ARTIFICIAL INTELLIGENCE IN MARKETING: SYSTEMATIC REVIEW AND FUTURE RESEARCH DIRECTION

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ABSTRACT

Disruptive technologies such as the internet of things, big data analytics, blockchain, and artificial intelligence have changed the ways businesses operate. Of all the disruptive technologies, artificial intelligence (AI) is the latest technological disruptor and holds immense marketing transformation potential. Practitioners worldwide are trying to figure out the best fit AI solutions for their marketing functions. However, a systematic literature review can highlight the importance of artificial intelligence (AI) in marketing and chart future research directions. The present study aims to offer a comprehensive review of AI in marketing using bibliometric, conceptual, and intellectual network analysis of extant literature published between 1982 and 2020. A comprehensive review of one thousand five hundred and eighty papers helped to identify the scientific actors' performance like most relevant authors and most relevant sources. Furthermore, co-citation and co-occurrence analysis offered the conceptual and intellectual network. Data clustering using the Louvain algorithm helped identify research sub-themes and future research directions to expand AI in marketing. The results provide a comprehensive definition of AI, highlighting keywords extracted from selected references. The study analyses the diverse applications of AI in marketing, identifies specific AI applications applicable to marketers, explores the adoption of grand theory and middle theory in marketing research, and contributes to the existing body of knowledge. Among the latest technological advancements, AI stands out as a transformative force in marketing.

Keywords: *Marketing, Artificial intelligence, Bibliometric analysis, Intellectual structure, Conceptual structure*

STATEMENT OF CONTRIBUTION

Artificial Intelligence (AI) in Marketing has gained momentum due to its practical significance in present and future business. Due to the wider scope and voluminous coverage of research studies on AI in marketing, the meta-synthesis of exiting studies for identifying future research direction is extremely important. Extant literature attempted the systematic literature review.

1. INTRODUCTION

Technological disruptions such as artificial intelligence (AI), internet of things (IoT), big data analytics (BDA) have offered digital solutions for attracting and maintaining the customer base. Emerging technologies provide a competitive advantage by facilitating the customers' product and service offerings in the current business scenario, the cut-throat competition and technological disruptions have changed the way organizations operate Globally customer-centric approach focused on customer needs plays a pivotal role in organizational growth. Artificial intelligence (AI) is a widely used emerging technology that helps organizations track real-time data to analyse and respond swiftly to customer requirements. AI offers consumer insight on consumer behaviour essential for customer attraction and customer retention. AI incites the customer's next move and redefines the overall experience. AI tools are useful to deduce customer expectations and navigate the future path.

2. OBJECTIVES OF STUDY

1. **Categorization of AI Applications:** Reviews map AI use across marketing functions like content, digital, experiential, operations, and market research, identifying specific use cases (e.g.,).

2. **Strategic Support:** AI aids in segmentation, targeting, positioning (STP), pricing, product design, and media planning.

3. **Customer Engagement:** AI powers personalized recommendations, chatbots, and tailored brand experiences.

4. **Data & Analytics:** AI leverages big data for predictive analysis, trend forecasting, and deeper customer understanding.

5. **Research Gaps Identified:** Limitations in current research include a lack of applicability studies, ethical considerations, and understanding the impact on human roles and consumer trust

3. LITERATURE REVIEW

Marcello et al. (2021). The study is the first to present an integrated view of the body of knowledge on artificial intelligence (AI) as published in marketing, consumer research, and psychology literature. By employing a systematic literature review with a data-driven approach and quantitative methodology (including bibliographic

coupling), the study offers an overview of the emerging intellectual structure of AI research within these three areas of literature. The researchers identified eight topical clusters: (1) memory and computational logic; (2) decision-making and cognitive processes; (3) neural networks; (4) machine learning and linguistic analysis; (5) social media and text mining; (6) social media content analytics; (7) technology acceptance and adoption; and (8) big data and robots.

Liye Ma (2020). Artificial intelligence (AI) agents powered by machine learning algorithms are rapidly transforming the business landscape, sparking significant interest among researchers. In this paper, the authors review and advocate for the use of machine learning methods in marketing research. They provide an overview of common machine learning tasks and methods, comparing them with the statistical and econometric methods traditionally employed by marketing researchers.

