Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

The Evolution of Artificial Intelligence in Digital Consumer Behaviour: A Bibliometric and Science Mapping Study (2006–2026)

Ms. Surbhi Kansal[1], Dr. Manita Arora[2], Dr. Anil Kumar Goyal[3]

[1]Research Scholar

Amity School of Business, Amity University

Noida, India

e-mail: 87surbhi@gmail.com

[2]Associate Professor

Amity School of Business, Amity University

Noida, India

e-mail: mmatharu@amity.edu

[3]Associate Professor

Maharaja Agrasen Institute of Management Studies

Rohini, Delhi, India

e-mail: Anilgoyal20@gmail.com

Abstract

The fast growth of artificial intelligence has changed the relationship between buyers and online stores. A study of research papers from 2006 to 2026 using bibliometrics shows an interesting trend. This research analyses 395 articles from the Scopus database, which are organised in Microsoft Excel, the Bibliometrix tool incorporated in RStudio (Biblioshiny), and the bibliometric software VOSviewer. The results suggest a significant increase in scholarly production since 2019.This research also conducted a systematic mapping of the intellectual landscape of Artificial Intelligence in Consumer Behaviour, thereby identifying influential contributions, key publications, and main contributing countries. Thematic mapping was employed to analyse keyword cooccurrence and conceptual structure, resulting in the identification of six clusters. The literature has revealed a transitional shift in themes, specifically from the adoption of technology to the experiential framework. This includes personalisation, consumer trust, and customer engagement. Academics and practitioners both can benefit from the insights provided by these results..

Keywords: *artificial intelligence; digital consumer behaviour; e-commerce; customer engagement; bibliometric analysis.*

1. INTRODUCTION

The emergence of Artificial Intelligence (AI) has become an important technological force that has reshaped the fundamentals of consumer-firm interaction in retail industry (Dwivedi et al., 2021; M.-H. Huang & Rust, 2021). AI is recognised as general purpose technology with extensive economic and

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

industrial ramifications (Agrawal, Gans, & Goldfarb, 2019). This technological acceleration represented by the Fourth Industrial Revolution (IR 4.0), enables the digital integration of AI in retail (Haque et al., 2024; Vo Thi Xuan et al., 2025).

The integration of AI in e-commerce, individual marketing has necessitated deeper inquiry to understand the consumer psychology, purchasing pattern and market dynamics (Wirth, 2018). The growth trajectory of AI has altered the way of data analysis, value creation strategies and interaction with consumer (Kautish et al., 2023). The companies process large volume of data with the help of AI and this leverage supports the data driven decision making is supported by predictive analysis, advances in machine learning, and natural language processing (Wedel & Kannan, 2016). Prior studies reveal that AI technologies instill algorithmic intelligence during the interaction process, which shapes the engagement of users in the AI enabled platforms (Castelo et al., 2023). This has led to change in the role of AI from a technical support system to strategic asset where AI only boost the operational efficiency (Klaus & Zaichkowsky, 2022; Verma et al., 2021).

Building on these foundations, retailers have incorporated these intelligent systems for optimizing the demand forecasting, dynamic pricing and followed inventory management (Lu et al., 2023) These systems are designed in such a manner that they respond to the real-time market conditions, which enables the firms to track the changes and adapt accordingly within market place (Sima et al., 2020; Yen & Chiang, 2021). The changes can be in context of demand patterns and consumers preference, which are handled with efficient mechanism adopted by organizations through AI-driven technologies (Chang & Chen, 2021). Studies highlight that managerial decisions supported by AI - analytics drives higher customer satisfaction rates (Rahman et al., 2023; Singh et al., 2017). The consumers are satisfied due to better product recommendation given by personalized suggestions (Lopes et al., 2025; Manser Payne et al., 2021). The AI based consumer interfaces improves the human-system interactions. By employing tools such as virtual assistant, chatbots, personalized recommendations (Tang et al., 2021). The consumers engage with the platform while browsing products online which provides a better shopping experience (Ruan & Mezei, 2022).

Extant literature has expanded the domain assessing how these AI-enabled technologies shape digital consumption (Theodorakopoulos et al., 2026; Wang, 2025). Prior studies suggest that customer at times become skeptical about the complex purchase decisions, in that case AI-driven personalization strengthens the customer engagement by suggesting better product alternatives with relevant information (Loureiro et al., 2024; Rodrigues, 2026; Tabianan et al., 2022). AI-enabled systems provide digital immersive experiences (Steinhoff et al., 2019), which shapes attitude of consumers and engages them with AI interface (Hien et al., 2026; Puntoni et al., 2021). This heightened engagement influences the purchase intention (Habib & Hamadneh, 2021). These touch points shape the experiential journey of customers and reduce the complexity from an organization's perspective (Ameya Gokhale, 2025; Lemon & Verhoef, 2016).

The firms have achieved a competitive edge by driving sales and sustainable growth (Brynjolfsson et al., 2021) due to the AI interfaces. Research identifies that AI-interface shapes the behavioral responses of customers which creates a positive attitude towards the interface, engages customers and thereby improve their online shopping experience (Bleier et al., 2019; Teepapal, 2025; Turki, 2025). Trust is considered as key factor that ensures transparency and affects consumers acceptance and usage of the AI technologies (Araujo et al., 2020; Luo et al., 2019). It is stated by the researchers that AI fosters customer loyalty (Kumar et al., 2024) and influence the acceptance for AI enabled purchase experiences (Chakraborty et al., 2024; Gursoy et al., 2019).

Researchers have highlighted the need to develop systematic methods for fragmented literature across

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

multiple disciplines (Riandhi et al., 2025), this will support in understanding the growth of literature and help in identifying some key themes and new trends that can unify the field (Donthu et al., 2021). Thus, this study with the help of bibliometric analysis aims to provides a sound methodological framework to meet this challenge that involves quantitative analysis of publication through performance analysis and science mapping. The study will understand the evolution of field by mapping its intellectual development, identifying major clusters of research, and reveal future research opportunities (Cobo et al., 2011). Hence, this review examines foundational concepts of AI, over the past two decades, and how technology has transformed the operative structure of firms and within span of few years.

Research Questions

RQ1: How has research on AI-enabled consumer behavior in digital retail evolved over 2006-2026?

RQ2: Which authors, sources and countries are most influential in this literature?

RQ3: What are the dominating themes that shape conceptual structure of AI-enabled consumer behavior research?

RQ4: What are the future research directions that emerge from thematic evolution of this field?

2. Methodology

2.1 Database Selection and Search Strategy

Bibliometric analysis methodological approach has been considered for this study in the domain of artificial intelligence-based consumer behavior (Aria & Cuccurullo, 2017; Zupic & Čater, 2015). The primary source of literature has been collected from Scopus database due to its extensive coverage of peer-reviewed journals across various disciplines.

The search strategy designed to address publications at the intersection of artificial intelligence technology, consumer behavior constructs and digital retail setting. To secure conceptual relevance as well as to maximize retrieval accuracy, a structured query was applied to the TITLE-ABS-KEY fields.

TITLE-ABS-KEY (("artificial intelligence" OR "AI" OR "machine learning" OR "deep learning" OR "intelligent system*" OR "smart technolog*" OR "AI-enabled")) AND TITLE-ABS-KEY (("consumer behavior" OR "consumer behavior" OR "customer behavior" OR "customer behavior" OR "purchase intention" OR "purchase behavior" OR "purchase behavior" OR "buying behavior" OR "consumer decision making" OR "online shopping")) AND TITLE-ABS-KEY (("e-commerce" OR "online retail" OR "digital retail" OR "retailing" OR "online platform*")) AND PUBYEAR > 2005 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "SOCI"))

The database search was conducted on 24 February 2026. The initial search retrieved 1,676 records from Scopus. The publication period considered for the study is 2006-2026, during which no substantial activity was observed in 2006. Therefore, the analysis is done from the year 2007.

2.2 Study Selection (PRISMA Framework)

To ensure transparency and reproducibility, a PRISMA-based screening process was employed in the study. The sequential steps were applied to the screening process. First, the data were limited only to peer-reviewed academic articles and conference papers, thus providing 1,430 records. A language filter was later applied to filter out only English-language documents, leaving 1,413 documents in the corpus. The third step further narrowed down the data set to the disciplinary areas most relevant to consumer behavior and digital retail studies, that is, Business, Management and Accounting; Social Sciences. Having introduced this subject-area restriction and having screened the materials against relevance manually, the resulting dataset included 395 publications. At the stage of manual screening, the records were eliminated in case

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

they did not consider AI-enabled consumer behavior significantly in the context of digital retail, e-commerce, or online platforms. Fig. 1 shows the PRISMA-based screening process which resulted in the final dataset.

