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RESEARCH ARTICLE

ROLE OF AI IN DIGITAL MARKETING: A SYSTEMATIC LITERATURE REVIEW AND BIBLIOMETRIC ANALYSIS

Dr. Manoj Bansal¹, Ms. Asmita Choudhary¹ and Dr. Bharath. S²

1. Assistant Professor, University School for Graduate studies, Chaudhary Devi Lal University, Sirsa.
2. Assistant Professor and Head of department, Department of management Studies Brindavan College, Bangalore.

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Abstract

This Paper demonstrates the role of artificial intelligence (AI) in digital marketing through systematic literature review and bibliometric analysis. AI transformed digital marketing in view how businesses examine consumer behaviour, personalize content and automate marketing. A datasheet with 200 papers was downloaded from Scopus database with keywords 'Role of AI in digital marketing' with the help of publish and perish software. Year wise trends, top ten publishers, top ten journals found with the help of pivot chart in M.S. Excel. We performed key-word co-occurrence analysis and study found three themes: Effect of marketing strategy on consumer behaviour, Challenges in Chat GPT, Application and evolution of AI. The research trend and themes provide insight for practitioners and managers to find potential issues to address in future research.

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Introduction:-

"In today's digital battlefield, the fruitful brands surmount no longer by being louder; they win by being smarter (Adamson, A. P., 2025)." The mounting fruition of digital podia has curled the marketing horizon from intuition-based decisions to data-based strategies (Chaffey & Smith, 2022). Artificial Intelligence here has arisen as the most noteworthy know-how, redefining how organizations entice consumers (Kietzmann et al., 2018). Marketers are being aided by AI-powered tools by understanding their needs, foreseeing behaviour, and carrying personalized experiences at scale (Davenport, Guha, Grewal, & Bress Gott, 2020). Strenuously, digital marketing has enlarged beyond traditional advertising practices to indulge in real-time data analysis, tailored communication, and automated delivery of content (Huang & Rust, 2021). AI aids these functions by analysing vast amounts of customer data, identifying patterns, and recommending targeted solutions (Shankar, 2021). AI has enabled businesses to communicate more accurately and meaningfully, whether through recommendations, chatbot interactions, sentiment analysis, or personalized advertisements (Jannach, Zanker, & Friedrich, 2010; Davenport et al., 2020).

Corresponding Author:- Dr. Manoj Bansal

Address:- Assistant Professor, University School for Graduate studies, Chaudhary Devi Lal University, Sirsa.

Notwithstanding the increasing adoption of AI in digital marketing, the existing body of research is highly scattered (Ziakos and Vlachopoulou 2023). Various studies highlight different aspects such as content personalization, automation efficiency and predictive analytics; whereas a combined understanding of the overall trends in this field remains limited (Dwivedi et al., 2021). The gap in this combined knowledge makes it tough for the academicians and practitioners to identify crucial developments, influential publications, and potential research directions (Mariani & Wamba, 2020).

To look over these gaps, this explore conducts a systematic literature review and bibliometric analysis focusing on the role of AI in digital marketing (Nalbant & Aydin, 2025). A dataset of relevant research publications extracted from Scopus database has been examined using bibliometric tools to do the analysis of the publication trends, leading authors, top contributing journals, leading authors, and citations patterns (Donthu et al., 2021). This study gives a clarification on how academicians have evolved in this domain and the themes that holds majority in this research (Aria & Cuccurullo, 2017).

This age of digitalization has figured out traditional marketing strategies, descending the archetypes as the companies thrive to stay inexpensive in a progressive manner connected world (Lamberton & Stephen, 2016). Artificial intelligence's adoption has saturated virtually every face of digital marketing (Huang & Rust, 2021). As digital marketing is beyond content placement towards expressive engagement, AI backs up marketers to recognize and study the trends, bifurcate audiences more precisely, and optimum resource allocation (Chatterjee, Rana, Tamilmani & Sharma 2020). These enrichments show not only an update in technology, but a core redefinition of theory and practices of marketing (John, Weiss, & Dutta, 1999).

The influence of AI is multidimensional, on digital marketing, from automation of repetitive tasks, consumer targeting accuracy enrichment, and overall consumer experience enhancement (Kumar et al., 2021). Aided by the apparatuses like chatbots, recommendation engines, programmatic advertising & sentiment analysis, the companies influence AI to nurture leads, personalize offers, and foster loyalty of brands at extraordinary scale (Wirtz, Zeithaml, Gistri, & Rust, 2023). Thereafter, AI lets marketers to effectively analyse massive volume of unstructured data gathered from numerous points, including browsing histories, social media interactions, and transactional databases (Davenport et al., 2020). The merger of machine learning, computer vision, natural language dispensation and other sub-fields of AI in marketing has paved the way for automating intelligently, enabling organizations to compose campaigns that are responsive, adaptable and context aware (Jarek & Mazurek, 2019).

