

Understanding the Nexus of Marketing and Artificial Intelligence (AI): Customer Experience is of the Essence

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Abstract

Artificial intelligence (AI) is assuming an increasingly pivotal role in marketing, as evidenced by its extensive implementation across a diverse array of sectors. Review studies are indispensable across all scientific disciplines, particularly within emerging fields, as they provide scholars and practitioners with insights into the current state of knowledge and prospective avenues for development. In this context, the primary objective of the present study is to examine the social and conceptual framework underpinning the application of artificial intelligence in marketing. To achieve this goal, all bibliographic data up to 2022 were retrieved and analyzed using VOSviewer software. This analysis encompasses descriptive statistics, keyword co-occurrence analysis and co-authorship analysis. The descriptive analysis identifies the most highly cited papers, authors, countries, universities, and journals within the field. The co-authorship analysis reveals the social structure, emphasizing collaboration patterns among researchers. Additionally, the keyword co-occurrence analysis provides insights into the conceptual framework of the field, particularly by highlighting recent research topics and their temporal trends. The findings indicate that AI has become an essential and important tool for businesses to identify and understand customer behavioral patterns and needs, particularly throughout the customer journey and in enhancing customer experiences. These technologies not only support businesses in optimizing their strategies but also assist customers in their decision-making processes.

Keywords: Artificial Intelligence; Marketing; Bibliometrics; Co Authorship Analysis; Co Occurrence Analysis.

Introduction

Technological advancements have been the driving force behind the evolution of marketing, demonstrating the immense potential for collaboration between marketing and technology in generating groundbreaking outcomes (Durai, et al. 2024 ; Wirth, 2018). In the array of technological innovations, Artificial Intelligence (AI) has been particularly transformative, fundamentally reshaping traditional practices across industries (Azelya and Filin 2025, Kanellopoulou, et al. 2025). Its growing prominence in management and marketing sciences underscores its profound significance in contemporary discourse. AI, in conjunction with pivotal technologies like the Internet of Things (IoT) and big data analytics (BDA), has revolutionized customer engagement strategies by offering digital solutions that not only attract but also retain customer bases (Verma, et al., 2021). This transformative process extends to the personalized customization of product and service offerings, heralding a new era of customer-centric marketing (Khanagha et al., 2017). Indeed, the landscape of contemporary marketing is increasingly characterized by its data-

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driven, automated, and intelligent nature, causing a paradigm shift in marketing practices (Kumar et al., 2019; Chintalapati and Pandey, 2022). Consequently, given marketing's pivotal role as a primary application domain for AI, there is an urgent imperative to explore AI marketing as a distinct field of study, with the aim of comprehensively investigating its far-reaching impact and implications (Mariani, et al., 2022). Simultaneously, research into the digital and technological evolution within marketing has surged (Crittenden et al., 2019). Researchers have thoroughly examined how technological progress influences companies, particularly in their ability to skillfully address customer needs and deliver products or services (Kumar et al., 2019).

As the corpus of research in these domains continues to expand exponentially, the importance of review studies in providing comprehensive insights becomes increasingly evident. Traditional reviews, often constrained by their narrow scope and inherent subjectivity, tend to overlook the broader spectrum of knowledge development and structural dynamics within a given field, thereby inadvertently reflecting the biases of researchers and fixating on specific aspects (Fan et al., 2022). In contrast, quantitative reviews, such as bibliometric analyses, present a reliable alternative, offering delicate insights into the evolutionary trajectories, underlying structures, and future research directions while astutely identifying theoretical gap in the literature (Donthu et al., 2021; Chakraborty et al., 2021; Kumar et al., 2022). Despite the undeniable significance of traditional reviews, there is a clear need for up-to-date bibliometric analyses that accurately reflect the current state of artificial intelligence in marketing. These comprehensive reviews not only clarify the intellectual, conceptual, and social frameworks within scientific disciplines but also offer valuable insights into the evolving landscape of AI-driven marketing paradigms (Khare and Jain, 2022).

In light of these considerations, This study aims to provide a comprehensive analysis of the growing body of research on artificial intelligence in marketing, motivated by the recognition of AI's profound impact on marketing, particularly in the service sector in recent years, thereby laying the groundwork for informed scholarly discourse and strategic decision-making (Flavián et al., 2022, Ljepava 2022). The paper first elaborates on the literature, followed by the methodology, then presents the findings, and ultimately concludes with a discussion and future directions.

Literature review

Artificial intelligence

Artificial intelligence (AI), originating from information technology, is often confused with automation or robotization despite its distinct characteristics. It is also frequently mistakenly equated with machine learning or the application of algorithms (Jarek and Mazurek, 2019). AI, a significant technology in computer science, aims to enable computers to understand and replicate human communication and behavior by leveraging various data sources. This capability has led to the creation of intelligent machines that can think, respond, and perform tasks in ways that mimic human cognition and behavior (Toorajipour, et al., 2021). Unlike human intelligence, AI consists of a network of intelligent agents that perceive and analyze their environment to achieve predefined goals (Wisetsri et al, 2021). AI encompasses a range of highly technical activities, including robotics, speech and image recognition, natural language processing, and problem-solving, making it a multifaceted technology with broad applications across industries (Toorajipour, et al., 2021; Rashid and Kausik 2024).

Different definitions of AI emphasize various aspects and attributes, often characterizing it as "machines that exhibit aspects of human intelligence" (Huang & Rust, 2018, p. 155). Over the past few decades, the evolution of AI has prompted scholars to broaden its conceptual boundaries, leading to significant breakthroughs such as big data analytics and machine learning applications across diverse sectors (Verma et al., 2021). AI technologies replicate cognitive functions typically associated with human intelligence, such as thinking, learning, and problem-solving (Syam & Sharma, 2018). Both practitioners and academics view AI as a pivotal force that will shape the future of society by revolutionizing human-machine interaction and enabling computers to make decisions with minimal human intervention. In the field of marketing, AI utilizes real-time data to comprehend and meet customers' changing needs and demands (Chintalapati & Pandey, 2021; Suraña-Sánchez and Aramendia-Muneta, 2024).

One of the unique attributes of AI is its ability to alleviate repetitive tasks for humans, thereby enhancing efficiency and productivity as intelligent systems undertake these tasks tirelessly (Verma et al., 2021). AI's capacity to learn and perform tasks of varying complexity mirrors human cognitive abilities. The core objective of artificial intelligence is to enhance learning, reasoning, and task execution, continually advancing the frontiers of technological innovation.

As technology evolves, so does our understanding of AI, often rendering previous standards outdated (Clegg and Sarker 2024).

Artificial intelligence and marketing

Artificial intelligence (AI) represents a transformative shift in marketing practices, providing advanced technological solutions to optimize business performance across various operational areas. The growing adoption of AI tools—such as profiling, automation, customization, multichannel marketing, analytics, and forecasting—demonstrates a move toward data-driven innovation and strategic flexibility (Peyravi et al., 2020). These tools not only enhance the efficiency of traditional marketing processes but also foster greater adaptability and proactive customer engagement. AI's applicability extends beyond operational optimization, influencing every aspect of marketing strategy formulation and execution. From orchestrating targeted promotions to devising agile pricing strategies and curating development and distribution channels, AI's impact is profound (Mogaji et al., 2020). Its integration into core functions such as social media management, data mining, customer engagement, and logistics optimization marks a new era of marketing characterized by enhanced efficiency, strategic foresight, and customer-centricity (Bhalerao et al., 2022).

