

A Bibliometric Analysis of Online Purchase Behaviour: 2003-2025

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Abstract

In today's digital era, it has become essential to understand why and how the method of online shopping is growing. For the study of this subject, 208 research papers published between 2003 to 2025 were taken from a data source called Scopus, after which 108 papers were chosen for the final analysis on necessary scrutiny. Two tools, Biblioshiny (R Studio) and VOSviewer, were used in this analysis. These analyses include annual research publications, the most often cited documents, source, and country, a map of cooperation between the countries, keyword trend topic, and thematic development. Along with this, network-based analysis, such as co-authorship, co-occurrence, co-citation, and bibliographic coupling between various authors citing each other's papers, using keywords, and identifying similar research papers, also with the help of thematic maps, revealed which subjects are basic, which are emerging, which are motor, and which are niche themes that are special but very limited. The results also indicate the direction of conducting further research and help people associated with marketing to understand how online customers are changing, how they can be trusted and how new fields can be explored by researchers.

Keywords: Online Purchase Behaviour, Bibliometric Analysis, VOSviewer, Biblioshiny, Scopus Database, Thematic Development.

1.0 Introduction

Rapid progress in continuous digital technology has altered the behaviour of consumers to a great extent; now people prefer to go more online shopping. Thus it has become important to understand consumers' online shopping behaviour. The availability of a various options and the possibility of shopping at all times have changed old shopping methods to a great extent. Therefore, it has become important to understand why and how people shop online.

In the access of the internet technology even by the common people at low rates has changed the whole scenario during behaviour the last two decades; in 2024, number of the Internet users reached 5.35 billion, which is about 66.2% of the world's population. It catapulted the e-commerce market (Statista, 2024). The use of smart phones and social media has also given aprecedented flip to online shopping behaviour and it is estimated that in 2024, the sale of global e-commerce will cross 6.3 trillion USD, and 24% of total retail sales will be from the online market, which is likely to increase in the future (eMarketer, 2024). India is also becoming a rapidly growing market for digital consumers (McKinsey & Company, 2022). According to KPMG reports, the Indian digital commerce market is now moving "mass of niches" consumers to online shopping, where customers' choices are becoming hyper-personalized and fashion-orientated by 2030, India can reach up to US \$325 billion in the e-commerce market (KPMG, 2021) which is expected to increase by 15% every year (ET Government).

Internet connectivity, mobile technology, and digital payment facilities have made online shopping extremely popular globally people (Mattila et al., 2021; Reinartz et al., 2021). People's digital literacy, expectation of convenience, value, sense of entertainment, and confidence are responsible for this spurt in online shopping (Akram et al., 2023; Chopdar & Sivakumar, 2022). Therefore, to understand online shopping behaviour and intention, the theory of planned behaviour (Ajzen, 1991) and the unified theory of acceptance and use of technology (Venkatesh et al., 2003) can be used. In addition, shopping is a more personal experience than ever before, with the facility of social commerce virtual shopping platforms and AI-driven recommendations, because buyers now prefer to shop online than ever (Nguyen et al., 2018). Nowadays, artificial intelligence and social commerce are changing online shopping experiences. People, particularly young consumers, continue searching

for new products on platforms such as TikTok and Instagram and buy them on the spur of the moment. (eMarketer, 2025). Personalized shopping increase the possibility of purchasing (Reuters, 2025). Understanding these changes is important for developing marketing strategies and providing new opportunities.

Although there has been much research on online shopping and its intentions, a comprehensive bibliometric analysis of the subject is missing. This analysis will help to understand the status of research work and major authors and uncover emerging topics on behaviour. This study emphasizes not only the intention of consumers but also real shopping behaviour. This behaviour is very useful for marketing and retail businesses, although intention can be experienced through behaviour (Ajzen, 1991). However, real actions are of more practical value for many, and research has also shown that repeated purchases become a habit of consumers, which can also be different from behavioural intent; therefore, it will prove to be very important to study real purchases (Verplanken & Orbell, 2003). Recent research has revealed that studying consumer behaviour provides more digital strategies than studying consumers intentions (Pappas, 2016).

So far, most of the attention has been given to the "purchase intention" only, and integrated studies on intention and behaviour are missing. This study is intended to make every effort to fill this gap by adding both aspects (Li & Hassan, 2023). In this study, advanced bibliometric tools such as VOS viewer and Biblioshiny (R Studio), were employed. The study included data form 22 years with the help of the Scopus database from 2003 to 2025 based on co-authorship patterns, keyword networks, citation analysis, thematic mapping, co-occurrence, and collaboration analysis. It is expected that this bibliometric study will help practitioners and academics understand the evolution of research on online purchase behaviour and suggest future research directions, especially the changes in e-commerce consumer behaviour study in the post-pandemic world.

1.1 Literature Review

The study of online shopping behaviour through empirical studies has determined that there are several determinants which influence consumer behaviour and decision-making. The impact of consumer satisfaction, product diversity, perceptions of safety and price-evaluation processes on how people make decisions associated with shopping was systematically evaluated by researchers. The research used Scopus, Web of Science and additional databases with analytical ability like VOSviewer and Biblioshiny, and comprised a method involving co-authorship networks, co-citation analysis, and keywords clustering (Mahendra & Yoshiki, 2015; Phoon & Noor, 2025; Sharma, 2023; Verma & Mishra, 2023). In consumer behaviour and the study of their choices, many researchers have examined consumers' approaches and the process of making decisions. Some of these researchers have analyzed consumers' decision-making tendencies on digital and mobile platforms of consumers (Luckyardi et al., 2023; Rita & Ramos, 2022; Tesarova & Krizanova, 2023). Ghazali and Suhaimi focused on the psychological and social factors affecting online shopping decisions (Ghazali & Suhaimi, 2022; Roy et al., 2023). These studies emphasize the factors of social influence and perceived risk, which also affect online shopping decisions.

Research on e-commerce and digital marketing has shown that marketing strategies profoundly impact consumers' shopping decisions. These researchers analyzed the elements of price value, security/privacy, and fashion innovativeness, which attract consumers to online shopping. Artificial intelligence (AI) and machine learning have also been used to analyze the impact of consumers' purchasing habits (ArfianSyah et al., 2023; Guillén-Pujadas et al., 2023; Patrick & Hee, 2020; Ruiz et al., 2021).

In the field of commerce, the outburst of m-commerce and mobile shopping has been especially (and significantly) faster, spurring the development of an extensive amount of study, analysing mobile consumer shopping behaviour (Saibaba, 2021; Thangvel & Chandra, 2023). Such researches focus on online buying habits of customers who use mobile devices.

The COVID-19 pandemic has catalyzed a number of underlying behavioural changes to customer behaviour and various studies have been done on the developments. Researchers have explained how the priorities of consumers have changed and have recorded the increase in the rate of online trading since the outbreak (Ibrahim et al., 2024). Their results support the claim that COVID-19 has escalated the dominance and attractiveness of e-commerce. Following this evaluation, multiple scholars performed an examination of the publications that occurred in 2020-2024 and thus clarified the structural characteristics of world research trends, the development of research topics,

and the collaborative prospects in this area (Nguyen Hoang & Ngo, 2024). The literature review prepared by the method of bibliometry explains the modern research directions related to intention to buy online, consumer behaviour, e-commerce, digital marketing, and other new trends that have appeared after the COVID-19 pandemic.

2.0 Research Methodology

The source of data for this study was the Scopus database. In a search string that included major keywords related to "Online Purchase Behaviour," "Online Purchase Intention," and "E-Commerce" and used their synonyms (TITLE-ABS-KEY ("Online Purchase Behaviour" OR "Online Buying Behaviour" OR "Online Shopping Behaviour" OR "Buying Behaviour" OR "Consumer Buying Behaviour") AND ("Online Purchase Intention" OR "Purchase Intention" OR "Buying Intent" OR "Consumer Intention" OR "Online Shopping Intention" OR "Online Buying Intention" OR "Willingness to Buy") AND ("E-Commerce" OR "Online Shopping" OR "Internet Shopping" OR "Digital Shopping" OR "M-Commerce" OR "Online Shop")), we received 208 documents from a traditional discovery. The inclusion and exclusion criteria were developed. The temporal coverage was covered between 2003 and 2025 and the disciplinary coverage involved Business, Management, Social Science, and Economics. The publications published in languages other than English, review articles, and conference proceedings were not included, so only articles were accepted. Use of these criteria produced 111 records that were then exported to the Scopus.csv file to be later on analyzed. Duplicate removals were performed in the next stage using a hybrid approach that has combined the use of Bibliometric package tool in R Studio. This has been operationalised using the first DOI identifier, and on the basis of a second author, or keyword, or year. It was apparent that three duplicates were identified and thus deleted leaving a small set of 108 documents to be used in the analysis. The data were subsequently analyzed with both of the tools, the Biblioshiny (R Studio) package and VOSviewer tool. In Biblioshiny (R Studio) the extant information was extracted after a series of analytical procedures were enacted. These operations involved thorough analysis of yearly scientific output, most important sources, most often cited sources, affiliation of authors, topical keywords and thematic maps. White Label Solution was used to operate at network visualisation level. To define the common paths and help to identify the thematic groupings and emergent topics, six common paths were identified based on co-occurrence analysis (all keywords), co-authorship analysis (country), co-citation analysis (authors), and bibliographic coupling analysis (documents) and visualisations were done. The data were retrieved on 5 April 2025, using a secured schema and through Scopus database. Once data were collected, they were then purified and analysed. The workflow of the methodological process which has been adopted in this research is shown in Figure 1.

