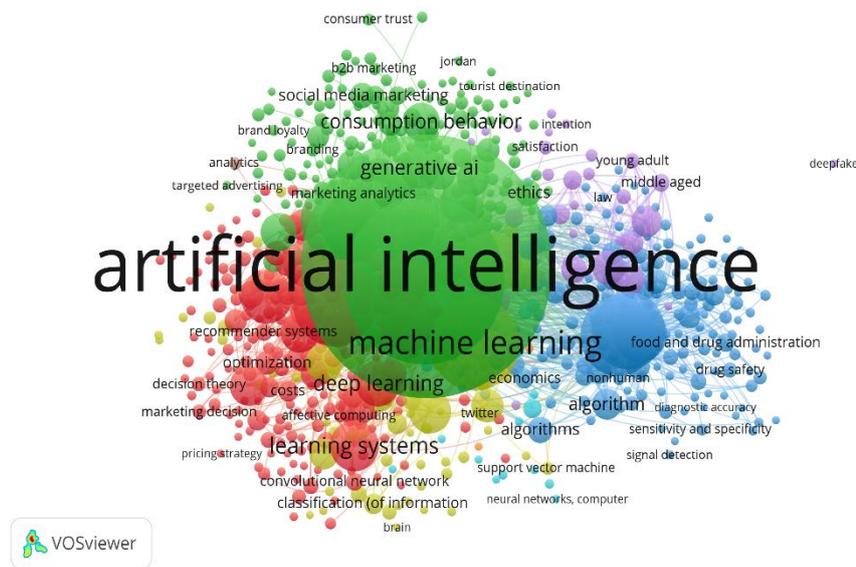


Fig-4: Co-occurrence network

Source: Authors Own compilation using VOS viewer

On the whole, the co-occurrence analysis keyword allows outlining four main research topics, namely: (1) AI enabled customer experience and marketing analytics, which is associated with personalization, social media marketing, and behavioral forecasting; (2) Predictive marketing analytics and recommendation systems, that are related to automated decision-making based on algorithms and data; (3) Machine learning in consumer behavior, including deep learning, neural networks, and learning systems; and (4) Digital marketing automation and ethical concerns, including automated campaigns, generative AI, and responsible AI governance. As evidenced by the co-occurrence network, AI marketing research is not only technologically sophisticated but also socially contextualized, with a balance of the methodological innovative approach and practical presentation, which offers a direction towards further research in the new fields.

## 5. Discussion

### 5.1. Evolution of Research Themes

Bibliometric, as well as network analysis, shows that the themes of research in AI marketing have evolved in the last decade. The initial research (mainly 2010-2015) was focused on marketing analytics, the application of AI to improve data-driven decision-making, customer segmentation, and predictive analysis (Wedel and Kannan, 2016). Keywords and co-citation clusters suggest that the early literature focused on structured data analysis, statistical modeling, and optimization of workflow as the groundwork towards introducing AI into marketing activities.

Since 2016, the studies were directed at personalization and recommendation systems. The stage was marked by more attention paid to machine learning, modeling customer behavior, and personalization of content. The articles by Rust (2020), Davenport (2020), and Dwivedi (2021, 2023) are highly cited, representing the core of the marketing strategy focus on the centrality of algorithmic personalization and predictive analytics. The co-occurrence networks show that there is a huge clustering of terms around customer analytics, recommendation systems and social media marketing, which demonstrate the focus on AI-based one-to-one targeting and interaction.

The latest theme shift is the appearance of generative AI and advanced automation that has occurred in the latest period 2022-2026. The keywords used include generative AI, autonomous systems, and ethical AI, which show that the paper is concerned with AI-based content generation, campaign automation, and responsible AI implementation. The use of generative AI in marketing analytics and customer interaction is an indicator of technological progress and the changing demands of professionals to provide scalable, adaptable, and personalized marketing solutions.