Abid Haleem et al. (2022). Artificial Intelligence (AI) holds immense potential in the field of marketing. It enhances the proliferation of information and data sources, improves software's data management capabilities, and enables the design of complex and advanced algorithms. AI is transforming the way brands and consumers interact. The application of AI technology varies significantly depending on the nature of the website and the type of business involved. Marketers can now focus more effectively on customers and address their needs in real time.

Sanjeev Verma et al. (2021). Disruptive technologies such as the Internet of Things, big data analytics, blockchain, and artificial intelligence have revolutionized the way businesses operate. Among these, artificial intelligence (AI) stands out as the latest technological disruptor with significant potential to transform marketing. Practitioners around the world are seeking the most suitable AI solutions for their marketing functions. However, a systematic literature review can underscore the importance of AI in marketing and outline future research directions.

Ming Hui (2020). The authors propose a three-stage framework for strategic marketing planning that incorporates the numerous benefits of artificial intelligence (AI): mechanical AI for automating repetitive marketing tasks, thinking AI for processing data and making decisions, and feeling AI for analysing interactions and human emotions. This framework outlines how AI can be utilized across various stages of marketing, including research, strategy (segmentation, targeting, and positioning.

Nalini et al. (2021). AI marketing leverages artificial intelligence technologies to make automated decisions based on data collection, analysis, and additional observations of audience behaviour or economic trends that may influence marketing strategies. AI is particularly valuable in marketing scenarios where speed is critical.

Arnaud et al. (2020). This article explores the pitfalls and opportunities of AI in marketing through the perspectives of knowledge creation and knowledge transfer. First, it delves into the concept of "higher order learning," which sets AI applications apart from traditional modelling approaches. The discussion centres on recent advancements in deep neural networks, covering key methodologies such as multilayer perceptron, convolutional, and recurrent neural networks, as well as various learning paradigms, including supervised, unsupervised, and reinforcement learning.

Sanjiv Mehta, CEO & MD of Hindustan Unilever Ltd. The centre of showcasing has not changed, yet the manner in which we impart has changed promoting. It is constantly changing. The significant shift has taken place there. The art of storytelling is very much present, but the key is how and through what medium we tell the story. Like in business, artificial intelligence.

Thomas H. Davenport It is not hard to argue that AI will be used more in marketing in the future. A lot of the components of an AI based strategy are still in place today. Marketing today is increasingly targeted, quantitative, and dependent on business outcomes. In real time, advertisements and promotions are becoming increasingly tailored to individual customers.

Kietzmann, J., & Northey, G. (2021). Artificial intelligence in marketing. This article discusses the pitfalls and opportunities of AI in marketing through the lenses of knowledge creation and knowledge transfer. First, we discuss the notion of "higher-order learning" that distinguishes AI applications from traditional modelling approaches, and while focusing on recent advances in deep neural networks, we cover its underlying methodologies

Feng, C. M., Park, A., Pitt, L., Kietzmann, J., & Northey, G. (2021). Artificial intelligence in marketing: A bibliographic perspective. Australasian Marketing Journal, 29(3), 252-263. The term artificial intelligence (AI) was used in the mid-twentieth century to denote computer science research aimed at stimulating human

learning. Since then, developments in computers, data collection, and data storage have increased the importance of AI for researchers and practitioners in a variety of business and social scientific areas.

Huang, M. H., & Rust, R. T. (2022). A framework for collaborative artificial intelligence in marketing. Journal of Retailing, 98(2), 209-223. They develop a conceptual framework for collaborative artificial intelligence (AI) in marketing, providing systematic guidance for how human marketers and consumers can team up with AI, which has profound implications for retailing, which is the interface between marketers and consumers.

Shaik, M. (2023). Impact of artificial intelligence on marketing. East Asian Journal of Multidisciplinary Research, 2(3), 993-1004. The evolution of artificial intelligence (AI) has significantly altered the dynamics of today's corporate environment. One of the most important applications of artificial intelligence is in marketing, where it helps to improve performance. The current study tries to determine the impact of AI on marketing.

Eriksson, T., Bigi, A., & Bonera, M. (2020). Think with me, or think for me? On the future role of artificial intelligence in marketing strategy formulation. The TQM Journal, 32(4), 795-814. This paper investigates whether and how artificial intelligence may help with marketing strategy formulation.