Central to AI's transformative potential is its ability to foster a customer-centric ethos, steering organizations toward sustainable growth and market leadership (Verma et al., 2021). AI-powered real-time data analytics enable organizations to navigate the dynamic marketplace with agility, swiftly responding to evolving customer needs and preferences (Wirth, 2018). Insights from AI-driven analytics inform targeted attraction and retention strategies, optimizing return on investment by directing resources toward high-impact initiatives (Peyravi et al., 2020). Furthermore, AI significantly impacts personalized marketing initiatives by enabling organizations to craft tailored customer experiences across multiple touchpoints. Through advanced technologies, AI facilitates content customization that aligns with individual customer preferences, enhancing engagement and satisfaction. Additionally, automating labor-intensive tasks improves operational efficiency, allowing human resources to focus on strategic and creative endeavors. This shift fosters innovation and differentiation, positioning organizations for sustained competitive advantage (Haleem et al., 2022). AI's transformative potential in marketing is boundless, affecting every facet of strategy formulation and execution. From enhancing customer experience to optimizing performance metrics and orchestrating business decisions, AI is a harbinger of marketing innovation and strategic agility (Tominc et al. 2023, Hildebrand, 2019). Advances in computing power and the proliferation of big data have integrated AI into digital marketing channels, causing a strong shift in advertising strategies and redefining online marketing (Haenlein and Kaplan, 2019; Mogaji and Nguyen, 2022).

In summary, AI-enabled services offer convenience in three dimensions: availability, real-time information, and proactive engagement. First, AI-enabled self-service is available 24/7 and is accessible anywhere. Second, customers receive real-time information and support throughout their customer journey. Third, AI-powered bots proactively engage with clients, providing relevant information and assistance at each touchpoint. This improves resolution time and customer satisfaction (Walch, 2019). This convenience enhances customer engagement (Ameen, et al., 2021; Walch, 2019).

Methodology

To initiate the bibliometric analysis, the research team selected a database and established criteria for data retrieval. The Web of Science database, including all its subsets, was chosen as the data source due to its reputation as a reliable and standardized platform for bibliometric studies (Meho & Yang, 2007). This database encompasses high-quality journals that publish scientific articles across diverse disciplines (Hassan Shah et al., 2022). Subsequently, relevant keywords "Artificial intelligence," "AI," and "marketing" were identified and used to retrieve articles from the database. A temporal limit was applied, excluding articles published after the end of 2022, with no restriction on the starting point. The initial search retrieved 1,066 articles from the database. As the aim of the current research was to investigate the global trend of artificial intelligence research in marketing, the articles were first filtered to include only those published in English. This step removed 353 articles. Subsequently, a second filter was applied to restrict the dataset to research and review articles, as these undergo more rigorous peer review. Consequently, 698 articles remained in the final dataset for analysis. In the next phase, the full bibliometric information of these articles—including title, abstract, organizational affiliation, and sources—was extracted and analyzed using VOSviewer software (e.g., Abbasi & Choukolaei, 2023). VOSviewer is a practical tool for visualizing bibliometric data, widely

utilized in various studies. Its network visualizations enable comprehensive and efficient analyses of a research field (Máté, et al. 2024; Van Eck et al., 2014). Using this software, two key analyses were conducted: keyword co-occurrence analysis, which facilitates understanding of the evolution and conceptual structure of a research domain (Bajaj et al., 2022; Pahrudin et al., 2022; Cruz & De Arruda Ignacio, 2023), and co-authorship analysis, which highlights collaborations among countries, authors, and other entities (Chakraborty et al., 2021; León-Gómez et al., 2021). The steps of this research, which is derived from Pahrudin, et al. (2022), are shown in the figure below:

1
Identification of the term
2
Database selection web of science and all its subsets
3
search criteria and filters Time limit: beginning till 2022 Article type: research and review Language: English
4
Finding the result Mapping the result
5
Analysis of the result Discussion

Figure 1. The steps of the study

Findings

Data retrieved from the Web of Science database indicate a notable surge in research activity in the field of artificial intelligence (AI) and marketing since 2017. This upward trajectory in article publications has continued unabated, culminating in a record 230 articles published in 2022, which constitute approximately 33% of all articles in this domain. Furthermore, the trend of citing articles in this field, which began in 1992, has shown a steady rise, reaching a peak of 5,656 citations in 2022. As of 2023, 617 citations have already been recorded for articles in this field. Figure 1 illustrates the publication statistics for articles in AI and marketing research, along with their corresponding citation counts. For a detailed breakdown of these statistics by year, refer to Table 1.

Based on the results of the database search, the most cited articles in the field of artificial intelligence and marketing research were identified. The article titled "Machine Learning: Trends, Perspectives, and Prospects," authored by Jordan and Mitchell (2015), which was published in the journal Science, is recognized as the most cited article in this field, with 2,613 citations. Following closely is the article by Davenport, Guha, Grewal, and Bressgott (2020), titled "How Artificial Intelligence Will Change the Future of Marketing," published in the Journal of the Academy of Marketing Science, with 357 citations. The third most highly cited article is authored by Jiang and wen (2020), titled "Effects of COVID-19 on hotel marketing and management: a perspective article" published in International journal of contemporary hospitality management with 328 citations. A list of the top 10 most cited articles in the field of artificial intelligence and marketing research, along with detailed information, is presented in Table 2.

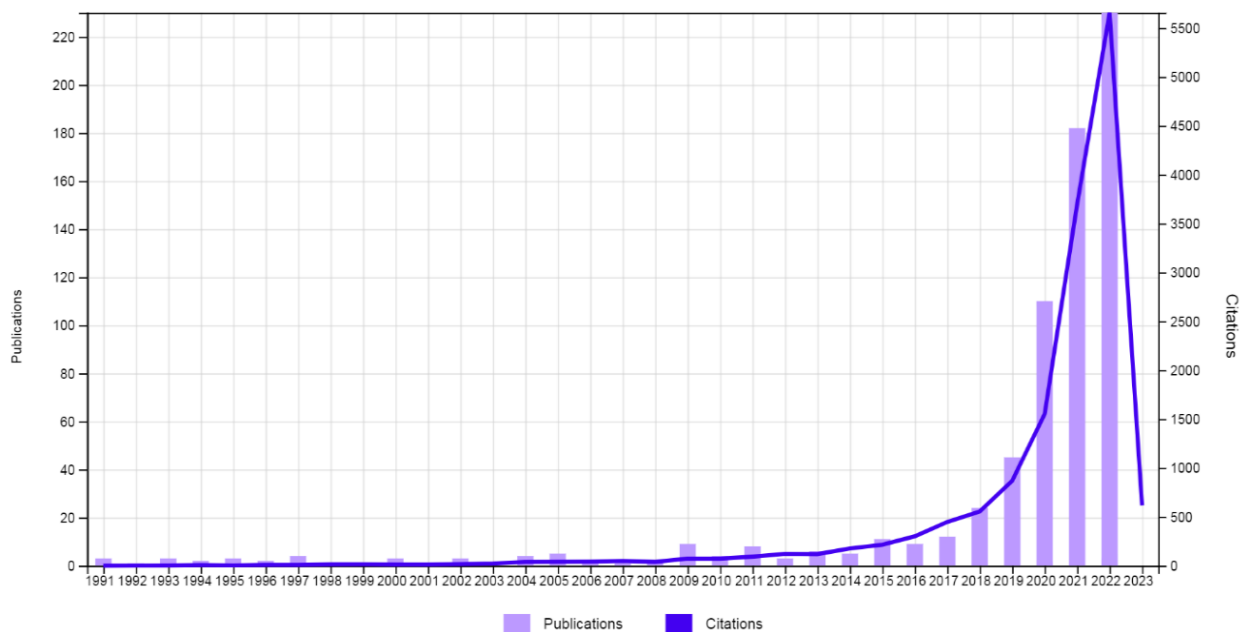


Figure 2. Quantitative trend of publications of AI in marketing

Table 1. Detail of paper publication of AI in marketing

Year	Publications	Citations	Year	Publications	Citations	Year	Publications	Citations
2023	-	617	2012	3	120	2001	1	11
2022	230	5656	2011	8	92	2000	3	11
2021	182	3697	2010	4	71	1999	1	13
2020	110	1551	2009	9	72	1998	1	12
2019	45	868	2008	2	38	1997	4	7
2018	24	554	2007	1	48	1996	2	7
2017	12	47	2006	1	41	1995	3	3
2016	9	300	2005	5	39	1994	2	8
2015	11	214	2004	4	37	1993	3	2
2014	5	176	2003	3	22	1992	1	1
2013	6	118	2002	3	15	1991	3	-

