

MAPPING RESEARCH ON AI AND CONSUMER PURCHASE INTENTION: BIBLIOMETRIC INSIGHTS (2009–2025)

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EXTENDED ABSTRACT

Purpose Artificial Intelligence (AI) has rapidly become a core constituent of digital marketing, revolutionizing how companies interact with consumers. AI-driven tools, like chatbots and algorithmic product recommendations, personalized ads, and predictive analytics, give companies unprecedented capabilities to understand and influence consumer behavior in personalized, efficient, and scalable ways (Shoib and Hermawan, 2025). Reflecting this potential, industry analyses report that the use of AI in marketing escalated (e.g. increasing by an estimated 84% in 2020 alone) (Gera and Kumar, 2023). Research increasingly shows that AI technologies shape purchase intentions by leveraging adaptive machine learning, real-time data processing, and multimodal data integration (Zhang *et al.*, 2025). These capabilities allow firms to predict consumer behavior, personalize services, and enhance experiences, often fostering satisfaction and willingness to buy (Erliana, 2025; Lopes *et al.*, 2024; Guo *et al.*, 2024), positioning AI at the center of strategies designed to influence consumer behavior (Gansser and Reich, 2021; Kumar *et al.*, 2024). However, the influence of AI is not uniformly positive. Studies also highlight challenges like privacy concerns, security risks, and algorithmic biases that can undermine trust, with consumer attitudes, notably trust and perceived risk, acting as critical mediators of AI acceptance (Riandhi *et al.*, 2025). Although the corpus on AI in marketing has expanded markedly, extant reviews remain fragmented or overly broad, leaving the purchase-intention focus under-synthesized (Chen and Prentice, 2024; Lee *et al.*, 2023). With research output accelerating after 2020 and intensifying post-ChatGPT (2022), this study conducts a bibliometric and content analysis of literature from 2009–2025, which aims to map out publication trends, thematic concentrations, and emerging insights in this research stream. Specifically, our study addresses the following key research questions:

RQ1: What are the publication trends and patterns in research on AI consumer purchase intention from 2009 to 2025?

RQ2: What are the main themes and topics explored in the literature linking AI to consumer purchase intention?

RQ3: How have these research themes evolved, particularly in the last three years (2022–2025) following recent AI advancements (e.g., ChatGPT)?

Design/methodology/approach To ensure transparency in conducting the systematic literature

review (Lim and Rasul, 2022), we followed the four stages outlined in the PRISMA protocol: identification, screening, eligibility, and inclusion (Moher *et al.*, 2009). The initial search was performed on August 25, 2025, using the Web of Science database. We targeted article titles (TITLE), abstracts (ABS), and keywords (KEY) with the terms: "artificial intelligence" OR "machine learning" OR "deep learning" OR "natural language processing" AND "purchase intention" OR "buy* intention" OR "willingness to buy" OR "intention to purchase" OR "intention to buy". Only journal articles published between 2009 and 2025 were considered, yielding 261 documents. After excluding one non-English article, 43 ineligible items (e.g., reviews, books, editorials), and 32 papers during abstract screening, the final dataset comprised 183 journal articles. This refined sample was subsequently analyzed using text mining in the latest version (1.6.20) of VOSviewer, producing visualizations of keyword co-occurrence across the whole period and the last three years, country co-authorship networks, publication trends, leading journals, and the most cited works. The three-year focus reflects the impact of ChatGPT's 2022 introduction, and although 2025 is ongoing, the results indicate a continuing upward trajectory.

