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MAPPING THE GLOBAL LANDSCAPE OF PERCEIVED RISK, CONSUMER TRUST, AND ONLINE FOOD PURCHASING: A BIBLIOMETRIC ANALYSIS

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Abstract

Purpose: *This study aims to methodically trace the intellectual framework, thematic advancement and research trajectories of scholarly publications. The key objective is to identify influential publications, prominent contributors, collaboration patterns, and emerging research themes that significantly impact the field of perceived risk and consumer trust in online food purchases.*

Design/Methodology/Approach*: This study uses a bibliometric approach to analyse the data from 698 papers on perceived risk, consumer trust and online food purchasing retrieved from the Scopus database from 2011 to 2026. The analysis used R Biblioshiny to identify research trends, key contributors, intellectual structure, social structure, significant research themes, and their growth over time.*

Originality*: The study methodically charts the conceptual framework of research on perceived risk, consumer trust and online food purchase; the study substantially contributes to the corpus of existing literature.*

Keywords: *Perceived Risk, Consumer Trust, Purchase Intention, Bibliometric Analysis, Online Food Purchase, Science Mapping, Thematic Evolution.*

1. Introduction

The digitally driven culture of Online food purchasing has rapidly evolved, transforming how consumers access and assess food products online. With the shift in consumer behaviour patterns, online food purchasing has become a significant area of scholarly enquiry. Online food delivery services have been established for over 25 years and are a quickly developing sector of the economy (Li, C., Mirosa, M. and Bremer, P., 2020). Consumers have shifted from placing in-person takeout orders to placing online food purchasing orders. (Shroff A, Shah BJ, Gajjar H (2022). The proliferation of online food purchasing options has created a need to understand the mental drivers behind, or barriers to, the intention to purchase food online. This environment has placed a premium on beliefs about risk and trust, which has led to an increase in information disparities and the salience of physical inspection (Nguyen, C., Tran, D., Nguyen, A., & Nguyen, N., 2021). With the rise in consumer habits, the evidence shows the notable growth in the use of Online food delivery services (OFDS) from 19% in 2018 to 25% in 2021 among adults across the world (Use of online food delivery services among adults in five countries from the International Food Policy Study 2018–2021).

The newer market data indicates that online food purchasing has become even more commonplace. There were almost three billion consumers globally who are using online services to purchase food and meals. As the online ordering of meals has become more prevalent, consumers have gained convenience, variety and time savings. Independently of whether the consumer is cooking the food themselves or going to the restaurant and dining in, the convenient availability of numerous readily available food services has relieved the burden of thinking about and planning meals. The food delivery services have significantly altered consumer behaviour to the point where the use of them has become a standard occurrence (Chai, L. T., & Yat, D. N. C., 2019). Food delivery services have tripled since 2017 and now is a global food service industry valued at over USD 150 billion as of now (Ahuja, K., Chandra, V., Lord, V. and Peens, C. (2021). However, the growth has also raised serious questions about food safety, hygiene, food quality, and all of these effectively deter consumers from making online food purchases (Munikrishnan, U. T., Huang, K., Mamun, A. A., & Hayat, N., 2023). While this channel offers the convenience of its offerings, it comes with uncertainties about product quality, food standards, and food hygiene, which have contributed to perceived risk. For Online consumers, perceived risk is of paramount importance (Doolin et al., 2005). The concept of perceived risk was pioneered by Bauer, who defined it as the degree of hesitation and anxiety that consumers experience before any purchasing decision (Bauer, R. A., 1967). Perceived risk is a consumer's subjective probability of potential loss or adverse consequences in a purchase decision, particularly when there is uncertainty regarding product performance, safety, or reliability (Sarkar, S., Chauhan, S., & Khare, A., 2020). Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010) have defined this notion as the expectation of losses. The higher the consumer perceives the risk, the higher the risk of losses. Lee, K. S., & Tan, S. J. (2003) stated that consumers who are possessed of high perceived risk are unlikely to purchase products online. Trust is based on the buyer's expectations that the seller will not have an opportunistic attitude and will be reliable, honest and socially responsible in their interactions, but will not be disreputable even if the buyer is at risk and relies on the seller (Gefen, D., Karahanna, E., & Straub, D. W., 2003). Consumers' perceptions of the product's trustworthiness are likely to influence their final purchasing decision (Gupta et al., 2009). Accordingly, the purpose of this study is to present a bibliometric summary of research on consumer trust and perceived risk in online food purchasing. By consolidating and analysing the existing body of literature, the study aims to provide a better understanding of the growth, focus, and scope of the research domain. By identifying important themes, pointing out research gaps and recommending avenues for additional study into online food purchasing behaviour, the findings are anticipated to contribute to scholarly understanding and empirical future research.

2. Literature Review

2.1 Perceived Risk

Perceived risk appertains to the doubts and potential drawbacks that a consumer can associate with any purchasing decision. The evolution of perceived risk dates back to Raymond A. Bauer's seminal work, where he elaborated how risk is an important dimension of consumer behaviour (Bauer, R. A., 1960). He predicted that the consumer's buying behaviour does include some risk, as the actions or the outcomes cannot be fully anticipated. Cunningham, M. S. (1967) elaborated on the notion of perceived risk by further clarifying that risk comprises two key components: the likelihood that an undesirable event will occur, and the severity of negative consequences associated with that event. Jacoby, J., & Kaplan, L. B. (1972) are the two pioneers who propounded the 5 major dimensions of perceived risk: financial risk, the possibility of monetary losses when the purchase is not worth the price (Featherman and Pavlou, 2003); performance risk, which arises when the purchased food doesn't match expected standards (Popli, A., & Mishra, S., 2015). Physical risk refers to the probability of harm to a consumer's physical well-being; psychological risk reflects the possibility of a purchase resulting in stress, discomfort or annoyance; and, lastly, social risk could influence how the purchase can negatively impact the consumer's reputation. Subsequently, with advances in technology, the dimensions of perceived risk have expanded to include time, privacy, security, delivery, and convenience.

2.2 Perceived risk in Online Purchasing

When perceived risk is subsumed in online purchasing, it does, in one way or another, negatively impact the decision to continue purchasing. However, though the concept was originally conceptualised by Bauer in 1960, its application to online purchasing emerged promptly in the work of Jarvenpaa, S. L., & Todd, P. A. (1996), where they scrutinised economic, social, performance, physical and privacy risks corresponding with online shopping. Mitchell, V. W. (1999) has defined perceived risk as an arbitrary assessment that incorporates a careful consideration of both the anticipated probability of an adverse occurrence and the importance of any conceivable repercussions. Later, Bhatnagar, A., Misra, S., & Rao, H. R. (2000) extended the concept by demonstrating that the ease of functionality and time-saving benefits of online purchasing can outweigh the consumer's concern about risks. Then came the advent of technology, which brought significant benefits as well as challenges. Pavlou, P. A. (2003) advocated that consumer trust and perceived risk are

important variables in determining consumer acceptability of online purchasing. Forsythe, S., Liu, C., Shannon, D., & Gardner, L. C. (2006) were pioneers who developed the measurement scales assessing the perceived advantages and hazards of online purchasing behaviour. Munikrishnan, U. T., Huang, K., Mamun, A. A., & Hayat, N. (2023) broadened the research sector and explored the online purchasing intentions of consumers in the food sector and concluded that although trust plays a substantial mediating role, trust and the intentions to purchase are highly impacted by financial, time and psychological risks.