The findings also reveal the top authors in the field of artificial intelligence applications in marketing based on the number of citations their articles have received. Jordan and Mitchell are the most cited authors in this field, with their article garnering 2,613 citations, establishing it as the most cited article. Following closely is Grewal, who holds the next rank with three articles collectively amassing 433 citations. The ranking of authors based on citation counts is detailed in Table 3, which lists the top 10 authors in the field of artificial intelligence applications in marketing.

Table 2. Highly cited papers of AI in marketing

Rank	Article	Authors	Year	Journal	Citations	Pub. Per year
1	Machine learning: trends, perspectives, and prospects	Jordan, MI and Mitchell, TM	2015	Science	2613	290.33
2	How artificial intelligence will change the future of marketing	Davenport, T; Guha, A; Grewal, D; Bressgott, T	2020	Journal of the academy of marketing science	357	89.25
3	Effects of COVID-19 on hotel marketing and management: a perspective article	Jiang, YY and Wen, J	2020	International journal of contemporary hospitality management	328	82
4	Setting the future of digital and social media marketing research: Perspectives And research propositions	Dwivedi, YK; Ismagilova, E; (...); Wang, YC	2021	International Journal of information management	302	100.67
5	Handling class imbalance in customer churn prediction	Burez, J and Van den Poel, D	2009	Expert systems with applications	262	17.47
6	User generated content: the use of blogs for tourism organisations and tourism consumers	Akehurst, G	2009	Service business	246	16.4
7	Real-time co creation and nowness service: lessons from tourism and hospitality	Buhalis, D and Sinarta, Y	2019	Journal of travel & tourism marketing	203	40.6
8	Service robot implementation: a theoretical framework and research agenda	Belanche,bD Casaló, LV Flavián, C Schepers, J	2020	Service industries journal	168	56
9	A strategic framework for artificial intelligence in marketing	Huang, MH and Rust, RT	2021	Journal of the academy of marketing science	132	66
10	Transforming the Customer Experience Through New Technologies	Hoyer, WD Kroschke, M Schmitt, B Kraume,K Shankar, V	2020	Journal of interactive marketing	127	42.3

Table 3. Highly cited authors

	Author	Number of doc	Citation	Total link strength
1	Jordan, m. i.	1	2613	46
2	Mitchell, t. m.	1	2613	46
3	Grewal, Dhruv	3	433	273
4	Guha, Abhijit	2	375	265
5	Dwivedi, yogesh k.	4	365	198
6	Bressgott, Timna	1	357	251
7	Davenport, Thomas	1	357	251
8	Jiang, Yangyang	1	328	3
9	Wen, Jun	1	328	3
10	Rauschnabel, Philipp A.	2	323	95

Based on the findings, "Science" emerges as the most cited journal in the field of artificial intelligence applications in marketing, with a single article amassing 2,613 citations. Following closely is the "Journal of the Academy of Marketing Science", securing the second position with 836 citations, while "Industrial Marketing Management" holds the third spot with 442 citations attributed to its articles. In Table 4, a list of the top 10 journals in the field of artificial intelligence applications in marketing is presented, along with the number of published articles, the number of citations received, and the total link strength.

Table 4. Highly cited journals

	Source	Number of doc	Citation	Total link strength
1	Science	1	2613	17
2	Journal of the academy of marketing science	12	836	143
3	Industrial marketing management	22	442	113
4	Journal of business research	21	419	129
5	International journal of contemporary hospitality management	3	360	9
6	Journal of interactive marketing	8	352	60
7	International journal of information management	2	306	18
8	Expert systems with applications	4	291	2
9	Journal of artificial intelligence research	1	270	0
10	Service business	1	246	0

Highly cited universities in this research field were identified through an examination of data extracted from the database. Consequently, the University of California, Berkeley emerges as the most cited university in this field, with 2,632 citations. Following closely, Carnegie Mellon University secures the second position with 2,613 citations, while Babson College occupies the third place with 433 citations. The 10 most cited universities in this research field are listed in Table 5, along with the number of articles, the number of citations, and the total link strength.

Table 5. Highly cited universities

	organization	Number of doc	Citation	Total link strength
1	University of California, Berkeley	2	2632	54
2	Carnegie Mellon University	2	2613	40
3	Babson College	3	433	232
4	University of Bradford	3	393	198
5	University of South Carolina	4	382	240
6	Edith Cowan University Joondalup Campus	5	369	27
7	Maastricht University	2	366	209
8	Swansea University	4	365	172
9	Newcastle University	3	354	141
10	Ghent University	3	332	9

The findings indicate that the United States of America leads as the most cited country in the field of artificial intelligence applications in marketing, with its articles accumulating 6,459 citations. Following the USA, Australia secures the second position with 1,435 citations, while England ranks third with 1,381 citations. A list of the top ten countries in this research area is shown in Table 6.

Table 6. Highly cited countries

	Country	Number of doc	Citation	Total link strength
1	United states of America	145	6459	1274
2	Australia	53	1435	508
3	England	57	1381	741
4	Netherland	20	1117	337
5	China	85	1098	287
6	Germany	35	1061	368
7	India	62	883	534
8	Canada	26	800	347
9	France	27	799	310
10	Spain	25	559	244

Co-occurrence analysis

Keyword co-occurrence analysis identifies the most frequently used terms associated with artificial intelligence in marketing (Cruz & De Arruda Ignacio, 2023). The top five keywords, ranked by their occurrence frequency, are "artificial intelligence" (291), "machine learning" (91), "marketing" (67), "big data" (28), and "chatbot" (23). Table 7 and Figure 3 present the top keywords in this field.

Table 7. Keywords co occurrence

No	keywords	occurrence	Total link strength
1	Artificial intelligence	291	360
2	Machine learning	91	149
3	Marketing	68	108
4	Big data	28	72
5	Chatbot	23	33
6	Digital marketing	22	39
7	Deep learning	19	35
8	Natural language processing	14	32
9	Social media	13	20
10	Anthropomorphism	10	13
11	Customer experience	10	14
12	Sentiment analysis	10	21
13	Tourism	10	25
14	Trust	10	16
15	Data mining	9	17
16	Digitalization	9	18
17	E-commerce	9	15
18	Robots	9	25
19	Advertising	8	14
20	Blockchain	8	16

Analyzing the co-occurrence of keywords can reveal their temporal sequence, demonstrating their frequency of use by authors and highlighting the emergence of ongoing topics. The results identify several technologies that enhance marketing, including machine learning (Syam & Sharma, 2018), the Internet of Things (IoT) (Hacid et al., 2023), and chatbots (Luo et al., 2019). Figure 4 illustrates the temporal progression of these keywords. Moreover, this analysis underscores evolving trends in research and concepts at the intersection of AI and marketing. The findings indicate that AI's most significant impact in marketing lies in enhancing customer experience, recognized as the primary objective of AI applications in this field (Vijayakumar, 2023). Customer experience is a multifaceted concept encompassing "a customer's cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings throughout the entire purchase journey" (Lemon & Verhoef, 2016). These experiences are shaped by a series of consumer touchpoints with a company's offerings (Gentile et al., 2007).