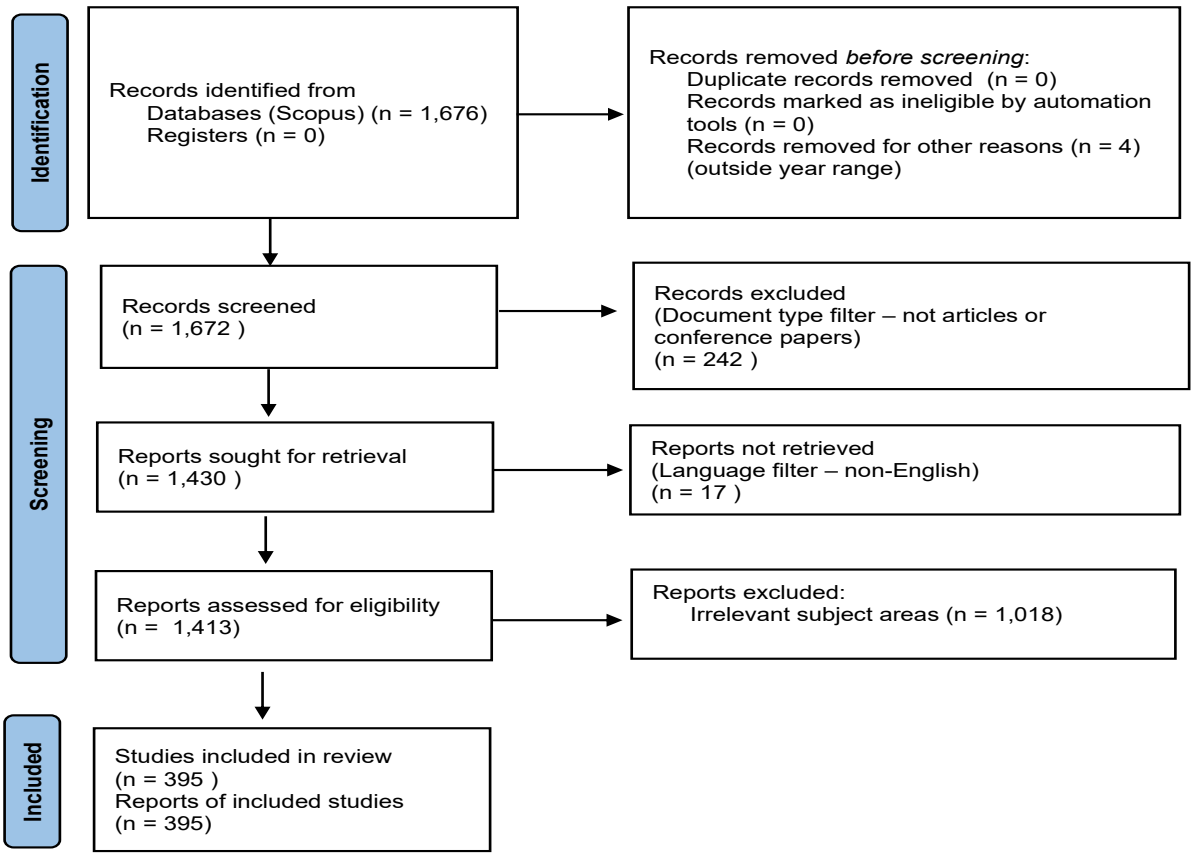

Fig. 1: PRISMA 1

2.3 Data Cleaning and Preparation

The dataset was subjected to a systematic cleaning procedure. Duplicates were removed from the dataset, and author keywords were standardized by merging synonymous terms (e.g. AI and artificially intelligent; e-commerce and electronic commerce.

2.4 Data Analysis Tools

The study used the following tools for analysis in combination. Microsoft excel for data cleaning, graphs of annual scientific production, core and peripheral journals, and scientific production of the country. Bibliometrix, through its Biblioshiny interface in R, supported descriptive performance analysis, publication trends, Bradford's law and core journal analysis, direct citation network, keyword frequency analysis along with word cloud, thematic mapping and thematic evolution. It also generated a three-field plot diagram (Aria & Cuccurullo, 2017). VOSviewer complemented this by enabling network-based visualizations. Using both tools allowed the study to balance analytical rigor with visual interpretability (Van Eck & Waltman, 2010).

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

3. Results

3.1 Descriptive Information

This section provides summary of research findings in the field.

Table 1: Bibliometric Data

Description	Results
Timespan	**2007:2026**
Sources (Journals, Books, etc)	**220**
Documents	**395**
Annual Growth Rate %	**18.71**
Document Average Age	**2.53**
Average citations per doc	**16.93**
References	**3443**
DOCUMENT CONTENTS	
Keywords Plus (ID)	**1530**
Author's Keywords (DE)	**1429**
AUTHORS	
Authors	**1191**
Authors of single-authored docs	**31**
AUTHORS COLLABORATION	
Single-authored docs	**31**
Co-Authors per Doc	**3.36**
International co-authorships %	**27.85**
DOCUMENT TYPES	
Article	**279**
Conference paper	**116**

The table (Table1) of Bibliometric Data provides summary which includes total of 395 documents that were retrieved from the scopus database, published between 2007 and 2026 across 220 different sources. This shows progress in the published literature with an annual growth rate of 18.71%. The documents average age was 2.53 clearly depicting recent advancements in the field, with an average of 3.36 co-authors per document, indicating a collaborative research environment. The average citation per document is 16.93, suggesting a moderate level of scholarly impact within the field.

3.2 Annual Scientific Production

The distribution of publication over time highlights the development and growth pattern of the research on AI-enabled consumer behavior during time period from 2007 to 2026. Findings from Fig. 2 show that the academic production on the subject was relatively low in the initial years (2007-2016). During the initial

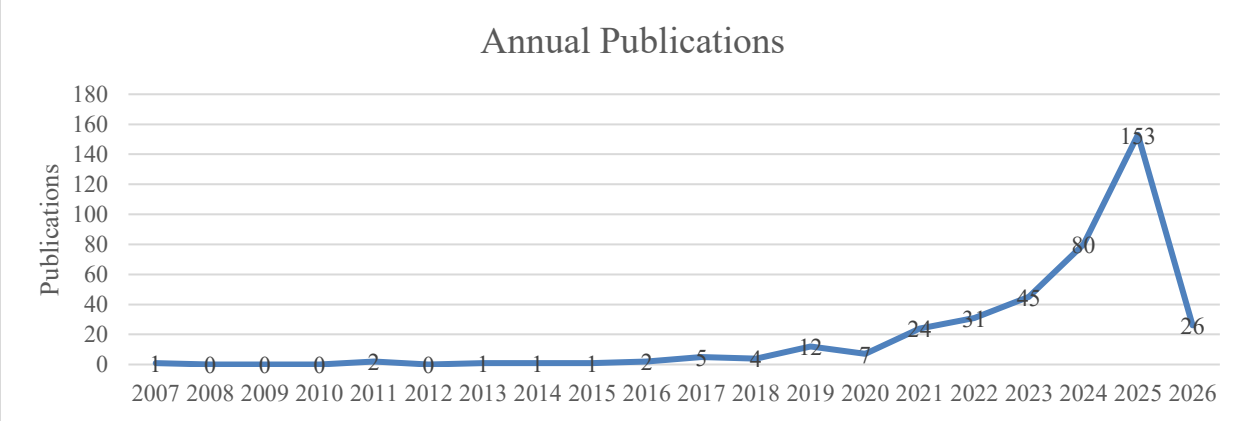

Fig. 2: Annual Scientific Production

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

phase (2007-2016), annual publication output remained low, ranging from 0 to 2 articles per year, indicative that artificial intelligence studies of the digital consumer behavior were in its infancy.

Therefore, a period of moderate growth started in 2017 when the articles published grew to five the year before and four the next year, 2018. This stage is associated with the increasing use of machine learning, predictive analytics, and AI-inspired personalization technologies in the context of the digital commerce.

In 2019, scholarly output increased markedly to 12 articles, which grew to 24 in 2021, that signified the shift to the rapid expansion stage of the literature. The sharpest rise was measured between 2022 and 2025, where the publications grew by a sharp margin between 31 articles in 2022, 45 articles in 2023, and 153 articles in 2025. This growth rate indicates that the sector has matured into a high-growth phase, which can be attributed to technical progress in generative AI, chatbots, recommendation engines, and personalization of customer experiences with data in the virtual retail space. It is also identified that 26 articles published till February 24,2026 suggest a continued momentum in the field.

The upward trend of the publication, particularly after 2019 suggest that there is a steady increase in publications on AI and consumer behavior in digital context. Through this trajectory, it can be stated that now this interdisciplinary research involves diversified areas like marketing, information system, and digital commerce. It is also evident that between 2022 and 2025 research interest lies in the integration of artificial intelligence and digital consumer behavior, which reflects the expanding adoption of AI technologies such as chatbots, recommendation systems, and virtual analysis within online environments.

3.3 Core Publication Sources

Fig. 3 describes that the literature is condensed, focussing on small group of journals. The findings as per Bradford Law indicates that research on artificial intelligence and digital consumer behavior is largely concerned within a limited number of core journals. Classification of these journals are done according to the zones. Zone 1 Journal leads the publication of articles in which the Journal of Retailing and Consumer services is the most prominent source, with total of 30 published articles, highlighting work related to AI - driven consumer behavior and development in digital commerce. It is followed by the Journal of Theoretical and Applied Electronic Commerce Research with 21 publications, where focuss is on electronic commerce

