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Extended Abstract

**RESEARCH TRENDS IN CUSTOMER SATISFACTION IN ONLINE
SHOPPING**

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Abstract

Purpose: The study aims to provide research and publication trends on customer satisfaction in online shopping based on the bibliometric analysis of 184 research articles published in the field of business, management, and accounting.

Design/methodology/approach: The research articles for the study were selected using the Scopus database. The citation analysis, co-citation analysis, bibliographic coupling, and co-word analysis were performed to identify the most influential journals, authors, countries, articles, keywords, and emerging themes. Vos-viewer software was used to map and visualise the bibliometric network among the articles.

Findings: The findings indicate that the studies in the area are broadly divided into four themes: 1) Acceptance towards online shopping, 2) Purchasing behaviour, 3) Online

shopping experience 4) Emotional and cognitive aspects of customers. Furthermore, the study also found that the emerging keywords in this field are service recovery, customer trust, and the effect of covid-19 on customer satisfaction.

Research Implications: The findings of this study contribute by providing a retrospective overview of the field using an objectively driven approach, which is helpful for the prospective researchers.

Originality/value: This is the first study that uses bibliometric analysis to identify and visualise key research trends in customer satisfaction in online shopping.

Paper Type: Literature review

Keywords: Customer Satisfaction, Online Shopping, Bibliometric analysis

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Research Trends in Customer Satisfaction in Online Shopping

1. Introduction

The COVID-19 pandemic has substantially increased the demand for online shopping to reduce human-to-human interactions. Several businesses have shifted to an online mode due to the pandemic. According to a survey conducted by the World Economic Forum (2021), e-commerce usage on smartphones doubled in 2021 compared to 2018. Online shopping has provided time-saving, convenient, and comfortable shopping and has taken care of consumers' health concerns of lesser human interaction during the pandemic.

Online shopping is the simplest, fastest, and most convenient way to shop globally, anytime, and with no time constraints. In particular, online shopping has grown its popularity due to advantages such as quick access to product information, flexible payment choices, convenience in purchasing, a wide variety of options, and easy return and exchange policies. With the rise of e-commerce, where shopping is convenient, easy and competition is just a click away, the marketers must focus on building better customer relationships so that customers are happy to keep making purchases with the brand, resulting in customer loyalty (Veloso et al. 2020). The question of how to satisfy customers in an online shopping scenario thus becomes the most critical concern of many businesses. As a result, understanding customer satisfaction and gaining value from the research has become essential for managers. For that matter, the academic literature on customer satisfaction has recently gained attention.

The field of customer satisfaction in online shopping has been the subject of substantial interest over the last 20 years, with the number of publications reaching 184 by April 2022. (Refer to figure 1). This study aims to employ bibliometric analysis to understand the field's intellectual structure, providing scholars with an overview of the area and identifying the emerging research themes. There have been a few literature review studies done in this field (Perea Y Monsuwé et al., 2004; Chen et al., 2008; Kalia et al., 2017; Sánchez-Rebull et al., 2018). However, this is the first study that attempts to conduct a bibliometric analysis to get a broad

overview of influential authors, journals, countries, and articles. The study aims to provide research and publication trends in the field based on the bibliometric analysis of 184 research articles published in business, management, and accounting. The main research questions of this study are as follows:

RQ1: What is the year-wise trend of research in the field? Which are the top-cited articles?

RQ2: What are the broad research themes in the field?

RQ3: What type of journals are publishing in the field?

RQ4: Which are the leading countries publishing in the field?

RQ5: Who are the influential authors in the field?

RQ6: What are the emerging keywords in the field?

2. Conceptual Background

The concept of customer satisfaction has been significantly used in the literature for many decades. Oliver (1980) introduced the expectancy-disconfirmation theory and explained consumer satisfaction as a "subjective comparison between expectation and perception". According to Bolton and Drew (1991), customer satisfaction or dissatisfaction results from disconfirmation when past expectations and actual performance differ. When customer satisfaction falls short of expectations, the customer is dissatisfied and may not utilise the product or service again. On the other hand, a satisfied customer is more likely to repeat purchases when his expectations are realised. All these different definitions of customer satisfaction have three common elements, which Narumon N. (2002) regarded as a) customer satisfaction is a cognitive or social response, b) the response is related to specific focus areas such as expectations, product, consumption experience, etc., and lastly c) the response occurs at a specific period (after consumption, after choosing, based on accumulated experience, and so on). Hence, customer satisfaction includes three main components: a response to a specific focus selected at a specific time. Online shopping describes a process wherein a customer purchases a product over the internet (Kahar et al., 2012). Online shopping is also referred to as electronic shopping. (Ha and Akamavi, 2009; Collin, P. H.,2003)

The existing literature has very few literature review studies on 'customer satisfaction' or 'online shopping'. For example, Perea Y Monsuwé et al., (2004) reviewed the studies on

factors affecting online shopping and proposed a conceptual framework. In a study, Chen et al. (2008) critically examined the studies that developed e-satisfaction scales. In recent years, Kalia et al. (2017) and Sánchez-Rebull et al. (2018) reviewed the studies on factors influencing customer satisfaction and provided a conceptual basis. The studies further found that the antecedents of customer satisfaction have been studied significantly compared to the consequences of customer satisfaction. These studies indicate that previous literature reviews have either looked into ‘customer satisfaction’ or ‘online shopping’ and not combinedly in the field. There has been no comprehensive bibliometric study in the literature that provides prospective researchers with an overview of the area. This study fills this research gap by identifying influential authors, journals, countries, articles, and emerging research themes of the field using bibliometric analysis.