Such a temporal development analytics - personalization - generative AI indicates that research is getting more and more complex and sophisticated, with operations optimization giving way to strategic personalization, and finally, autonomous and generative systems, which is an indicator of a change in the direction of less descriptive and more prescriptive and predictive marketing intelligence (Kietzmann et al., 2018; Rust, 2020).

### *5.2. Future Research Prospects*

The discussion reveals that there are various areas of growing directions that characterize the future frontier of AI marketing studies. Generative AI marketing is quickly becoming a rapidly growing field of study, and the automated generation of content, dynamic ad generation, and automated campaign design have been studied. Real-time generation of contextually relevant materials by generative AI is a paradigm shift in both the practice and study of marketing (Dwivedi et al., 2023).

The topic of AI ethics in marketing is one that is of utmost importance, which has been raised due to the question of transparency, prejudice, and consumer trust. The ethical concerns of AI-induced personalization, recommendation systems, and automated decision-making have become the focus of research, and there is a need to develop frameworks that can adjust technological opportunities and ethical accountability (Shankar et al., 2022). Another central theme is explainable AI (XAI), which seeks to improve predictive model and recommendation system interpretability. XAI enables the trust of managers, regulatory adherence, and acceptance in marketing situations that demand transparency and accountability (Doshi-Velez and Kim, 2017). Lastly, there are autonomous marketing systems that are built upon AI-powered decision support, real-time analytics, and predictive optimization. These systems harness a sophisticated machine learning and natural language processing to autoscale campaign management and resource allocation as well as multi-channel engagement so that marketers can scale their activities with limited human involvement (Kietzmann et al., 2018).

All these directions testify to the fact that the movement tends toward more responsible, intelligent, and strategic marketing systems. The future studies will be required to discuss the technical feasibility along with the ethical, social, and managerial ramifications and lay more emphasis on the harmony between the AI abilities and organizational goals, as well as the expectations of consumers.

### *5.3. Implications of the Theory*

The results have the potential to be included in the literature of marketing analytics, as they identify the historical progression of AI application as predictive modeling and generative systems, shedding more light on the conceptual relationships between analytics, personalization, and autonomous marketing. The co-citation analysis and key-word analysis identifies the fusion of computational intelligence and the marketing theory, supporting the frameworks of customer segmentation, customer engagement, and decision-making during uncertainty (Wedel and Kannan, 2016; Rust, 2020). Also, the research problem further builds AI adoption theory as it reveals how factors affect the creation of knowledge, networks of collaboration and dissemination of research. The experience of co-authorship and country-level analysis shows that institutional capacity, cross-border cooperation, and methodological innovation have a significant influence on the implementation and theoretical codification of AI in marketing situations. These results provide a systematic insight into the knowledge processes, intellectual basis, and emerging paradigm of AI application in the field of marketing research.

#### *5.4. Managerial Implications*

Regarding managerial value, the study focuses on the strategic value of AI in decision support, predictive modeling of customer behavior, demand forecasting, and campaign optimization. Empirical studies with a high impact prove that the combination of AI into marketing analytics positively influences the quality of decisions and the efficiency of resource allocation (Davenport, 2020).

Machine learning and AI-based analytics are growing to inform customer segmentation, allowing the identification of high-value segments of consumers in a dynamic, granular, and real-time manner. Personalization systems and recommendation systems can convert analytical results into practical interventions thereby enhancing engagement and conversion rates (Rust, 2020).

The other important application is campaign automation where generative AI and autonomous systems enable scalable, adaptive and personalized communications across various channels. Automation based on AI decreases overheads and boosts the speed of responses, as well as enables continuous optimization of marketing campaigns. All of these applications indicate the possibility of AI reshaping marketing to be less descriptive and more proactive, predictive and autonomous strategic processes, including actionable advice to practitioners who wish to be effective users of advanced intelligence technologies.

