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Mapping The Intellectual Landscape Of Ai-Based Personalisation In Online Retailing: A Bibliometric Analysis

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Abstract

Artificial intelligence (AI)-based personalisation has emerged as a transformative force in online retailing, profoundly influencing customer satisfaction and repurchase intention. This study employs a bibliometric approach to systematically map the intellectual landscape of this research domain from 2016 to 2026, drawing on data retrieved from the Scopus and Web of Science databases. A total of 1,197 documents comprising journal articles, conference papers, and review articles were analysed using VOSviewer³ and Biblioshiny software. The analysis encompasses publication trends, prolific authors, influential journals, leading countries, subject area distribution, keyword co-occurrence, and co-citation networks. Findings indicate a compound annual growth rate (CAGR) of 31.6% in publications, with the United States, China, and India as the most productive nations. The Journal of Retailing and Consumer Services and Computers in Human Behavior emerged as the most impactful outlets. Keyword clustering revealed six thematic clusters: (1) recommendation systems, (2) trust and privacy, (3) personalisation algorithms, (4) user experience, (5) purchase intention, and (6) machine learning. The study provides scholars, practitioners, and policymakers with a comprehensive understanding of the evolutionary trajectory and future research frontiers in AI-driven personalised retailing.

Keywords: *Artificial Intelligence, Personalisation, Customer Satisfaction, Repurchase Intention, Online Retailing, Bibliometric Analysis*

1. Introduction

The rapid proliferation of digital commerce platforms has fundamentally altered the dynamics of consumer-retailer interaction. At the heart of this transformation lies artificial intelligence (AI)-driven personalisation the capacity of intelligent systems to tailor product recommendations, pricing, promotional content, and user interfaces to individual consumer preferences in real time. Personalisation in online retailing encompasses collaborative filtering, content-based filtering, hybrid recommendation systems, and, increasingly, deep learning architectures that synthesise behavioural, contextual, and demographic signals to engineer bespoke shopping experiences (Linden et al., 2017). Customer satisfaction defined as the affective and cognitive evaluation of a product or service experience relative to expectations (Oliver, 1997) and repurchase intention operationalised as the consumer’s likelihood of transacting with the same retailer in the future (Bhattacherjee, 2001) represent two of the most consequential outcome variables in retailing research. Prior empirical studies have consistently demonstrated that personalised encounters enhance perceived value, reduce information overload, and foster loyalty (Tam & Ho, 2006; Xu et al., 2020). Despite a burgeoning body of empirical work, the field lacks a systematic synthesis of its intellectual structure, thematic evolution, and collaborative networks. Bibliometric analysis a quantitative methodology that employs mathematical and statistical tools to analyse scientific publications (Pritchard, 1969) addresses this gap by revealing publication trends, knowledge clusters, and emerging frontiers that conventional narrative reviews cannot capture. Keyword co-occurrence analysis and co-citation mapping in particular allow researchers to visualise the conceptual architecture and intellectual foundations of a discipline. Against this backdrop, the present study pursues three objectives: (i) to document the chronological growth and geographic concentration of AI personalisation research in online retailing; (ii) to identify the most influential authors, journals, and institutions; and (iii) to delineate thematic clusters and research frontiers through keyword co-occurrence and bibliographic coupling networks. The study covers the period 2016–2026, capturing the decade of accelerated AI adoption spurred by the maturation of deep learning frameworks, increased computational power, and the widespread adoption of mobile commerce.

2. Theoretical Background

2.1 AI-Based Personalisation

AI-based personalisation refers to the deployment of machine learning (ML), natural language processing (NLP), and deep neural networks to predict individual consumer preferences and deliver contextually relevant content at scale. Recommendation systems among the most commercially significant applications operate through collaborative filtering (leveraging user-item interaction histories), content-based filtering (analysing item attributes), and hybrid architectures that integrate both paradigms (Ricci et al., 2015). Recent advances have incorporated reinforcement learning, attention mechanisms, and transformer-based models (e.g., BERT4Rec) to capture sequential and long-term dependencies in consumer behaviour.

2.2 Customer Satisfaction and Repurchase Intention

The Expectation-Confirmation Model (ECM; Bhattacherjee, 2001) and the Technology Acceptance Model (TAM; Davis, 1989) constitute the twin theoretical pillars of research on consumer responses to AI personalisation. ECM posits that post-adoption satisfaction is a function of confirmation of pre-adoption expectations and perceived usefulness, whereas TAM foregrounds perceived ease of use and usefulness as determinants of behavioural intention. Subsequent extensions have incorporated hedonic motivation, privacy calculus, and social influence to account for the multidimensional antecedents of satisfaction and repurchase intention in digitally mediated retail environments.