This study reveals a propagation of the research dedicated to exploring the interactions with AI and digital marketing (Senyapar, 2024). Researchers have studied a broad horizon of topics, such as predictive customer analytics, AI enabled consumer segmentation, deployment of virtual assistants and content optimization in marketing communications (Sterne, 2017; Kumar et al., 2021). Usually, artificial intelligence is appraised for implementing innovation in fields such as omnichannel experience management, programmatic media buying and influencer marketing. Though these advances are there yet the theory is marked by fragmentation of the concept; the scholars, usually divert their focal point on innovative tech, ethical norms, performance criteria or engagement of the consumers (Chaffey & Ellis Chadwick, 2019). Though there is a difference in the quality of the methods and scope, with some studies focusing on empirical case studies, while rest others generate theoretical analysis leaving empirical grounds aside. This assortment speaks about the necessity for a structured synthesis to illuminate prevailing research stream and identify underexplored areas within the discipline (Dwivedi et al., 2021).

By looking at the need of both AI capabilities and digital marketing practices, the need of bibliometric mapping and SLR has become ostensible (Tranfield, Denyer, & Smart, 2003; Donthu et al., 2021). SLR ensured transparency and reproducibility by applying a consistent set of inclusion and exclusion criteria, while bibliometric analysis conveys the trends and the relationships among research outputs. In this paper, about 200 peer reviewed articles published from a wide range of sources are retrieved from the database of Scopus using the keyword "Role of AI in digital marketing". By retaining the publish or perish software for data extraction and MS Excel's pivot charts for data visualization, this research examines publications year by year, leading journals and authors, and evolving thematic structure (Harzing, 2019). By systematically mapping intellectual donations, citation landscape and collaboration networks, this paper throws lights on the direction, maturity and emergent challenges of the field (Aria & Cuccurullo, 2017). In due course, this research aims to set up value for scholars and practitioners. Academically, it offers a manufactured knowledge base that frames current understandings of AI's transformative role in digital marketing and uncovers forthcoming research essentials, and trends and patterns. Therefore, the understandings obtained here

can help marketing professionals, tech developers and policymakers in implementing AI driven solutions for strategic gains.

- Objectives:**
1. To thoroughly review the literature at part of AI in digital marketing.
 2. To recognise research movements, leading journals and leading authors.
 3. To drive future research guidelines and insinuations for experts.

Research Methodology:-

Database used: Scopus

Search keywords: Role of AI in digital marketing.

Time period 2017-2025.

Inclusion criteria:

- Peer reviewed journal articles.
- English linguistic publications
- Researches focusing on AI applications in marketing.

Exclusion criteria:

- Conference abstracts, thesis and non-English papers.

Results and Discussion:-

Year Wise Trend

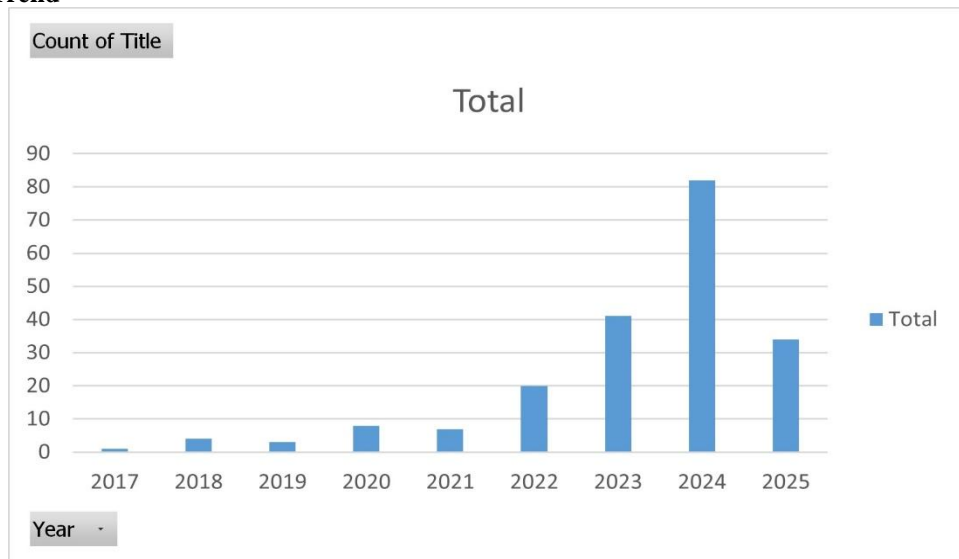


Diagram 1

Source: Author’s own work

In Diagram 1-year wise trend has stated that highest publication done in the year 2024. AI influences started from 2017 and it increases year to year stated in the diagram.