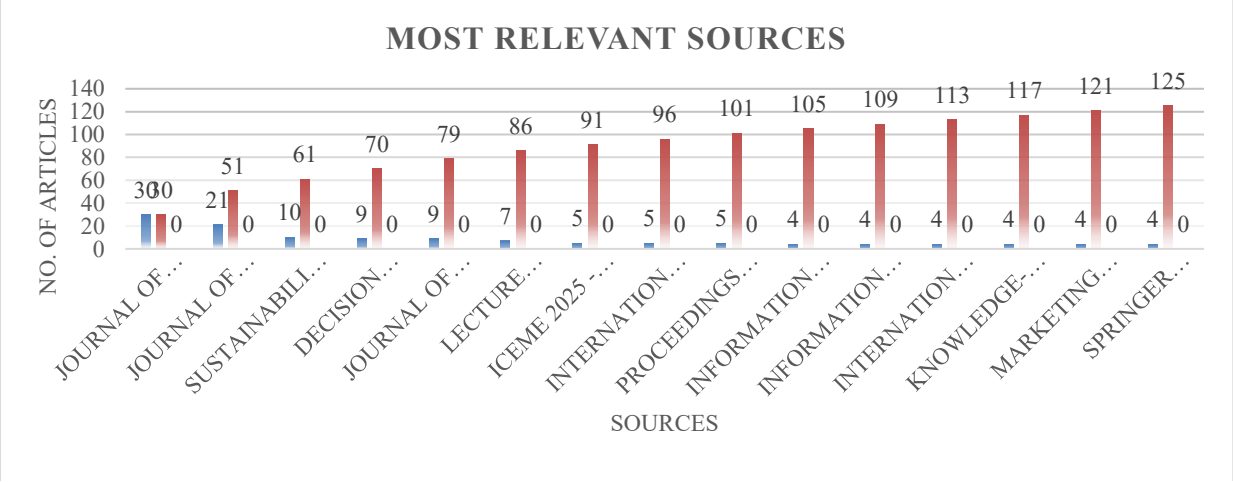

Fig. 3: Most Relevant Journals

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

and research on online platforms in the field. Equally, Sustainability (Switzerland) is adding 10 articles to the list of publications. Other sources of influence include Decision Support Systems and Journal of Organizational and End -User Computing, both of which have nine articles and, therefore, indicate the interdisciplinary nature of the field that facilitates the intersection of marketing, information systems, and research on data-driven decision-making. On the whole, the analysis of the Bradford Law shows that the study of artificial intelligence in digital consumer behavior is strongly focused in a few specialized journals, especially in the ones related to digital commerce, retail analytics and information systems. This focus shows the existence of a proper core of scholarly outlets that are central to the formation and transmission of knowledge in this emerging interdisciplinary research field.

Thus, Bradford's Law, indicates that a relatively limited journals serves as the primary publication channels for research in this domain.

The analysis of the most topical authors in Fig. 4 shows that a handful of researchers provide an excessively large portion of the publications in the field. Li J appears as the most productive writer with 6 publications and a fractionalized contribution of 2.92, which is an indication of good and steady participation in collaborative work. The next group of Liu Y, Wang Y and Zhang Y has 5 publications, but their fractionalised contribution is different, which may indicate the difference in the authorship roles and the level of collaboration. As an example, Zhang Y has a relatively higher contribution to the studies as a fractionalized contribution of 2.28 against Liu Y with the contribution of 1.11, which means that Zhang Y has a bigger contribution to the studies. Also, Li Y suggests 4 publications with a fractionalized score of 1.42 which once again illustrates the existence of recurrent contributors that define intellectual growth of the research field. On the whole, the allocation of the publications by these prominent authors indicates a moderately concentrated authorship where a small group of researchers is central in the development of the scholarly discourse and the rest of the authors

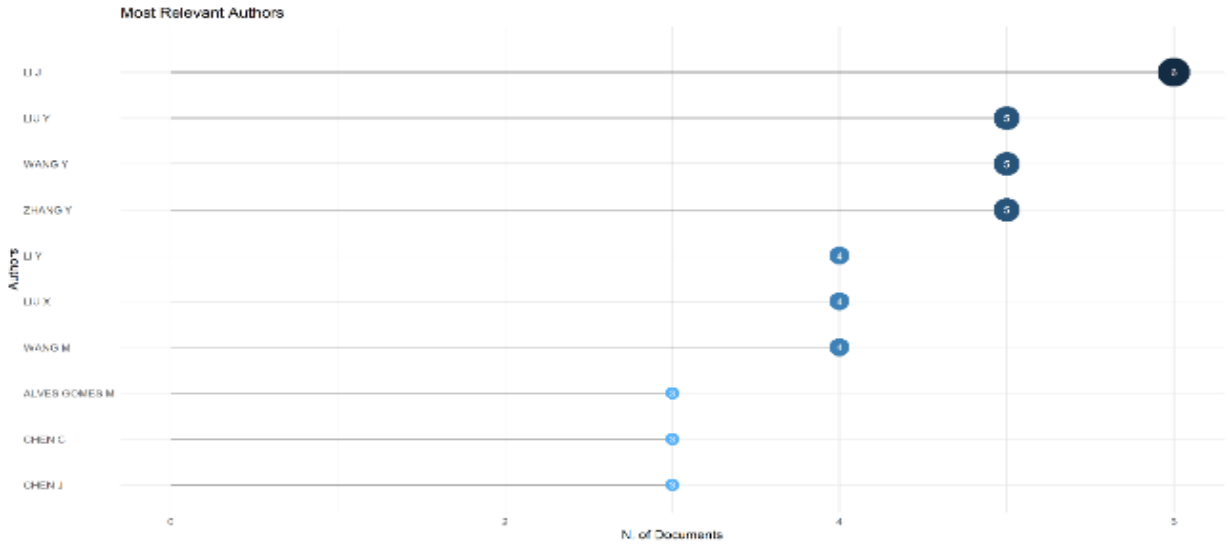

Fig. 4: Most Relevant Authors

3.4 Most Relevant Authors

publish occasionally with single publications.

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

Overall, the distribution of publications among leading authors indicates a moderately concentrated authorship structure, where a core group of scholars plays a central role in advancing the research domain.

3.5 Authors Collaboration Network

The co-author network in Fig. 5 provides the collaborative framework of the scholars studying the artificial-intelligence-enabled consumer behavior in online shopping. The nodes here denote the respective authors and the linkages denote the co-authorship relationships and the size of the respective nodes indicates the degree of collaboration and the coloring of the active collaborative groups. The general topology reveals some clusters which indicates that research on this area is structured into semi-autonomous collaborative groups and rather than a fully integrated global collaboration network.

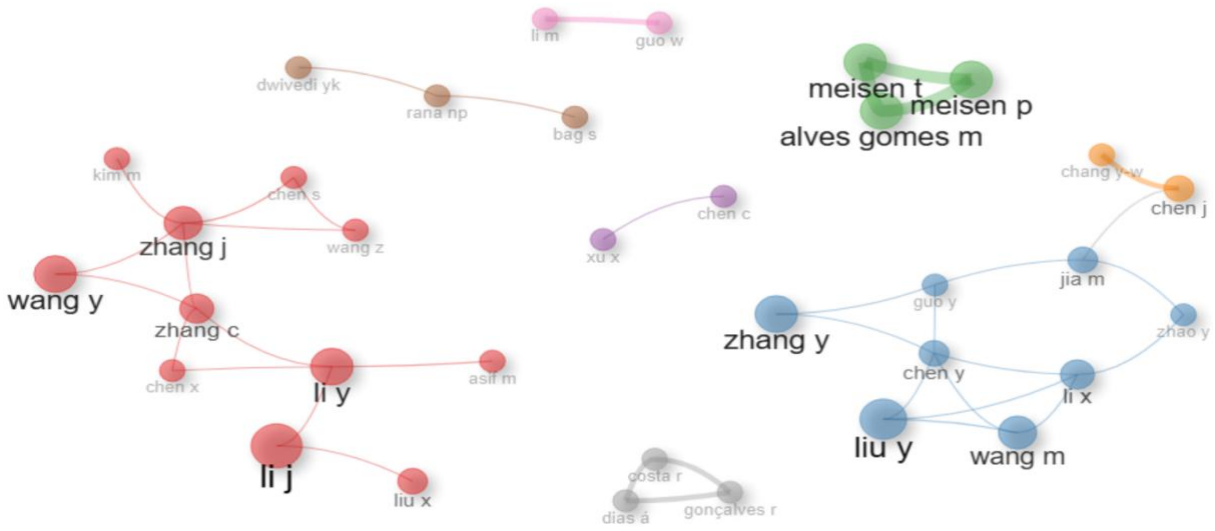

Fig. 5: Authors Collaboration Network

The most extensive cluster, in red colour, is consisted of authors like Li, Li, Zhang, Wang, and Zhang, and even Chen, which suggests that the collaboration network of East-Asian scholars, in particular, Chinese, has a strong presence. The strong collaborative ties is indicative of common publication and an established research community. Another active group of collaboration represented by another blue cluster of Zhang Y, Liu Y, Wang M, Chen Y, Li X, Guo Y and Jia M.

The smaller cluster, with a green colour, centred on Meisen T, Meisen P, and Alves Gomes M, describes an international collaboration network which is probably connected with the European institutions and deals with AI systems and decision analytics. Moreover, some well-known researchers such as Dwivedi Y.K., Rana N.P. and Bag S. are located on the fringes of the network, meaning that they have fewer co-authorship relationships in this data set even though they have a larger impact on the scholarship.

In general, the network indicates that the field of AI-based consumer behavior is relatively fragmented, and there are high levels of regional collaboration and low inter-cluster interaction. Such an arrangement suggests a new but still developing international cooperation in the field.

The network structure suggests that although collaboration is increasing, research partnerships are still largely concentrated within regional clusters.