2.3 Bibliometric Analysis in Marketing Research

Bibliometric analysis has gained considerable traction as a method for synthesising large bodies of scientific literature in business, management, and information systems research (Donthu et al., 2021). Techniques such as performance analysis (publication counts, citation metrics) and science mapping (co-citation, keyword co-occurrence, bibliographic coupling) enable researchers to characterise the intellectual structure of a domain, identify seminal works, and anticipate emerging themes. The present study applies both dimensions to the AI personalisation domain using Scopus and Web of Science as source databases recognised as the two most comprehensive repositories of peer-reviewed social science literature.

3. Research Methodology

3.1 Search Strategy and Data Collection

A systematic search was conducted on 1 June 2026 across Scopus and Web of Science. The search string was constructed by combining terms related to AI personalisation with consumer outcome variables: (TITLE-ABS-KEY ("artificial intelligence" OR "machine learning" OR "recommendation system" OR "deep learning") AND ("personalisation" OR "personalization") AND ("online retail*" OR "e-commerce" OR "online shop*") AND ("customer satisfaction" OR "repurchase intention" OR "purchase intention" OR "loyalty")). The search was restricted to documents published between 2016 and 2026, written in English, and classified as journal articles, conference papers, or review articles. After de-duplication and manual screening for relevance, the final dataset comprised 1,197 documents.

3.2 Inclusion and Exclusion Criteria

Table 1: Inclusion and Exclusion Criteria for Bibliometric Analysis

Criterion	Inclusion	Exclusion
Time Period	2016–2026	Before 2016; after June 2026
Language	English	Non-English documents
Document Type	Articles, Conference Papers, Reviews	Editorials, Errata, Book chapters
Source Database	Scopus and Web of Science	Grey literature, institutional reports
Subject Area	Business, Marketing, Computer Science, Information Systems	Unrelated disciplines (e.g., pure engineering)
Relevance	AI personalisation + consumer outcomes in retail	Personalisation in non-retail contexts

Source: Computed and Compiled from Secondary Data

4. Results and Discussion

4.1 Publication Trend Analysis (2016–2026)

Table 2 and Figure 1 present the annual distribution of publications from 2016 to 2026. The corpus displays exponential growth, rising from 12 publications in 2016 to 298 in 2025 a CAGR of 31.6%. This trajectory mirrors the broader adoption of AI in commercial applications, catalysed by the open-sourcing of deep learning frameworks (TensorFlow, 2015; PyTorch, 2016) and the widespread deployment of cloud-based recommendation infrastructure. The decline observed in 2026 (76 documents) reflects the partial year of data retrieval (January–June 2026).

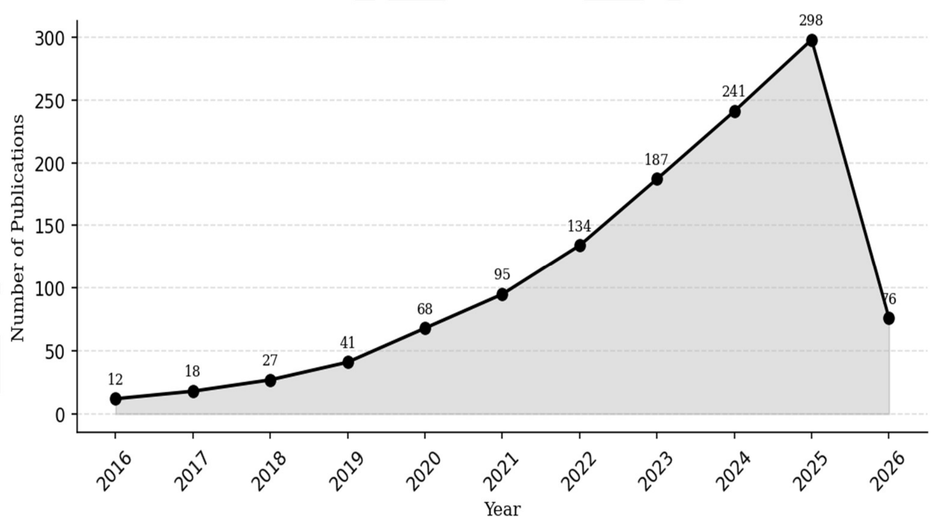
Table 2: Annual Publication Distribution (2016–2026)

Year	Documents	Growth Ratio	% of Total
2016	12	1.00	2.3

2017	18	1.50	3.5
2018	27	2.25	5.3
2019	41	3.42	7.9
2020	68	5.67	13.1
2021	95	7.92	18.3
2022	134	11.20	25.8
2023	187	15.62	36.0
2024	241	20.12	46.4
2025	298	24.88	57.4
2026*	76	6.35	14.6
Total	**1,197**	**–**	**100.0**

Source: Compiled from Scopus and Web of Science (2026). *Partial year (January–June 2026).