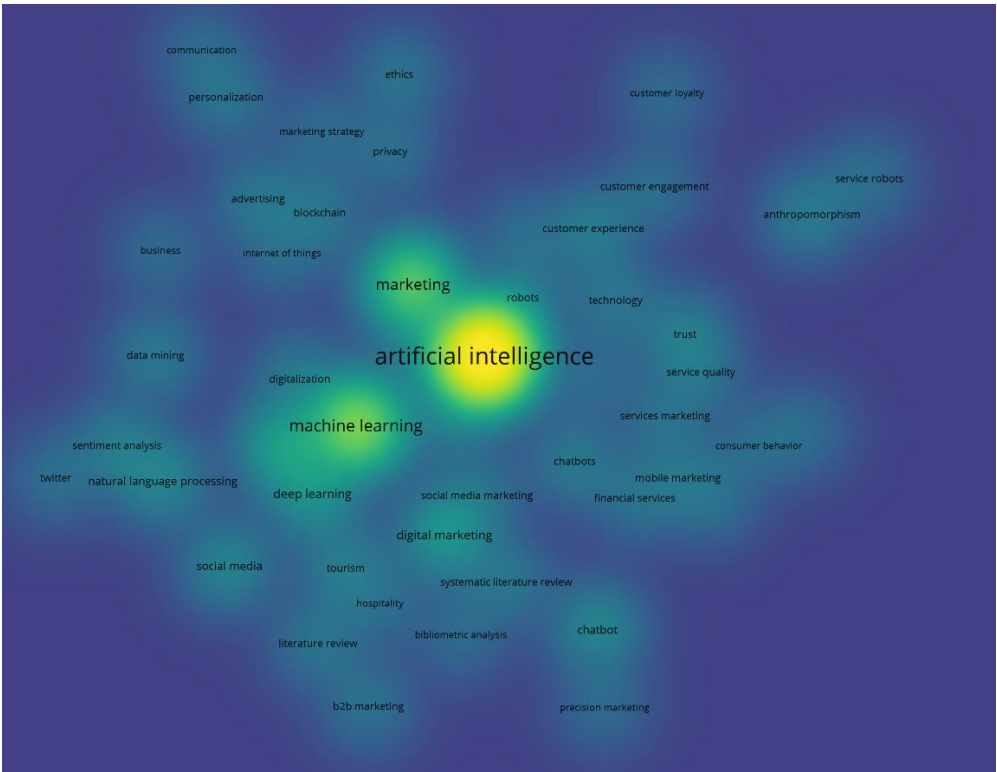


Figure 3. Top keywords of AI studies in marketing

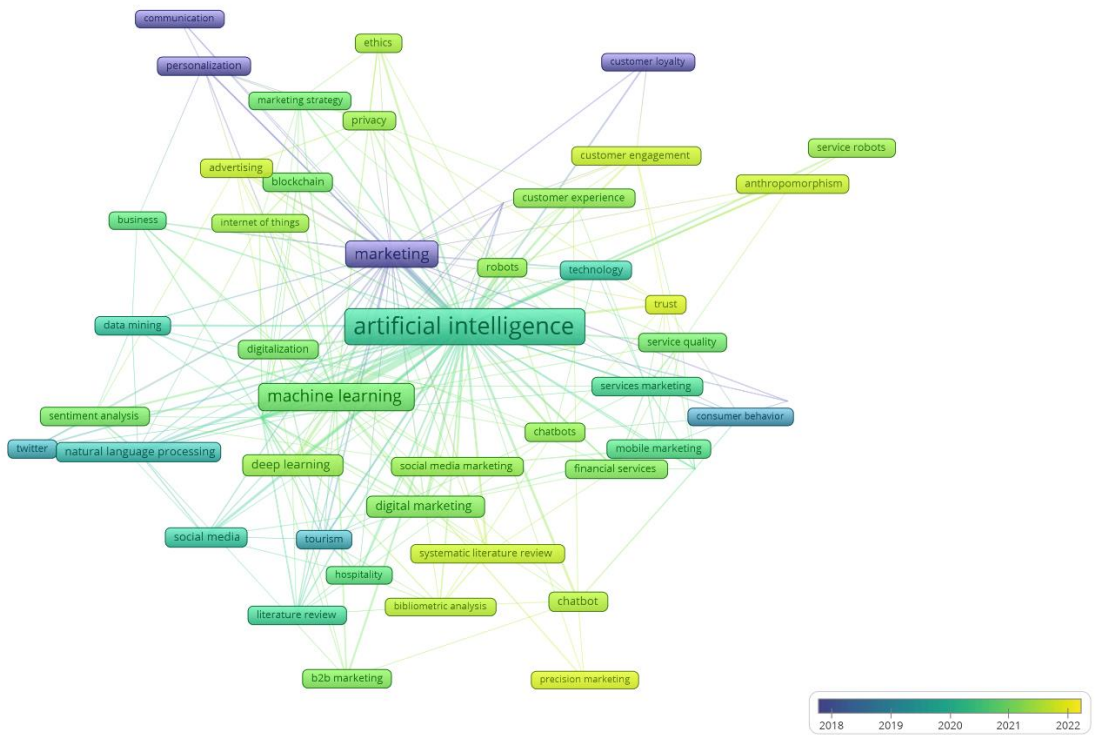


Figure 4. Temporal statue of keywords of AI studies in marketing

A review of marketing literature reveals a shift from traditional service marketing topics—such as loyalty, satisfaction, and image—toward a focus on customer experience. This transition is propelled by the rise of service-dominant logic, a consumer-centric paradigm, and advancements in technology, particularly artificial intelligence (Lemon & Verhoef, 2016). AI has revolutionized how value is created and delivered to customers. A key role of Artificial intelligence (AI) in marketing is personalization, meeting the growing expectations of modern consumers for customized shopping experiences. When services are tailored to their needs, consumers are more likely to feel valued, fostering brand connection and increasing purchase likelihood (Sheth et al., 2023; Alimamy & Gnoth, 2022). Artificial intelligence (AI) leverages individual data to deliver personalized experiences, deepening consumer insights and enabling behavior-based predictions. Additionally, Artificial intelligence (AI) is expected to map individual customer journeys and optimize experiences (Ljepava, 2022). By analyzing purchase histories and social media data, companies can target customers more effectively. For instance, Artificial intelligence (AI) drives automated advertisements, suggests best practices, and provides performance metrics on social media platforms (Singh et al., 2019).

Advancements in artificial intelligence (AI) have significantly enriched omnichannel marketing. Technologies like augmented reality (AR) and virtual reality (VR) deliver relevant, imaginative information to consumers quickly and conveniently across purchase stages, enhancing personalization. AR augments experiences with additional information, while VR immerses users in new environments (Guerra et al., 2015). These technologies improve consumer interactions by refining omnichannel experiences across online and offline touchpoints (Hoyer et al., 2020). For example, AI-powered churn prediction analyzes omnichannel events, detects declining engagement, and fosters seamless customer experiences (Vrontis et al., 2022).