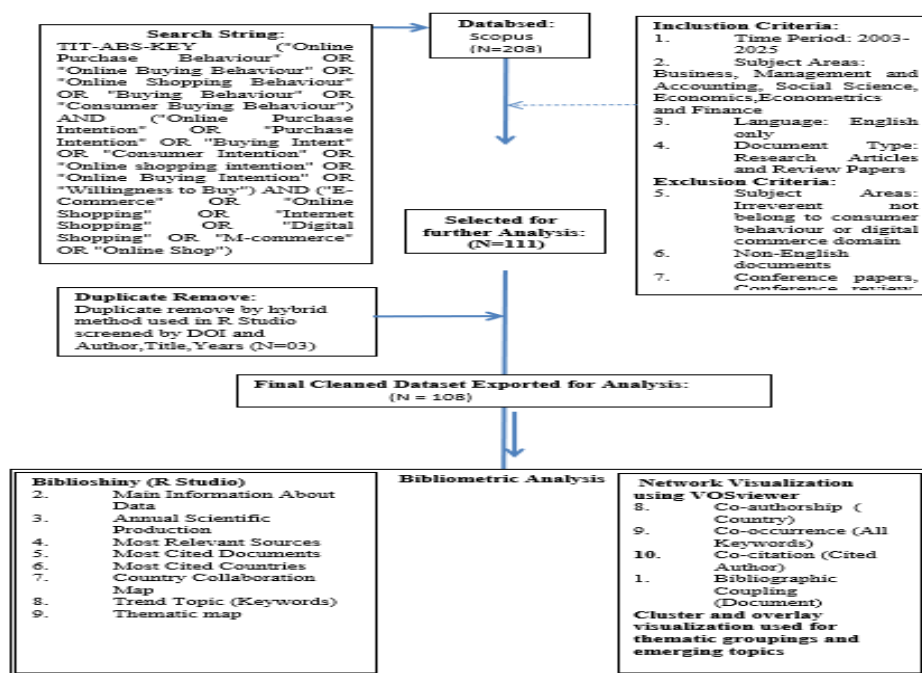


Figure 1. Data Processing and Analysis Framework

2.1 Research Framework and Methodology

After reviewing the existing literature and based on the identified research intervals, some research questions were proposed in this study. According to these questions, objectives were identified so that the entire research could be given the right direction. The bibliometric analysis used to fulfil each objective and tools is also clarified in Table 1.

Table 1. Research Questions - Research Objectives - Research Methodology and Tools

Bibliometric Analysis			
Sr. No.	Research Question	Research Objective	Methodology/ Tools used for Analysis
1.	Which subject areas contribute the most to the research done on online purchase behaviour?	To determine the breadth of field of study and distribution of research.	Subject Area Classification, Scopus (CSV Metadata)
2.	How has the trend of publication changed in the field of online purchase behaviour over the years?	To investigate annual scientific production and understand the yearly growth of research output.	Descriptive Bibliometric Analysis, Biblioshiny (R Studio)
3.	What are this field's most influential authors, journals and research documents?	To assess scholarly influence and identify key authors and sources.	Citation Analysis (Global & Local), Biblioshiny and VOSviewer
4.	What are the main subjects and major keyword trends inside this region?	To identify the changing research themes and frequently occurring keywords.	Keyword Co-occurrence & Thematic Map, Biblioshiny (Trend Topics), VOSviewer
5.	What are the major research groups (clusters) and intellectual structures in this research field?	To map out theme clusters and determine their stage of development and centrality.	Thematic Map & Cluster Interpretation, Biblioshiny (Thematic Map), VOSviewer (Network Visualizations)
6.	How many researchers and countries are cooperating globally in this field?	To examine co-authorship and collaboration at the country level.	Collaboration Analysis, Biblioshiny (Country Map), VOSviewer (Author/Org/Country Co-authorship)
7.	How are the structures found in citation and bibliographic coupling in this region?	To analyze intellectual linkages based on related references and citations.	Co-citation & Bibliographic Coupling, VOSviewer
8.	What are the research gaps found in this field and what research can be done on these subjects in the future?	To find the underexplored areas and suggest future research directions.	Gap Analysis through Cluster & Thematic Interpretation (Based on all above analyses)

A systematic framework that traces the research question with the method of analysis is a must-needed one to achieve valid and reliable results. In this study, a bibliometric analysis was performed using the program

Biblioshiny (RStudio) and the program VOSviewer. The programs were selected due to their popularity, high visualization power, and ability to help explain the outcome of research. Because it has extensive analytical methods and is easy to run, R-based bibliometric package through its interface biblioshiny was chosen. It enables the analysis of performance, topic development, collaboration analysis as well as an analysis of impact by the sources. As is often the case, VOSviewer is used regularly to create bibliometric map representations, which include co-authorship, co-citation, and keyword co-occurrence networks in simplistic and attractive ways. These types of maps are very effective to enlighten on the development and organization of the scientific field. To construct visual maps and cluster tables, researchers initially processed and organized the Scopus data via Biblioshiny, and then proceeded to import that set into VOSviewer, to create the visual outputs.

3.0 Results and Discussion

3.1 Subject Area-wise Distribution of the Publications

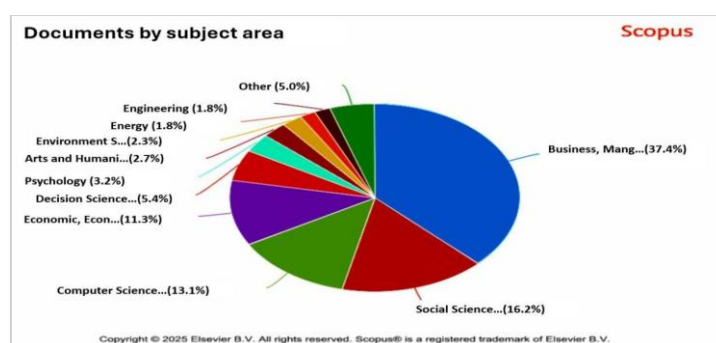


Figure 2: Document of subject area on online purchase behaviour and intention research.

Figure 2 show a review of document records identified at Scopus using a systematic search reveals that studies related to online shopping behaviour and intentions prevalent in Business, Management and Accounting reports (37.4 %). The Social Science (16.2%) and Computer Science (13.1%) areas are the second and third most predominant blocks of inquiries which evinces a highly interdisciplinary orientation that combines strategic concerns and technical structures. Despite this, other contributions are made by Economics (11.3 %), Decision Science (5.4 %), Psychology (3.2 %) and Arts and Humanities (2.7 %), illustrating that there is also diversity of theoretical lenses through which consumer behavioural explanation is done. So high is the prevalence of these subjects that it reflects the burgeoning significance of the digital economy and indicates a swelling academic interest in various areas of study.

3.2 Biblioshiny (R Studio) Analysis

3.2.1 Main Information and Overview of Data Analyzed in the study

Table 2. Main information about data

Total number of document	208
Timespan	2003:2025
Sources (Journals, Books, etc)	80
Documents	108
Annual Growth Rate %	3.2
Document Average Age	6.45
Average citations per doc	43.34
References	7029
DOCUMENT CONTENTS	
Keywords Plus (ID)	147

Author's Keywords (DE)	414
AUTHORS	
Authors	289
Authors of single-authored docs	13
AUTHORS COLLABORATION	
Single-authored docs	13
Co-Authors per Doc	2.81
International co-authorships %	22.22
DOCUMENT TYPES	
article	106
review	2

In Table 2 explain main information about data total of 208 documents were consulted in this research and all of them were known by the principal notice. These articles are published in 80 sources and this per source annual volume is maintained at a 3.2 per cent rate between 2003 and 2025. The average quotations per document published is 43.34. The average age of the articles was 6.45 years and the corpus had 7029 references. There was an average of 2.81 co-authors on a publication with 289 writers. Out of the papers included, 106 of them were research papers and two of them were review papers, which pointed to the fact that the region is very well suited to do fundamental research.