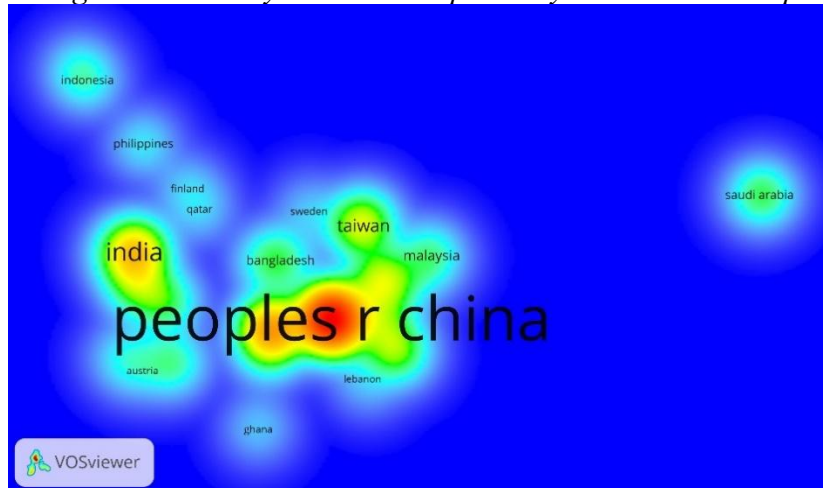
Results and analysis

Descriptive analytics In this section, following the framework of Donthu *et al.* (2021), it is necessary to focus on two main techniques - performance analysis and science mapping. Table 1 provides the performance metrics, such as publication metrics, citation metrics, as well as a combination of both. The corpus comprises 183 publications across 16 active years (NAY), resulting in an average productivity per active year (PAY) of 11.44. Authorship patterns indicate a highly collaborative domain: 11 single-authored papers (6.0%) versus 172 co-authored (94.0%), with 602 contributing authors (NCA) and a collaboration index (CI) of 3.63. Impact indicators reinforce the field's visibility. The set has accumulated 15,195 total citations (TC), averaging 83.03 citations per document (AC), 83.61% of items are cited at least once (PCP), and citations per cited publication (CCP) equal 29.62. Collaboration intensity is further reflected in the collaboration coefficient (CC = 0.9399), confirming the dominance of multi-authored work and the need for complementary expertise. Altogether, these metrics portray a productive, influential, and highly collaborative research stream.

Country co-authorship analysis

A country co-authorship map identified 52 countries, with the largest connected network comprising 43 nations across seven clusters (Figure 1). China leads with 73 publications (Cluster 3), followed by the United States (32, Cluster 6) and India (22, Cluster 1). This dominance of China aligns with broader AI research trends showing China as a leading producer of AI scholarship (Li and Rohayati, 2025), while the US and India's strong output is consistent with their established roles in technology and marketing research (Hue and Hung, 2025). Other notable contributors include South Korea (12), Taiwan (11), France (7), Germany, England, Japan, and Malaysia (6 each), and Australia (3). The clusters highlight strong European collaboration (Austria, France, Germany, Spain) alongside cross-regional groupings such as England–China–Japan, Canada–Bangladesh–Poland, Gulf/Asian partnerships, and links like USA–South Africa–Ghana and Egypt–Jordan–Saudi Arabia. Such patterns mirror observations in related bibliometric studies, where international collaboration is seen to bridge diverse research communities in AI applications (Li and Rohayati, 2025). Altogether, the country network suggests that consumer-AI research is highly international, with powerhouse countries driving output and fostering cross-border partnerships that bring together complementary knowledge and market contexts.

Figure 1: Country co-authorship density visualization map



(Source: Authors' depiction)

Keywords co-occurrence analysis based on text mining in the abstracts

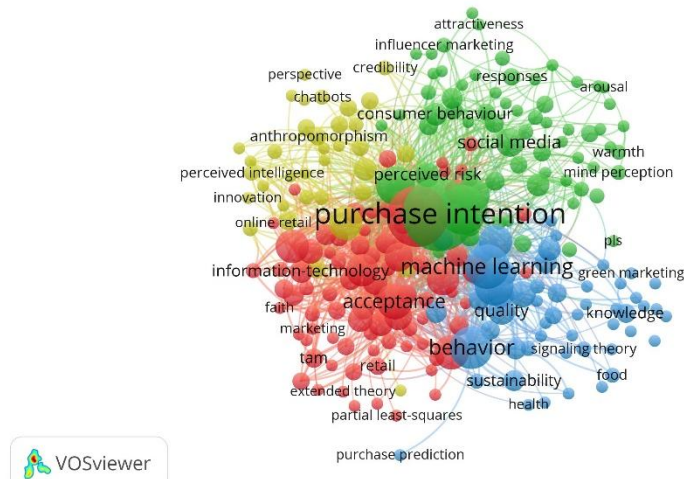
In this segment, we provide two network visualization maps depicting keyword co-occurrence patterns for the entire examined period (2009-2025) and the most recent years since the introduction of ChatGPT (2022-2025).

Keywords co-occurrence analysis based on text mining in the abstracts for the whole analyzed period