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

3.6 Most Influential Documents

Table 2: Most Influential Documents

Paper	Total Citations	TC per Year	Normalized TC
SIMA V, 2020, SUSTAINABILITY	527	75.29	5.12
SINGH JP, 2017, J BUS RES	382	38.20	3.60
STEINHOFF L, 2019, J ACAD MARK SCI	305	38.13	6.44
YEN C, 2021, BEHAV INF TECHNOL	220	36.67	3.11
MANSER PAYNE EH, 2021, J RES INTERACT MARK	198	33.00	2.80
ZHAO H, 2021, INF PROCESS MANAGE	188	31.33	2.66
CHANG Y-W, 2021, J RETAIL CONSUM SERV	187	31.17	2.65
RUAN Y, 2022, J RETAIL CONSUM SERV	174	34.80	5.15
LIU X, 2016, MARK SCI	147	13.36	1.88
CHAUDHURI N, 2021, DECIS SUPPORT SYST	146	24.33	2.07
TOUBES DR, 2021, J THEOR APPL ELECTRON COMMER RES	144	24.00	2.04
GIROUX M, 2022, J BUS ETHICS	143	28.60	4.23
TABIANAN K, 2022, SUSTAINABILITY	143	28.60	4.23
SILVA ES, 2021, J RETAIL CONSUM SERV	141	23.50	2.00
RAHMAN MS, 2023, J RETAIL CONSUM SERV	126	31.50	8.07

Table 2 presents the most impactful papers in the area sorted by total citation, citation per year, and normalized citation scores in descending order of influence. Citation analysis is used to determine the studies which have been used as the core of the scholarly impact on the development of research on artificial intelligence (AI) and digital consumer behavior.

The findings show that Sima (2020), published in Sustainability is the most frequently cited source, with 527 total citations, 75.29 average citations per year, and the normalized citation score of 5.12. Such indicators imply that the study has exerted considerable influence on the future studies in the field. Singh (2017) in the Journal of Business Research has 382 citations, and Steinhoff (2019) in the Journal of

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

the Academy of Marketing Science has 305 citations, and both have a substantial impact on the academic knowledge.

The analysis also indicates that a number of the most influential studies have been published since 2021 and it can be seen that there is a current increase in the interest in AI-enabled consumer behavior. As an example, the research works by Yen (2021), Manser Payne (2021), Zhao (2021), and Chang (2021) have received substantial number of citations, which highlights growing relevance of AI mediated communication, personalization, and retail intelligence in online trading. On the same note, Rahman (2023) with 8.07 and Ruan (2022) with 5.15 normalized total citations show that there is a recent growing academic interest in their paper and have attained scholarly attention in a short span of time.

Therefore, the citation analysis indicates that significant work of the authors is mostly focussed on AI-based personalization, customer experience, recommendation systems, trust, and consumer experience mediated by digital means.

3.7 Network Analysis Keyword Co-occurrence

The co-occurrence network in Fig. 6 created by VOSviewer consist of twenty-four keywords divided in six distinct clusters, that represents primary thematic areas within research on this field. The nodes are represented by the keywords, the size of the node represents how often keyword has occurred and the connecting relationships are the strength of co-occurrence between the terms. Clustering structure illustrates the conceptual interconnection between different research topics in the literature.

Cluster 1 (AI Interaction and Consumer Decision-Making) includes artificial intelligence, chatbots, anthropomorphism, perceived value, purchase intention and trust. The interconnected research domaine identified from this cluster focus on the behavioral and psychological dimensions associated with adoption AI in digital retailing. Studies extensively review variables that evaluate the effects of AI-based interfaces, in particular chatbots, on the consumer perceptions, the development of trust, and purchasing intentions(Ruan & Mezei, 2022). Anthromorphism indicates that future scholarly attention on this variable can provide directions where they can explore how human-like characteristics of AI systems.

Cluster 2 (AI and Data analytics Techniques) includes big data, machine learning, deep learning, sentiment

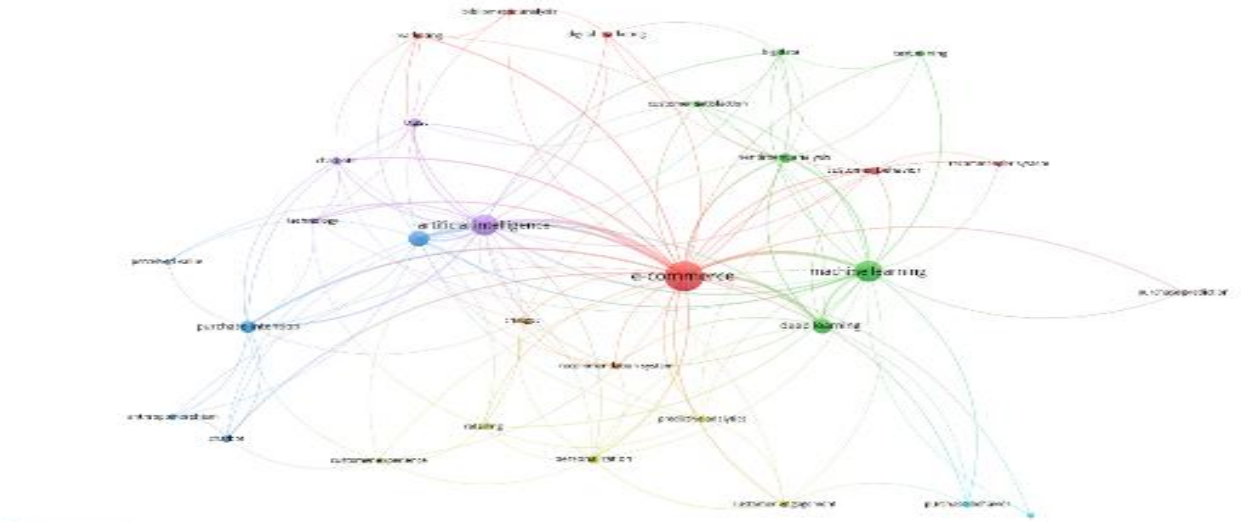

Fig. 6: Keyword Co-occurrence

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

analysis, text mining, and customer satisfaction. This cluster is considered as a technological and analytical background of the domain. Research within this domain is aimed at utilizing advanced methods of data analytics and artificial intelligence to process consumer data. This data helps in gathering meaning about textual data and the optimization of customer satisfaction by making decisions based on data.

Cluster 3 (Customer experience and personalisation) which comprises customer interaction, customer experience, personalisation, predictive analytics, purchasing behaviour and retailing. The cluster shows how AI is strategically used to deepen consumer interaction and improve retail performance. The research in this category investigates the relationship between predictive analytics and consumer personalisation with customer engagement and purchase intentions in online retail contexts.

Cluster 4 (Marketing and Consumer Behaviour Research) consists of bibliometric analysis, consumer behaviour, and digital marketing. This cluster shows the bigger picture of marketing, which is centred on studies that look at how people behave in digital places and evaluate new trends by using bibliometric and analytical tools.

Cluster 5 (E-commerce and Predictive Modelling) is made up of e-commerce and purchase prediction. This cluster is located just in the middle of the network, which suggests that e-commerce platforms are the main environment where AI technologies are used to identify the consumption patterns of the population and the strategies used in online shopping.

Cluster 6 (Recommendation Systems), contains the keyword recommendation system, which denotes the use of AI algorithms in offering consumer-focused suggestions of products and enhancing the decision-making of consumers in online markets.

Altogether, this network indicates that studies on AI-powered consumer behavior merge the technological aspects, marketing efforts, and behavioral knowledge. The highlighted links between clusters denote area where AI technologies, consumer behavioral process, and digital retail strategies congregate to improve user experience in the e-commerce settings.

3.8 Overlay Visualization

The visualization presented in Fig. 7 explains changing scenario of themes identified in artificial-intelligence-enabled consumer behavior in digital retail. The frequency of the keyword is represented by the node size in this map, the width of each edge represents the strength of co-occurrence and colour of

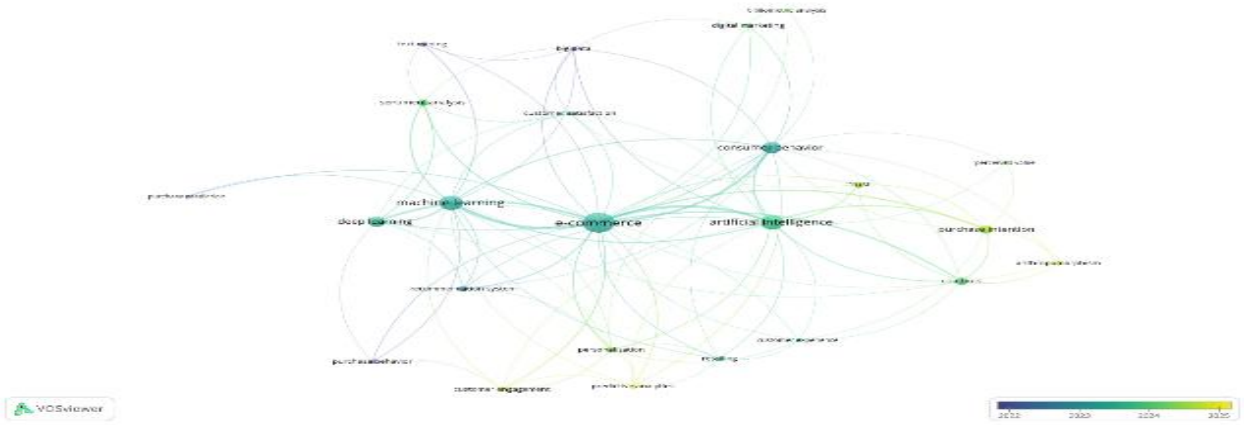

Fig. 7: Overlay Visualization

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

each node represents average year of publication. The nodes colored in blue node represents older publications and more recent research themes are yellow colored.

The most salient and interconnected keywords are e-commerce, artificial intelligence and machine learning at the centre of the network. Their middle ground suggests that the concepts form the fundamental base of the research area, with the connection between the developments in technology and the analysis of consumer behavior in online retail space.

Previous research (blue nodes) consists of big data, text mining, purchase prediction, recommendation systems, and purchase behavior. These keywords show that early research was mainly based on data - driven analytics and predictive modelling, with the objective of analysing huge consumer data and predicting their buying patterns at online stores.