The bibliometric analysis has gained the interest of academicians because of its scientific methodology, objectivity, and unbiasedness, unlike in the case of narrative literature review. (Gao et al, 2021). Bibliometric analysis is a scientific method of investigating the intellectual structure of a field. This analysis technique is utilised to quantitatively study the structure of the area using visual representations.

3. Methodology

The Scopus database was used to extract research publications on customer satisfaction in online shopping. The search took place in April 2022. The exact search string is mentioned in table 1. Since the terms ‘consumer satisfaction’ and ‘customer satisfaction’ have been used interchangeably in the literature (Narumon N., 2002; Hom, 2000), they were likewise used in the search. Similarly, according to Ha and Akamavi (2009); Collin, P. H. (2003), the terms ‘online shopping’ and ‘electronic shopping’ mean the same and can be interchangeably used. Therefore, these terms were also used in search of articles. This initial search resulted in 608 documents. Only research articles were included in the study as they are the primary sources of peer-reviewed academic literature, unlike conference proceedings, book chapters, reviews, and editorials. (Lim *et al.*, 2021). Furthermore, articles related to business management and accounting, and in the English language were considered for the study. This resulted in a final selection of 184 research articles.

Table 1: Search Process

Database	Scopus
Search String	<i>(TITLE-ABS-KEY ("consumer satisfaction" OR "customer satisfaction") AND TITLE-ABS-KEY ("online shopping" OR "electronic shopping"))</i>
Result	608 documents
Filter	Included: Document Type- Article Subject area- Business, Management, and Accounting Language- English
Result	184 articles

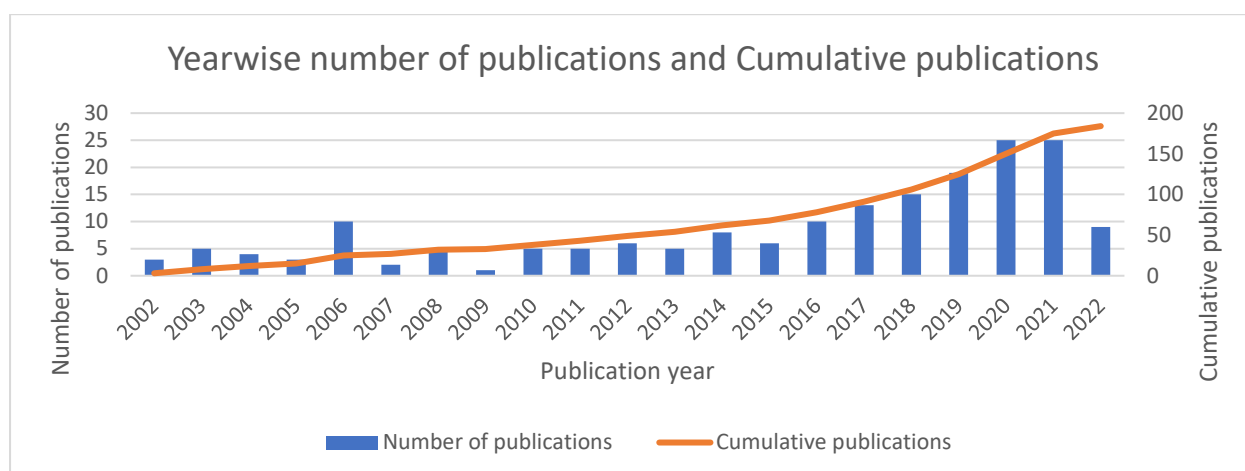
4. Analysis and Results

4.1. Analysis of Articles

4.1.1. Year-wise publication trend

Figure 1 shows the graph displaying trends of research on customer satisfaction in online shopping, indicating an increase in the number of research articles produced. The figure shows that studies in this domain started in 2002 and had some fluctuations in the number of studies till 2015, but gained momentum after that. There is also a sudden spike in the number of studies in 2006; however, the reason is not known. More than half of the total publications in this field were done after 2015. The increase in the number of studies post-2015 shows the growing interest of researchers in the area. As shown in figure 1, there was a considerable increase in the number of publications from 2016.

Figure 1: Number of publications and cumulative publications.



4.1.2 Top-cited articles

Table 2 shows the leading articles on customer satisfaction in online shopping. The paper that received the highest citation is by Wolfinbarger and Gilly (2003) titled ‘eTailQ: Dimensionalizing, measuring and predicting etail quality’. In this paper, the author applied the transaction process model to electronic services and included utilitarian and hedonic e-service quality features, measuring service quality that captures all stages of the electronic service delivery process (eTransQual). The results showed that functionality, enjoyment, process, reliability, and responsiveness positively influence perceived value and customer satisfaction. The paper receiving the second-highest citation is by McKinney *et. al.* (2002) titled ‘The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach’, which examines the information and system quality of websites. Table 2 shows that the information and management journal is the most influential and contributing journal, with four publications in the list of top 15 most cited articles (table 2).