2.3 Consumer Trust in Online Purchasing

In the studies being conducted over the years, Trust has been recognised as a crucial component in establishing interpersonal relationships between people, between organisations and between people and organisations. Morgan, R. M., & Hunt, S. D. (1994) have defined trust as the conviction that the trustee will act favourably; they assert that trust is a prerequisite for the success of the relationships. According to Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995), trust is the readiness of an individual to be susceptible to the endeavours committed by another contingent on the expectations that the other person is capable of successfully carrying out a particular conduct that proves valuable. They also gave the three dimensions of trust, i.e., ability, benevolence and integrity. In the context of social commerce platforms, trust is rendered more vital since exchange relationships are predicated on the impersonal character of Internet infrastructure. Gefen, D., Karahanna, E., & Straub, D. W. (2003) integrated the Technology Acceptance Model and online buying intention with trust. When consumers are provided with trust, perceived relevance and perceived ease of use, their online purchase intention is profoundly influenced. Munikrishnan, U. T., Huang, K., Mamun, A. A., & Hayat, N. (2023) discovered that trust mediates the correlation between perceived risk and purchase intention and exerts a strong influence on online purchase intention.

3. Research Questions-

RQ1. How has research on perceived risk and consumer trust in online food purchase evolved in terms of publication volume and citation impact from 2012-2026?

RQ2. Which authors, journals, articles, and countries have been the most productive in this domain?

RQ3. What is the intellectual structure of research on perceived risk and consumer trust in online food purchasing?

RQ4. What are the dominant thematic clusters and conceptual themes that define research on perceived risk, consumer trust and online food purchasing?

RQ5. What emerging research themes and potential future research directions can be identified through thematic evolution analysis?

4. Research Methodology

The study adopts a statistical bibliometric research paradigm to evaluate the development and the structure of standardised scholarly research on perceived risk, consumer trust and online food purchasing. The methodology concentrates primarily on the identification of publication patterns, influential authors, countries, sources, institutions and the intellectual and thematic development of the research domain. According to Zupic and Čater (2015), Bibliometric analysis is a methodical, quantitative technique for characterising, evaluating, assessing, and tracking the development of a particular research domain. Using bibliometric techniques, researchers can conclude aggregated bibliographic data compiled by other scientists in the same field. Additionally, conventional bibliometric laws, videlicet Lotka's law and Bradford's law, have been identified to scrutinise author productivity and the primary sources of information supporting research focusing on perceived risk, consumer risk and online food purchasing (Lotka, A. J., 1926; Bradford, S. C., 1976)

4.1 Software used in the study

The Bibliometric analysis was conducted using the Bibliometrix R package, accessible via the Biblioshiny web interface (Aria, M., & Cuccurullo, C., 2017). Biblioshiny integrates and facilitates a systematic assortment of performance analysis and science mapping tools to assist in methodological investigation and visualisation of Bibliographic data. In the present study, it is used to publish results, key sources and authors, citation patterns, collaboration structures, thematic shifts, and intellectual relationships in research on perceived risk, consumer trust, and online food purchasing.

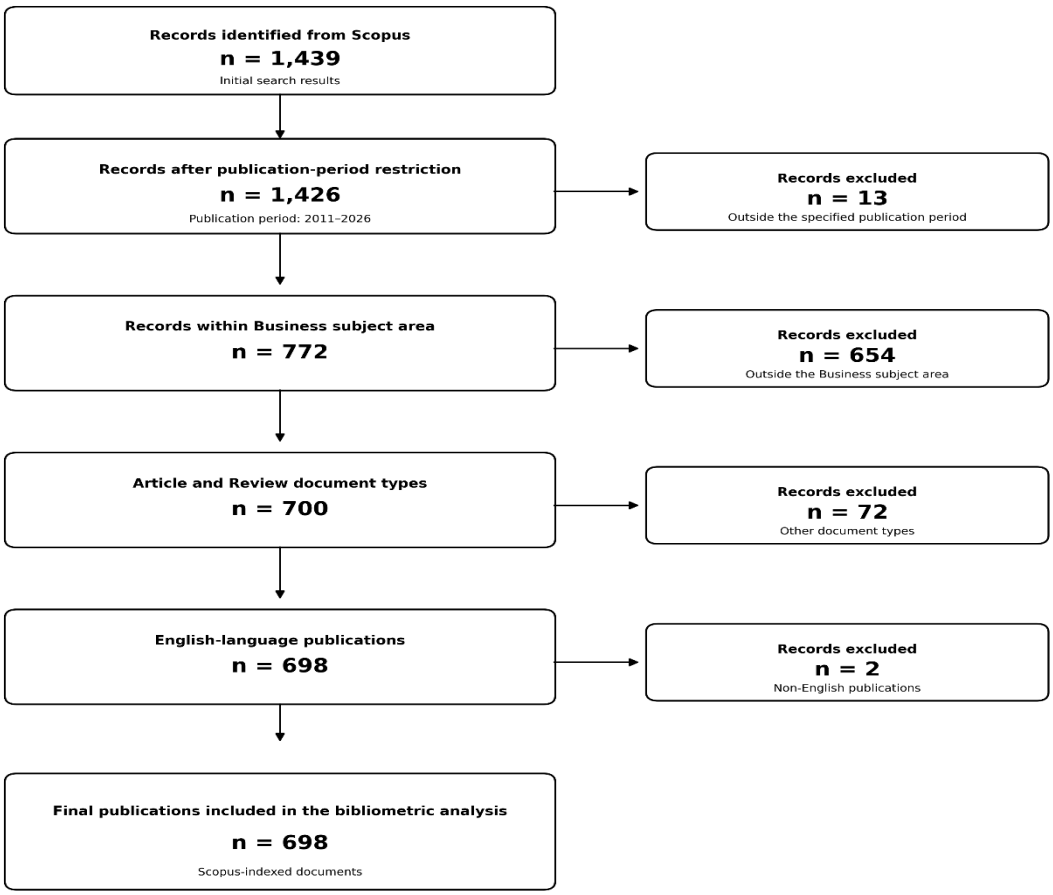
4.2 Research Data Source and Keyword Search String

The bibliographic data for the present study were retrieved from the Scopus database, a widely recognised source of peer-reviewed scholarly publications. A structured search strategy was developed to identify relevant literature examining the relationship between perceived risk, consumer trust, and online food purchasing. The search string incorporated the principal constructs, namely "perceived risk" and "consumer trust," alongside related terms associated with online food consumption and purchasing, including "online food," "food online," "food purchasing," "food purchase," "food delivery," and "food ordering." The Boolean operators AND and OR were employed to establish the conceptual relationship between the focal constructs and capture relevant variations in terminology.

To ensure the relevance and consistency of the retrieved literature, predefined eligibility criteria were applied. The search was restricted to publications indexed under the Business subject area, document types classified as articles and review papers, and publications written in English. Furthermore, the publication period was limited to 2011–2026. The complete search string employed in Scopus is presented below:

(("perceived risk") AND ("consumer trust") AND ("online food" OR "food online" OR "food purchasing" OR "food purchase" OR "food delivery" OR "food ordering")) AND (LIMIT-TO (SUBJAREA, "BUSI")) AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re")) AND (LIMIT-TO (LANGUAGE, "English")) AND PUBYEAR > 2010 AND PUBYEAR < 2027

The initial search yielded 1,439 records. Following the application of the relevant search refinements, the search was restricted to publications published between 2011 and 2026, yielding a total of 1,426 records from the Scopus database. 772 records were identified within the Business subject area. The document-type filter retained 700 publications, comprising 674 research articles and 26 review papers. Subsequently, the language restriction yielded 698 English-language publications. These records constituted the pool of potentially eligible studies for subsequent screening, data preparation, and bibliometric analysis.