The intermediate phase (green nodes) identifies the expansion of deep learning, sentiment analysis, consumer behavior, digital marketing, and customer satisfaction. This phase illustrates use of advanced artificial intelligence technologies which aims at strengthening marketing practices, shaping consumer attitudes, and engaging customers in online retailing. Yellow nodes represent purchase intention, anthropomorphism, customer engagement and predictive analytics represented. These are the most recent and emerging topics, alongside growing interest on chatbots and trust. Thus, the subjects highlighted through depiction of overlay visualization indicate gradual shifting of the trend towards the field of human-AI interaction, psychological and behavioral strategies.

3.9 Country Scientific Production

The distribution of artificial intelligence and digital consumer behavior is discussed in Fig. 8. It shows the leading countries that are contributing at least ten publications and thus highlights the geographical representation of academic activity in the discipline. The results show a widely spread distribution of activity, with significant inputs taking place in the Asian and emerging economies.

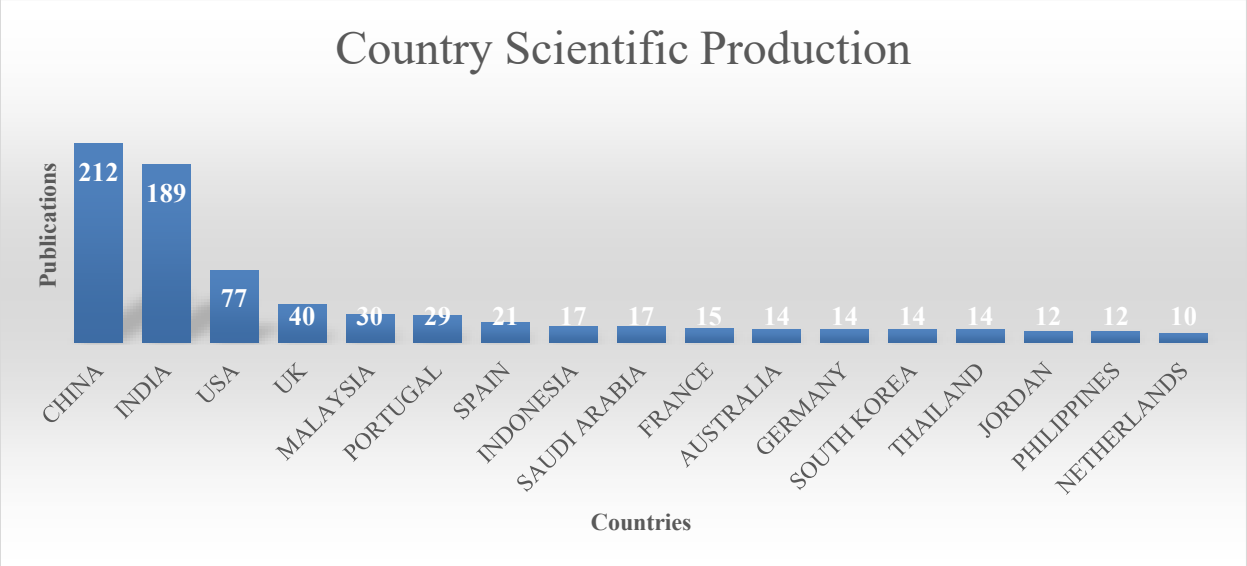

Fig. 8: Scientific Production of the Country

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

China is the most productive country in the collected data with 212 publications followed by India with 189 publications. This high output highlights the growing research capabilities of these countries and the fast development of the digital commerce environment and AI tools on the local markets.

The United States has 77 publications and is placed at the third position making it the third most productive country which shows its strong and continuing leadership in technology development and marketing research. The major sources in the literature from the European contribution are from United Kingdom (40 publications), Portugal (29 publications), and Spain (21 publications). Countries from Asian and emerging economies, such as Malaysia (30 publications), Indonesia (17 publications), and Saudi Arabia (17 publications) have produced a considerable volume of research work, which testifies that academic interest in AI-driven consumer analytics and online retail technologies is growing in emerging economies. Also, the international collaboration can be assessed through broader participation of countries like France, Australia, Germany, South Korea and Thailand who made over ten publications. Thus, geographical distribution of research in this field of study is widely spread across the developed and developing economies, reflecting worldwide adoption of AI in digital commerce and consumer analytics.

3.10 Thematic Mapping of Research Themes.

The conceptual structure of the research on artificial intelligence and consumer behavior on e-commerce is outlined in the thematic map in Fig. 9 based on the centrality and density of the thematic clusters. Under the basic themes, targeting such major areas as artificial intelligence, purchase intention, chatbots, trust, are highly central and although their internal development is still in progress, so it can be stated that AI-controlled conversational technologies and consumer trust systems represent the essential core of modern scholarship. One more group of this quadrant, which includes e-commerce, machine learning, deep learning, online shopping, and customer satisfaction, displays the technology infrastructure that supports smart digital commerce systems. The transitional themes of the map, such as consumer behavior, digital marketing, big data, eWOM, and live streaming, and

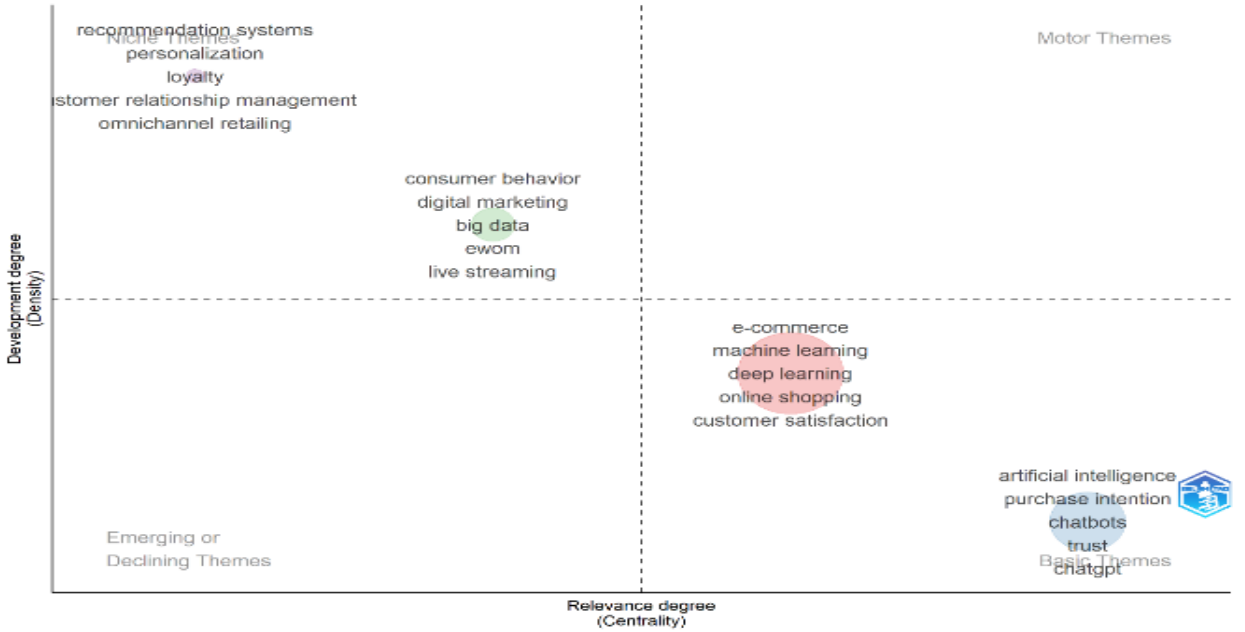

Fig. 9: Thematic Mapping

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

that are between technological developments and marketing and consumer engagement research, are foregrounded in the central part of the map. On the other hand the niche theme quadrant includes recommendation system, personalization, loyalty, customer relationship management and omnichannel

which means that they are actively involved in the process of the formation of interdisciplinary discourses in the field of AI-based digital commerce and consumer analytics. The connections indicate that these authors contribute significantly to the development of key research themes.

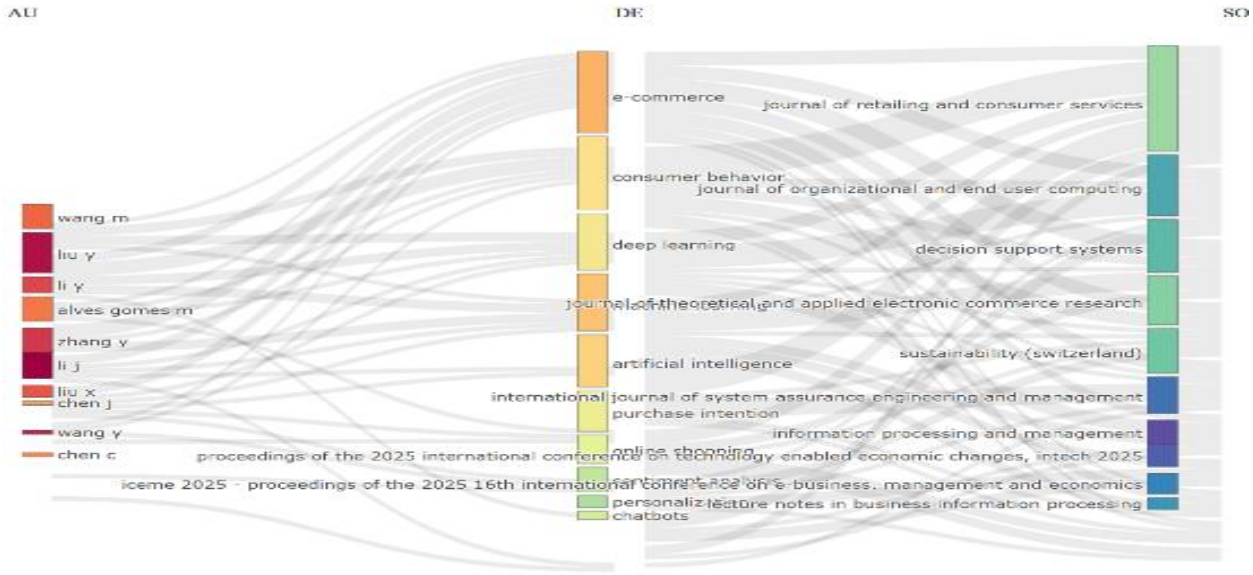

Fig 10: Three-field plot

retailing. These themes are internally developed but have limited integration with main theme of research domain.