Table 2: Top-cited articles in the field

Rank	Authors	Publication Title	Year	Source title	Citations
1	Wolfinbarger M., Gilly M.C.	eTailQ: Dimensionalizing, measuring and predicting etail quality	2003	<i>Journal of Retailing</i>	1302
2	McKinney V., Yoon K., Zahedi F.	The measurement of Web-customer satisfaction: An expectation and disconfirmation approach	2002	<i>Information Systems Research</i>	1231

3	Devaraj S., Fan M., Kohli R.	Antecedents of B2C channel satisfaction and preference: Validating e-commerce metrics	2002	<i>Information Systems Research</i>	782
4	Vijayarathy L.R.	Predicting consumer intentions to use online shopping: The case for an augmented technology acceptance model	2004	<i>Information and Management</i>	686
5	Bauer H.H., Falk T., Hammerschmidt M.	eTransQual: A transaction process-based approach for capturing service quality in online shopping	2006	<i>Journal of Business Research</i>	516
6	Shih H.-P.	An empirical study on predicting user acceptance of e-shopping on the Web	2004	<i>Information and Management</i>	455
7	Bai B., Law R., Wen I.	The impact of website quality on customer satisfaction and purchase intentions: Evidence from Chinese online visitors	2008	<i>International Journal of Hospitality Management</i>	400
8	Kim M.-J., Chung N., Lee C.-K.	The effect of perceived trust on electronic commerce: Shopping online for tourism products and services in South Korea	2011	<i>Tourism Management</i>	385
9	Zviran M., Glezer C., Avni I.	User satisfaction from commercial web sites: The effect of design and use	2006	<i>Information and Management</i>	196
10	Luo J., Ba S., Zhang H.	The effectiveness of online shopping characteristics and well-designed websites on satisfaction	2012	<i>MIS Quarterly: Management Information Systems</i>	183
11	Éthier J., Hadaya P., Talbot J., Cadieux J.	B2C web site quality and emotions during online shopping episodes: An empirical study	2006	<i>Information and Management</i>	166
12	Liu X., He M., Gao F., Xie P.	An empirical study of online shopping customer satisfaction in China: A holistic perspective	2008	<i>International Journal of Retail and Distribution Management</i>	166
13	Yang Z., Peterson R.T., Cai S.	Services quality dimensions of Internet retailing: An exploratory analysis	2003	<i>Journal of Services Marketing</i>	164
14	Roman S.	The ethics of online retailing: A scale development and validation from the consumers' perspective	2007	<i>Journal of Business Ethics</i>	129
15	Pappas I.O., Pateli A.G., Giannakos M.N., Chrissikopoulos V.	Moderating effects of online shopping experience on customer satisfaction and repurchase intentions	2014	<i>International Journal of Retail and Distribution Management</i>	128

4.1.3. Clustering of articles using bibliographic coupling

In bibliometric clustering, clusters are generated based on citing publications; therefore, the recent publications also get visibility in the analysis. For that matter, bibliographic coupling helps understand a wide range of topics and their most recent advancements. When two articles cite the third article, it shows that both articles emphasise the same issues and have a similar research area (Donthu et al, 2021). The analysis was based on a minimum threshold of 20 citations of an article. This resulted in 56 out of 184 articles meeting the threshold criteria. The minimum threshold was kept for the clear representation of the visual map. (Gorzen et al, 2020). Four clusters were formed after a bibliographic coupling analysis of the 184 articles selected for the study. The clustering of all the analysis was based on the resolution parameter and minimum cluster size. The choice of resolution parameter depends on the level of granularity that the study demands. Choosing a resolution parameter and cluster size depends on the purpose of the study (Van and Waltman, 2022). An exploratory method was used to determine the minimum threshold and the number of clusters in the study. Since the aim of the study is to get an overview of the field, the small clusters were merged into the larger clusters. Here is a brief description of each cluster that includes the major emphasis and most referenced papers for each cluster.

Cluster 1- The red colour shows this cluster in the network map. (Figure 2). The articles in this cluster range from a period of 2002-to 2010, laying the theoretical foundation of the field. These studies primarily focus on developing conceptual frameworks for online satisfaction and examining the consumers' acceptance of online shopping. (McKinney et al., 2002; Kohli et al., 2004; Khalifa et al., 2002; Blake et al., 2005;) Many studies in this cluster use the technology acceptance model (TAM) to examine consumers' intention and adoption of online shopping technology. (Vijayasarathy, 2004; Shih, 2004; Liu et al., 2003; Baier & Stüber, 2010; Devaraj et al., 2002; Blake et al., 2005). TAM model, introduced by Fred Davis, is adopted from the Theory of Reasoned Action, which posits that individuals' acceptance of the technology is determined by perceived usefulness and perceived ease of use. Studies in this cluster use TAM in different forms. For eg, Liu et al. (2003) examine consumers' perception of the user interface of the websites using TAM. Likewise, Baier & Stüber (2010) uses TAM to study consumers' acceptance of the recommendation to buy. Similarly, Devaraj et al. (2002) examine online

channels' acceptance using TAM. A study by Vijayasathy (2004) extended the original model of TAM and included additional constructs such as compatibility, security, and privacy, and examined the consumer intention to adopt online shopping. The most cited paper in this cluster is 'The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach' by McKinney *et. al.* (2002), providing key constructs for measuring web satisfaction.