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5. Bibliometric Analysis and Findings

5.1 Main Information and Descriptive Statistics

Table 1. Data Summary

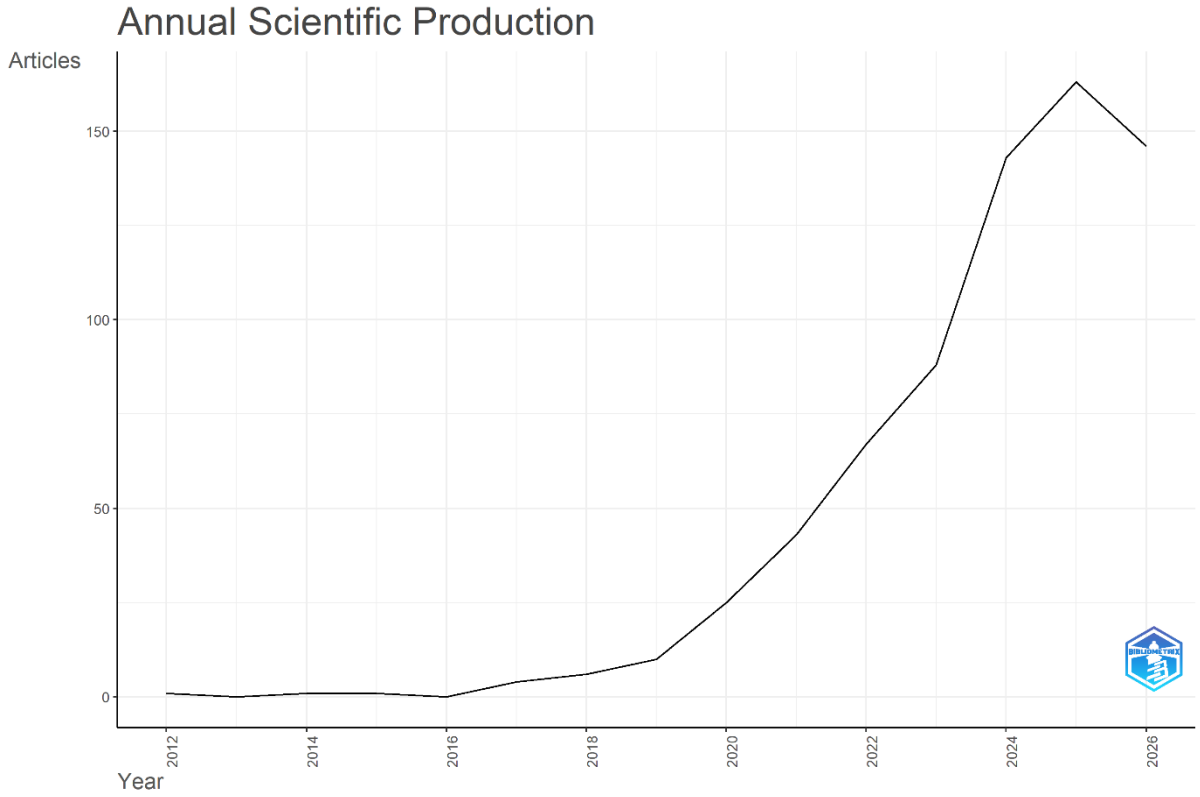
DESCRIPTION	RESULTS
MAIN INFORMATION ABOUT DATA	
TIMESPAN	2012:2026
SOURCES (JOURNALS, BOOKS, ETC)	238
DOCUMENTS	698
ANNUAL GROWTH RATE %	42.76
DOCUMENT AVERAGE AGE	2.2
AVERAGE CITATIONS PER DOC	27.35
REFERENCES	62371
DOCUMENT CONTENTS	
KEYWORDS PLUS (ID)	792
AUTHOR'S KEYWORDS (DE)	2330
AUTHORS	
AUTHORS	1927
AUTHORS OF SINGLE-AUTHORED DOCS	48
AUTHORS COLLABORATION	
SINGLE-AUTHORED DOCS	49
CO-AUTHORS PER DOC	3.31
INTERNATIONAL CO-AUTHORSHIPS %	35.24
DOCUMENT TYPES	
ARTICLE	672
REVIEW	26

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The Bibliometric compilation includes 698 documents from 238 sources, which consist of journals and indexed publication channels, published between 2012 and 2026 (September 2026). The annual scientific production shows a growth rate of 42.76%, depicting a significant expansion of scholarly attention concerning the relationship between perceived risk, consumer trust and online food purchasing. With an average of 2.2 years and an average of 27.35 citations per document, with a total of 62371 referenced recorded in the dataset. The content analysis identified 2330 author keywords and 792 Keywords**,** additionally showcasing the breadth of concepts examined through the research domain. A total of 1927 authors contributed to the selected publications, with an average of 3.31 co-authors per document. International co-authorship accounts for 35.24% of the publications, indicating a meaningful level of cross-country research collaboration in this field. In terms of document types, the dataset consists predominantly of 672 research articles, while 26 documents are review papers. With all the factors in consideration, the descriptive features offer a preliminary summary of the expansion, the intellectual diversity, citation influence and collaborative structure of international research on perceived risk, consumer trust and online food purchasing.

5.2 Annual Scientific Production and Publication Trends

The annual scientific production analysis shows an overall increasing trend in publications on perceived risk and consumer trust in online food purchasing. Publication output remained relatively low between 2012 and 2019, but started to increase from 2020 onwards. A substantial rise was observed during 2021–2024, reaching approximately 143 publications in 2024. The number of publications peaked at around 163 in 2025, followed by a decline to approximately 146 in 2026. Overall, the trend indicates growing scholarly attention to the research area in recent years.