3.11 Three-field plot

The relation between between authors (AU), author keywords (DE) and publication sources (SO), is portrayed by the Three-field plot in Fig. 10. The visual representation shows how influential scholars drive specific themes and how they are shared among academic journals. This approach reveals structure and thematic connections within the area of AI enabled consumer behavior.

Among authors, there key contributors to the field, include Wang M., Liu Y., Li Y., Zhang Y., Alves Gomes M., Li J., Liu X., and Chen J. These authors are related to more than one thematic area,

The dominant conceptual themes in the literature are indicated in the central column (DE). The keywords e-commerce and consumer behavior seem the most evident among them which means that these are the gist of the research area. Similarly linked with these themes are the concepts of artificial intelligence and deep learning technologies, which will show the growing permeation of new sophisticated methods of computational techniques in consumer behavior studies. Such other keywords as purchase intention, personalization, chatbots, and online shopping are observed, which means that the scholars are especially interested in the cognition of how smart technologies can impact the consumer decision-making processes and personalized online shopping environments.

The dimension of source (SO) displays the key journals which spread the research in this field. The

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

Journal of Retailing and Consumer Services emerges as the most prominent publication, thus highlighting its key importance in the publication of consumer behavior studies in digital retailing. The other journals that are influential are the Journal of Organizational and End User Computing, Decision Support Systems and the Journal of Theoretical and Applied Electronic Commerce Research all of which represent the interdisciplinary nature of the field as they cut across information systems, marketing, and electronic commerce research. Other sources like Sustainability (Switzerland) and Information Processing and Management also evidences the increased applicability of the technological and sustainability lenses to AI-powered consumer research.

In general, the three-field plot demonstrates the high degree of intersection between research of technological innovation and consumer behavior in the e-commerce ecosystem. Prominent authors are also focusing on the AI-driven analytics, consumer decision-making, and personalized digital marketing, and journals focused on information systems and retailing and electronic commerce are the main sources of publication of the research. This trend indicates that the domain is shifting towards technology-enabled consumer analytics paradigm, where artificial intelligence and data-driven approaches are increasingly influencing scholarly study on consumer-system interaction and purchasing patterns digital settings.

4. Discussion

This study provides a comprehensive account of intellectual growth and thematic evolution of artificial intelligence research in digital consumer behavior between 2006 and 2026. Results reveal a significant surge in the production of research studies after the year 2019 , during this period there was a rapid adoption of artificial intelligence such as machine learning, predictive analytics, and generative AI, in digital commerce(Chen et al., 2026; Li et al., 2026). The broader penetration of machine learning, predictive analytics, conversational AI has exemplified the way AI solutions transform digital shopping experiences and decision-making (Jia et al., 2026; Yu et al., 2026).

The examination of the scientific output across the study period shows that the early studies in the field were relatively scant and exploratory and focused mainly on technological adoption and the operational consequences of artificial intelligence(Xie, 2026). However, more recent researches have revealed a salient turn to the understanding of the behavioral and experience aspects of the AI-mediated consumer interactions(Qadri et al., 2026). Such research concepts as customer engagement, trust, personalization, and predictive consumer analytics become dominant research topics (Cao et al., 2026; Glikson & Woolley, 2020). This current trend is an indication of a broader shift from technology-focused to consumer-focused paradigms in the field of digital commerce.

The source analysis according to Bradford Law indicates that the literature is clustered among comparatively few influential journals specifically the journals that are specialized in digital commerce, marketing analytics, and information systems (Wang, 2024). Such concentration states that this technological field is rapidly evolving where a limited number of journals serve as primary platforms for providing influential studies. Other periodicals that hold a dominant place in the intellectual discourse of the field include, the Journal of Retailing and Consumer Services, Journal of Theoretical and Applied Electronic Commerce Research, and Decision Support Systems. The wide range of journals publishing this research shows that AI-enabled consumer behavior is interdisciplinary topic that combines the knowledge of marketing, information systems, and data analytics(Davenport et al., 2020).

The citation analysis identified significant authors and articles, that has proved, that the most powerful articles are dedicated to the questions which are based on customer engagement, recommender system, and personalization. The analysis also highlights the

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

relevance of explain algorithms technologies in decision-making processes in online environments. The growing prominence of these studies suggest that artificial intelligence is not considered the functional tool, but the strategic resource which transforms relations between the consumer and the company(Jetley & Shivendu, 2026; Xie, 2026).

Additional understanding of the conceptualization of the field is provided by the thematic mapping and the co-occurrence of keywords. Some key themes in the results include artificial intelligence, e-commerce, purchase intention and consumer behavior suggesting that the constructs form the main pillars of the literature(Giroux et al., 2022; Steinhoff et al., 2019). At the same time, new trends such as predictive analytics, chatbots, and personalized recommendation systems point to the growing adoption of advanced AI-based technologies into the online shopping experience. These advancements are an indication of a wider trend in changing to data-driven marketing approaches with the aim of increasing customer interaction and boosting consumer decision-making(Riandhi et al., 2025).

The way the research activity is spread across the geography of the world proves that the subject is becoming increasingly globalized, and both developed and developing economies contribute to it. The United States, China, and India seem to be the key contributors to the literature, which explains the fast pace of AI technologies implementation in the digital commerce ecosystems in these countries. The strong coverage of the emerging economies also suggests that the future research studies can gradually consider the differences in contextual responses of consumers to AI technologies in various cultural and technological contexts.

Generally, such results indicate that the current state of artificial intelligence and digital consumer behavior research is no longer in its early phase of technological adoption but is at a more developed phase of research, which puts more emphasis on experience and behavior(Jetley & Shivendu, 2026). The increased salience of the themes related to personalization, predictive analytics, and intelligent customer engagement suggests that further studies will probably explore the role attributed to AI in the process of forming digitally mediated consumer experience in the future.

5. Implications

5.1 Theoretical Implications

This study provides a significant contribution on number of salient aspects in the domain of artificial intelligence and consumer behavior. First , the research focusses on systematically framing the structure by mapping influential authors, key themes and provides an understanding of theoretical evolution of the field, which provides a base to clarify the conceptual relationships within AI-driven digital commerce(Long & Suomi, 2025).

Second, the emphasizes of the research is to identify consumer centric studies in the context of digital commerce settings. Although the previous studies focused on the technological abilities and operational productivity, the recent studies pay more attention on studying the impact of AI technologies on the consumer perception and trust, engagement, and decision-making. Thus, it can be stated that the transition of future studies will involve consumer behavior, digital marketing, and information systems to gain a better understanding of the psychological and behavioral consequences of AI-enabled technologies (Han et al., 2026).

Third, thematic mapping of the prior studies enables researchers to understand that predictive analytics, customer engagement, and personalization have gradually became the driving forces behind the field development. The AI interfaces are becoming more personalized and interactive (Chen & Prentice, 2025; Doris et al., 2024) which implies that future studies can enjoy the benefits of including previously proven behavioral theories, including the Stimulus -Organism -Response paradigm, technology acceptance models, and trust-based models, which can explain relative

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

effects of AI-mediated interactions on consumer attitudes and behaviors in online marketplaces(Fu et al., 2026).

5.2 Managerial Implications

The study has brought several managerial implications, on the basis of bibliometric analysis. The increasing relevance of personalized recommendation systems, predictive analytics, virtual try-ons should be viewed as a strategic driver which generates customer value on online context. The study has managerial implications for managers, retailers, and digital commerce practitioners. The rise of personalisation, recommendation systems, and predictive analytics suggests that artificial intelligence (AI) should be seen as both an efficiency-boosting technology and a strategic driver of customer value in digital commerce. Companies that use AI to analyse consumer choice, estimate demand, and make customised suggestions will certainly increase customer satisfaction, interest, and conversion rates. Second, there is the growing importance of the concepts of trust, transparency, and anthropomorphism that indicate that effective adoption of AI in online retail is not only a matter of technical expertise but also of consumer attitudes. The interfaces built on AI (chatbots, virtual assistants, recommendation engines, etc.) must be made in a way that would make them easier to use, more credible, and more entertaining(Y. Huang & Mohamad, 2026). Managers should be aware that the existence of too invasive, obscure, or ineptly crafted AI systems can destroy consumer trust and purchase intentions, despite the underlying technology being very competent.

Third, retail organisations require AI-based decision solutions for front-end and back-end operations. AI can improve operational inventory, demand, and dynamic pricing. It enables more responsive services, real-time communications, and personalised buying experiences for customers (Chen et al., 2026). Integration of these capabilities improves operational efficiency and customer relationship performance in digital retail ecosystems. Fourth, the findings show that online stores need responsible AI regulation. As AI systems become more prevalent in online commerce, organisations must address ethical issues such privacy, data security, transparency, and algorithm bias. Justified and ethical AI practice development and acceptance are crucial to long-term customer trust and brand protection (Shabani Shojaei & Barbosa, 2026). Thus, managers must prioritise technological innovation while ensuring that AI systems comply with government legislation, customer expectations, and ethics. Finally, the global dissemination of research suggests that AI strategies cannot be implemented uniformly in all markets. The perception of AI-enabled services and their adoption rates across regions are significantly influenced by differences in digital maturity, regulatory environments, cultural norms, and consumer trust rates. Therefore, multinational corporations are advised to implement AI-related applications to conform to the local market dynamics, rather than anticipating unified consumer behaviours (Tulebayeva et al., 2026).