Cluster 2- The yellow colour shows this cluster on the map. The most cited paper in this cluster is 'eTailQ: dimensionalising, measuring and predicting etail quality' by Wolfinbarger and Gilly (2003). In this paper, the author applied the transaction process model to electronic service to include utilitarian and hedonic e-service quality features, and measured service quality that captures all stages of the electronic service delivery process (eTransQual). The results showed that functionality, enjoyment, process, reliability, and responsiveness positively influence perceived value and customer satisfaction. The studies in this cluster are broadly related to consumer purchasing behaviour. (Roy Dholakia & Zhao, 2009; Kim & Lennon, 2010). In a study, Nisar and Prabhakar (2017) found that customer satisfaction and loyalty positively influence online purchase behaviour. Furthermore, consumers with a more positive attitude toward the Internet and those who had purchased tangible goods prior have a high customer loyalty.

Cluster 3: This is represented by the blue colour on the network. The articles in this cluster were published in the period 2010-to 2020. This cluster is broadly related to the effects of consumers' online shopping experience and repurchase intention. The paper titled 'The Effectiveness of Online Shopping Characteristics and Well-Designed Websites on Satisfaction' by Luo *et al.*, (2012) received the highest citations (183) in this cluster. In this paper, the author studied the influence of product uncertainty and visibility of retailers on customer satisfaction and found that a low level of product uncertainty and high retailers' visibility enhance customer satisfaction. Customer experience provides a competitive edge in the online market. Vakulenko *et al.*, (2019) showed that last-mile delivery positively influences customer experience, enhancing customer satisfaction.

Similarly, Pappas *et al.* (2014) found a positive moderating role of prior customer experience between performance expectancy and customer satisfaction. In a study, Kuo *et al.* (2013) found that consumer inertia positively moderates the relationship between customer satisfaction and repurchase intentions. Similarly, Pham & Ahammad (2017) and Cao *et al.* (2018) found that

the most significant factors to online customer satisfaction are post-purchase experiences, such as return easiness and customer service attentiveness.

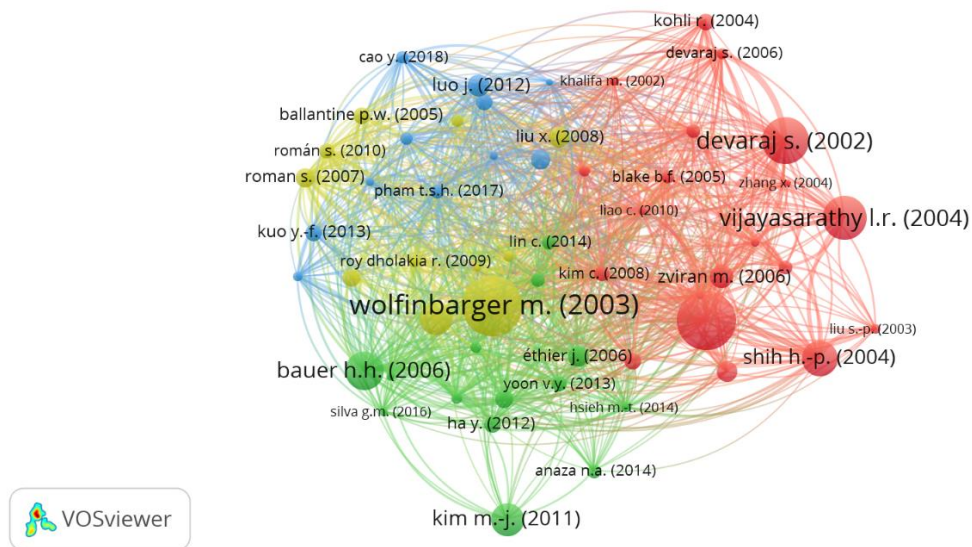
Cluster 4- The green color represents it on the map. The studies in this cluster are primarily related to customer cognitive behaviour (Anaza, 2014; Éthier et al., 2006; Ha & Im, 2012)

Éthier et al. (2006) studied the impact of website quality on customers' cognitive processes and found that website quality positively influenced the customers' emotional state. Likewise, Anaza (2014) examined the influence of personality type on customer satisfaction. Their results reveal that people with a high level of empathetic behavior are more satisfied with the service provider and are more likely to help other online buyers. Similarly, Ha & Im (2012) studied the effect of website design on customers' emotional and cognitive responses and found that the website design positively influences the emotional response, making the customers' shopping experience pleasant and increasing customer satisfaction.