As firms prioritize customer decision journeys, intelligent agents enhance engagement to elevate overall experiences (Ma & Sun, 2020). Artificial intelligence (AI) technologies, such as machine learning, natural language understanding, and natural language processing, facilitate sentiment and feedback analysis with unparalleled scale, accuracy, and efficiency (Ameen et al., 2021). These advancements have the potential to revolutionize product trials, reshape usage perceptions, and redefine consumption experiences (Hoyer et al, 2020)

Machine learning is critical in managing consumer decision journeys, potentially boosting marketing effectiveness. With capabilities in text, voice, image, and video analytics, as well as supervised, unsupervised, and reinforcement learning (Ngai & Wu, 2022), machine learning excels at processing large-scale unstructured data in real time, generating accurate predictions to inform marketing decisions (Ma & Sun, 2020). Throughout the customer journey, increased exposure to targeted content may build long-term affinity (Vashishth, Sharma et al. 2025). Deep learning enables firms to master this journey. Before potential customers are identified, firms can monitor user-generated content (UGC) platforms to anticipate or shape demand (Mustak, et al. 2024). Once a lead emerges, a comprehensive consumer understanding informs programs guiding them through the purchase journey. During execution, firms track touchpoints across devices and channels, refining tactics to drive conversion (Gao and Liu 2022). Sustained interactions promote positive experiences, word-of-mouth, and lifetime value (Lemon and Verhoef, 2016).

Natural language processing (NLP), an AI subset, seeks to replicate human language interactions, enhancing personalization and refining algorithmic decision-making and prediction models (Zanker et al., 2019). NLP enables computers to understand, analyze, manipulate, and generate human language. Advanced NLP empowers chatbots to interpret customer intentions, reducing issue resolution times (Ngai & Wu, 2022).

The capability to derive insights from unstructured data—such as images, videos, voice, and text—has attracted considerable attention in the field of marketing. For example, Millie, an in-store virtual assistant, analyzes retail shoppers' speech and body language to detect emotions and enhance service (Kopalle et al., 2022; Hartmann & Netzer, 2023). Machine learning also supports marketing mix management, including product recommendations, brand oversight, and purchase predictions, while aiding promotion through advertising, demand forecasting, and chatbots. It further enhances people management by predicting churn, targeting, engagement, and leveraging facial recognition (Ngai & Wu, 2022).

AI-powered chatbots represent another key marketing application. Trained on human conversation datasets, these chatbots adeptly respond to interactions (Haleem et al., 2022), primarily handling customer service and sales tasks. Most service chatbots use preprogrammed scripts to address inquiries and nurture sales leads with product information. Companies like McDonald's employ Artificial intelligence (AI) tools, such as license plate recognition and recommender systems, to predict orders, suggest menu items, and streamline drive-throughs. Similarly, platforms like

Spotify, Amazon, and Netflix deliver personalized music, book, and video collections (Malthouse & Copulsky, 2023; Kotler et al., 2023). Robots are expected to significantly influence the service sector (Moriuchi and Murdy 2024). Replacing interpersonal contact with robotic automation could reshape tourism experiences (Tussyadiah, 2020), enhancing convenience through accessibility and speed or diminishing experiences by evoking discomfort, fear, or anxiety (Fusté-Forné & Jamal, 2021; Manthiou & Klaus, 2022).

A notable trend in AI-driven marketing is phygital touchpoints, blending physical and digital experiences. This approach enhances customer service experience (CSE) and journeys by bridging online-offline boundaries (Verhoef et al., 2015; Siregar & Kent, 2019). Phygital retailing integrates these environments for a seamless CSE (Banik, 2021), occurring when digital and physical elements converge cohesively within the same context (Bonfanti et al., 2023).

Marketing is evolving beyond omnichannel strategies toward metamarketing. Artificial intelligence (AI) advancements have shifted delivery from multichannel and omnichannel frameworks to immersive customer journeys. Unlike omnichannel's seamless integration, metamarketing offers digital experiences in physical spaces and real-life experiences in virtual environments, merging physical and digital realms (Yoo et al., 2023; Kotler et al., 2023). The metaverse facilitates this by enabling interactions in three-dimensional virtual worlds for real-time, immersive experiences (Hadi et al., 2024).

Blockchain technology supports content creation and customer experience by improving information access and engagement. In content delivery, authors often receive unfair royalties, fostering mistrust. Blockchain enhances verifiability and royalty distribution, with platforms like DTube and LBRY rewarding creators via decentralized networks. Applications increasingly leverage NFTs for verification and monetization (Stallone et al., 2021). Blockchain also tracks advertiser-to-publisher transactions, identifying inefficiencies. For instance, Toyota's blockchain adoption in media buying reduced advertising costs by 30–35% (Kotler et al., 2023).

Beyond enhancing customer experience, Artificial intelligence (AI) offers scalability, cost savings, interaction quality, and valuable data (Crolc et al., 2022). However, consumers must recognize data collection implications, raising privacy concerns. The reliance on algorithmic consumers and bots for decision-making presents compelling future research avenues (Sidlauskienė et al., 2023).

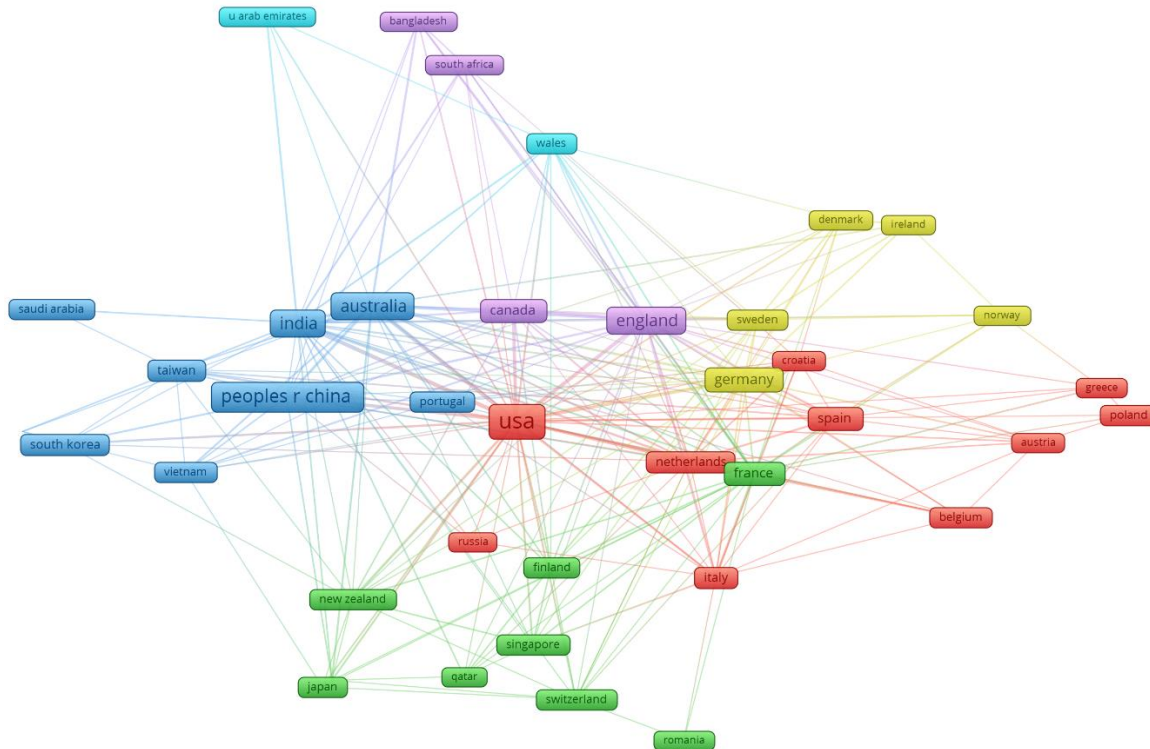


Figure 5. Collaboration network among countries

Co-authorship analysis, which examines collaboration patterns among countries in a specific field, indicates that the country with the highest number of articles (145) also maintains the most extensive collaboration network, with 32 links to other countries in scientific publications, followed by England, India, and Germany. The analysis identified six clusters, each comprising countries that collaborate closely and focus on similar research topics. Figure 5 illustrates the collaboration networks among countries.