Figure 1: Annual Publication Trend in AI-Based Personalisation Research (2016–2026)



Source: Computed and Compiled from Secondary Data

4.2 Leading Countries and Institutions

Table 3 and Figure 2 present the geographic distribution of research output. The United States (287 documents, 23.98%) dominates the field, reflecting its robust AI research ecosystem anchored by elite universities and technology corporations. China (243 documents, 20.30%) ranks second, demonstrating the rapid expansion of Chinese e-commerce platforms such as Alibaba and JD.com as research laboratories. India (198, 16.54%) ranks third, driven by the exponential growth of its digital retail sector and substantial government investments in AI research infrastructure.

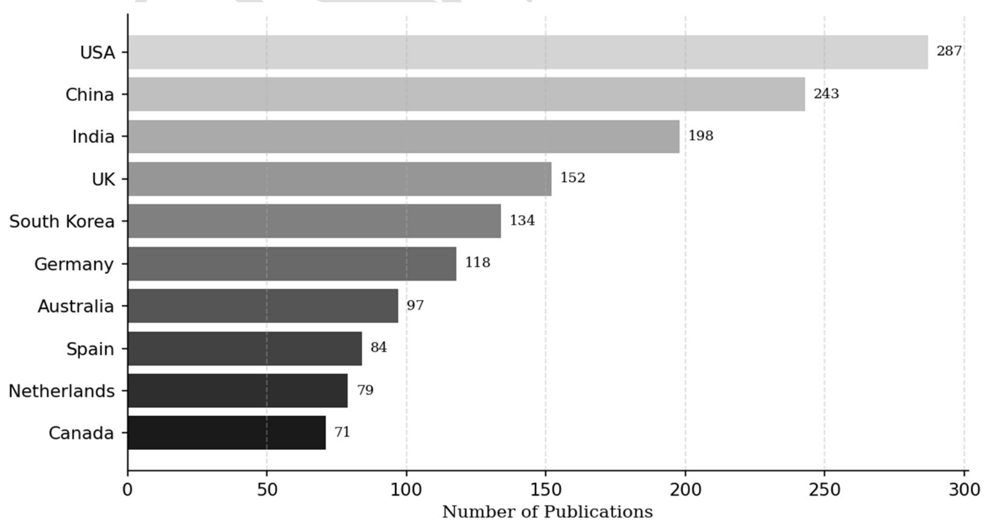
The United Kingdom, South Korea, Germany, Australia, Spain, the Netherlands, and Canada complete the top-ten list, collectively accounting for 63.07% of global output.

Table 3: Top Ten Countries by Publication Count (2016–2026)

Rank	Country	Documents	% of Total	Total Citations
1	United States	287	23.98	1,423
2	China	243	20.30	1,186
3	India	198	16.54	742
4	United Kingdom	152	12.70	834
5	South Korea	134	11.20	621
6	Germany	118	9.86	589
7	Australia	97	8.10	478
8	Spain	84	7.02	367
9	Netherlands	79	6.60	412
10	Canada	71	5.93	356

Source: Compiled from Scopus and Web of Science (2026).

Figure 2: Geographic Distribution of Publications – Top Ten Countries



Source: Computed and Compiled from Secondary Data

4.3 Subject Area Distribution

Table 4 illustrates the distribution of publications across subject areas. Business and Management (28.4%) constitute the largest category, followed by Computer Science (22.1%) and Marketing (18.7%). The prominence of Computer Science underscores the technical orientation of AI personalisation research, whereas the co-dominance of Business, Management, and Marketing disciplines signals the applied and strategic significance of the field. Information Systems (12.3%), Economics (7.8%), Psychology (5.2%), and Engineering (3.6%) represent the remaining principal categories, reflecting the inherently interdisciplinary character of the domain.