Some studies in the cluster are also related to customer loyalty (Yoon et al., 2013; M. J. Kim et al., 2011). Silva & Gonçalves, (2016) studied factors affecting customer loyalty in offline and online modes in the case of travel agencies. They found that to establish high customer loyalty, the travel agencies should focus on both trust and perceived quality. In contrast, in the case of offline shopping, only trust is required for customer loyalty. Hsieh & Tsao (2014) studied the effect of perceived risk on loyalty and found that reducing the perceived risk in online shopping from the standpoint of website quality enhances customer loyalty.

The top-cited paper in this cluster is by Bauer et al. (2006) titled 'eTransQual: A transaction process-based approach for capturing service quality in online shopping. In this paper, the author examined hedonic quality aspects in consumer quality evaluation and found that enjoyment is a prominent factor in positively affecting repurchase intention and customer lifetime value.

Figure 2: Network visualisation of bibliographic coupling of the articles



4.2. Analysis of Journals

4.2.1. Top Journals publishing the articles

The top ten journals contributed around 28 percent of all research published (see table 3). The publication of these journals reveals a vast spectrum of areas including retailing, e-commerce, information systems, marketing, and management. The table shows that the Information and management journal is the top journal in terms of average citation of the article. In contrast, the International journal of retail and distribution management tops the list in terms of the number of published articles.

Table 3: Leading journals publishing the articles

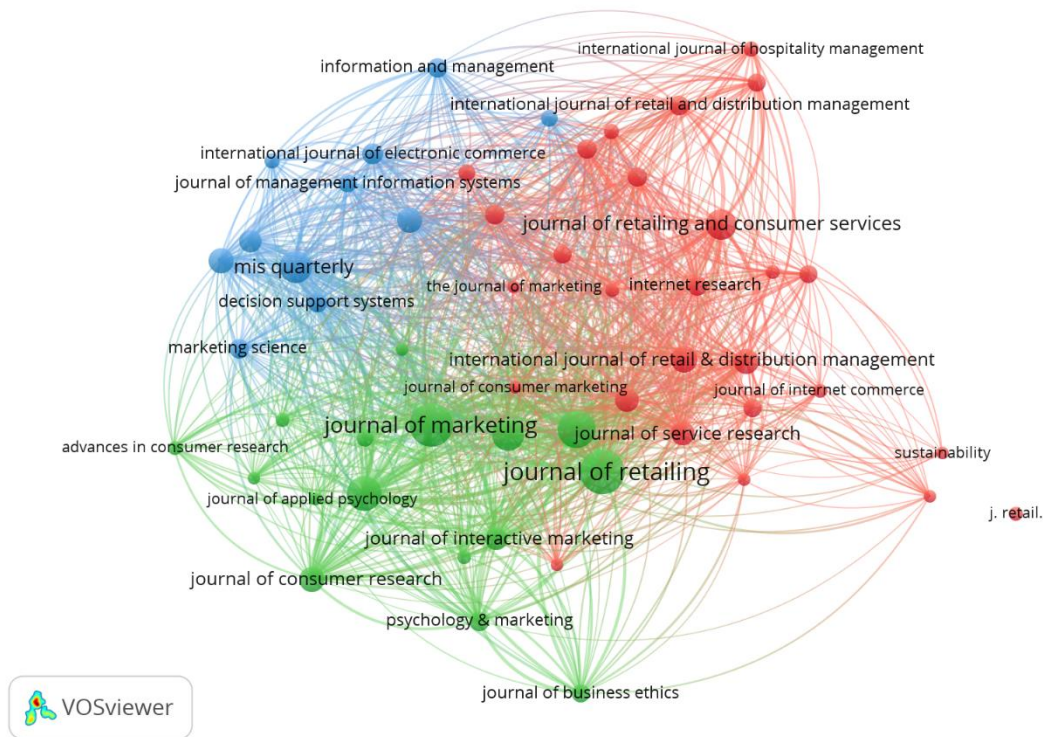
S. No	Journal Name	Publisher	No. of articles	Citations	Average citation of the article	ABDC Rank
1	International journal of retail and distribution management	Emerald Group Publishing Ltd.	8	455	56.875	A
2	Journal of retailing and consumer services	Elsevier	7	331	47.2857	A
3	Journal of asian finance, economics and business	Korea Distribution Science Association	7	40	5.7143	Not listed

4	Journal of electronic commerce in organisations	IGI Publishing	5	198	39.6	B
5	Information and management	Elsevier	4	1503	375.75	A*
6	Decision support systems	Elsevier	4	225	56.25	A*
7	Electronic commerce research and applications	Elsevier	4	162	40.5	C
8	Asia pacific journal of marketing and logistics	Emerald Group Publishing Ltd.	4	86	21.5	A
9	Journal of internet commerce	Routledge	4	19	4.75	B
10	International journal of electronic marketing and retailing	Inderscience Enterprises Ltd	4	18	4.5	C

4.2.2. Clustering of journals using co-citation analysis

Co-citation analysis is a technique wherein papers that are frequently cited together posit similar themes. This technique is used to identify underlying themes of the field and determine influential publications in the area. (Donthu *et al.*, 2021). The 184 articles chosen for this study are published in 111 journals. The co-citation analysis was performed on 111, keeping a minimum threshold of 30 citations of a journal. The minimum threshold was held for a clear representation of the visual map. (Gorzen *et al.*, 2020). This resulted in 54 journals meeting the criteria. As per the co-citation analysis, the more often two journals are co-cited, the more similar their broad research areas are. It is understandable from the figure that there are 3 clusters of journals represented by the three colours. The circle's colour corresponds to the cluster to which the item belongs, and the lines between circles represent co-citation linkages, while the link distance between two items indicates how closely the journals are associated. The link shows the relation or association between two items. For example, in figure 3, the journal of retailing and the journal of marketing have a relationship that is shown by the line connecting these two journals. Total link strength, in this case, would be the number of articles that cite both the journals together.