3.2.2 Annual Scientific Production

In Figure 3 show the existing equivalent of the peer-reviewed scholarly journal sources focusing on the analysis of online consumer behaviour within the past 22 years (2003-2025) indicates that there is also a positive cumulative trend that has steadily been on the rise. The rate of scholarly discussion of the topic in the early years appears to be small as there was only one article in 2003, 2004, 2006, 2007 and 2008 and 2 in 2005 and 2009. Therefore, at the beginning of the new millennium, investigations were focused and task-oriented. Since 2010, there has been a slight but significant rise: between one and four articles were published each year up to the end of 2014. The articles published in 2015 saw a sharp increase with the 14 articles being published in the year. The number decreased in 2021 and 2024 (13 articles each), and in 2022 it decreased to 11 articles. The number of publications was increased again in 2023 and is 14. As of 2025, there were only two published articles, which can probably be explained by the lack of completeness of data reporting. Despite this temporary decline, over the past decade the number of articles dealing with online consumer behaviour saw an even increment and contributed to the rise of the importance of this area of knowledge.

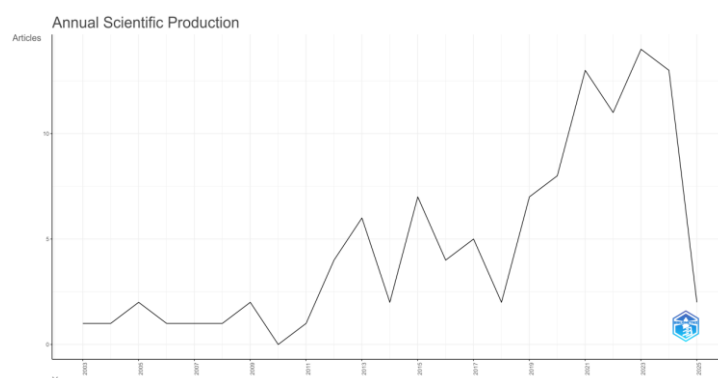


Figure 3. Annual scientific production (2003-2025).

3.2.3 Most Relevant Sources (Journals)

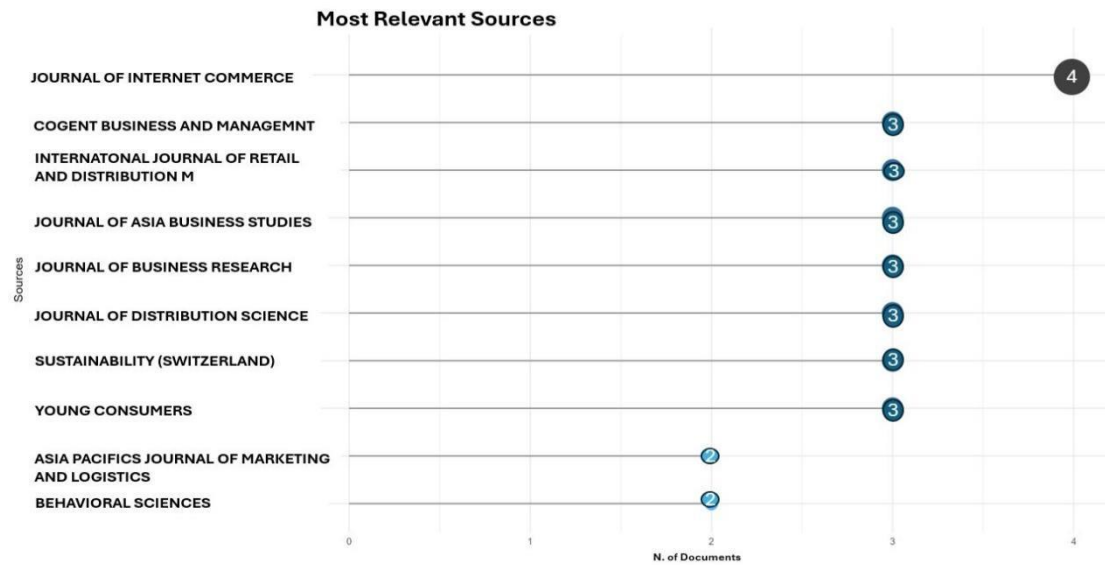


Figure 4. Most relevant sources.

Table 3. Top ten most relevant sources

Ranking	Source Title	No. of Publications	Percentage
1.	Journal of Internet Commerce	4	3.70
2.	Cogent Business and Management	3	2.77
3.	International Journal of Retail and Distribution	3	2.77
4.	Journal of Asia Business Studies	3	2.77
5.	Journal of Business Research	3	2.77
6.	Journal of Distribution Science	3	2.77
7.	Sustainability (Switzerland)	3	2.77
8.	Young Consumers	3	2.77
9.	Asia Pacific Journal of Marketing and Logistics	2	1.85
10.	Behavioural Sciences	2	1.85
		108	

An overview of Figure 4 and Table 3 most noticeable journal contributions indicates that the Journal of Internet Commerce stands at the fore front of the research being carried out in the field of online shopping behaviour and intention, four articles (3.70 %) having been published in the field. 3 articles each (2.77 %) are then documented in the Journal of Cogent Business and Management and International Journal of Retail and Distribution Management. The Journal of Asia Business and Studies and Journal of Business Research follow along the top five with three articles (2.77 %) respectively. The complementary but divergent views on consumer behaviour, retail distribution, and business management can be identified in Journal of Distribution Science (Switzerland), Sustainability (Switzerland) and Young Consumers, each of which contains two articles (1.85 %). Two articles (1.85 %) are also provided by the Asia Pacific Journal of Marketing and Logistics and Behavioural Sciences.

Collectively, these journals show that research on online purchase intention and behaviour is interdisciplinary and marketing, consumer psychology, sustainability, and e-commerce-specific considerations exist simultaneously. Therefore, the current study forms a strong stepping stone to future and existing researches.

3.2.4 Most Cited Articles

A discussion on the very contributions that have contributed most to the online purchase-behaviour literature is provided based on the Figure 5 and Table 4 respectively. The former present 15 articles most cited during the last 15 years, and the latter highlights the goals, methods and main results of these studies. Table 5 shows top ten highly cited articles that have been selected on the basis of overall and local citations and quality of the journal where these articles were published. Most of these articles analyse consumer choices in various product categories and they are described by a broad and practically useful scope of application. The most regularly mentioned paper, the article titled The Impact of Online Store Environment Cues on Purchase Intention by Chang and Chen, published in Online Information Review (2008) has gathered 602 international sources and four local sources. The present research is a confirmation that perceived risk and trust are the keys to making a choice on buying something online.

Lim et al. (2006) reported on trust building strategies in an online environment with 404 global and five local citations in the Journal of Management Information Systems, which has been considered the basic foundational piece of research based on trust in e-commerce studies. Pappas et al. (2016), in the Journal of Business Research in 366 global and one local citations, analyzed online consumer behaviour through the fuzzy-set qualitative comparative analysis (FSQCA) method, which also presents new innovation in this field.

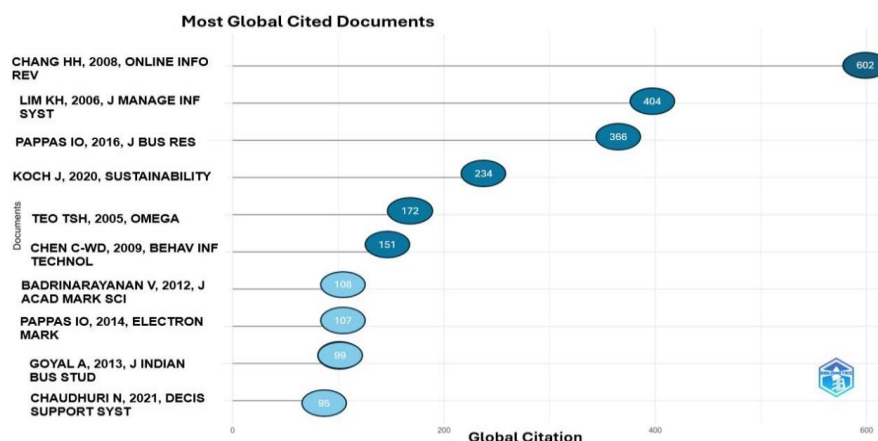


Figure 5. Most cited documents.