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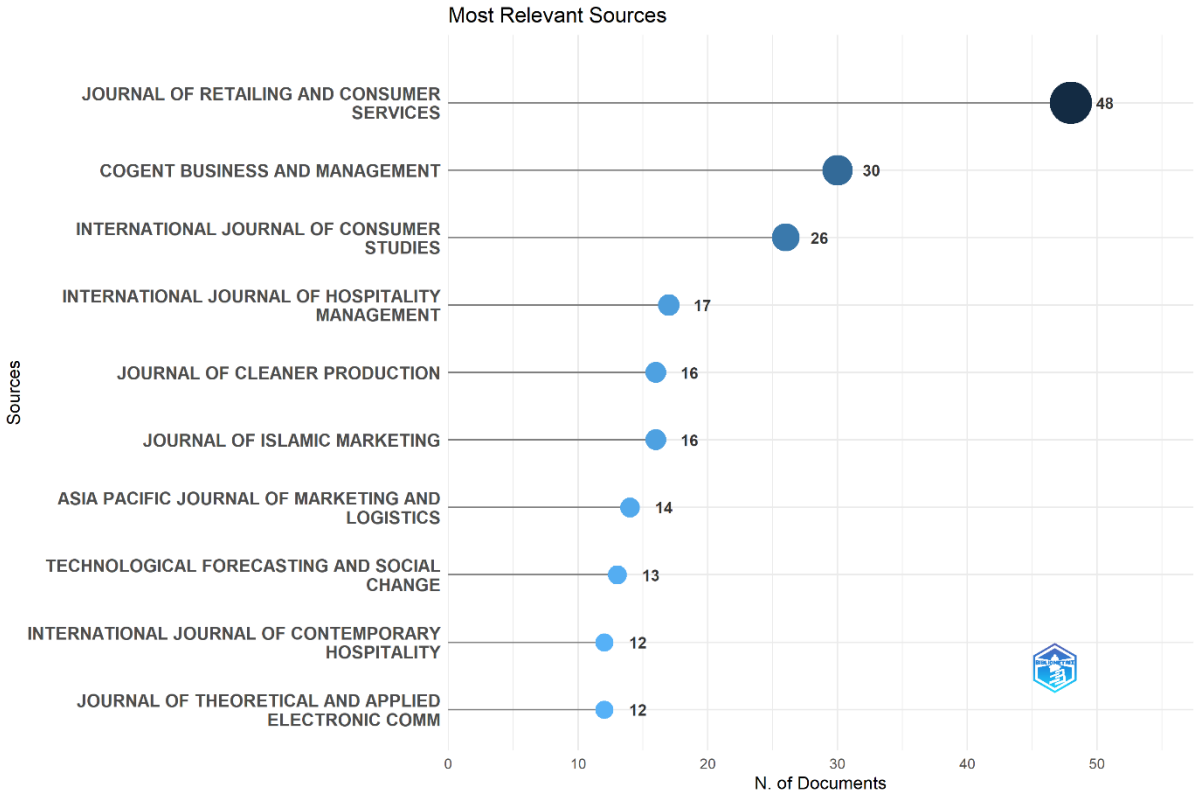
Figure 2. Annual scientific production and publication trend in research on perceived risk, consumer trust and online food purchasing (2012–2026).

5.3 Top 10 Most Relevant Sources

The analysis of the most relevant sources indicates that the literature on perceived risk, consumer trust, and online food purchasing is concentrated in journals related to retailing, consumer behaviour, hospitality, marketing, sustainability, and electronic commerce. The Journal of Retailing and Consumer Services emerged as the most productive source, contributing 48 articles and receiving a total of 3,559 citations. It was followed by Cogent Business & Management, with 30 articles and 375 citations, and the International Journal of Consumer Studies, which contributed 26 articles and received 1,132 citations. The International Journal of Hospitality Management published 17 articles but accumulated 839 citations, demonstrating that publication volume and citation accumulation do not necessarily correspond directly. Similarly, the Journal of Cleaner Production contributed 16 articles and received 1,128 citations. Overall, the distribution of publications across these sources demonstrates the interdisciplinary nature of research in online food purchasing, extending beyond consumer behaviour and marketing to hospitality, sustainability, technology, and electronic commerce.

Sources	Articles	Total Citations
JOURNAL OF RETAILING AND CONSUMER SERVICES	48	3559
COGENT BUSINESS AND MANAGEMENT	30	375
INTERNATIONAL JOURNAL OF CONSUMER STUDIES	26	1132
INTERNATIONAL JOURNAL OF HOSPITALITY MANAGEMENT	17	839
JOURNAL OF CLEANER PRODUCTION	16	1128
JOURNAL OF ISLAMIC MARKETING	16	445
ASIA PACIFIC JOURNAL OF MARKETING AND LOGISTICS	14	508
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	13	377
INTERNATIONAL JOURNAL OF CONTEMPORARY HOSPITALITY MANAGEMENT	12	485
JOURNAL OF THEORETICAL AND APPLIED ELECTRONIC COMMERCE RESEARCH	12	58

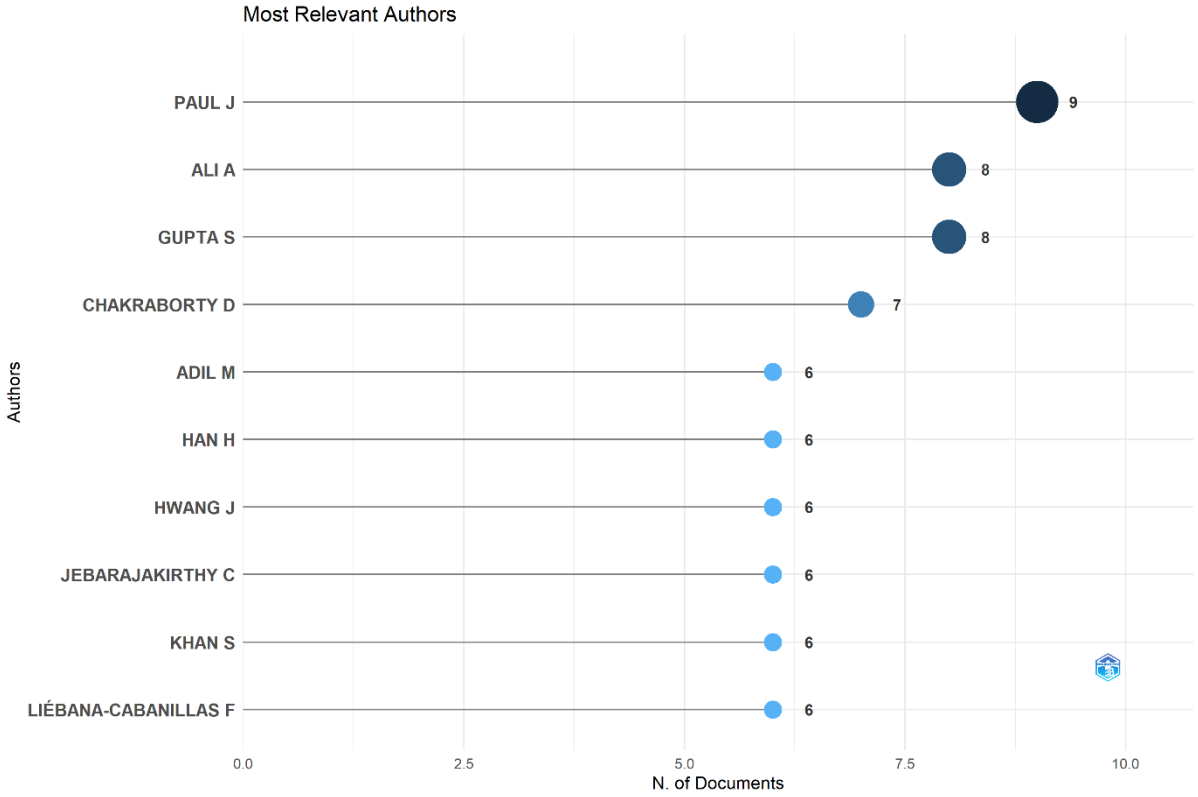
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5.4 Most Relevant Authors

The analysis of the most relevant authors recognises the researchers who have contributed most substantially to the literature on perceived risk and consumer trust in online food purchasing. The information in Table 3 depicts the list of authors, their publications and the total number of citations, whereas the accompanying graph shows which author was the most productive based on the documents published. With the publication output of 9 articles and 739 citations, PAUL

J ranks first, indicating a considerable presence in the domain, followed by ALI A, with 8 publications and 538 citations, showing sustained research exertion. Although Gupta S and Chakraborty D have contributed 8 and 7 papers respectively, the citation counts indicate that Chakraborty D's publications have received greater scholarly attention, with 421 citations compared with Gupta S's 110 citations. A notable and similar pattern can be observed among authors with six publications; JEBARAKIRTHY C stands at the top with the highest citation count within this group (300), followed by HAN H (276), KHAN S (268) and ADIL M (257).