4. RESEARCH GAPS

The literature review indicates that research has been conducted to study need for more research on customer perception, emotional responses, trust, and the psychological impact of AI interactions. Lack of standardized frameworks to measure the tangible financial returns (ROI) and long-term effectiveness of AI applications.

5. METHODOLOGY

We used Rowley and Slack's (2004) guidelines for conducting the literature review. Methodologically, the literature review used a five-stage process described in the following sections. Comprehensive review protocols helped in the identification of research themes and future research directions.

5.1 Selection of bibliometric databases

Scopus and Web of Science are the two most reputed bibliometric databases. We explored both Scopus and Web of Science databases to search the relevant literature. Scopus had broader coverage, and it includes more than 20,000 peer-reviewed journals from different publishers. Due to its wider coverage, we preferred Scopus for data collection. Scopus offered advanced search filters and data analysis grids for better data management.

5.2 Defining keywords (search strategy)

The initial search string included words like "marketing" and "artificial intelligence." Synonyms used for artificial intelligence like machine learning, deep learning, natural language processing, etc., are used with Boolean operators like "OR" to get the universal set of papers. Boolean operator "AND" is used to get the intersection set of paper covering marketing and artificial intelligence.

5.2.1 Refining the initial results (Inclusion and exclusion criteria)

Inclusion and exclusion criteria are applied to the search results. With the help of inclusion and exclusion criteria, delimitation helped in the extraction of the most relevant articles for the literature review. To achieve the research objective, the search results limits to only articles published in journals as they represent "certified knowledge" (Ramos-Rodríguez and Ruiz-Navarro, 2004). Conference papers, book chapters, commentaries, erratum etc., were excluded from the search results.

5.2.2 Data analysis plan

The bibliometric analysis of data was carried out using R-software for performance analysis of scientific actors like most relevant authors and most relevant sources. The content analysis and performance analysis of each scientific actor offered the intellectual structure of the research domain. Two researchers analysed the Scopus data for inter-rater validity.

5.2.3 Identification of research gaps and future research directions

The articles relating to artificial intelligence in marketing were reviewed to understand the theoretical evolution, methodological evolution, and emerging research themes. Thematic coding is used for the qualitative analysis of data.

6. RESEARCH SCOPE

1. **Functional Themes:** AI is applied across integrated digital marketing, content, experiential, operations, and market research.

2. **Use Cases:** Includes hyper-personalization, predictive analytics for media buying, real-time insights, automated customer service (chatbots), sentiment analysis, and SEO.

3. **Technology Integration:** AI interacts with Big Data, IoT, VR/AR, and voice assistants to transform marketing.

7. KEY FINDINGS FROM SYSTEMATIC REVIEWS

1. **Core Applications:** AI is used across integrated digital marketing, content creation, experiential marketing, operations, and market research.

2. **Consumer Engagement:** AI enhances engagement through voice assistants and chatbots, leveraging social presence, ease of use, and perceived usefulness to drive purchase intention.

3. **Personalization & Efficiency:** AI enables hyper-personalized advertising, reduces human error in audience targeting, and automates tasks like email campaigns, improving ROI.

4. **Data & Strategy:** AI provides powerful market research tools for prediction, customer segmentation, and identifying high-potential customers, moving marketing towards data-driven decisions.

5. **Emerging Themes:** Reviews highlight key areas like prediction analysis, CRM, conversational commerce, advertising, and consumer-brand engagement as major research sub-themes.

8. FUTURE RESEARCH DIRECTIONS

Future research directions emphasize deeper exploration of ethical AI, long-term impacts on customer trust, integrating AI with established marketing theories, understanding its role in B2B contexts, developing frameworks for responsible adoption, and uncovering how AI shapes the entire customer journey.

9. CONCLUSION

Disruptive technologies such as internet of things, big data analytics, blockchain, and artificial intelligence have changed the ways businesses operate. Of all the disruptive technologies, artificial intelligence (AI) is the latest technological disruptor and holds immense potential for manufacturing, pharmaceuticals, healthcare, agriculture, logistics, and digital marketing. Many practitioners and academicians worldwide are trying to figure out the best fit AI solutions that their organizations can utilize.

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