Table 4. Top ten highly cited articles

Ranking	Authors	Title	Year	Global citations	Local Citations	Journal
1.	Hsin Hsin Chang, Su Wen Chen	The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator	2008	602	4	Online Information Review
2.	Kai H. Lim, Choon Ling Sia, Matthew K.O. Lee & Izak Benbasat	Do I Trust You Online, and If So, Will I Buy? An Empirical Study of Two Trust-Building Strategies	2006	404	5	Journal of Management Information Systems

3.	Ilias O. Pappas, Panos E. Kourouthanassis, Michail N. Giannakos, Vassilios Chrissikopoulos	Explaining online shopping behaviour with FSQCA: The role of cognitive and affective perceptions	2016	366	1	Journal of Business Research
4.	Julia Koch, Britta Frommeyer and Gerhard Schewe	Online Shopping Motives during the COVID-19 Pandemic—Lessons from the Crisis	2020	234	1	<i>Sustainability</i>
5.	Thompson S.H. Teo and Yuanyou Yu	Online buying behaviour: a transaction cost economics perspective	2005	172	1	Omega
6.	Chien-Wen David Chen & Chiang-Yu John Cheng	Understanding consumer intention in online shopping: a respecification and validation of the DeLone and McLean model	2009	151	0	Behaviour & Information Technology
7.	Vishag Badrinarayana, Enrique P. Becerra, Chung-Hyun Kim & Sreedhar Madhavaram	Transference and congruence effects on purchase intentions in online stores of multi-channel retailers: initial evidence from the U.S. and south Korea	2012	108	0	Journal of the Academy of Marketing Science
8.	Ilias O. Pappas, Panos E. Kourouthanassis, Michail N. Giannakos & Vassilios Chrissikopoulos	Shiny happy people buying: the role of emotion on personalized e-shopping	2014	107	1	Electronic Markets
9.	Arun Thamizhvanan, M.J. Xavier	Determinants of customers' online purchase intention: an empirical study in India	2013	99	0	Journal of Indian Business Research
10.	Neha Chaudhuri, Gaurav Gupta, Vallurupalli Vamsi, Indranil Bose	On the platform but will they buy? Predicting customers' purchase behaviour using deep learning	2021	95	0	Decision Support Systems

In recent years, Koch et al. (2020) researched the objectives of online purchasing during the COVID-19 epidemic, which has 234 global and one local citations, showing that time-saved subjects received academic recognition

rapidly. Many other notable research papers include Teo and Yu (2005) and Chen and Cheng (2009), who understand online purchase behaviour using an economic and information system model, which also provides cross-disciplinary perceptions of digital commerce.

Apart from this, some country-specific and technical approach studies have also been included in this list, such as Thamizhvanan and Xavier (2013) from India and Chaudhuri et al. (2021). The purchase behaviour was predicted using deep learning. This list includes both old classical research and new technical research, which clearly shows that the region is constantly changing according to technical and social changes. These heads have been published in different journals, such as Sustainability, Omega, Decision Support Systems, and Electronic Markets, indicating that it is the most multidisciplinary research on online purchase behaviour and intention.

3.2.5 Country-wise contribution

Country Collaboration Map

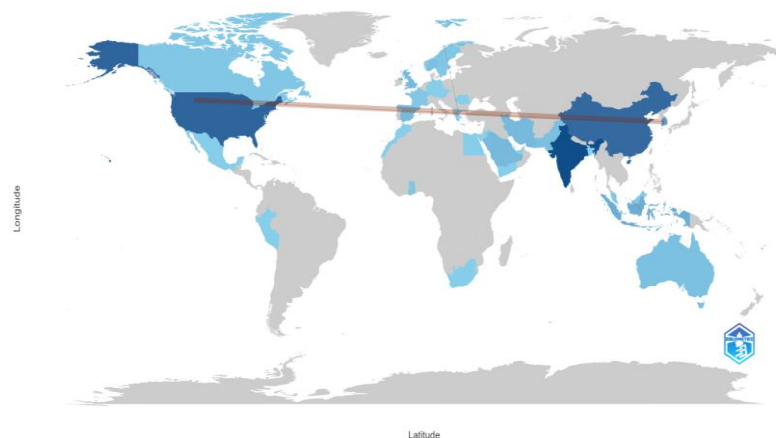


Figure 6. Collaboration network between countries.

Figure 6 illustrates the Cooperative Network Map in which scholarly collaboration in the context of the online buying behaviour and intentions has been quantified at the level of countries. The nodes represent a country, and edges represent shared authorship in publications; more weight between two nodes exist, the greater the cooperative effort. As indicated in the map, the China-USA and USA-South Korea have the strongest connections (two and three joint publications, respectively), which signifies sustainable academic relations in these two bilateral relationships. The partnerships of the United Kingdom such as those with Austria, Iran, Pakistan, and France, indicate the status of the United Kingdom that has those nascent research interests, and similarly, the partnerships between India and France and with Australia. Examples of such regional commitments can be witnessed in the Indonesia ties with both Malaysia and Yemen whereas linkages to Spain, Peru and Greece are more multiregional in nature. It is possible that the existence of both countries with names Macedonia and North Macedonia on the map constitutes institutional names and not actual differences in research. Altogether, the network demonstrates how wide is the field of online purchasing behaviour researched in the global context and indicates the future perspective of researching the specifics of international collaboration and promoting high-quality research.

Table 5. Country- wise scientific production

Country	Frequency
India	61
China	47
USA	37
Indonesia	13
South Korea	10

Greece	8
Iran	8
Saudi Arabia	8
Spain	8
Australia	7

In table 5, the top ten countries ranked by the number of the scholarly articles they have produced on online purchase behaviour and intention are indicated. The statistics help to clarify the international spread of the research work and outline which states are on the leading positions of the investigation in this field. India is a leader with 61 publications, which probably indicates the active development of e-commerce industry in the country. The second- and third-ranked countries, China (47) and the United States (37), further highlight the sound online retail infrastructural platforms and a vibrant research culture. Other South Asian country contributions of note are Indonesia (13) and South Korea (10). Countries in Europe such as Greece and Spain provide eight publications respectively, showing consistent interest in the online consumer trends, and eight publications are provided by Iran and Saudi Arabia in the Middle East. Australia, its turn, illustrates the Oceania active interaction with seven publications. A synthesis of these numbers depicts the common effort of seeking research on online purchase behaviour worldwide.

3.2.6 Trend Topic

Table 6 and Figure 7 indicate that a change in thematic orientations in the field of consumer behaviour is discernible. Between 2012 and 2013, the main focus of research was on concepts referring to the phenomenon known as research subject shopping, and this way of thinking prevailed in studies on consumer behaviour until 2022. Later studies, especially after 2013, focused on technology acceptance model and constructs related to its immediate subject, such as propensity to purchase. The last outward trend that began in 2021 has seen the emergence of regionalised themes - most notably COVID-19 and India - reflecting the impact of world events and hyper-local research interest on online shopping.

Table 6. Trend Topic Keywords Explanation

No.	Keywords	Frequency	Explanation
1.	Shopping (2012-2013)	5	It was an early word showing the general interest in online shopping behaviour. This was seen in a few research papers and soon ended, which is a common themes.
2.	Consumer Behaviour (2013- 2022)	8	It has been going on for a long time, the subject that is of interest in understanding how customers behave online. It was seen throughout the study period, which makes it a fundamental subject.
3.	Online Shopping (2015-2021)	25	When e-commerce developed, this subject emerged and became a main subject in the era of digital development.
4.	E-Commerce (2018-2022)	16	As the digital platform was large, this subject started gaining importance. Its popularity over the years shows that interest in online business models and transactions has increased.
5.	Online Purchase Intention (2017-2021)	6	It depicts studies that focus on psychological and practical reasons behind online shopping.

6.	Technology acceptance Model (2016-2023)	6	It is a theoretical model that has become famous for understanding the behaviour of online shopping with the adoption of online technology.
7.	Perceived Risk (2019-2021)	8	Transaction is a significant concern in digital behaviour. Which came more during the epidemic, which has further increased the dangers of online fraud.
8.	Perceived Usefulness (2021-2022)	5	This is a part of the TAM model, which shows how much the technique is affected by the understanding of utility.
9.	Purchase Intention (2021-2023)	18	This is a new trend in the research sector in which research is conducted on the direct reasons for online purchases.
10.	Trust (2018-2022)	8	It is considered an essential element in online transactions, which have received more attention as digital dependence has increased.
11.	India (2021-2022)	5	It indicates that special attention has increased in recent research papers.
12.	COVID-19 (2021-2023)	5	This subject emerged during the epidemic, which changed the behaviour of the consumer and online purchase tendencies.