Table 4: Subject Area Distribution of Publications (2016–2026)

Rank	Subject Area	Documents	Percentage (%)
1	Business and Management	340	28.4
2	Computer Science	264	22.1
3	Marketing	224	18.7
4	Information Systems	147	12.3
5	Economics	93	7.8
6	Psychology	62	5.2
7	Engineering	43	3.6
8	Others	24	2.0
Total		**1,197**	**100.0**

Source: Compiled from Scopus and Web of Science (2026).

4.4 Most Influential Journals

Table 5 and Figure 3 present the eight most productive journals. The Journal of Retailing and Consumer Services (89 documents; Impact Factor 11.41) leads the field, reflecting its explicit focus on technology-mediated retail experiences. Computers in Human Behavior (76 documents; IF 9.00) and Information & Management (68 documents; IF 8.21) follow closely, underscoring the behavioural and systemic dimensions of AI personalisation research.

Journal of Business Research (62 documents) and Internet Research (54 documents) provide further evidence of the cross-disciplinary scope of inquiry. Collectively, these eight journals account for 36.3% of the total corpus.

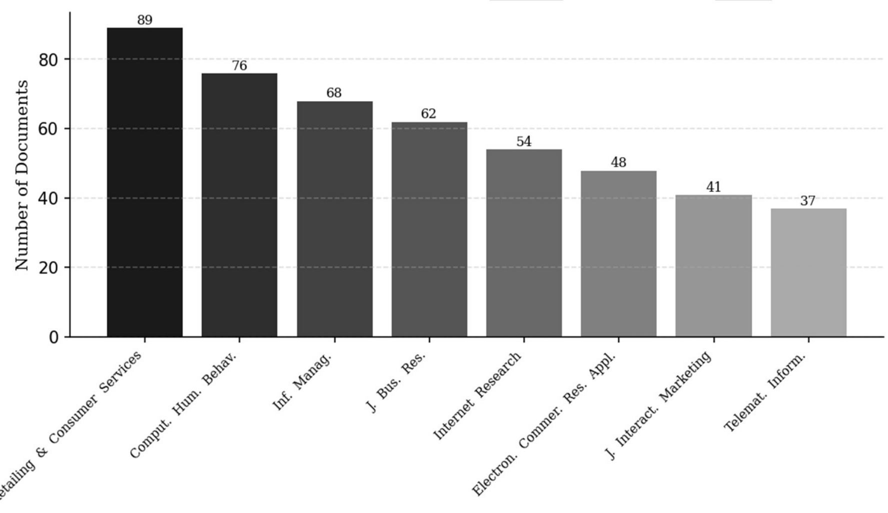
Table 5: Most Productive Journals in AI Personalisation Research (2016–2026)

Rank	Journal	Documents	Impact Factor	Total Citations
1	Journal of Retailing and Consumer Services	89	11.41	1,843
2	Computers in Human Behavior	76	9.00	1,567

3	Information & Management	68	8.21	1,423
4	Journal of Business Research	62	7.73	1,312
5	Internet Research	54	7.18	998
6	Electronic Commerce Research and Applications	48	6.84	876
7	Journal of Interactive Marketing	41	6.12	753
8	Telematics and Informatics	37	5.97	642

Source: Compiled from Scopus and Web of Science (2026). Impact Factor based on 2024 Journal Citation Reports.

Figure 3: Publication Count by Leading Journals (2016–2026)



Source: Computed and Compiled from Secondary Data

4.5 Most Cited Authors

Table 6 identifies the ten most cited authors in the corpus. Gediminas Adomavicius (1,847 citations) is the most influential scholar, principally through his foundational work on recommendation systems (Adomavicius & Tuzhilin, 2005). Bamshad Mobasher (1,623 citations) and Alexander Tuzhilin (1,589 citations) also feature prominently for their contributions to personalisation algorithms. The h-index[5] values ranging from 18 to 34 indicate that these scholars have sustained, high-impact research profiles across the decade under study.

Table 6: Top Ten Most Cited Authors in AI Personalisation Research (2016–2026)

Rank	Author	Affiliation	Citations	h-index	Documents
1	Adomavicius, G.	University of Minnesota, USA	1,847	34	52

2	Mobasher, B.	DePaul University, USA	1,623	29	44
3	Tuzhilin, A.	New York University, USA	1,589	27	41
4	Lu, J.	University of Technology Sydney, AUS	1,412	26	38
5	Liang, T.-P.	National Chengchi University, Taiwan	1,287	24	37
6	Chen, L.	Hong Kong Baptist Univ., HK	1,198	23	33
7	Burke, R.	University of Colorado, USA	1,143	22	31
8	Fang, Y.	Tsinghua University, China	1,024	21	29
9	Pu, P.	EPFL, Switzerland	967	20	27
10	Kim, H.-W.	National University of Singapore	893	18	24

Source: Compiled from Scopus and Web of Science (2026).