Conclusion and future directions

The field of artificial intelligence (AI) is undergoing a renaissance for the second time since computers were first developed in the 1950s (Tan & Lim, 2018). This resurgence is partly driven by advances in computing power and big data capabilities, which have enabled the development of algorithmic models capable of identifying patterns and learning in real-time. Today, AI applications extend beyond traditional computing domains and are integrated into a wide range of contexts and devices (Mariani and Borghi 2019). In marketing, artificial intelligence (AI) is transforming customer experiences by making them more personalized, predictive, interactive, efficient, and insightful (Wu & Monfort, 2023). As businesses increasingly adopt artificial intelligence (AI), customers benefit from more engaging, satisfying, and immersive experiences (Huang & Rust, 2018; Kaperonis, 2024). Marketers utilize AI and machine learning to perform tasks such as audience segmentation, programmatic advertising management, and attribution of marketing outcomes to specific touchpoints (Malthouse & Copulsky, 2023). Consequently, personalization has emerged as a defining feature of AI-enabled services (Zanker, et al, 2019).

Marketing as a discipline has undergone significant evolution due to rapid technological advancements. In its 2020–2022 research priorities, the Marketing Science Institute identifies AI as a pivotal technology influencing marketing management capabilities, accountability, and the optimization of marketing functions and strategies (Marketing Science Institute, 2020). Research indicates that artificial intelligence (AI) and automation in marketing can minimize human errors and deliver predictive insights. By analyzing vast datasets, artificial intelligence (AI) and automation convert raw data into actionable business intelligence, thereby enhancing customer experiences (Limna, 2023).

This paper presents an overview of the most productive authors, countries, universities, journals, and highly cited papers in the field. International collaboration, particularly between the United States and China, significantly contributes to the advancement of AI in marketing. Conceptual structure analysis underscores AI's role in driving transformative changes within the discipline. The field of marketing has evolved rapidly with the advent of theories such as Service-Dominant Logic (Vargo & Lusch, 2008), consumer centricity, and co-creation. artificial intelligence (AI) technologies empower managers to gain precise insights into customer needs and preferences, enabling the design of seamless customer experiences (Neuhofer et al., 2015). Furthermore, AI-driven technologies encourage customer participation, allowing individuals to co-create their experiences (Sthapit et al., 2019). This capability facilitates personalization, including the selection of preferred communication channels and customer journeys (Sugathan & Ranjan, 2019), ultimately fostering greater customer engagement (Gretzel et al., 2015; Moriuchi, 2021).

Analyzing customer behavior through artificial intelligence (AI) yields valuable insights into diverse consumer behavior patterns, which can enhance marketing strategies and improve customer experiences (Daqar & Smoudy, 2019). AI-powered chatbots and virtual assistants provide instant, contextually relevant interactions, elevating the quality of customer experiences (Torres & Delgado, 2023). AI-driven personalization tailors content, recommendations, and communication channels to individual preferences, ensuring relevant interactions and increasing overall satisfaction (Vashishth, et al. 2025). This approach also strengthens customer loyalty (Chen et al., 2023). The Internet of Things (IoT) facilitates the collection of big data, offering valuable customer insights and enabling businesses to understand their audiences with greater precision (Elkhwesky & Elkhwesky, 2022). The findings of this study can assist marketing scholars in identifying opportunities for further research into the role of artificial intelligence in marketing. Consequently, additional studies are needed to investigate the application of technology in marketing, particularly with respect to customer experience. Moreover, this research can inform practitioners about the practical applications of artificial intelligence (AI) in marketing and demonstrate how artificial intelligence (AI) can enhance marketing efforts to deliver more immersive and seamless customer experiences.

References

- Abbasi, S., & Choukolaei, H. A. (2023). A systematic review of green supply chain network design literature focusing on carbon policy. *Decision Analytics Journal*, 6, 100189.
- Alimamy, S., & Gnoth, J. (2022). I want it my way! The effect of perceptions of personalization through augmented reality and online shopping on customer intentions to co-create value. *Computers in Human Behavior*, 128, 107105.
- Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021). Customer experiences in the age of artificial intelligence. *Computers in human behavior*, 114, 106548.
- Antoniadis, I., Kontsas, S., & Spinthiropoulos, K. (2019). Blockchain applications in marketing. *The Proceedings of 7th ICCMI*, 124-134.
- Azelya, I. and S. A. Filin (2025). "Introduction: The Role of AI in Transforming Management Research." *Involvement International Journal of Business* 2(1): 38-53.
- Bajaj, V., Kumar, P., & Singh, V. K. (2022). Linkage dynamics of sovereign credit risk and financial markets: A bibliometric analysis. *Research in International Business and Finance*, 59, 101566.
- Banik, S. (2021). Exploring the involvement-patronage link in the phygital retail experiences. *Journal of Retailing and Consumer Services*, 63, 102739.
- Bhalerao, K., Kumar, A., Kumar, A., & Pujari, P. (2022). A study of barriers and benefits of artificial intelligence adoption in small and medium enterprise. *Academy of Marketing Studies Journal*, 26, 1-6.
- Bonfanti, A., Vigolo, V., Vannucci, V., & Brunetti, F. (2023). Creating memorable shopping experiences to meet phygital customers' needs: evidence from sporting goods stores. *International Journal of Retail & Distribution Management*, 51(13), 81-100.
- Chakraborty, K., Mukherjee, K., Mondal, S., & Mitra, S. (2021). A systematic literature review and bibliometric analysis based on pricing related decisions in remanufacturing. *Journal of Cleaner Production*, 310, 127265.
- Chen, Q., Lu, Y., Gong, Y., & Xiong, J. (2023). Can AI chatbots help retain customers? Impact of AI service quality on customer loyalty. *Internet Research*, 33(6), 2205-2243.
- Chintalapati, S. and S. K. Pandey (2022). "Artificial intelligence in marketing: A systematic literature review." *International Journal of Market Research* 64(1): 38-68.
- Clegg, S. and S. Sarker (2024). "Artificial intelligence and management education: A conceptualization of human-machine interaction." *The International Journal of Management Education* 22(3): 101007.
- Crittenden, W. F., et al. (2019). "Embracing digitalization: Student learning and new technologies." *Journal of Marketing Education* 41(1): 5-14.
- Crolic, C., et al. (2022). "Blame the bot: Anthropomorphism and anger in customer–chatbot interactions." *Journal of marketing* 86(1): 132-148.
- Cruz, L., & De Arruda Ignacio, P. S. (2023). Application of Blockchain Disruptive Technology in Agri-Food Chains for Sustainable Development, a Systematic Review. *International Journal of Supply and Operations Management*, 10(4), 523-544.
- Daqar, M. A. A. and A. K. Smoudy (2019). "The role of artificial intelligence on enhancing customer experience." *International Review of management and Marketing* 9(4): 22.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, 133, 285-296.
- Durai, S., Manoharan, G., Priya, T. S., Jayanthi, R., Razak, A., & Ashtikar, S. P. (2024). Quantifying the impacts of artificial intelligence implementations in marketing. In *Smart and Sustainable Interactive Marketing* (pp. 120-144). IGI Global Scientific Publishing.