Figure 3: Network visualisation of co-citation of journals



In figure 3, the red colour denotes cluster 1. This cluster has the highest number of journals, with 27 journals. The top 5 journals in terms of total link strength in this cluster are the Journal of retailing and consumer services, Journal of services marketing, European journal of marketing, International journal of retail & distribution management, and the Journal of service research. These journals are broadly working in the research areas of retailing and service research. A few journals in this cluster also work on service-related industries like tourism, hospitality, and banking.

The green color shows the second cluster. The journals with high link strength in this cluster are the Journal of retailing, Journal of marketing, Journal of business research, Journal of marketing research, and the Journal of the academy of marketing science. The publications in these journals are mainly in consumer psychology, business, and marketing research.

The blue colour shows the third cluster in the network. This cluster has 11 journals, the lowest among all the clusters on the network. The top five journals in this cluster are MIS quarterly, Information systems research, Information & management, Management science, and International journal of electronic commerce. The broad research domain of journals in this

cluster is related to information systems and information technology and its application in business and management.

4.3. Analysis of Countries

The citation analysis works on the notion that the number of citations a publication receives determines its influence in the analysis. (Donthu et al., 2021). Table 4 shows the citation links of countries. It is observed that the United States has the highest citation and linkages with other countries. Regarding the number of documents, India is in the second position after the United States; however, India ranks the lowest in citation. The influential countries in terms of citations are the United States, Taiwan, South Korea, and Hong Kong.

Table 4: Leading countries in terms of number of citations

Rank	Country	Links	Total link strength	Documents	Citations	Average citations
1	United States	15	88	41	6018	146.78
2	Taiwan	7	11	11	858	78
3	South Korea	6	19	11	803	73
4	Hong Kong	9	22	7	699	99.86
5	Germany	9	16	4	597	149.25
6	China	12	34	16	526	32.88
7	Canada	5	8	4	371	92.75
8	United Kingdom	10	15	9	239	26.56
9	Spain	4	6	4	221	55.25
10	India	9	42	31	195	6.29

4.4. Analysis of Authors

4.4.1. Top authors in the field

The top authors in the research field of customer satisfaction in online shopping are listed in table 5. Urvashi Tandon from India has the highest number of publications in the field of customer satisfaction in online shopping, totalling 4 published articles. Tandon is primarily working in the area of consumer perception and determinants of customer satisfaction. The authors with the highest total citations are Sarv Devaraj and Rajiv Kohli, second in terms of the number of published articles. Both are working in the information systems and information technology domain. Ming Fan from the United States tops the list in average citations with two published articles. The leading authors in terms of the number of published articles primarily come from India and United States.

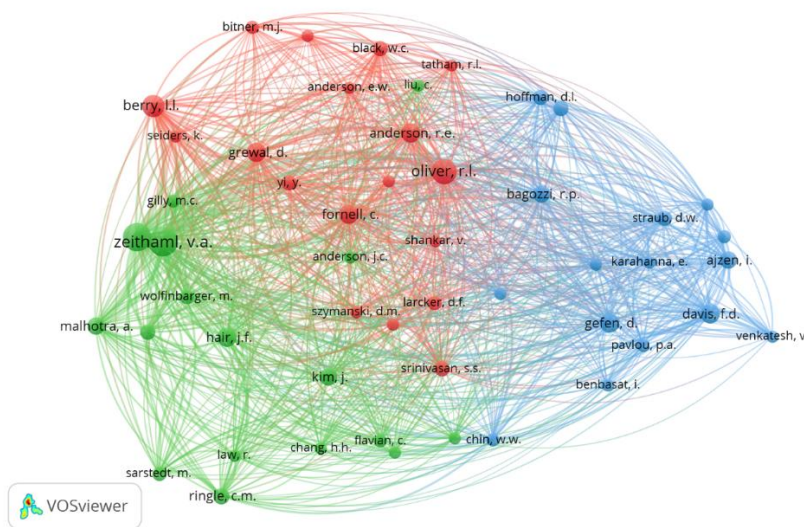
Table 5: Leading authors in terms of number of documents