Top Ten journals:-

S.No.	Row Labels	Sum of Cites
1	Journal of Research in Interactive Marketing	318
2	International Journal of Information Management	248
3	Sustainability Switzerland	175
4	IEEE Access	134
5	Customer Relationship Management Concepts and Technologies Fourth Edition	109
6	Industrial Management and Data Systems	103

7	Aquaculture and Fisheries	100
8	Information Switzerland	87
9	Metaverse Basic and Applied Research	85
10	Technological Forecasting and Social Change	80

Table-1

Source: Author’s own work

Table 1 shows top ten journals in which ‘Journal of Research in Interactive Marketing’ have highest citations i.e. 318. On second number “International Journal of Information Management” having 248 citations. “Sustainability Switzerland” having 175 citations and up to 10th number of journal showing in the table.

Top Ten Authors:-

S.No.	Row Labels	Sum of Cites
1	N. Kshetri	248
2	E.H. Manser Payne	194
3	D.C. Toader	164
4	A. Miklosik	134
5	E. Manser Payne	114
6	F. Buttle	109
7	R. Han	103
8	N.J. Rowan	100
9	O. Diseiye	85
10	B. Singh	79

Table 2

Source: Author’s own work

Table 2 shows top ten authors with citations N. Kshetri have highest citations i.e. 248. E.H. Manser Payne is on second number with 194 citations. D.C. Toader is on third number having 164 citations.

Cooccurrence of words



Diagram 1

Source: Author’s own work

Clusters	No. of words	Words	Theme
1	5	Consumer Behaviour, Effect, Marketing strategy, Mediating role, Use	Effect of marketing strategy on consumer behaviour
2	4	Challenges, Chat GPT, Opportunity, Practice	Challenges in Chat GPT
3	3	Application Evolution	Application and evolution of AI

Table 3**Source: Author's own work****Discussions:-**

This study examined the transformational significance of artificial intelligence (AI) in the digital marketing world, using a bibliometric method to map the changing environment and theme clusters from 2017 to 2025. Key AI technologies, such as recommendation engines, chatbots, sentiment analysis, programmatic advertising, and machine learning powered predictive analytics, have improved marketers' ability to understand consumer behaviour, deliver tailored experiences, and scale marketing operations (Upgrad, 2025; Singh et al., 2024). Despite the mounting use of AI in many fields of digital marketing, the academic literature shows a fragmented picture, with a predominant focus on discrete elements such as content customization, automation efficiency, and predictive capacities. This fragmentation impedes the formation of a coherent understanding or theoretical framework, which this study attempted to solve through extensive bibliometric mapping. The study revealed important publishing year wise trends, top authors, top journals and critical subject areas, resulting in an integrated knowledge base that explains AI's varied influence on digital marketing (Dubey & Sharma, 2024; Kumar et al., 2025).

Clusters providing the comprehensive understanding of co-occurrence of words in AI in digital marketing. In first cluster the theme come out from integration of words consumer behaviour, effect, marketing strategies, mediating role, use. A theme effect of marketing strategy on consumer behaviour has been derived from these words which will be helpful in propounding the new studies in future. This theme not just highlights how the adoption of AI transforms the outcomes of marketing strategies but also, how integrating Artificial Intelligence & technological developments in marketing can change the choices, preferences, attitudes, and perceptions of the customers. With the help of this theme various new studies and frameworks can be designed which influence as healthy as predict decision making abilities of the patrons which would further lead to increasing the effectiveness & efficacy of the strategies of digital marketing (Patel & Mehta, 2025).

In second cluster the words challenges, chat GPT, opportunity, practice have come out by the practice of cooccurrence of words. A theme has been propounded 'Challenges in chat GPT' by the integration of words. It is also helpful in further studies and new innovation in role of AI in digital marketing. This theme brings focus on the hurdles in integrating Artificial Intelligence tools in the field of Digital Marketing. Because of the ongoing advancements & research developments in this field this paper provides vital contribution by developing insights for future researches & scholarly articles, and studies (Johnson & Lee, 2024). In third cluster two words have come out by the practice of cooccurrence of words. A theme has been prepared 'application and evolution of AI signify the role of AI in digital marketing. This theme showcases that the technology of Artificial Intelligence is never stagnant, it keeps on changing and evading new phenomenon's irrespective of the growing demands & requirements of the market and trends. With the help of keyword cluster mapping technique, the study derived three distinct themes, each of the themes throws light on not only the current / recent trends, but also paving ways for future industry & academic explorations, showcasing a scope for the researchers to exploit more in this area, and derive new understandings by using these themes as the building blocks or the roadmap to their researches (Singh et al., 2024).