- Elkhwesky, Z. and E. F. Y. Elkhwesky (2022). "A systematic and critical review of Internet of Things in contemporary hospitality: a roadmap and avenues for future research." *International Journal of Contemporary Hospitality Management*(ahead-of-print).
- Fan, D., Breslin, D., Callahan, J. L., & Iszatt-White, M. (2022). Advancing literature review methodology through rigour, generativity, scope and transparency. *International Journal of Management Reviews*, 24(2), 171-180.
- Flavián, C., Pérez-Rueda, A., Belanche, D., & Casaló, L. V. (2022). Intention to use analytical artificial intelligence (AI) in services—the effect of technology readiness and awareness. *Journal of Service Management*, 33(2), 293-320.
- Fusté-Forné, F., & Jamal, T. (2021). Co-creating new directions for service robots in hospitality and tourism. *Tourism and Hospitality*, 2(1), 43-61.
- Guerra, J. P., Pinto, M. M., & Beato, C. (2015). Virtual reality-shows a new vision for tourism and heritage. *European Scientific Journal*.
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: foundations and developments. *Electronic markets*, 25, 179-188.
- Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California management review*, 61(4), 5-14.
- Hacid, H., Al-Shamaileh, O., & Maamar, Z. (2023). An exploratory study of rethinking user experience in the internet of things. *Computing*, 105(1), 1-12.
- Hadi, R., Melumad, S., & Park, E. S. (2024). The Metaverse: A new digital frontier for consumer behavior. *Journal of Consumer Psychology*, 34(1), 142-166.
- Haleem, A., Javaid, M., Qadri, M. A., Singh, R. P., & Suman, R. (2022). Artificial intelligence (AI) applications for marketing: A literature-based study. *International Journal of Intelligent Networks*, 3, 119-132.
- Hartmann, J., & Netzer, O. (2023). Natural language processing in marketing. In *Artificial intelligence in marketing* (Vol. 20, pp. 191-215). Emerald Publishing Limited.
- Hassan Shah, S. H., Noor, S., Bayiz Ahmad, A., Saleem Butt, A., & Lei, S. (2022). Retrospective view and thematic analysis of value co-creation through bibliometric analysis. *Total Quality Management & Business Excellence*, 33(7-8), 752-776.
- Hildebrand, C. (2019). "The machine age of marketing: How artificial intelligence changes the way people think, act, and decide." *NIM Marketing Intelligence Review* 11(2): 10-17.
- Hoyer, W. D., Kroschke, M., Schmitt, B., Kraume, K., & Shankar, V. (2020). Transforming the customer experience through new technologies. *Journal of interactive marketing*, 51(1), 57-71.
- Huang, D., Chen, Q., Huang, J., Kong, S., & Li, Z. (2021). Customer-robot interactions: Understanding customer experience with service robots. *International Journal of Hospitality Management*, 99, 103078.
- Huang, M.-H. and R. T. Rust (2018). "Artificial intelligence in service." *Journal of Service Research* 21(2): 155-172.
- Jarek, K. and G. Mazurek (2019). "Marketing and Artificial Intelligence." *Central European Business Review* 8(2).
- Kanellopoulou, D., Giannakopoulos, G., & Karkaletsis, V. (2025). Accelerating AI-powered digital innovation through "APSS": A novel methodology for sustainable business AI transformation. *Journal of Open Innovation: Technology, Market, and Complexity*, 100495.
- Kaperonis, S. (2024). How artificial intelligence (AI) is transforming the user experience in digital marketing. In *The use of artificial intelligence in digital marketing: Competitive strategies and tactics* (pp. 117-141). IGI Global
- Khanagha, S., Volberda, H., & Oshri, I. (2017). Customer co-creation and exploration of emerging technologies: the mediating role of managerial attention and initiatives. *Long Range Planning*, 50(2), 221-242.
- Khare, A., & Jain, R. (2022). Mapping the conceptual and intellectual structure of the consumer vulnerability field: A bibliometric analysis. *Journal of Business Research*, 150, 567-584.

- Koseoglu, M. A., Rahimi, R., Okumus, F., & Liu, J. (2016). Bibliometric studies in tourism. *Annals of tourism research*, 61, 180-198.
- Kopalle, P. K., Gangwar, M., Kaplan, A., Ramachandran, D., Reinartz, W., & Rindfleisch, A. (2022). Examining artificial intelligence (AI) technologies in marketing via a global lens: Current trends and future research opportunities. *International Journal of Research in Marketing*, 39(2), 522-540.
- Kotler, P., Kartajaya, H., & Setiawan, I. (2023). *Marketing 6.0: The Future Is Immersive*. John Wiley & Sons.
- Kumar, S., Sahoo, S., Lim, W. M., Kraus, S., & Bamel, U. (2022). Fuzzy-set qualitative comparative analysis (fsQCA) in business and management research: A contemporary overview. *Technological Forecasting and Social Change*, 178, 121599.
- Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, J. (2019). Understanding the role of artificial intelligence in personalized engagement marketing. *California Management Review*, 61(4), 135-155.
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of marketing*, 80(6), 69-96.
- León-Gómez, A., Ruiz-Palomo, D., Fernández-Gámez, M. A., & García-Revilla, M. R. (2021). Sustainable tourism development and economic growth: Bibliometric review and analysis. *Sustainability*, 13(4), 2270.
- Limna, P. (2023). Artificial Intelligence (AI) in the hospitality industry: A review article. *International Journal of Computing Sciences Research*, 7, 1306-1317.
- Liu, D., Che, S., & Zhu, W. (2022). Visualizing the knowledge domain of academic mobility research from 2010 to 2020: a bibliometric analysis using CiteSpace. *Sage Open*, 12(1), 21582440211068510.
- Ljepava, N. (2022). "AI-enabled marketing solutions in Marketing Decision making: AI application in different stages of marketing process." *TEM Journal* 11(3): 1308-1315.
- Luo, X., et al. (2019). "Frontiers: Machines vs. humans: The impact of artificial intelligence chatbot disclosure on customer purchases." *Marketing science* 38(6): 937-947.
- Ma, L. and B. Sun (2020). "Machine learning and AI in marketing—Connecting computing power to human insights." *International Journal of Research in Marketing* 37(3): 481-504.
- Malthouse, E., & Copulsky, J. (2023). Artificial intelligence ecosystems for marketing communications. *International Journal of Advertising*, 42(1), 128-140.
- Manthiou, A., & Klaus, P. (2022). The interplaying factors of the robotic tourism experience: The customer journey's touchpoints, context, and qualities. *Technological Forecasting and Social Change*, 177, 121552.
- Mariani, M., & Borghi, M. (2019). Industry 4.0: A bibliometric review of its managerial intellectual structure and potential evolution in the service industries. *Technological Forecasting and Social Change*, 149, 119752.
- Mariani, M. M., Perez-Vega, R., & Wirtz, J. (2022). AI in marketing, consumer research and psychology: A systematic literature review and research agenda. *Psychology & Marketing*, 39(4), 755-776.
- Marketing Science Institute (2020). Research Priorities: 2020-2022[report]. Available at: <https://www.msi.org/wp-content/uploads/2021/07/MSI-2020-22-Research-Priorities-final.pdf-WORD.pdf>
- Meho, L. I., & Yang, K. (2007). Impact of data sources on citation counts and rankings of LIS faculty: Web of Science versus Scopus and Google Scholar. *Journal of the american society for information science and technology*, 58(13), 2105-2125.
- Mogaji, E. and N. P. Nguyen (2022). "Managers' understanding of artificial intelligence in relation to marketing financial services: insights from a cross-country study." *International Journal of Bank Marketing* 40(6): 1272-1298.
- Mogaji, E., Olaleye, S., & Ukpabi, D. (2020). Using AI to personalise emotionally appealing advertisement. *Digital and social media marketing: Emerging applications and theoretical development*, 137-150.