Author	Affiliation	Country	No. of articles	H index	Total Citations	Average Citations
Urvashi Tandon	Chitkara Business School, Chitkara University, Rajpura, Punjab, India	India	4	10	76	19
Sarv Devaraj	Management Department Mendoza College of Business, University of Notre Dame	United States	3	27	941	313.67
Rajiv Kohli	Mason School of Business, College of William and Mary	United States	3	25	941	313.67
Ravi Kiran	Thapar University, Patiala	India	3	17	69	23
Ming Fan	University of Washington Business School, Seattle	United States	2	36	834	417
Kim Chulmin	Dept. of Distribution Management, Sungsim College of Foreign Language, Busan	South Korea	2	1	203	101.5
Paulo Duarte	Management and Economics Department at University of Beira Interior	Portugal	2	11	94	47
Jeewon Cho	College of Business, Oregon State University, Corvallis	United States	2	10	53	26.5
Insu Park	College of Business and Information Systems, Dakota State University	United States	2	9	53	26.5
H. R. Rao	Management Science and Systems, School of Management, University at Buffalo	United States	2	45	53	26.5
Ash Narayan Sah	School of Humanities and Social Sciences, Thapar University, Patiala	India	2	9	43	21.5
Yun Jung Lee	Willumstad School of Business, Adelphi University	United States	2	8	27	13.5
Punyatoya Pradhan	Xavier Institute of Management, Xavier University	India	2	8	11	5.5

Aancgal Aggarwal	Ansal University, Gurugram	India	2	2	8	4
Rahul Manmohan	Ansal University, Gurugram	India	2	3	8	4
Mohammad Fathian	School of Industrial Engineering, Iran University of Science and Technology	Iran	2	20	6	3
Zahra Tabaei	School of Industrial Engineering, Iran University of Science and Technology	Iran	2	3	6	3
Francis Sudhakar	National Institute of Technology Warangal	India	2	1	0	0
Syed Habeeb	National Institute of Technology Warangal	India	2	3	0	0

4.4.2. Clustering of authors using co-citation analysis

Figure 4: Network visualisation of co-citation of authors



The co-citation among authors is shown by the network visualisation map in figure 4. The analysis was based on a minimum threshold of 30 citations of an author. This resulted in 51 authors meeting the threshold criteria. The minimum threshold was kept for a clear representation of the visual map. (Gorzen et al., 2020). The circles represent authors, and the lines connecting circles represent the links or the association between authors. The circles of the same colour represent an attribute and are categorised as a cluster. Hence, different colours represent different clusters. The distance between the two circles shows how closely the two

authors are related regarding co-citations (Van Eck and Waltman, 2022). The weight of each circle is determined by the total link strength connecting to the circle. This indicates that circles with a higher weight are larger and are shown prominently on the map, showing strong connections with other items on the map.

The three colours in the network map represent the three clusters. The red colour represents the first cluster. The authors with the highest citation and total link strength in the first cluster are Oliver, Berry, Anderson, Fornell, Grewal. The authors in this cluster have worked in customer perception, customer loyalty, and post-purchase processes. A few circles or items of this cluster appear in the center of the map, indicating a close association of the authors listed at the center with other authors listed on the map.

The green colour denotes the second cluster on the map. Regarding citations and total link strength, the top authors in this cluster are Parasuraman, Zeithaml, Hair, Malhotra, and Ringle. These authors have worked on the research topics related to the role of technology in customer satisfaction and customer relationship management.

The blue colour shows the third cluster on the map. The influential authors in this cluster are Gefen, Davis, Bagozzi, Ajzen, and Straub. The authors in this cluster conduct research in e-commerce, consumer psychology, Neuroscience, and consumer experience in online shopping.

4.5. Analysis of Keywords

4.5.1. Most occurred keywords

Table 6: Most occurred keywords

Keywords	Links	Total link strength	Occurrences
customer satisfaction	34	124	72
online shopping	33	109	62
satisfaction	26	59	28
e-commerce	27	56	27
service quality	17	43	20
consumer behavior	13	32	17
trust	22	39	13
customer loyalty	12	28	12
repurchase intention	16	31	12

online retailing	16	25	11
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Table 6 shows that the term ‘customer satisfaction, which is also the study's focus area, is the highly occurred keyword with 72 occurrences and has links with 34 other keywords with a total link strength of 124. This is followed by the term ‘online shopping’ occurring 62 times, having a link with 33 keywords listed on the map, carrying a total link strength of 109.

4.5.2. Clustering of Keywords using co-occurrence analysis

Figure 5 and 6: Network and Overlay Visualization of Co-occurrence keywords

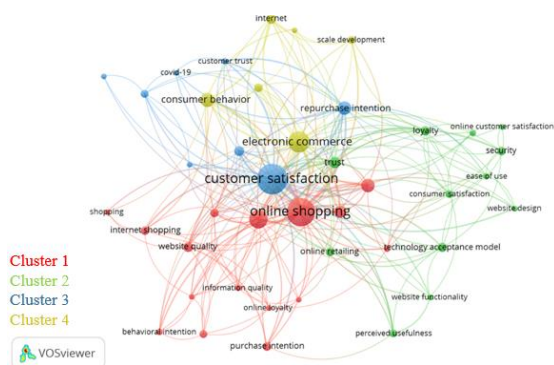


Figure 5: Network visualization map of author keywords co-occurrence analysis.
The circle and its color represent the keyword and the cluster it belongs to.

Note: The analysis was based on the keywords provided by the author of the article. The minimum threshold for the appearance of a keyword on the network map was kept as 3, which limited 45 keywords meeting the threshold out of 537 keywords.