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Figure 4. Most Productive Authors

Table 3: Top 10 most relevant authors by articles and citations in Research on Perceived Risk and Consumer Trust in Online Food Purchasing

Author	Articles	Total Citations
PAUL J	9	739
ALI A	8	538
GUPTA S	8	110
CHAKRABORTY D	7	421
ADIL M	6	257
HAN H	6	276
HWANG J	6	151
JEBARAJAKIRTHY C	6	300
KHAN S	6	268

LIÉBANA-CABANILLAS F	6	158

Source: Created by Authors

5.5 Lotka's Law

Lotka's law explains the production pattern of authors publishing in a particular subject area Nicholls, P. T., 1989). According to Lotka's Law of scientific productivity, the number of authors contributing n publications is approximately 1/n21/n^2 of the number of authors contributing a single publication. Consequently, approx. 60% of authors are expected to contribute one publication, 15% two publications, and about 7% three publications (Lotka, 1926; Rowlands, 2005; Chung & Cox, 1990). The dataset shows that publication production is distributed unevenly. Among the identified authors, 1,701 authors (88.27%) contributed only one article, accounting for the largest share of the author population; 149 authors (7.73%) published 2 articles, and an additional 40 authors (2.07%) contributed to 3 articles. Figure 5 presents a graphical representation of Lotka's Law for author productivity on perceived risk, consumer trust, and online food purchasing; the graphs show a pronounced decline in the proportion of authors as the number of documents written increases. Somewhere around 88% of authors have contributed only one publication; later, the proportion sharply declines to around 8% of authors for 2 publications and approximately 2% of authors with a count of 3 publications. The parameters of Lotka depicts estimated beta value of 3.36 and a constant C of 0.8591, the coefficient value(R2) of 0.9643, which indicates a very strong correspondence between the author productivity distribution and fitter Lotka model.

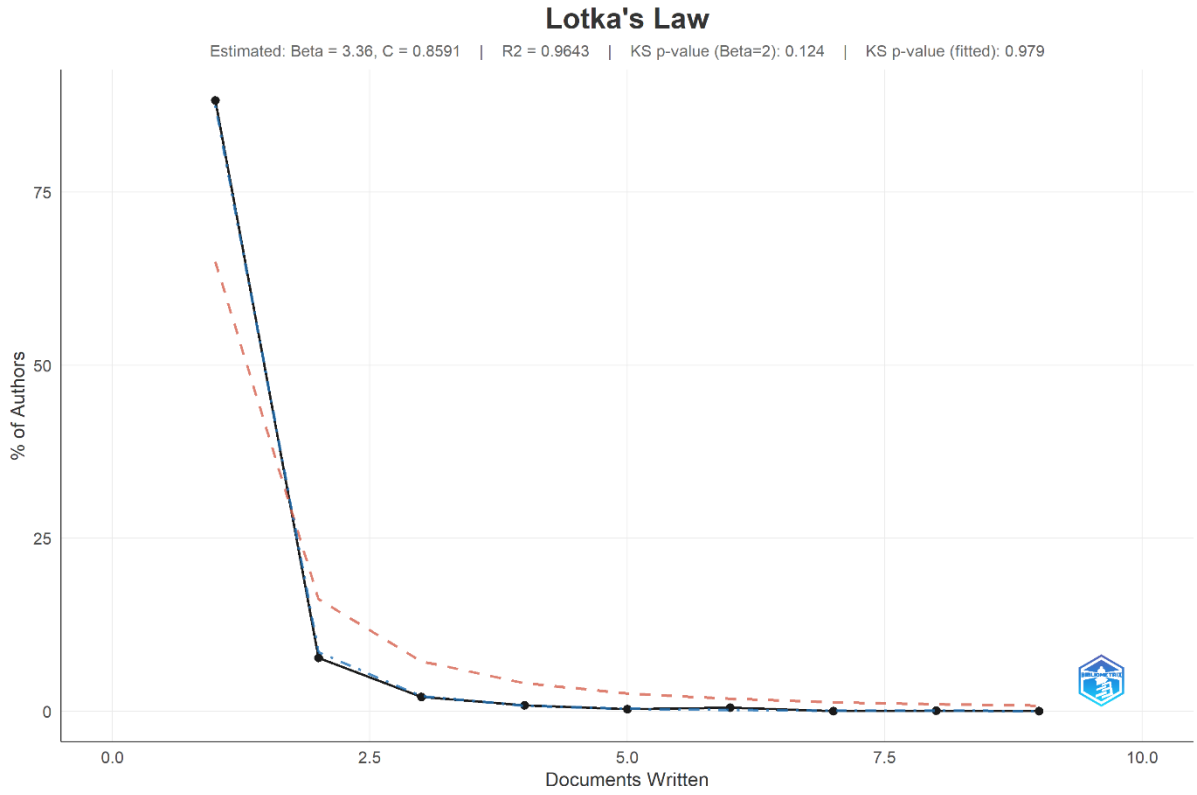


Figure 5: Lotka's Law: Observed and Fitted Distribution of Author Productivity

Table 4: Distribution of Authors According to Number of Articles Published Based on Lotka's Law

Number of Articles Written	Number of Authors	Proportion of Authors
1	1701	0.882719253
2	149	0.077322263
3	40	0.020757654
4	17	0.008822003
5	6	0.003113648
6	10	0.005189414
7	1	0.000518941
8	2	0.001037883
9	1	0.000518941

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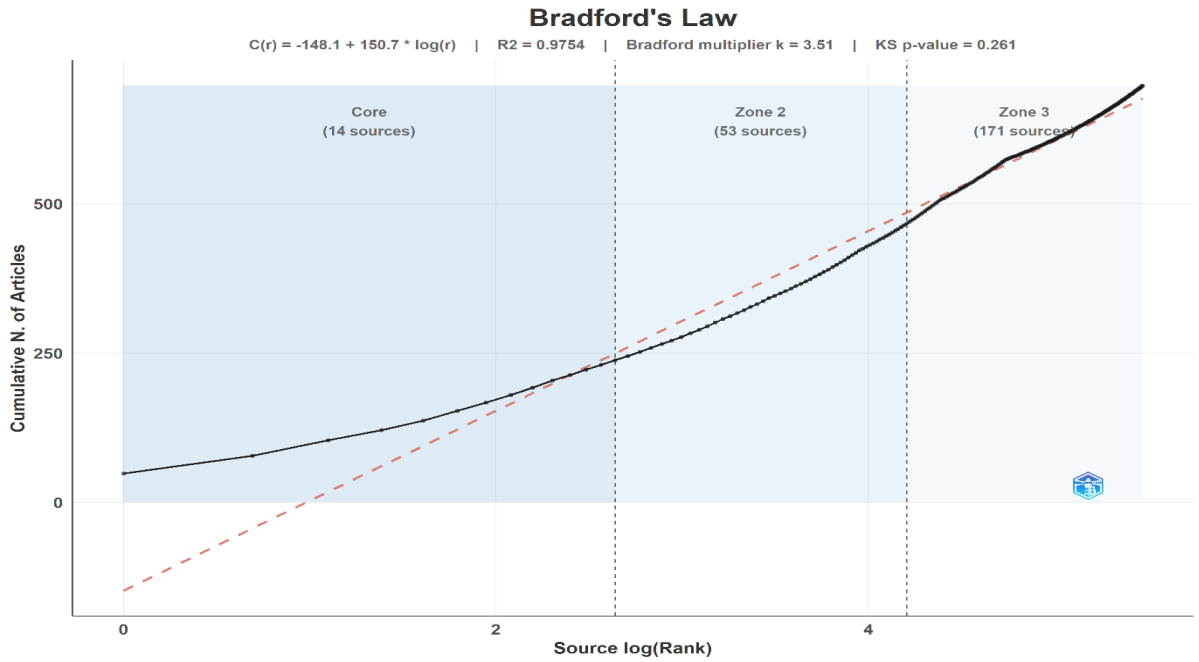
5.6 Bradford's Law