- Moriuchi, E. and S. Murdy (2024). "The role of robots in the service industry: Factors affecting human-robot interactions." *International Journal of Hospitality Management* 118: 103682.
- Moriuchi, E. (2021). "An empirical study on anthropomorphism and engagement with disembodied AIs and consumers' re-use behavior." *Psychology & Marketing* 38(1): 21-42.
- Mustak, M., Hallikainen, H., Laukkanen, T., Plé, L., Hollebeek, L. D., & Aleem, M. (2024). Using machine learning to develop customer insights from user-generated content. *Journal of Retailing and Consumer Services*, 81, 104034.
- Ngai, E. W., & Wu, Y. (2022). Machine learning in marketing: A literature review, conceptual framework, and research agenda. *Journal of Business Research*, 145, 35-48.
- Neuhofer, B., Buhalis, D., & Ladkin, A. (2015). Smart technologies for personalized experiences: a case study in the hospitality domain. *Electronic Markets*, 25, 243-254.
- Öztürk, O., Kocaman, R., & Kanbach, D. K. (2024). How to design bibliometric research: an overview and a framework proposal. *Review of managerial science*, 18(11), 3333-3361.
- Pahrudin, P., Liu, L. W., & Li, S. Y. (2022). What is the role of tourism management and marketing toward sustainable tourism? A bibliometric analysis approach. *Sustainability*, 14(7), 4226.
- Peyravi, B., Nekrošienė, J., & Lobanova, L. (2020). Revolutionised technologies for marketing: Theoretical review with focus on artificial intelligence. *Business: Theory and Practice*, 21(2), 827-834.
- Rashid, A. B. and A. K. Kausik (2024). "AI revolutionizing industries worldwide: A comprehensive overview of its diverse applications." *Hybrid Advances*: 100277.
- Sheth, J. N., Jain, V., & Ambika, A. (2023). The growing importance of customer-centric support services for improving customer experience. *Journal of Business Research*, 164, 113943.
- Sidlauskienė, J., Joye, Y., & Auruskeviciene, V. (2023). AI-based chatbots in conversational commerce and their effects on product and price perceptions. *Electronic Markets*, 33(1), 24.
- Singh, J., Flaherty, K., Sohi, R. S., Deeter-Schmelz, D., Habel, J., Le Meunier-FitzHugh, K. & Onyemah, V. (2019). Sales profession and professionals in the age of digitization and artificial intelligence technologies: concepts, priorities, and questions. *Journal of Personal Selling & Sales Management*, 39(1), 2-22.
- Singh, R., Sibi, P. S., & Sharma, P. (2022). Journal of ecotourism: a bibliometric analysis. *Journal of Ecotourism*, 21(1), 37-53.
- Siregar, Y., & Kent, A. (2019). Consumer experience of interactive technology in fashion stores. *International Journal of Retail & Distribution Management*, 47(12), 1318-1335.
- Stallone, V., Wetzels, M., & Klaas, M. (2021). Applications of Blockchain Technology in marketing—A systematic review of marketing technology companies. *Blockchain: Research and Applications*, 2(3), 100023.
- Sthapit, E., Coudounaris, D. N., & Björk, P. (2019). Extending the memorable tourism experience construct: an investigation of memories of local food experiences. *Scandinavian Journal of Hospitality and Tourism*, 19(4-5), 333-353.
- Sugathan, P. and K. R. Ranjan (2019). "Co-creating the tourism experience." *Journal of business research* 100: 207-217.
- Suraña-Sánchez, C., & Aramendia-Muneta, M. E. (2024). Impact of artificial intelligence on customer engagement and advertising engagement: A review and future research agenda. *International Journal of Consumer Studies*, 48(2), e13027.
- Syam, N. and A. Sharma (2018). "Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice." *Industrial Marketing Management* 69: 135-146.
- Tominc, P., Oreški, D., & Rožman, M. (2023). Artificial intelligence and agility-based model for successful project implementation and company competitiveness. *Information*, 14(6), 337.

- Torres, A. I., & Delgado, C. J. (2023). Assessing Customer Interactions With Chatbots in Online Shopping Experiences: An Empirical Study. In *Promoting Organizational Performance Through 5G and Agile Marketing* (pp. 203-223). IGI Global.
- Toorajipour, R., Sohrabpour, V., Nazarpour, A., Oghazi, P., & Fischl, M. (2021). Artificial intelligence in supply chain management: A systematic literature review. *Journal of Business Research*, 122, 502-517.
- Van Eck, N. J., & Waltman, L. (2014). Visualizing bibliometric networks. In *Measuring scholarly impact: Methods and practice* (pp. 285-320). Cham: Springer International Publishing.
- Vashishth, T. K., Sharma, K. K., Kumar, B., Chaudhary, S., & Panwar, R. (2025). Enhancing customer experience through AI-enabled content personalization in e-commerce marketing. *Advances in digital marketing in the era of artificial intelligence*, 7-32.
- Vargo, S. L. and R. F. Lusch (2008). "Service-dominant logic: continuing the evolution." *Journal of the academy of marketing science* 36(1): 1-10.
- Verma, S., Sharma, R., Deb, S., & Maitra, D. (2021). Artificial intelligence in marketing: Systematic review and future research direction. *International Journal of Information Management Data Insights*, 1(1), 100002.
- Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2022). Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review. *The international journal of human resource management*, 33(6), 1237-1266.
- Vijayakumar, H. (2023, June). Revolutionizing Customer Experience with AI: A Path to Increase Revenue Growth Rate. In *2023 15th International Conference on Electronics, Computers and Artificial Intelligence (ECAI)* (pp. 1-6). IEEE.
- Wirth, N. (2018). "Hello marketing, what can artificial intelligence help you with?" *International Journal of Market Research* 60(5): 435-438.
- Wisetsri, W., Ragesh, S. T., Aarthy, C. C. J., Thakur, V., Pandey, D., & Gulati, K. (2021). Systematic analysis and future research directions in artificial intelligence for marketing. *Turkish Journal of Computer and Mathematics Education*, 12(11), 43-55.
- Wu, C. W., & Monfort, A. (2023). Role of artificial intelligence in marketing strategies and performance. *Psychology & Marketing*, 40(3), 484-496.
- Walch, K. (2019). *AI's increasing role in customer service*. <https://www.forbes.com/sites/cognitiveworld/2019/07/02/ais-increasing-role-in-customerservice> .4ffaba4c73fc. (Accessed 22 February 2020).
- Yoo, K., Welden, R., Hewett, K., & Haenlein, M. (2023). The merchants of meta: A research agenda to understand the future of retailing in the metaverse. *Journal of Retailing*, 99(2), 173-192.
- Zanker, M., Rook, L., & Jannach, D. (2019). Measuring the impact of online personalisation: Past, present and future. *International Journal of Human-Computer Studies*, 131, 160-168.