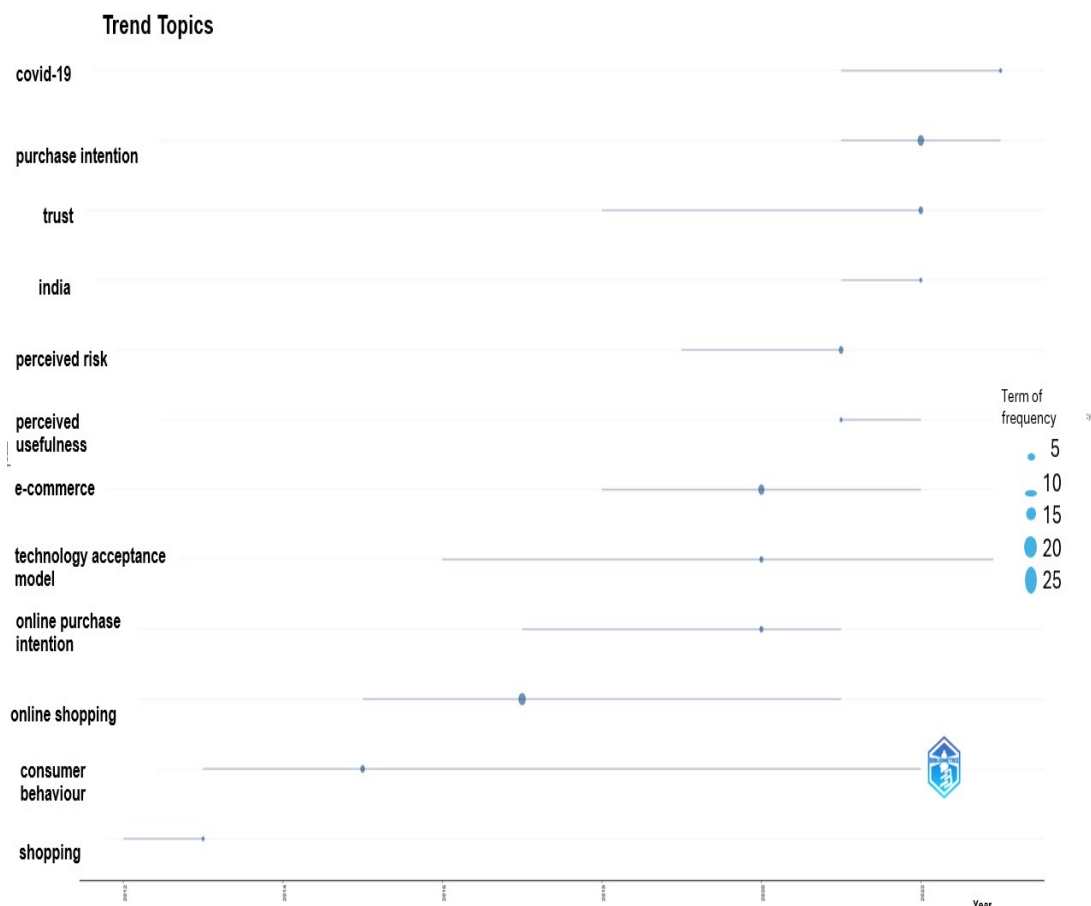


Figure 7. Trend topic time based evolution of key research themes.

Figure 8 and Table 7 show the building of the thematic map based on the authors of 250 research papers, which includes a total of 15 different clusters. These clusters were divided into four parts (fourths) according to the callon density and centrality framework. Each cluster represents a particular subject area associated with online purchasing behaviour.

Motor Themes are the main issues analyzed in the mentioned research field Cluster 1 dedicated to the topic of impulsive buying behaviour included the following keywords: impulsive buying behaviour, buying behaviour and online purchase behaviour, thus highlighting the fact that online purchase behaviour often occurs spontaneously among consumers.

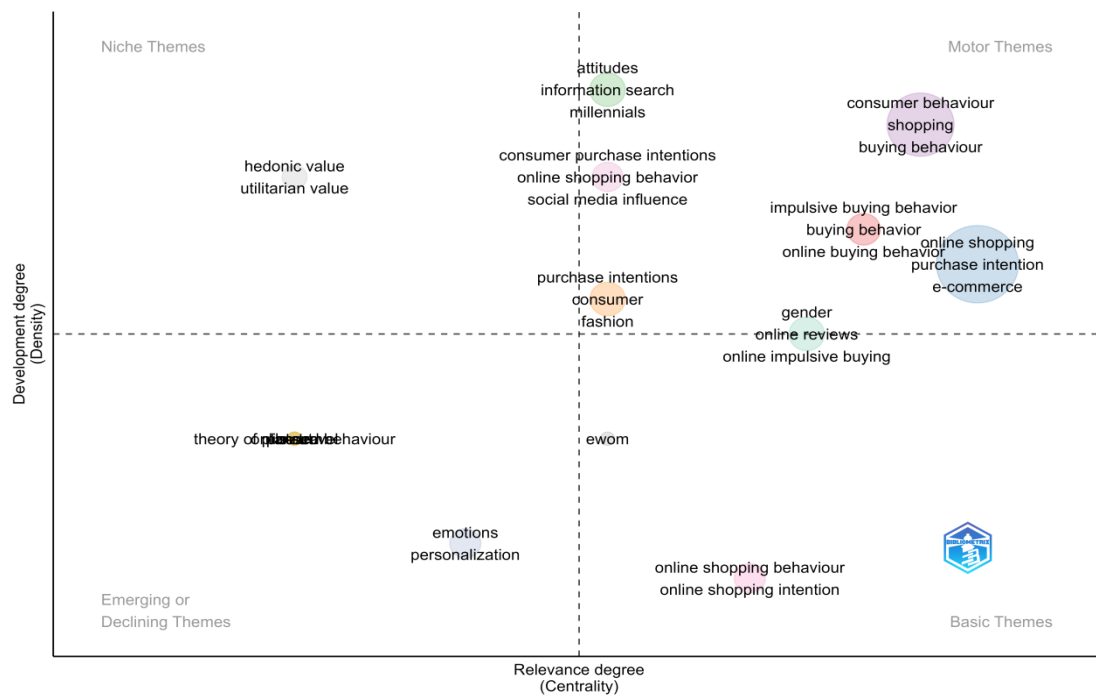


Figure 8. Thematic map of author keywords.

Table 7. Keywords cluster table based on thematic map

Cluster No.	Themes /lable	Keywords	Quardant	Interpretation Type
1.	Impulsive Buying Behaviour	impulsive buying behaviour, buying behaviour, online buying behaviour	Motor Theme	Highly development and central
2.	Online Shopping Core	online shopping, purchase intention, e-commerce, perceived risk, trust, online purchase intention, technology acceptance model, consumer behaviour, covid-19, India, perceived usefulness, online purchase, online trust, attitude, ecommerce, online retail, perceived value, social media, social networking sites, TAM, artificial intelligence, consumer trust, convenience, ease of use, financial risk, gender difference, perceived	Motor Theme	Driving core of the feild

		ease of use, perceived privacy, product risk, self-efficacy, social presence, theory of planned behaviour, theory of reasoned action, web site design		
3.	Attitude & Search Aspects	Attitudes, information search, millennial's, online purchase behaviour	Central Theme	Transitioning/ Key connectors
4.	Consumer Behaviour Framework	consumer behaviour, shopping, buying behaviour, internet shopping, electronic commerce, internet, online consumers behaviour, online retailing, retailing, b2c e-commerce, brand image, brand image, electronic word of mouth (ewom), generational cohorts, online, online buying behaviour, online purchase behaviour, online shopping intentions, reputation, shopping orientation, situational context, South Korea	Motor Theme	Well-development
5.	Purchase Intention & Fashion	Purchase, intentions, consumer, fashion	Basic Theme	Supporting theme
6.	PLS-SEM Methodology	pls-sem	Niche Theme	Method-focused not central
7.	Online Shopping Behaviour & Intention Pair	online shopping behaviour, online shopping intention	Basic Theme	Fundamental, but underdevelopment
8.	EWOM	Ewom	Basic/Niche Theme	Specific but useful
9.	Gender & Online Review	Gender, online reviews, online impulsive buying	Basic Theme	Emerging gender-differentiated focus
10.	Theory of Planned Behaviour	theory of planned behaviour	Emerging/Low Density	Declining or underdevelopment
11.	Emotion & Personalization	Emotions, personalization	Emerging Theme	Yet to be development
12.	Social Influence & Purchase	consumer purchase intentions, online shopping behaviour, social media influence	Central Theme	Relevant and connecting
13.	UTAUT	utaut	Niche Theme	Limited usage

14.	Online Travel	online travel	Emerging Theme	Context-specific application
15.	Value Perspective	hedonic value, utilitarian value	Niche Theme	Contextual, psychological lens

The current research outlines an analytical conceptualisation which would plot the intellectual and developmental path of online buying behaviour. The so-called online shopping core or constellation of themes of online shopping, purchase intention, e-commerce, trust, and well known models of Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) are at the core of this framework. Cluster 4, the consumer behaviour, internet shopping and brand image are exactly next to the core, and they provide an impressive foundation on how to interpret digital purchase frameworks. Clusters 5 (Purchase Intention & Fashion) and 7 (Online Shopping Behaviour & Intention) are established clusters that are under-theorised, whereas new or deteriorating Clusters 9 (Gender & Online Review) and 8 (Electronic Word of Mouth) signal increased scholarly attention on consumer diversity and social influence. Clusters 10 (Theory of Planned Behaviour) and 14 (Online Travel) are low-density and have to be contextualised or addressed again by scholars. Intellectual bridges points out the connection of psychological and behavioural aspects of consumer decision-making that can be clustered as 3 (Attitude & Search) and 12 (Social Influence & Purchase). Cutting-edge methodology and theory approaches, mostly Clusters 6 (PLS-SEM), 13 (UTAUT), and 15 (Value Perspective) are indirectly arranged towards the periphery but are still associated with the discourse core. Cluster 11 (Emotion & Personalization) on the other hand, has become an open territory and has focused on emotion and customized consumer experience and this fits with studies which are calling in to shift focus of intention to actual behavior. Taken together, these results indicate a growing but still up-and-coming area of study with plenty of room and opportunity to investigate further and more interdisciplinarily.