#### *5.5. Future Research Agenda*

Since there is a great deal of growth, a number of research gaps remain in AI marketing. There is a lack of AI transparency; research is necessary to check the role of interpretable models in enhancing trust, adoption, and regulatory compliance in marketing. On the same note, bias in AI use in marketing algorithms needs to be addressed since algorithmic suggestions might not be fair or stereotypical, potentially influencing fairness and perception of a customer (Shankar et al., 2022). Another crucial field is the privacy issues surrounding AI-based data gathering and personalization. As companies use consumer data to market their goods to specific consumers, studies need to look at privacy-protecting systems, consented to, and how the data policy affects adoption and customer trust.

The sphere of human-AI cooperation is not very developed, and there is a lack of empirical studies concerning the interaction of marketers with AI-based systems during decision-making. The optimal human-AI integration, workflow redesign, and cognitive load management are key aspects that should be understood to realise the best value of AI adoption (Davenport, 2020). The potential applications of generative AI to industrial fields can also be researched in the future, exploring the effectiveness of the automated content, the way customers accept it, and the strategic positioning in the long run. Explainable AI techniques should be investigated further so as to make them transparent and accountable to the managers, particularly in sensitive marketing decisions. Lastly, the generalizability of AI applications in marketing should be examined through cross cultural and cross industry research to determine the impact that institutional, regulatory, and market specific variables have on them.

By filling these gaps, the theory and practice will gain a step forward, and the introduction of AI into marketing will be ethical, efficient, and sustainable.

#### *5.6. Limitations*

There are a number of limitations on this research. To begin with, a search in one database (Scopus) can deny the possibility of considering an important publication being indexed in the Web of Science, Google Scholar, or any other specialized repositories, which can lead to the bias of results to some journals or areas. Second, the analysis was limited because of the selection of keywords, where it was limited to the terms of Artificial Intelligence, AI and Digital Marketing. Such a method can exclude articles with different terms or new terminology, which will also reduce the comprehensiveness. Third, citation-based metrics are indicative of scholarly impact but are vulnerable to temporal and disciplinary biases as older literature will get more citations,

and interdisciplinary literature will also be underrepresented. Fourth, bibliometric reviews fail to reflect qualitative features of a study, including rigor of methodology or practical impact results, which may miss subtle details of theoretical additions.

Lastly, network visualizations and clustering algorithms rely on parameter choices (e.g. co-occurrence thresholds, clustering resolution) and these can impact finding clusters, as well as interpreting them. Regardless of these constraints, the study is the strong reproducible mapping of the AI marketing research, which contributes to trends, influential works, and collaboration patterns.

## **6. Conclusion**

This paper is a syntactic and network review of AI literature on marketing between 2010 and 2026. The analysis includes the trends of annual publication, best journals, most influential authors, prolific nations and institutions, most cited articles, co-citation induced networks, popular keyword co-occurrence, and networks of global collaboration. Results indicate that the volume of research output grows exponentially, the themes change to personalization and generative AI, and there is a very networked international community of researchers.

The paper pinpoints the main themes of research, such as AI-enabled customer analytics, recommendation systems, predictive marketing, and ethical AI implementation, even pointing towards the development of the theoretical and practical frameworks. Bibliometric mapping indicates that knowledge generation is controlled in the USA, China, India, and some European countries, whereas co-authorship networks depict a significant international collaboration. Intellectual foundations are marked by high-citing and co-citation groups, and thematic organization can be seen in keyword searches, including generative AI, autonomous marketing systems, and explainable AI.

The research has three folds of contributions: it contributes to the existing marketing analytics and AI adoption literature, offers a methodological framework that can be replicated to conduct a bibliometric investigation, and offers practitioners implementing AI-based marketing strategies practical recommendations. The results can be used to develop and shape theory, inform research priorities, and inform evidence-based management choices in digital and artificial intelligence-enabled marketing environments. Altogether, the research provides a reference point in terms of which scholars and practitioners can follow to trace the path, outline, and trends of AI research in marketing.

### **Conflict of Interest**

The authors report that they do not have any priori financial interests or personal relationship that would possibly affect the presented work reported in the paper.

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