Through text mining of 183 abstracts (excluding structured abstract labels and copyright notices), a visualization map was constructed. The analysis produced 273 keywords meeting the minimum threshold, of which 31 were excluded, resulting in 242 keywords grouped into four clusters (Figure 2). In the network visualization, item size reflects frequency, lines represent co-occurrence strength, and selected labels are omitted to avoid overlap, revealing key thematic insights. The red cluster is dominated by “artificial intelligence” (49 occurrences) and closely related terms such as “acceptance”, “user acceptance”, “adoption”, “attitude”, and “perceived value”. These co-occurrences suggest that scholarships primarily investigate how consumers perceive and adopt AI-driven technologies. For example, Sohn and Kwon (2020) emphasize that traditional models must be adapted for novel AI products, and Gansser and Reich (2021) extend UTAUT specifically for AI contexts. Recent research similarly underscores the mediating role of trust and perceived quality in these models (Pathak and Bansal, 2024; Riandhi *et al.*, 2025), which is consistent with the cluster’s strong ties between “AI” and attitude-oriented keywords. In the green cluster, “purchase intention” (71 occurrences) serves as the most central keyword, indicating its pivotal role within this body of research. Its strong co-occurrence with terms such as “artificial intelligence” and “consumer behaviour” highlights a growing interest in how AI-driven technologies shape consumer decision-making processes (Lopes *et al.*, 2024). Connections with “engagement” and “social media” suggest that studies frequently examine interactive and digital environments as key contexts influencing purchase-related outcomes (Chen and Prentice, 2025). Meanwhile, links to “experience” and “trust” emphasize that both experiential factors and perceptions of credibility remain critical antecedents of purchase intention (Verhagen *et al.*, 2006; Riandhi *et al.*, 2025). The blue cluster centers on “behavior”, “machine learning”, “brand”, “information”, and “consumer satisfaction”. It reflects how machine learning methods are applied to analyze consumer actions, predict decision-making, and generate insights for brand strategy. The strong links to “information” and “consumer satisfaction” emphasize the importance of information quality and post-purchase evaluations, positioning this cluster at the intersection of behavioral

theory and data-driven marketing research. The yellow cluster is anchored by “e-commerce” (15 occurrences) and extends to “continuance intention”, “voice assistants”, “conversational agent”, “anthropomorphism”, and “credibility”, reflecting research on how consumers engage with AI-driven commerce through human-like service interactions. In practice, this suggests that human-like AI agents and interfaces are a growing focus, as they influence consumer trust and satisfaction in digital commerce (Balakrishnan and Dwivedi, 2024; de Visser *et al.*, 2016).

Figure 2: Keywords co-occurrence for the whole analyzed period



(Source: Authors' depiction)

Keywords co-occurrence analysis based on text mining in the abstracts for the last three years
 The text mining approach and criteria applied to the keyword co-occurrence analysis for the most recent three-year period are consistent with those used for the entire study period. The final dataset comprises 216 keywords, categorized into 3 clusters. These clusters ultimately form the co-occurrence visualization map depicted in Figure 3. The red cluster is structured around “purchase intention” (64 occurrences), which emerges as its central node. Its close links with “trust” and “acceptance” indicate that consumer confidence and openness toward technology are key antecedents of purchasing behavior. Connections with “machine learning” and “technology” highlight the role of advanced analytical tools and technological contexts in shaping these intentions (Pathak and Bansal, 2024; Riandhi *et al.*, 2025). Meanwhile, associations with “information”, “intention”, and “satisfaction” suggest that decision-making is strongly influenced by the quality of information provided and subsequent evaluations of consumer experience. The green cluster is defined by “artificial intelligence” (47 occurrences), accompanied by closely related terms such as “adoption”, “behavior”, “e-commerce”, “behavioral intention”, and “online”. This configuration reflects a strong research orientation toward understanding how AI technologies are adopted and integrated into consumer contexts, particularly within digital commerce. The presence of methodological terms like “structural equation modeling” and theoretical constructs such as “planned behavior” suggests that much of this work is grounded in established behavioral frameworks and supported by advanced quantitative modeling. Together, these links emphasize the dual focus on both conceptual explanation and methodological rigor in studies examining AI-driven consumer adoption. The blue cluster centers on “artificial intelligence” (19 occurrences) and extends to “experience”, “social media”, “engagement”, and “consumer behavior”. This cluster reflects how AI applications are increasingly examined in relation to consumer interactions within digital environments. The strong ties with “experience” and “engagement” suggest a focus on how AI enhances or transforms user experiences and fosters deeper consumer involvement. The inclusion of “social media” indicates that platforms serve as a critical context for studying these