3.3 VOSviewer Analysis

3.3.1 Co-authorship Analysis

At the country-level, using VOSviewer and a minimum of two document threshold, four clusters have been obtained, as shown in Figure 9. Such groupings signify minimal but noteworthy international cooperation, and eight co-authorship associations were created, along with a complete of 12 links. United States is the dominant nation that donates 18 works, but with its relations rather closely spread, indicating two linkages. Pakistan and Australia have also been placed in a similar position at a mid-level with two documents and two links each. Iran, Ghana, and United Kingdom, however, appear detached and isolated in the primary network and no links are recorded among them. These trends allow postulating the emergence of an international research collaboration framework that can be absorbed into a larger number of countries in the future.

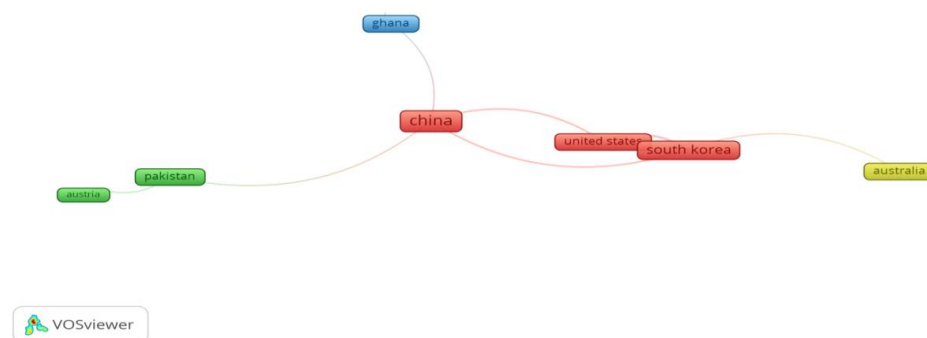


Figure 9. Co-authorship analysis - Unit of analysis Country.

3.3.2 Co-occurrence Analysis (Keywords)

The keyword network analysis performed by the means of the VOSviewer generated a number of 103 keywords that were then divided into comprehensible clusters which were distinguished by the overlapping thematic prevalence and maximum co-thread general strength. The resulting network showed 624 connections and a total link strength of 758, which can be taken to reflect a complex interdependence between the key areas of study. There were a number of keywords that had an especially high occurrence frequency and centrality in this structure, online shopping (26), link strength (97), purchase intention of occurrence (20), link strength (88), electronic commerce occurrence (16) and link strength (96), trust occurrence (10) and link strength (55). The frequency of consumer behaviour was also high (10) and the strength of the co-thread was 49. All these keywords outline in general the main outlines of the research area.

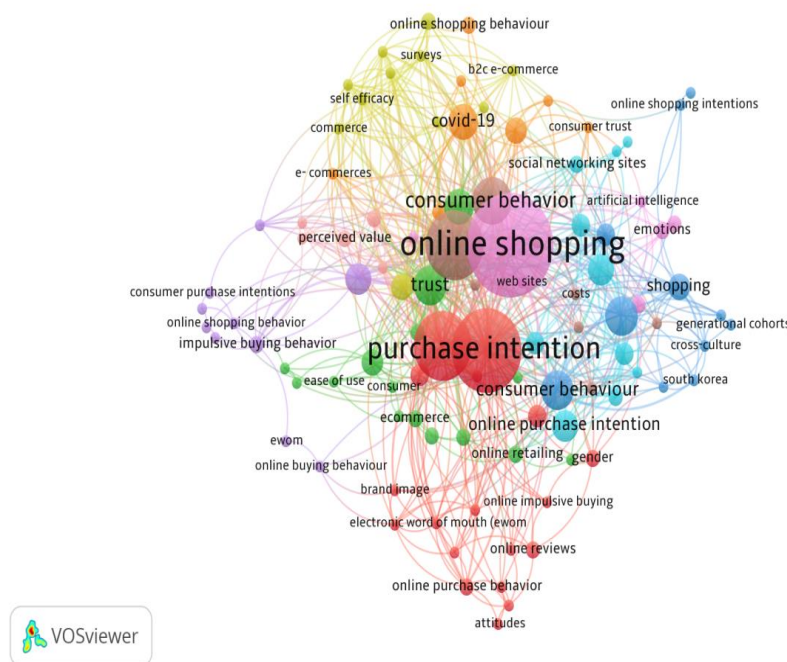


Figure 10. A network analysis of keywords co-occurrence.

Table 8 . Main clusters of keywords based on co-occurrence

Cluster	Theme	Keywords
Cluster 1 	Online Purchase Intention	attitudes ,brand image ,customer satisfaction ,E-Commerce ,electronic word of mouth , electronic word of mouth (ewom),gender ,information search ,millennium ,online impulsive buying ,online purchase , online purchase behaviour,online purchase behaviour ,online review ,purchase intention ,purchasing ,situational context ,theory of reason action
Cluster 2 	Trust and Technology Use	attitude ,consumer, convenience, ease of use, ecommerce,fashion financial risk, gender difference, online consumer behaviour ,online retailing, products risk, purchase intention, TAM, technology acceptance model, trust
Cluster 3 	Risk and Demographic	consumer behaviour, cross- culture ,generational cohorts, internet , online, online shopping intention,perceived risk, PLS-SEM, reputation ,shopping, South Korea

Cluster 4 	Consumer Behaviour and Website Design	b2c e-Commerce ,commerce ,online shopping intention, sales, self-efficacy, self-efficacy, structural equation model service ,theory of planned behaviour ,website design ,websites
Cluster 5 	Social Media and Impulsive buying behaviour	buying behaviour ,consumer purchase intentions, ewom, impulsive buying behaviour, online buying behaviour, online buying behaviour, online shopping behaviour, social media influence, social presence , Utaut
Cluster 6 	Trust and Online Shopping	buying behaviour, India, internet shopping, online purchase intention, online trust, perceived privacy ,retailing , shopping orientation ,social networking sites, theory of planned behaviour
Cluster 7 	Ease of Used and Social Media	consumer trust, consumption behaviour, covid-19, e-commerce, online shopping behaviour, perceived ease of use, perceived usefulness, social media
Cluster 8 	Website Costs and Ecommerce	consumer behaviour, costs, economics, electronic commerce, online buying ,transaction cost, uncertainty ,world wide web
Cluster 9 	Emotions and Personalisation	artificial intelligence, emotions, online retail, online shopping, online travel, personalisation, web sites
Cluster 10 	Hedonic value & utilitarian Motivation	hedonic value, marketing, perceived risk, perceived value, utilitarian value

In Figure 10 and Table 8 the primary clustering used in the present analysis is presented to give a synopsis of the bulk of research necessarily focused on consumer behavior in online setting in addition to the two themes of prevalence: the design of websites and buying behavior. In the former, such factors are brought to the forefront as self-efficacy, design of the service, quality of the websites, and structural equation modeling. The results of Network and co-occurrence analyses point out the main issues related to the background of online purchasing behavior, namely, purchase intention, utilization, ease of employing and perceived risk. In line with previous studies, practical frameworks, most prominent among them the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and the Unified Theory of Acceptance and Use (UTAUT) become the empirical backbones of the vertical slice as well. In addition to such psychological concepts, user experience is proposed as a theoretical issue in terms of keywords like customer satisfaction, website design, and personalization, each indication of a interest in technical innovations. Cluster 1, 2 and 5 focus on the psychological, technological antecedents of online procurement, whereas Cluster 3 and 6 put the emphasis on the impact of demographics and risk in regional scenarios (South Korea and India). Even though gender and cultural factors are examined in Clusters 7 and 8, the Clusters 9 and 10 focus on the emotional and motivation aspects that become major determinants of consumer choice; specifically, Artificial Intelligence (AI), personalization, enjoyment, and utilitarian motivation are the primary factors studied. When combined, the thematic map reveals recurrent areas of interest--technical acceptance, trust, and social influence and affect-based motivation--and an overview conceptual model to highlight continuing gaps in the research field as well as new interests.