Bradford, S. C. (1976) introduced the law of scattering in 1934, where he describes the uneven distribution of articles on a particular subject across different scientific journals. According to the law, a relatively small compilation of journals functions as the core or the nucleus in which a considerable portion of literature is concerned; on the other hand, progressively larger assemblages of big journals are requisite to yield a comparable quantity of articles. Coinciding with the rate of productivity of the publications, the law has classified the journals into three different successive zones; Zone 1 constitutes the core group of very prolific journals, catalysing for any region, in contrast to Zones 2 and Zones 3, comprises increasingly more numerous groups of journals accounting roughly for similar proportions of publications (Kirkendall, D. T., & Krustrup, P. (2022). Table 5 presents the Bradford's Law analysis of 698 articles documented across 238 journals. The distribution of the sources into three different zones is illustrated, based on their publication productivity. Zone 1 represents the Core group of highly productive journals with number of 14 journals, published 238 articles, while Zone 2 presents an intermediate or secondary group, with 53 journals, published 229 articles and at last, the following Zone 3 comprised the largest and the most peripheral group of 171 journals, documented 231 articles. These results indicate that approximately one-third of the research articles are concentrated within each zone, although the number of journals increases substantially from the core zone to the subsequent zones.

Table 5: Bradford's Law Distribution of Sources

Zone	Number of Journals	Ratio of Journals	Number of Articles	Ratio of Articles
Zone 1 (Core)	**14**	**5.9%**	**238**	**34.1%**
Zone 2 (Intermediate)	**53**	**22.3%**	**229**	**32.8%**
Zone 3 (Peripheral)	**171**	**71.8%**	**231**	**33.1%**

Source: Created by Authors

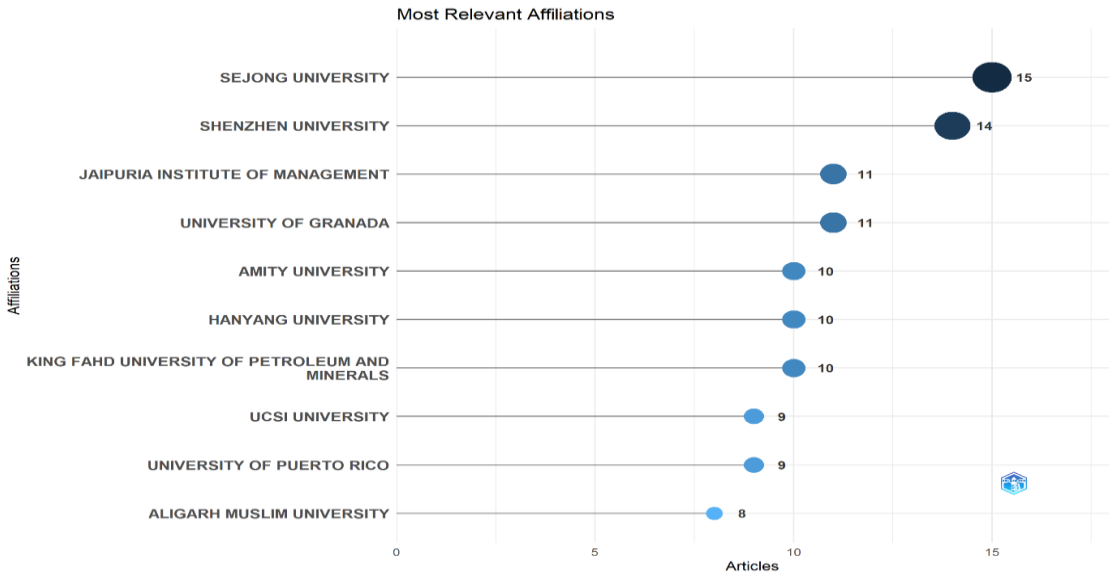


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Figure 6. Observed distribution vs. Bradford's law distribution

5.7 Affiliation analysis

Figure 7 presents the top 10 universities with the highest number of author affiliations in the research on Perceived Risk and Consumer Trust in Online Food Purchasing. Sejong University leads with 15 affiliations, followed by Shenzhen University with 14. Jaipur Institute of Management and the University of Granada are tied at 11 affiliations each, while three institutions, including Amity University, Hanyang University and King Fahd University of Petroleum and Minerals, jointly occupy the 10th position with 10 affiliations.



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Figure 7. Top 10 most prominent affiliations

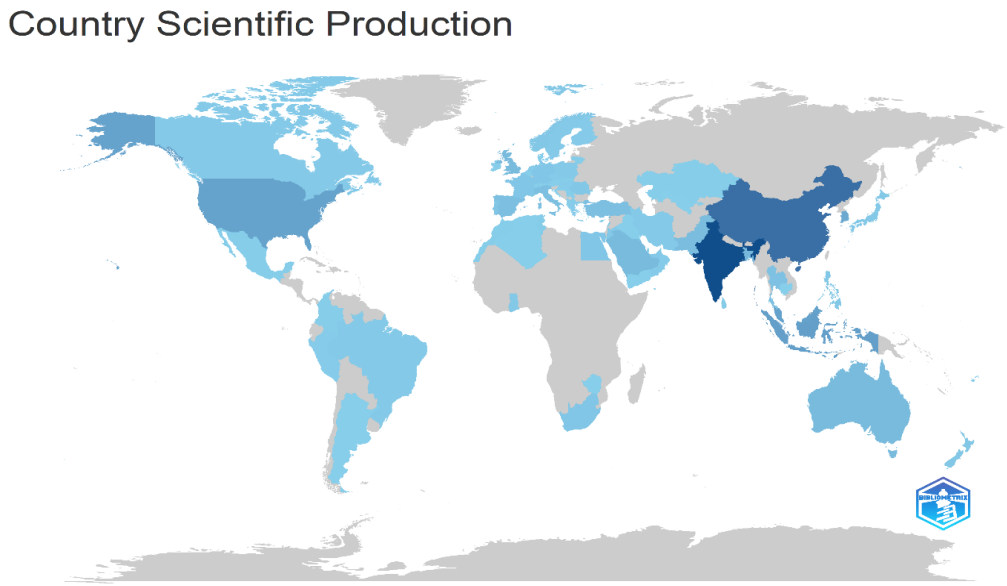
5.8 Country Analysis

The country analysis reveals a colossal variation in the productivity and scholarly impact within the field of perceived risk and consumer trust in online food purchasing. With 316 publications and 3516 citations, India has emerged as the most productive country, followed by China with 224 publications and 2782 citations. Indonesia and Malaysia also demonstrated substantial publication activity, with 115 and 101 publications, respectively, and recorded relatively 659 and 491 citation counts. Among the other countries, USA, South Korea, Bangladesh, and the United Kingdom contributed 98,85, 51, and 46 publications, respectively, while Australia accounted for 43 publications. Overall, the results indicate that Asian countries, particularly India and China, dominate research productivity in this field, whereas several countries with fewer publications demonstrate considerable scholarly impact through citations.