REFERENCES

- Balakrishnan, J., and Dwivedi, Y. K. (2024), "Conversational commerce: Entering the next stage of AI-powered digital assistants", *Annals of Operations Research*, Vol. 333 No. 2, pp. 653-687. <https://doi.org/10.1007/s10479-021-04049-5>
- Chen, Y., and Prentice, C. (2025), "Integrating artificial intelligence and customer experience", *Australasian Marketing Journal*, Vol. 33 No. 2, pp. 141-153.
- de Visser, E. J., Monfort, S. S., McKendrick, R., Smith, M. A. B., McKnight, P. E., Krueger, F., and Parasuraman, R. (2016), "Almost human: Anthropomorphism increases trust resilience in cognitive agents", *Journal of Experimental Psychology: Applied*, Vol. 22 No. 3, pp. 331-349. <https://doi.org/10.1037/xap0000092>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., and Lim, W. M. (2021), "How to conduct a bibliometric analysis: An overview and guidelines", *Journal of Business Research*, Vol. 133, pp. 285-296.
- Erliana, S. (2025), "A systematic literature review on artificial intelligence features driving purchase intention on web commerce: Insights into customer experience and trust using Python-based analysis", *Journal of Digital Business and Innovation Management*, Vol. 4 No. 2, pp. 442-454.
- Gansser, O. A., and Reich, C. S. (2021), "A new acceptance model for artificial intelligence with extensions to UTAUT2: An empirical study in three segments of application", *Technology in Society*, Vol. 65, 101535.
- Gera, R., and Kumar, A. (2023), "Artificial intelligence in consumer behaviour: a systematic literature review of empirical research papers published in marketing journals (2000-2021)", *Academy of Marketing Studies Journal*, Vol. 27 No. 1, pp. 1-15.
- Guo, Y., Tang, Q., Wang, H., Jia, M., and Wang, W. (2024), "Artificial intelligent housekeeper based on consumer purchase decision: A case study of online e-commerce", *Industrial Management and Data Systems*, Vol. 124 No.8, pp. 2588-2612.
- Hue, T. T., and Hung, T. H. (2025), "Impact of artificial intelligence on branding: A bibliometric review and future research directions", *Humanities and Social Sciences Communications*, Vol. 12 No. 1, p. 1-11. <https://doi.org/10.1057/s41599-025-04488-6>
- Kumar, V., Ashraf, A. R., and Nadeem, W. (2024), "AI-powered marketing: What, where, and how?", *International Journal of Information Management*, Vol. 77, 102783.
- Lee, W.-J., Lee, H.-S., and Cha, M.-K. (2023), "AI like ChatGPT, users like us: How ChatGPT drivers and AI efficacy affect consumer behaviour", *Virtual Economics*, Vol. 6 No. 4, pp. 44-59.
- Li, M., and Rohayati, M. I. (2024), "A bibliometric analysis of artificial intelligence applications in global higher education", *International Journal of Information System Modeling and Design*, Vol. 16 No. 1, pp. 1-24. <https://doi.org/10.4018/IJISMD.365913>
- Lim, W. M., and Rasul, T. (2022), "Customer engagement and social media: Revisiting the past to inform the future. *Journal of Business Research*, Vol. 148, pp. 325-342.
- Lopes, J. M., Silva, L. F., and Massano-Cardoso, I. (2024), "AI meets the shopper: Psychosocial factors in ease of use and their effect on e-commerce purchase intention", *Behavioral Sciences*, Vol. 14, No. 7, 616.
- Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. (2009), "Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement", *Annals of Internal Medicine*, Vol. 151 No. 4, pp. 264-269.
- Mustak, M., Salminen, J., Plé, L., and Wirtz, J. (2021), "Artificial intelligence in marketing: Topic modeling, scientometric analysis, and research agenda", *Journal of Business Research*, 124(C), pp. 389-404. <https://ideas.repec.org/a/eee/jbrese/v124y2021icp389-404.html>

- Pathak, A., and Bansal, V. (2024), “Factors influencing the readiness for artificial intelligence adoption in Indian insurance organizations”, In S. K. Sharma, Y. K. Dwivedi, B. Metri, B. Lal, and A. Elbanna (Eds.), *Transfer, Diffusion and Adoption of Next-Generation Digital Technologies* (Vol. 698, pp. 43–55). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-50192-0_5
- Riandhi, A. N., Arviansyah, M. R., and Sondari, M. C. (2025), “AI and consumer behavior: Trends, technologies, and future directions from a Scopus-based systematic review”, *Cogent Business and Management*, Vol. 12, No. 1, 2544984.
- Shoib, A. A., and Hermawan, A. (2025), “The impact of artificial intelligence (AI) on consumer behavior in digital marketing: A systematic literature review”, *International Journal of Finance and Business Management*, Vol. 3 No. 3, pp. 161-176.
- Sohn, K., and Kwon, O. (2020), “Technology acceptance theories and factors influencing artificial intelligence-based intelligent products”, *Telematics and Informatics*, Vol. 47, 101324. <https://doi.org/10.1016/j.tele.2019.101324>
- Verhagen, T., Meents, S., and Tan, Y.-H. (2006), „Perceived risk and trust associated with purchasing at electronic marketplaces”, *European Journal of Information Systems*, Vol. 15 No. 6, 542-555. <https://doi.org/10.1057/palgrave.ejis.3000644>
- Zhang, Y., and Wang, S. (2023), “The influence of anthropomorphic appearance of artificial intelligence products on consumer behavior and brand evaluation under different product types”, *Journal of Retailing and Consumer Services*, Vol. 74, 103432.