As can be seen in Figure 11, the overlay visualisation network of keywords has an effect of mapping out the key words and concepts that have been recurring in the most number of literature on online purchase behaviour. The shade gradient facilitates the visualisation of the temporal prominence of every keyword: the dark blue shades related to the earlier year range in a given time interval (2010 - 2015), the yellow shades were associated with more recent years. It is possible to trace the changes in the priorities of the research topics with this colour scale, and it will be evident what level of evolution of topic interests has occurred. The keywords in the initial years were rather steady and they were mostly in the form of a green network.

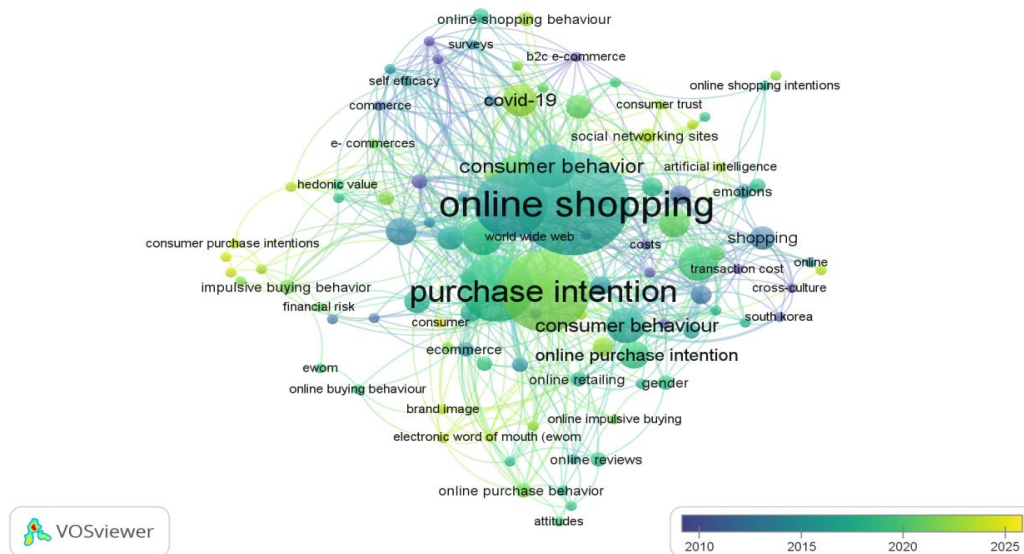


Figure 11. Evolution of keywords networks based on co-occurrence.

The current map reflects a chronological development of the academic focus related to four interconnected concepts of attitude, ease of use, electronic word of mouth (EWOM), and brand image, as well as two fields of online purchase behaviour interest, namely the psychological aspects of trust, consumer behaviour, purchase intention, perceived risk, and consumer satisfaction, and the practical forces of B2C e-commerce, artificial intelligence (AI), social networking sites, COVID-19, and personalization. The graph outlines a history of transformation: at the pre-2015 moment, the focus gravitated around the diffusion of research technologies and customer behavior in relation to online shopping. Between 2015 and 2020 (green shade), the research made a step forward as it tried to explain the psychological and practical dimensions that have a significant impact on the procurement decisions made by consumers. The last few years, especially 2020 to 2025 (yellow and light green), represent a shift into new areas of content AI, social networking websites, COVID-19, business to consumer e-commerce, customer trust and personalization indicating the disruption of digital epidemics and increased experimentation with the use of AI powered marketing programs, personalized engagements and multi-site outreach. The current analysis establishes a time-ordered continuum shifting through the essence of initial technical systems into confidence-driven investigations and then to the additional streamlined technologies studies before concluding with the limited-epidemic studies. The Keyword Cluster visible in yellow as of today indicates the current directions of on-going research, such as the implementation of AI in e-commerce, analysing the world crises in terms of its impacts on consumer behaviour, and enhanced personalization in online selling.

3.3.3 Co-citation Analysis

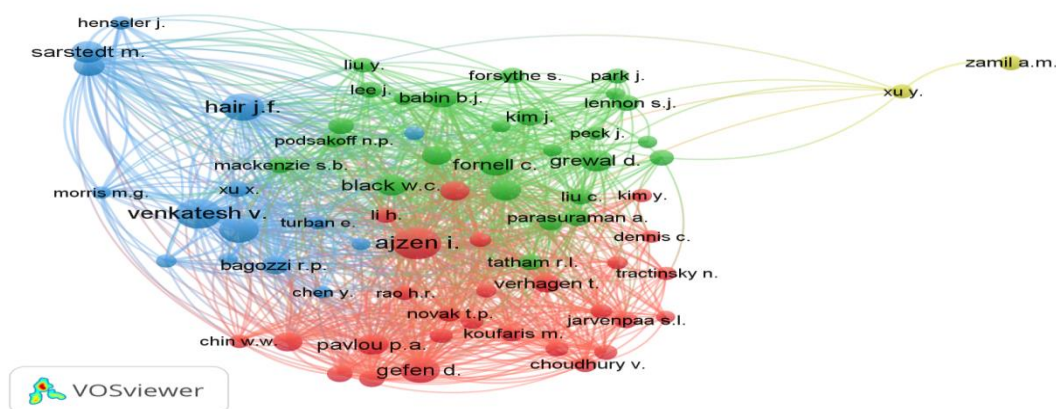


Figure 12. Co-citation analysis of cited authors.

Table 9. Main clusters of cited author based on co-citation

Cluster	Item	Cited Reference	Links	Total Link Strength	Citation
Cluster 1 	27	Ajzen i. Benbasat I. Chin W.W.	68 63 56	1754 607 331	82 25 17
Cluster 2 	26	Anderson R.E. Babin B.J. Bentler P.M.	67 67 61	670 756 262	34 37 15
Cluster 3 	15	Bagozzi R.P. Chen Y. Davis F.D.	68 62 68	718 287 1313	29 15 57
Cluster 4 	2	Xu Y. Zamil A.M.	66 1	263 20	18 20

The authors' citations in Figure 12 and Table 9 were carried out with the VOSviewer software, using a minimum of 15 citations. Based on the four groups of clusters, 70 authors were distributed in these clusters, which showed an intellectual structure in the field of online purchase behaviour. It found a total of 2,250 links in the network and a total link strength of 18,567, which reflects the deep relations between researchers. Cluster 1 (red, 27 authors): This research group has three authors Ajzen I. (1991; Total Link Strength 1754; Citation: 82), Benbasat I. (1986; Total Link Strength 607; Citation 25), and Chin W.W. (1998; Total Link Strength 331; Citation 17). Their research mainly focused on behavioural theories and technical acceptance. Cluster 2 (green, 26 authors): This group includes the main top 3 authors. Anderson R.E. (1988; Total Link Strength 670; Citation 34), Babin B.J. (1994; Total Link Strength 756; Citation 37), and Bentler P.M. (1990; Total Link Strength 262; Citation 15) are included. The contribution of these researchers is the structural equation in the field of modeling (SEM) and consumer behaviour. Cluster 3 (blue, 15 authors): This cluster includes five main authors. Bagozzi R.P. (1980; Total Link Strength 718; Citation 29), Chen Y. (2007; Total Link Strength 287; Citation 15), and Davis F.D. (1989; Total Link Strength 1313; Citation 57). This group of researchers demonstrates the integration function of psychological models and innovation adoption. Cluster 4 (yellow, two authors): This small group has only two authors, Xu Y. (2004; Total Link Strength 263; Citation 18) and Zamil A.M. (2011; Total Link Strength 20; Citation 20), and includes this region, reflecting new emerging voices of new researchers. The study of these four clusters clarifies that online shopping behaviour has a deep intellectual link among scholars in the research field.

3.3.4 Bibliographic Coupling Analysis

Table 10 and Figure 13 were performed using the VOSviewer tool. The top five authors of each cluster were selected. It has a minimum of five citations and has received 75 appropriate analysis documents. Five different clusters were formed based on shared contexts and the strength of the bibliographic link, reflecting documents focused on a particular subject in each cluster.

The present taxonomy divides e-commerce research into five thematic categories each of which is linked to five seminal articles. Studies that will be included in cluster 1 include Ahmed (2015), Ansari (2020), Gupta (2021), Hai (2015), and Jain (2018) which are the best studies. This segment specializes on consumer behaviour and

online intentions to purchase and it puts into perspective confidence, perceived risk and value issues. The theme of the macro level can be outlined as follows: digital psychology of consumers and actionable intention. Cluster 2 groups the first five researches by Chang (2008), Cheah (2015), Chen (2015), Drossos (2015), and Gong (2013). In this case, the main point of concern is their models of acceptance and adoption mechanisms and, in particular, group tools, usability, and mobile commerce in Asian markets. In this respect, the most prominent theme is the topic of the technical acceptance model in e-commerce.