Table 6: Top 10 most productive countries based on Publications and Citations

COUNTRY	PUBLICATIONS	CITATIONS
INDIA	316	3516
CHINA	224	2782
INDONESIA	115	659
MALAYSIA	101	491
USA	98	1045
SOUTH KOREA	85	1634
BANGLADESH	51	227
UK	46	620
AUSTRALIA	43	450
SAUDI ARABIA	43	201

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Figure 8. Most prominent countries

5.9 Most Globally Cited Documents

Table 7 analyses the most cited documents and highlights publications that have made a substantial contribution to the field of perceived risk and consumer trust in online purchasing. The results point to a substantial and enduring impact by Roh T. (2022), published in the Journal of Retailing and Consumer Services, receiving a total of 429 citations, with an average of 85 citations per year. This was followed by Sharma AP (2021) in the International Journal of Consumer Studies, which received 333 citations with 55.5 citations per year, and Mariani MM (2023) in the Journal of Business Research, with 327 citations and an annual citation rate of 81.8. Kang J-W (2019) and Sharma K (2023) also demonstrated substantial scholarly impact, receiving 313 and 307 citations, respectively. Other highly cited contributions include Gupta A. (2020), Tran LTT (2021), Liobikienė G. (2017), Kimiagari S. (2021), and Miao M. (2022), with total citations ranging from 285 to 231. Overall, the findings indicate that these highly cited documents have significantly shaped the research landscape by addressing important issues related to consumer behaviour, online purchasing, trust, perceived risk, and digital food consumption.

Table 7: Top 10 most productive papers

Paper	DOI	Total Citations	TC per Year
ROH T, 2022, J RETAIL CONSUM SERV	10.1016/j.jretconser.2022.102988	429	85.8
SHARMA AP, 2021, INT J CONSUM STUD	10.1111/ijcs.12722	333	55.5
MARIANI MM, 2023, J BUS RES	10.1016/j.jbusres.2023.113838	327	81.8
KANG J-W, 2019, INT J HOSP MANAGE	10.1016/j.ijhm.2018.10.011	313	39.1
SHARMA K, 2023, BUS STRATEGY ENVIRON	10.1002/bse.3237	307	76.8
GUPTA A, 2020, INT J INF MANAGE	10.1016/j.ijinfomgt.2020.102094	285	40.7
TRAN LTT, 2021, J RETAIL CONSUM SERV	10.1016/j.jretconser.2020.102287	272	45.3
LIOBIKIENĖ G, 2017, J CLEAN PROD	10.1016/j.jclepro.2017.05.204	257	25.7
KIMIAGARI S, 2021, J RETAIL CONSUM SERV	10.1016/j.jretconser.2021.102567	248	41.3
MIAO M, 2022, ASIA PAC J MARK LOGIST	10.1108/APJML-03-2021-0221	231	46.2

5.10 Tree Map Analysis of Keyword Occurrences

The Tree map provides a visual representation of the frequency of keywords appearing in the selected bibliometric dataset. The area occupied by each rectangle corresponds to the frequency of the respective keyword, making it possible to identify the concepts that receive greater attention in the existing literature. As shown in the figure, **trust** records the highest frequency, with 118 occurrences, accounting for 11% as displayed in the visualisation. It is followed by **purchase intention** (65 occurrences; 6%) and **consumption behaviour** (52 occurrences; 5%). This distribution indicates that understanding consumer trust and purchasing-related behaviour is a major concern in the literature examined.

The appearance of perceived risk (44 occurrences; 4%) further highlights researchers' interest in the uncertainties consumers encounter when making online purchasing decisions. Other notable keywords include e-commerce (35 occurrences; 3%), consumer behaviour (32 occurrences; 3%), COVID-19(31 occurrences; 3%), and perceived value (31 occurrences;3%). The presence of artificial intelligence and attitude, with 29 occurrences each, also points to the relevance of technological developments and consumer perceptions in shaping digital marketplace research.



Source: Created by Authors

Figure 9. Tree map analysis

5.11 Thematic Evolution

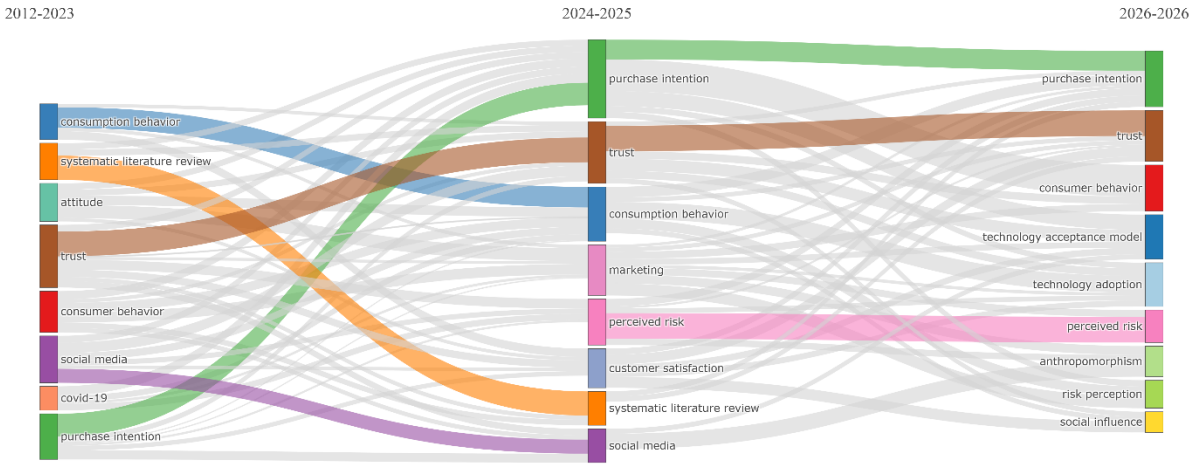
The thematic evolution analysis provides insights into how research themes related to consumer behaviour, trust, perceived risk, and online purchasing developed over time. The map divides the study period into three phases, 2012–2023, 2024–2025, and 2026, representing the relationships between keywords across these periods, showing how earlier research topics continue, develop, or shift into new themes.

During 2012–2023, the major research themes included consumption behavior, systematic literature review, attitude, trust, consumer behavior, social media, COVID-19, and purchase intention. These themes indicate that earlier research primarily focused on understanding consumer attitudes, trust, and purchasing decisions, alongside the influence of social media and the COVID-19 pandemic.

In 2024–2025, research attention became more concentrated on purchase intention, trust, consumption behavior, marketing, perceived risk, customer satisfaction, systematic literature review, and social media. This reflects continued interest in consumer decision-making, with greater emphasis on marketing-related factors, risk perceptions, and customer experiences.

In 2026, the themes include purchase intention, trust, consumer behavior, technology acceptance model, technology adoption, perceived risk, anthropomorphism, risk perception, and social influence. This suggests a growing research focus on technology-driven consumer behavior, technology adoption, and the psychological and social factors influencing purchasing decisions.