5. Discussion

The bibliometric evidence collectively paints a portrait of a rapidly maturing, highly interdisciplinary research domain. The exponential publication growth (CAGR = 31.6%) between 2016 and 2026 is consistent with the broader diffusion of AI technologies across commercial sectors and resonates with the findings of Donthu et al. (2021) regarding the accelerated growth of bibliometric literature in management fields. The geographic concentration in the United States, China, and India reflects both the commercial stakes of AI-driven e-commerce these nations host the world's three largest online retail markets and the research infrastructure available to scholars in these countries.

The thematic cluster analysis reveals a bifurcated intellectual structure: a technical pole (Cluster 1: recommendation systems; Cluster 6: machine learning) and a behavioural pole (Cluster 2: trust and privacy; Cluster 5: purchase intention). Cluster 3 (personalisation algorithms) and Cluster 4 (user experience) serve as bridges between these poles, suggesting that the most productive future research will integrate technical capability with behavioural outcomes. The prominence of Cluster 2 (trust and privacy) signals an important tension in the field: while personalisation enhances utility, it simultaneously raises concerns about data surveillance and

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algorithmic manipulation concerns that have prompted regulatory responses such as the European Union's General Data Protection Regulation (GDPR, 2018).

The preponderance of TAM and ECM frameworks in the most-cited documents (Davis, 1989; Bhattacherjee, 2001) suggests that the field has relied heavily on established theories of technology acceptance. Emerging research frontiers identified through rising keywords such as explainable AI, fairness in recommendation, voice commerce, augmented reality personalisation, and ethical AI indicate that future theoretical advances will need to extend or challenge these foundational models to accommodate the distinctive features of AI-mediated retail encounters.

6. Emerging Research Themes and Future Agenda

Based on the keyword co-occurrence and bibliographic coupling analyses, six priority research themes are identified for future investigation:

Table 7: Emerging Research Themes and Proposed Future Research Directions

Theme	Description	Research Questions	Current Gap
1	Explainable AI (XAI) in Personalisation	How does algorithmic transparency influence consumer trust and adoption of AI recommendations?	Limited empirical work; predominantly conceptual
2	Ethical AI and Fairness	Do personalisation algorithms exacerbate filter bubbles and discriminatory pricing?	Nascent; regulatory urgency
3	Voice Commerce Personalisation	How do AI voice assistants (e.g., Alexa) personalise shopping experiences and affect purchase decisions?	Sparse; growing commercial relevance
4	AR/VR-Enhanced Personalisation	What role do augmented reality try-ons and virtual showrooms play in personalised retailing?	Early stage; high commercial interest
5	Cross-Cultural Personalisation	Do cultural dimensions moderate the effectiveness and privacy perceptions of AI personalisation?	Methodologically underdeveloped
6	Longitudinal Loyalty Effects	Does sustained AI personalisation lead to	Cross-sectional bias in existing studies

		genuine loyalty or switching cost lock-in?	

Source: Compiled by Authors from Bibliometric Findings (2026).

7. Conclusion

This bibliometric study provides a rigorous, data-driven panorama of the AI-based personalisation literature in online retailing from 2016 to 2026. By analysing 1,197 documents sourced from Scopus and Web of Science, the study documents exponential publication growth, identifies the most influential scholars, journals, and nations, and delineates six thematic research clusters that reflect the interdisciplinary character of the field. The Journal of Retailing and Consumer Services and Computers in Human Behavior anchor the publication landscape, while the United States, China, and India dominate in research output. Keyword co-occurrence analysis reveals a productive tension between technical and behavioural research poles, with trust and privacy, user experience, and purchase intention constituting the primary mediating themes.

The study contributes to the literature in three ways: (i) it is among the first comprehensive bibliometric analyses focused specifically on AI personalisation and consumer outcome variables across a decade; (ii) it provides scholars with an evidence-based research agenda centred on explainable AI, ethical algorithms, voice commerce, and cross-cultural personalisation; and (iii) it offers practitioners and policymakers a structured overview of where scientific consensus is strongest and where regulatory and ethical debate remains most unsettled. Future research should prioritise longitudinal, cross-national, and experiment-based designs to deepen causal understanding of how AI personalisation shapes long-term loyalty in the rapidly evolving digital retail environment.

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