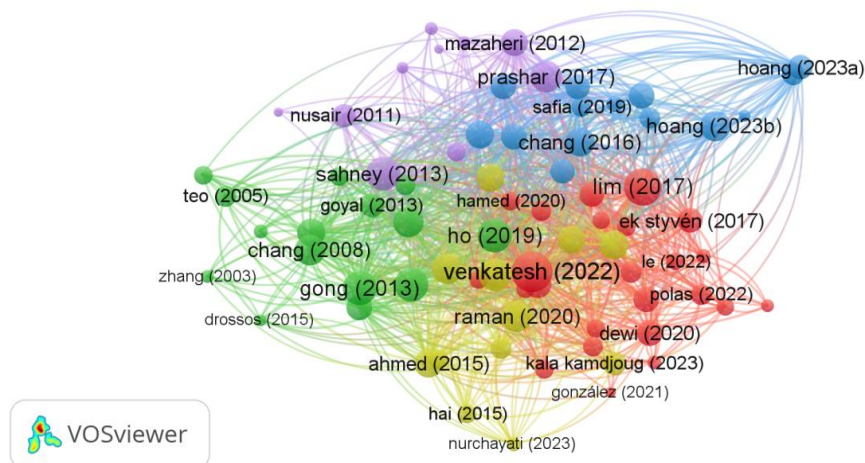


Figure 13. Bibliographic coupling analysis of documents.

Table 10. Main clusters of documents based on bibliographic coupling

Cluster	Item	Document (with short title) Top 5 Document	Themes/Focus Area
Cluster 1 	20	Ahmed (2015), Ansari (2020), Gupta (2021), Hai (2015), Jain (2018)	Digital Trust and Consumer Behaviour
Cluster 2 	19	Chang (2008), Cheah (2015), Chen (2015), Drossos (2015), Gong (2013)	Technology Acceptance and Mobile Commerce
Cluster 3 	18	Aker (2021), Chetioui (2023), Dewi (2020), Dharmesti (2019), González (2021)	Social Media, Personalization, and Fashion E-commerce
Cluster 4 	17	Bui (2013), Chaudhuri (2021), Chen (2009), Ek Styvén (2017), Fernandez-lores (2024)	Brand Engagement and Information System
Cluster 5 	12	Badrinarayan (2012), Cetinã (2022), Chang (2016), Farzin (2022), Ho (2019)	Cross-Cultural Studies and Consumer Psychology

Cluster 3 is a mixture of the 5 best articles Aker (2021), Chetioui (2023), Dewi (2020), Dharmesti (2019), and Gonzalez (2021). These works also address such aspects as influence, branding and consumer relationships in social media and the relationship between brand images and intent to buy on web. The top theme thus, is the

subject of social media marketing and brand participation. In cluster 4, all these articles, Bui (2013), Chaudhuri (2021), Chen (2009), Ek Styvén (2017), and Fernandez-lores (2024) are summarized. The general theme is a discussion of the user interface, information technology application and the involvement of confidence in the creation of good online user experience. As a result, the overall motif is the user interface design, confidence, and online user engagement.

Cluster 5 consists of the studies of Badrinarayan (2012), Cetinã (2022), Chang (2016), Farzin (2022), and HO (2019). In this cluster, there is a research into cultural and demographic diversity and impact of personalisation on online buying behaviour and consequences. The theme that dominates is cultural and demographical diversity in online shopping. These results, collectively, indicate that there are recognisable groups that exist in e-commerce research when it comes to the differences in approach, topic, and methodological orientation. These are consumer behaviour, technological adoption, social media effects, web site design and cross-cultural studies.

4.0 Conclusion

In this research, the bibliometric model that is employed consists of both the Biblioshiny (RStudio) and VOSviewer to analyse the scientific publication on online purchase behaviour and purchase intention in the period 2003 to 2025. The discussed area also has a commonality with the visible conceptual trends in this field (the replacement of implicitly using such constructions as the Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB) and UTAUT in favour of more detailed analyses of personalisation, emotional reactions, trust relationships and AI-facilitated business in digital environment), being its tendencies towards more specific incorporation of such motive/affect factors as needs and emotions, and more thorough engagement with interpersonal and trust-related dynamics. With a considerable increase in post-2016 research, especially in the years of the COVID-19 pandemic, one is to confirm the shift in concern towards the subject of behavioural change in online consumerism.

Imparting the network of a co-authorship and co-citation reveals empire building of pools of research in India, China, the United States, and South Korea. On the contrary, some countries such as Iran, Ghana and Greece lie at the periphery of a knowledge cluster, and this necessitates the improvement of cross-country interaction. These patterns of keywords, the overlay maps and the thematic maps create an observable cycle where the initial focus on the usability and technology were complemented with the focus on the emotional triggers, the use of the AI in consumption and cross-cultural consumption patterns. The works by Ajzen (1991), Davis (1989), and Pappas et al. (2016) have had and continue to have considerable effect, and the studies relying on the use of an array of statistical methods like FSQCA, PLS-SEM, and machine learning are becoming increasingly important ones. In spite of a massive increase in maturity, some potentially successful research directions have been significantly unexplored. The thematic balancing of the entire research interrelationships between consumer behaviour, digital design, trust models and cultural factors reflect that there exists a good research ecosystem that is academically sound and can be practically applied.

4.1 Limitation

The current research has a number of methodological limitations. First, it uses only one database Scopus thus its results are confined to a portion of the articles included on other two major systems Web of Science and Dimensions. Second, the data go up to Scopus-covered articles published by April 5, 2025, and as such, the temporal development of topic streams cannot be traced in the three-field diagrams. In addition, only bibliographic data is studied including the title, abstract, and keyword column but not full texts and semantic content underlie. This means that one only has the results to be published in an English publication and this might lock out quality work which is not necessarily written in English. The thematic maps, networks built based upon the keywords are built by the manual clustering; this procedure can result in subjectivity. Lastly, the analysis does not involve dynamic quotation analysis criteria such as bursts and timelines and does not verify the stability of isolated clusters thus limiting the interpretative capability of the end product outputs.

4.2 Implication

The results of the study have several implications that are vital to scholars as well as practitioners. The quantitative strength that India has been able to achieve in research output is not an aspect embraced in Germany, the United

States, and China that is qualitative in nature over and above the numbers of citations and impact. These observations are highlights of the need by emergent economies to enhance international cooperation and pay specific attention to the rigor of the methods. The transition to emotional and psychological topics indicates the overall transformation of digital commerce where paradigms that focus on the consumers take primacy. The factors of emotional persuasion, the establishment of trust and the individualised customer experiences have become determinants of the web-shopping behaviour. The junction of marketing, psychology, information systems and behavioral science explains why there is a dire need of interdisciplinary cooperation in solving digital consumer dynamics that cut across different behaviors. Naturally, thematic mapping indicates that such areas as trust, e-commerce, and purchase intention are well-established, but such areas as digital ethics, policy effect, post-COVID behavioral adjustments, and emotion-based shopping are still in their early stages. This trend makes it clear that additional context-appropriate research is needed to reflect contemporary digital shifts and changes in societal expectations. Monopolization of a few writers, nations and journals also requires encapsulating intellectual output and making knowledge production inclusive. As such, the focus in academia on intentions needs to go away and start exploring real purchase behavior by using sophisticated behavioral tracking and analysis tools.

4.3 Future Research Direction

Due to the analysis of the thematic map and other keywords, in this study, several recommendations of how a study can be made in the future have been identified. TPB studies on consumer behaviour are old and need to be revised to include the factors like trust, social influence, and hydraulic motivation. There is hardly any research done on topics like personalization and emotions. The Intention and actual buying must be put under further scrutiny. The world consumer groups (i.e., impulsive buying, trust and platform-based purchases) must be analyzed in the rural region, as well as Generation Z and new platforms (Instagram and live commerce). Such matters as Utaut Hedonic Motivation and Utilitarian Value should be reaffirmed in the type and setting of new products. The effectiveness of the reel, stories, and influencer marketing in groups of people of a different age can also help to learn more about the growing role of social media. An additional study on the topic of thematic map development may be examined by using both Web of Science and Scopus. It is possible in the future to compare the conclusions of the two databases between NLP and text mining and the interdisciplinary studies in the fields of psychology and sociology. The local and global approaches may be explained through the comparison of India and other countries. The citation analysis can be done in complex form with burst detection based on the CiteSpace tool and other similar tools that have Python and PyBibTex.

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