Implications of The Study:-**Theoretical implications:-**

This study contributes to the existing body of literature by extending the role of AI in digital marketing. The first cluster that were derived represents how AI driven marketing methods are affecting consumer preferences, behaviours and the capacity to take decisions. This makes behavioural models broad by setting up AI as mediating agent that influences customer reactions (Patel & Mehta, 2025). Second clusters show challenges faced by chat GPT,

which reflects that AI still have need to refine the things related with search. Accuracy and reliability, lack of contextual understanding, bias and ethical concern, limited domain expertise and data privacy some issues which still have to be needed to remove. In the third cluster it is indicated that the tools of AI such as chatbots, recommendation engines, and programmatic advertisement, are dynamic, lending belief to the claim that AI is developing in nature rather than static, as per Singh et al.(2024) suggests. This lays down the theoretical framework for the dynamics of the AI marketing models that take into account technical advancements. The bibliometric findings (top journals, citations patterns, key word co-occurrences) uncover underexplored topics such as: ethical hazards privacy and algorithmic prejudice.

Managerial implications:-

Findings are highly beneficial for managers and practitioners of digital marketing. Research papers from the period 2017–2025 were selected from the Scopus database. The major findings emerging from the co-occurrence of words include the effects of marketing strategy, challenges in ChatGPT, and the applications and evolution of AI. Predictive analysis, sentiment analysis, recommendation engines, and programmatic advertising dramatically enhance targeting accuracy and consumer engagement (Davenport et al., 2020; Kumar et al., 2021). Managers can apply these insights to improve personalization and segmentation, enhance ROI through automation-driven optimization, and allocate marketing expenditures more efficiently. Cluster 1 represents how AI-based techniques affect consumer behaviour. Managers can use AI more effectively to influence consumer attitudes and preferences. Cluster 2 highlights real-world ChatGPT barriers such as disinformation, ethical concerns, and accuracy issues, assisting managers in developing precautionary measures when implementing generative AI (Johnson & Lee, 2024). Cluster 3 suggests that continuous upskilling is necessary due to the rapid development of AI. Managers should adopt transparent AI policies, ensure appropriate data practices, and focus on customization according to consumer needs.

Societal Implications:-

AI powered automation and customization raise pleasure of the consumers, relevancy of the content and experience of the users (Huang & Rust, 2021). This nourishes digital well being and lowers information overload. The results identify issues regarding data misuse, violation of privacy, unethical targeting, algorithmic discrimination, which gives the contribution to demand of the society for responsible AI regulation by informing policymakers and regulators. As the AI automates repetitious marketing jobs like production of the content, analysis and segmentation, society will witness a move towards AI driven occupational responsibilities. The need for reskilling programs across sectors, need of digital and analytical abilities. This is consistent with recognized trends in AI powered change. This study provides evidence-based information that assists regulators. Establish ethical principles for AI enabled marketing. Promotes equitable digital advertising ecosystems.

Conclusion:-

This study aims to conduct systematic review and bibliometric analysis for the mapping of existing literature on the appliance of artificial intelligence in digital marketing. Basically, year wise trend, top ten journals, top ten highly cited authors and co-occurrence of key-words performed. The results indicates that the research has grown exponentially since 2017. Dominant themes have come out by in-depth key word co-occurrence analysis was performed in the current literature, which has inculcated an all-inclusive position of the role of AI in Digital Marketing which turned out to be completely multidimensional. The first cluster constructed around integration of keywords: “consumer behaviour, marketing strategies, mediating roles and AI usage” directs us to a relevant theme constituted as “Effect of Marketing Strategy on Consumer Behaviour” which will be helpful in doing the new studies in the future on this theme. In the second cluster with the help of words like: challenges, chat GPT, opportunity and practice we jumped on or framed a theme called as “challenges in chat GPT”, with the help of integration of these key words. In the third cluster two keywords were chosen naming Application & Evolution, with the help of co-occurrence of these keywords a theme was propounded as “Application & Evolution of AI.” Therefore, perceived collectively, these three clusters frame a pathway for academicians and businesses. This study contributes to an overall understanding of adaptive, ethical & smarter operations in digital marketing. Concluding here, this study represents the present state or position of AI in digital marketing leading towards the future scope for further explorations and discoveries by encouraging scholars & practitioners to further study these derived themes and come out with further more productive insights in this area, growing the need of this study i.e. the artificial intelligence’s role and contributions in digital marketing.

Limitations of the Study:-

The study might not accurately reflect the variety of AI applications across various businesses because it relies on secondary data or has a small sample size that is only 200 paperstaken forreview. The conclusions' long-term significance may be limited by the rapid evolution of AI technologies and the potential for findings to go out of date when new tools and methods are developed. There is little empirical evidence of AI's true influence on marketing performance, and many studies on AI in digital marketing are conceptual or review-based. Ethical concerns including algorithmic bias, customer data privacy, and the abuse of AI in targeting and personalisation may not be fully covered in the article.

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