6. Conclusion and Future Research Directions

This study examined the intellectual structure and thematic evolution of research on artificial intelligence studies in digital consumer behavior. The results are indicative of growing interest of scholars in the domain AI technologies within digital business. This shift means that AI is no longer considered only as a technological utility, but as one of the fundamental processes that determine the interdisciplinary nature of consumer-firm interaction in digital retail. Rather limited number of powerful journals and well-read articles have contributed to the field consolidation, and the work done by developed and emerging economies proves the relevance of AI-enabled consumer behavior in any setting. The thematic analyses also demonstrate that there is a paradigmatic change towards more interactive, behavioral, and relational conceptualization of AI-mediated consumption. The study offers benchmarks to scholars, practitioners and policymakers who wish to comprehend the degree to which AI is changing the digital consumer behaviour

Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:192-213 | ISSN:1505-4683

and the future of the retail strategy.

The bibliometric and thematic data suggest several AI and digital consumer behaviour research fields. First, empirical study is needed to understand how AI affects online purchasing customer decision-making (Sidlauskiene et al., 2023). The current literature has focused on trust, engagement, and purchase intention, but consumers can view AI-enabled interactions more causally and process-drivenly (Dwivedi et al., 2021). Second, the heterogeneity of consumer reaction to AI technologies should be studied in the future. The age, digital literacy, concern on privacy, cultural orientation, motivation of shopping, and previous experience with technology may determine the perception of personalization, chatbots, and predictive recommendations among consumers. Comparative analysis through demographic and cultural groups would thus contribute to the knowledge of the boundary conditions in AI-based consumer behavior(M.-H. Huang & Rust, 2021; Verma et al., 2021).

Third, the increased presence of both conversational and generative AI requires further investigation on the subject of human-AI interaction in retail environments(Arce-Urriza et al., 2025). New technologies like AI assistants, virtual shopping agents, and generative recommending systems can change the views on agency, authenticity, trust, and decision autonomy. The focus of future scholarship should be on both the prospects and paradoxes of the more humanlike AI systems in online markets(Adam et al., 2021; Castelo et al., 2023; Wirtz et al., 2018).

Fourth, ethical and governance research is required. Despite the importance of trust, little is known about consumer reactions to explanation, bias, spying, data exploitation, and manipulative personalisation. These dimensions deepen, illuminate, and socially responsibly consider AI's numerous functions in digital business (Davenport et al., 2020; Martin et al., 2017). Fifth, longitudinal and comparative research approaches would reveal more about AI adoption and consumer reactions over time (Nogueira et al., 2025).

Lastly, a future bibliometric investigation can follow up on the current one and include other databases like Web of Science, Dimensions or Google Scholar to enhance coverage and triangulate results. Comparison studies on databases might also be useful in determining the impact on corpus selection on thematic and citation patterns in this growing research area(Donthu et al., 2021; Harzing & Alakangas, 2016; Mongeon & Paul-Hus, 2016).

References

1. Adam, M., Wessel, M., & Benlian, A. (2021). AI-based chatbots in customer service and their effects on user compliance. *Electronic Markets*, *31*(2), 427–445. https://doi.org/10.1007/s12525-020-00414-7
2. Ameya Gokhale. (2025). Autonomous AI Agents in Online Retail: The Next Leap in Programmatic Media Buying. *International Journal of Scientific Research in Computer Science, Engineering and Information Technology*, *11*(2), 2713–2722. https://doi.org/10.32628/CSEIT25112732
3. Araujo, T., Helberger, N., Kruikemeier, S., & De Vreese, C. H. (2020). In AI we trust? Perceptions about automated decision-making by artificial intelligence. *AI & SOCIETY*, *35*(3), 611–623. https://doi.org/10.1007/s00146-019-00931-w
4. Arce-Urriza, M., Chocarro, R., Cortiñas, M., & Marcos-Matás, G. (2025). From familiarity to acceptance: The impact of Generative Artificial Intelligence on consumer adoption of retail chatbots. *Journal of Retailing and Consumer Services*, *84*, 104234. https://doi.org/10.1016/j.jretconser.2025.104234
5. Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007
6. Bleier, A., Harmeling, C. M., & Palmatier, R. W. (2019). Creating Effective Online Customer Experiences. *Journal of Marketing*, *83*(2), 98–119. https://doi.org/10.1177/0022242918809930

7. Cao, Y., Yao, Y. (Angus), & Wang, F. (2026). Anthropomorphism of virtual influencers: A congruence perspective. *Journal of Retailing and Consumer Services*, *89*, 104580. https://doi.org/10.1016/j.jretconser.2025.104580
8. Castelo, N., Boegershausen, J., Hildebrand, C., & Henkel, A. P. (2023). Understanding and Improving Consumer Reactions to Service Bots. *Journal of Consumer Research*, *50*(4), 848–863. https://doi.org/10.1093/jcr/ucad023
9. Chakraborty, D., Polisetty, A., G, S., Rana, N. P., & Khorana, S. (2024). Unlocking the potential of AI: Enhancing consumer engagement in the beauty and cosmetic product purchases. *Journal of Retailing and Consumer Services*, *79*, 103842. https://doi.org/10.1016/j.jretconser.2024.103842
10. Chang, Y.-W., & Chen, J. (2021). What motivates customers to shop in smart shops? The impacts of smart technology and technology readiness. *Journal of Retailing and Consumer Services*, *58*, 102325. https://doi.org/10.1016/j.jretconser.2020.102325
11. Chen, Y., & Prentice, C. (2025). Integrating Artificial Intelligence and Customer Experience. *Australasian Marketing Journal*, *33*(2), 141–153. https://doi.org/10.1177/14413582241252904
12. Chen, Y., Zhang, Y., Fan, H., & Guo, Y. (2026). Can AI streamers drive purchases in food delivery E-commerce live streaming? Evidence from an O2O platform. *Journal of Retailing and Consumer Services*, *90*, 104683. https://doi.org/10.1016/j.jretconser.2025.104683
13. Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for Information Science and Technology*, *62*(7), 1382–1402. https://doi.org/10.1002/asi.21525
14. Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, *48*(1), 24–42. https://doi.org/10.1007/s11747-019-00696-0
15. 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. https://doi.org/10.1016/j.jbusres.2021.04.070
16. Doris, L., Klinton, B., & Potter, K. (2024). *Human-Computer Interaction: Designing Intelligent User Interfaces Using AI and Computer Vision*. Computer Science and Mathematics. https://doi.org/10.20944/preprints202410.2318.v1
17. Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., … Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, *57*, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002
18. Fu, Y., Jiawen, L., Chen, R., Zafar, A. U., & Elgammal, I. (2026). A new era of rivalry for human influencers: Leveraging opportunities of virtual influencers for digital marketing strategies. *Acta Psychologica*, *263*, 106196. https://doi.org/10.1016/j.actpsy.2025.106196
19. Giroux, M., Kim, J., Lee, J. C., & Park, J. (2022). Artificial Intelligence and Declined Guilt: Retailing Morality Comparison Between Human and AI. *Journal of Business Ethics*, *178*(4), 1027–1041. https://doi.org/10.1007/s10551-022-05056-7
20. Glikson, E., & Woolley, A. W. (2020). Human Trust in Artificial Intelligence: Review of Empirical Research. *Academy of Management Annals*, *14*(2), 627–660. https://doi.org/10.5465/annals.2018.0057
21. Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers acceptance of artificially intelligent (AI)

device use in service delivery. *International Journal of Information Management*, *49*, 157–169. https://doi.org/10.1016/j.ijinfomgt.2019.03.008