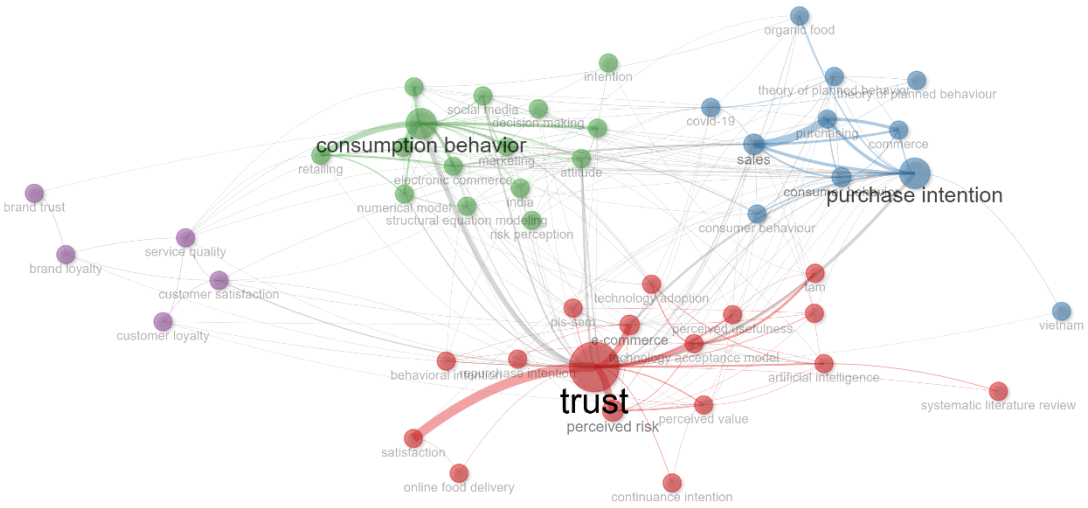
Overall, the diagram indicates a transition from traditional consumer behavior and attitude-related research toward technology adoption, purchase intention, trust, and perceived risk.



Source: Created by Authors

Figure 10. Thematic evolution

5.12 Keyword Analysis



5.12.1 Cluster 1: Dominant Thematic Concentration: Red Cluster

The red cluster, contains a prominent central node connected to numerous surrounding nodes. This structure suggests that the central keyword occupies a structurally important position within the cluster and may serve as a focal concept linking several related terms. It is centred on purchase intention and related consumer decision-making concepts, highlighting the importance of understanding factors that influence purchasing behaviour.

5.12.2 Cluster 2: Interconnected Thematic Grouping: Blue Cluster

The blue cluster, positioned on the left side of the network, comprises several interconnected nodes, including a relatively prominent node with multiple links to other keywords. This configuration suggests that the cluster contains a group of

concepts that frequently occur together across the analysed documents. It reflects research related to purchasing and other connected consumer-related concepts.

5.12.3 Cluster 3: Secondary Thematic Concentration: Green Cluster

The green cluster, situated in the upper-central region, exhibits a comparatively compact arrangement of interconnected keywords. The presence of multiple links among the green nodes suggests that these terms share recurring associations within the literature. Represents themes associated with consumption behaviour and related consumer research topics.

5.12.4 Cluster 4: Peripheral Thematic Grouping: Purple Cluster

The purple cluster, located near the bottom of the network, contains only two visibly connected nodes. Compared with the other clusters, it has a limited number of internal connections and appears peripheral to the main network structure.

6. Discussion and Conclusion

This study examines the evolution, intellectual structure, influential contributors, dominant thematic clusters, and emerging research directions in the field of perceived risk, consumer trust, and online food purchasing.

6.1 Evolution of Research on Perceived Risk and Consumer Trust (RQ1)

The findings reveal substantial growth in scholarly interest in perceived risk, consumer trust, and online food purchasing. The dataset reports 698 documents published across 238 sources during 2012–2026, with an annual scientific growth rate of 42.76%. This expansion indicates increasing academic attention to the factors influencing consumer decisions in digital food-purchasing environments. The average of 27.35 citations per document further suggests that the literature has received considerable scholarly attention, although citation counts may vary according to publication age and topic.

6.2 Influential Authors, Sources, Countries, and Scholarly Contributions (RQ2)

The productivity and citation analyses identify several influential contributors to this research domain. Paul J. emerged as the most productive author, with 9 publications and 739 citations, followed by Ali A., with 8 publications and 538 citations. Chakraborty D. also demonstrated notable scholarly influence, with 7 publications and 421 citations. These results indicate that a relatively small group of authors has made substantial contributions to the development of the literature. The application of Lotka's law reveals a highly uneven distribution of author productivity. Approximately 88.27% of authors contributed only one publication, while substantially fewer authors produced multiple papers. It indicates an opportunity to strengthen long-term research programmes and collaborative networks. The source analysis identifies the Journal of Retailing and Consumer Services as the leading publication outlet, with 48 articles and 3,559 citations. The Bradford's law analysis further identifies 14 core journals publishing 238 articles, representing 34.1% of the dataset. At the country level, India and China lead in publication output, with 316 and 224 publications, respectively. The findings also indicate the importance of Asian research contributions to this field. International co-authorship accounts for 35.47% of the publications, demonstrating an established level of cross-country collaboration.

6.3 Intellectual Structure of the Research Domain (RQ3)

The intellectual structure of the field reflects the integration of established consumer behaviour theories with research on digital purchasing and technology acceptance. The keyword analysis identifies trust as the most frequent keyword, with 118 occurrences, followed by purchase intention (65), consumption behaviour (52), and perceived risk (44). E-commerce, perceived value, consumer behaviour, COVID-19, and artificial intelligence also feature prominently in the dataset.

The keyword network also identifies four interconnected thematic groupings. The red cluster displays a comparatively dense network, the blue cluster contains several interconnected concepts, the green cluster occupies a potential bridging position, and the purple cluster appears relatively peripheral. These structural patterns indicate that the literature contains both strongly connected research areas and narrower thematic associations.

6.4 Dominant Thematic Clusters and Conceptual Themes (RQ4)

First, trust and purchase intention constitute the dominant and persistent themes. Their prominence across the keyword and thematic evolution analyses indicates that understanding the development of consumer confidence and its relationship with purchasing decisions remains a central research concern. Second, perceived risk remains an important explanatory concept. Consumers may experience uncertainty about food safety, hygiene, freshness, delivery reliability, financial loss, privacy, and whether the delivered product will meet expectations. Third, consumer behaviour, perceived value, and customer satisfaction represent interconnected areas of interest. Fourth, technology adoption and artificial intelligence represent emerging areas of investigation. Finally, the literature is interdisciplinary and geographically diverse.

6.5 Emerging Research Themes and Future Directions (RQ5)

The thematic evolution analysis identifies artificial intelligence, intention to use, perceived risk, customer satisfaction, perceived value, and brand love among the themes appearing in the later period. These themes provide a basis for identifying future research directions. **First,** future studies could investigate how artificial intelligence-enabled recommendations, automated customer support, and personalised platform interfaces influence consumer trust and perceived risk. **Second,** further research is needed to examine the multidimensional nature of perceived risk in online food purchasing. **Third**, future research could examine the mechanisms connecting perceived risk, consumer trust, perceived value, satisfaction, and purchasing behaviour. **Fourth**, comparative studies across countries and consumer groups could address contextual differences in online food-purchasing behaviour.

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