22. Habib, S., & Hamadneh, N. N. (2021). Impact of Perceived Risk on Consumers Technology Acceptance in Online Grocery Adoption amid COVID-19 Pandemic. *Sustainability*, *13*(18), 10221. https://doi.org/10.3390/su131810221
23. Han, Z., Meng, Y., & Zhang, H. (2026). Decoding the drivers of consumer engagement and purchase intentions in live streaming by foreign ambassadors: A two-phased SEM-ANN approach. *Journal of Retailing and Consumer Services*, *91*, 104741. https://doi.org/10.1016/j.jretconser.2026.104741
24. Haque, A., Akther, N., Khan, I., Agarwal, K., & Uddin, N. (2024). Artificial Intelligence in Retail Marketing: Research Agenda Based on Bibliometric Reflection and Content Analysis (2000–2023). *Informatics*, *11*(4), 74. https://doi.org/10.3390/informatics11040074
25. Harzing, A.-W., & Alakangas, S. (2016). Google Scholar, Scopus and the Web of Science: A longitudinal and cross-disciplinary comparison. *Scientometrics*, *106*(2), 787–804. https://doi.org/10.1007/s11192-015-1798-9
26. Hien, N. N., Luu, D. X., Ghi, T. N., & Nguyen, T. N. (2026). Determinants of AI-Integrated E-Commerce Acceptance: The Roles of Personal Innovativeness, Self-Efficacy, Compatibility, and Curiosity. *Human Behavior and Emerging Technologies*, *2026*(1), 5689688. https://doi.org/10.1155/hbe2/5689688
27. Huang, M.-H., & Rust, R. T. (2021). Engaged to a Robot? The Role of AI in Service. *Journal of Service Research*, *24*(1), 30–41. https://doi.org/10.1177/1094670520902266
28. Huang, Y., & Mohamad, S. H. (2026). Unveiling how nano live streamers boost consumer purchase intention: The mediating role of trust in nano live streamer using PLS-SEM. *Acta Psychologica*, *263*, 106345. https://doi.org/10.1016/j.actpsy.2026.106345
29. Jetley, G., & Shivendu, S. (2026). Should amazon display product Q&As more prominently? The informational role of Q&As and reviews, and the moderating effect of product involvement. *Decision Support Systems*, *203*, 114613. https://doi.org/10.1016/j.dss.2026.114613
30. Jia, M., Zhao, Y., & Zhang, X. (2026). Navigating the perceived credibility and adoption of AI-generated review summaries in online shopping: An affordance perspective. *Information Processing & Management*, *63*(2), 104404. https://doi.org/10.1016/j.ipm.2025.104404
31. Kautish, P., Purohit, S., Filieri, R., & Dwivedi, Y. K. (2023). Examining the role of consumer motivations to use voice assistants for fashion shopping: The mediating role of awe experience and eWOM. *Technological Forecasting and Social Change*, *190*, 122407. https://doi.org/10.1016/j.techfore.2023.122407
32. Klaus, P., & Zaichkowsky, J. L. (2022). The convenience of shopping via voice AI: Introducing AIDM. *Journal of Retailing and Consumer Services*, *65*, 102490. https://doi.org/10.1016/j.jretconser.2021.102490
33. Kumar, V., Ashraf, A. R., & Nadeem, W. (2024). AI-powered marketing: What, where, and how? *International Journal of Information Management*, *77*, 102783. https://doi.org/10.1016/j.ijinfomgt.2024.102783
34. Lemon, K. N., & Verhoef, P. C. (2016). Understanding Customer Experience Throughout the Customer Journey. *Journal of Marketing*, *80*(6), 69–96. https://doi.org/10.1509/jm.15.0420
35. Li, J., Li, Y., & Wang, X. (2026). The interaction effect of virtual streamer anthropomorphism and price expectation discrepancy on purchase intention: The mediating role of inferred intentions. *Journal of*

Retailing and Consumer Services, *90*, 104684. https://doi.org/10.1016/j.jretconser.2025.104684

36. Long, T., & Suomi, R. (2025). Beyond utility and enjoyment: The impact of environmental value on continuance intention of theme park apps. *Humanities and Social Sciences Communications*, *13*(1), 89. https://doi.org/10.1057/s41599-025-06393-4
37. Lopes, J. M., Gomes, S., Nogueira, E., & Trancoso, T. (2025). AI's invisible touch: How effortless browsing shapes customer perception, experience and engagement in online retail. *Cogent Business & Management*, *12*(1), 2440628. https://doi.org/10.1080/23311975.2024.2440628
38. Luo, X., Tong, S., Fang, Z., & Qu, Z. (2019). Frontiers: Machines vs. Humans: The Impact of Artificial Intelligence Chatbot Disclosure on Customer Purchases. *Marketing Science*, mksc.2019.1192. https://doi.org/10.1287/mksc.2019.1192
39. Manser Payne, E. H., Dahl, A. J., & Peltier, J. (2021). Digital servitization value co-creation framework for AI services: A research agenda for digital transformation in financial service ecosystems. *Journal of Research in Interactive Marketing*, *15*(2), 200–222. https://doi.org/10.1108/JRIM-12-2020-0252
40. Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: A comparative analysis. *Scientometrics*, *106*(1), 213–228. https://doi.org/10.1007/s11192-015-1765-5
41. Puntoni, S., Reczek, R. W., Giesler, M., & Botti, S. (2021). Consumers and Artificial Intelligence: An Experiential Perspective. *Journal of Marketing*, *85*(1), 131–151. https://doi.org/10.1177/0022242920953847
42. Qadri, U. A., Ahmed Moustafa, A. M., & Waqas, M. (2026). When and how AI personalization drives sustainable purchases: The roles of relevance, privacy, and transparency in eco-friendly advertising. *Journal of Retailing and Consumer Services*, *89*, 104592. https://doi.org/10.1016/j.jretconser.2025.104592
43. Rahman, M. S., Bag, S., Hossain, M. A., Abdel Fattah, F. A. M., Gani, M. O., & Rana, N. P. (2023). The new wave of AI-powered luxury brands online shopping experience: The role of digital multisensory cues and customers' engagement. *Journal of Retailing and Consumer Services*, *72*, 103273. https://doi.org/10.1016/j.jretconser.2023.103273
44. Riandhi, A. N., Arviansyah, M. R., & Sondari, M. C. (2025). AI and consumer behavior: Trends, technologies, and future directions from a scopus-based systematic review. *Cogent Business & Management*, *12*(1), 2544984. https://doi.org/10.1080/23311975.2025.2544984
45. Ruan, Y., & Mezei, J. (2022). When do AI chatbots lead to higher customer satisfaction than human frontline employees in online shopping assistance? Considering product attribute type. *Journal of Retailing and Consumer Services*, *68*, 103059. https://doi.org/10.1016/j.jretconser.2022.103059
46. Sima, V., Gheorghe, I. G., Subić, J., & Nancu, D. (2020). Influences of the Industry 4.0 Revolution on the Human Capital Development and Consumer Behavior: A Systematic Review. *Sustainability*, *12*(10), 4035. https://doi.org/10.3390/su12104035
47. Singh, J. P., Irani, S., Rana, N. P., Dwivedi, Y. K., Saumya, S., & Kumar Roy, P. (2017). Predicting the "helpfulness" of online consumer reviews. *Journal of Business Research*, *70*, 346–355. https://doi.org/10.1016/j.jbusres.2016.08.008
48. Steinhoff, L., Arli, D., Weaven, S., & Kozlenkova, I. V. (2019). Online relationship marketing. *Journal of the Academy of Marketing Science*, *47*(3), 369–393. https://doi.org/10.1007/s11747-018-0621-6
49. Tang, Y. M., Chau, K. Y., Xu, D., & Liu, X. (2021). Consumer perceptions to support IoT based smart parcel locker logistics in China. *Journal of Retailing*

and Consumer Services, *62*, 102659. https://doi.org/10.1016/j.jretconser.2021.102659

50. Teepapal, T. (2025). AI-driven personalization: Unraveling consumer perceptions in social media engagement. *Computers in Human Behavior*, *165*, 108549. https://doi.org/10.1016/j.chb.2024.108549
51. Theodorakopoulos, L., Theodoropoulou, A., & Klavdianos, C. (2026). Big Data Analytics and AI for Consumer Behavior in Digital Marketing: Applications, Synthetic and Dark Data, and Future Directions. *Big Data and Cognitive Computing*, *10*(2), 46. https://doi.org/10.3390/bdcc10020046
52. Turki, H. (2025). AI-powered personalization in e-commerce: Governance, consumer behavior, and exploratory insights from big data analytics. *Technology in Society*, *83*, 103033. https://doi.org/10.1016/j.techsoc.2025.103033
53. Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3
54. 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. https://doi.org/10.1016/j.jjimei.2020.100002
55. Vo Thi Xuan, H., Minh Huan, V., & Hoanh Su, L. (2025). Mapping research trends in online shopping behavior during the fourth industrial revolution: A bibliometric analysis. *Innovative Marketing*, *21*(4), 216–231. https://doi.org/10.21511/im.21(4).2025.16
56. Wang, Z. (2024). The Influence of Artificial Intelligence on Retail Marketing. *Advances in Economics, Management and Political Sciences*, *71*(1), 106–111. https://doi.org/10.54254/2754-1169/71/20241443
57. Wang, Z. (2025). The influence of AI on consumer behavior: Shaping choices and preferences in the digital marketplace. *Systems and Soft Computing*, *7*, 200397. https://doi.org/10.1016/j.sasc.2025.200397
58. Wedel, M., & Kannan, P. K. (2016). Marketing Analytics for Data-Rich Environments. *Journal of Marketing*, *80*(6), 97–121. https://doi.org/10.1509/jm.15.0413
59. Wirth, N. (2018). Hello marketing, what can artificial intelligence help you with? *International Journal of Market Research*, *60*(5), 435–438. https://doi.org/10.1177/1470785318776841
60. Wirtz, J., Patterson, P. G., Kunz, W. H., Gruber, T., Lu, V. N., Paluch, S., & Martins, A. (2018). Brave new world: Service robots in the frontline. *Journal of Service Management*, *29*(5), 907–931. https://doi.org/10.1108/JOSM-04-2018-0119
61. Xie, G. (2026). The impact of generative AI shopping assistants on E-commerce consumer motivation and behavior: Consumer-AI interaction design. *International Journal of Information Management*, *86*, 102983. https://doi.org/10.1016/j.ijinfomgt.2025.102983
62. Yen, C., & Chiang, M.-C. (2021). Trust me, if you can: A study on the factors that influence consumers' purchase intention triggered by chatbots based on brain image evidence and self-reported assessments. *Behaviour & Information Technology*, *40*(11), 1177–1194. https://doi.org/10.1080/0144929X.2020.1743362
63. Yu, X., Xu, D. J., & Li, K. (2026). Effects of AI reviews on consumers' purchase intention: Influence of product category, review breadth, and consumer review volume. *Decision Support Systems*, *201*, 114590. https://doi.org/10.1016/j.dss.2025.114590
64. Zupic, I., & Čater, T. (2015). Bibliometric Methods in Management and Organization. *Organizational Research Methods*, *18*(3), 429–472. https://doi.org/10.1177/1094428114562629