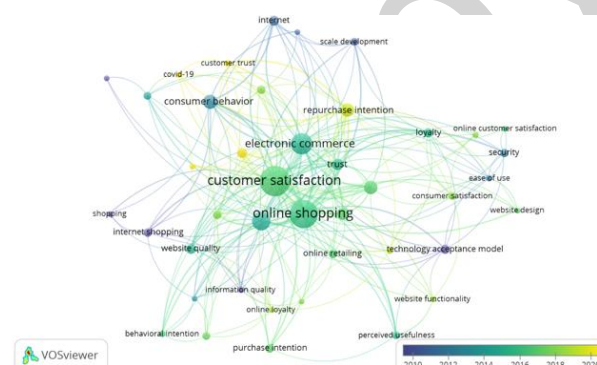


Figure 6: Overlay visualization map of author keywords co-occurrence analysis.
The circle color indicates the average publication year of the keyword as per the shaded box on the bottom right corner.

The keywords listed in the articles were analysed using co-occurrence analysis on Vos viewer. The co-occurrence analysis determines the association between keywords by studying their frequency of co-occurrences. In this way, Lim et al. (2022) suggested that the article clusters discovered using keyword co-occurrence analysis reflect the field's current state. This analysis was based on the keywords provided by the article's author. The minimum threshold for the appearance of a keyword on the network map was kept as 3, which limited 45 keywords meeting the threshold out of 537 keywords. This indicates that the minimum occurrence of a keyword should at least be 3 to appear on the visualisation map. The minimum threshold was kept for a clear representation of the map. (Gorzen et al., 2020).

Cluster 1 is shown in the red colour on the network map. The map (figure 5) shows that it has the highest number of links and strengths. The highly occurred keyword in cluster 1 is ‘online shopping’, which also appears on the center of the network map, indicating that they have the strongest connection with other terms.

Cluster 2 is shown in green colour. The second cluster focuses on research related to trust and loyalty, which are highly occurred terms associated with this cluster and have high total link strength. The other main keyword of coexistence in this cluster are technology acceptance model, perceived usefulness, website functionality, security, and website design. The research in this cluster started in early 2000, laying the foundation for research related to other clusters in customers during online shopping.

Cluster 3 is depicted in blue colour on the network map. The highly occurred keyword of this cluster is customer satisfaction and repurchase intention. These terms are also highly linked to items of other clusters. The overlay visualisation (figure 6) shows that the keywords in this cluster are relatively newer in the research area. Research areas like service recovery, repurchase intention, and issues of covid 19 related to customer satisfaction in online shopping are emerging keywords in the field.

Cluster 4 is represented by yellow colour and has the least total strength as compared to other clusters. However, the leading term in this cluster is 'electronic commerce' with 35 occurrences and 71 total link strength, appearing in the center, showing its association with other keywords.

5. Conclusion

This study provides a bibliometric analysis of customer satisfaction in online shopping using the Scopus database. This study aimed to identify the influential articles, journals, and authors in the field, as well as to determine the emerging themes. The total number of documents published in the area is 184 receiving a total citation of more than 10,000. More than half of the total documents were published between 2015-2022, indicating that the number of documents published each year has consistently increased since 2015. Moreover, with the growing number of research in the field, the number of citations received by the publications has also increased tremendously, showing the importance and recognition of the field.

Even though there are a few literature review studies published in the field of customer satisfaction in online shopping, no comprehensive bibliometric study is carried out to date that uses scientific methodology to identify prominent journals, authors, and articles in the field. This preliminary effort demonstrates the trends of influential publications and contributes to the area by providing a retrospective overview of the field using an objectively driven approach.

The study employed various types of bibliometric analysis to address the research questions mentioned in the earlier section of the paper. First, bibliometric coupling of the articles was done to examine the types and trends of published articles over the years. Moreover, the articles were categorised into four clusters depending on their research focus area. Identifying four broad theme clusters, which provide a retrospective overview of customer satisfaction in the online shopping domain, is one of the study's main findings. The articles in the first cluster grounded the field's theoretical foundations, primarily focusing on developing a conceptual framework and examining the consumers' acceptance of online shopping. The articles in the second cluster are related to purchasing behaviour of customers. The articles in the third cluster are related to the online shopping experience and repurchase intentions. The fourth cluster mainly focuses on the emotional and cognitive aspects of customers. Second, a co-citation analysis of the journals was performed to get an overview of journals published in this discipline. Using this analysis, journals were clustered according to their research areas. The findings indicate that journals publishing in this field are related to retailing, service research, consumer psychology, business and marketing, information systems and information technology, and their application in business and management. Third, the citation analysis of countries was performed to identify countries with influential publications in the field. The country-wise distribution of the publication revealed that the United States had the highest number of publications, as well as the highest number of total citations. India has the second-highest number of publications, although having only a few prominent publications in terms of the number of citations. Fourth, a co-citation analysis of authors revealed that the authors from the United States received the highest number of total and average citations. The authors were clustered as per their research areas and top authors were identified (Refer to table 5). Lastly, the co-occurrence keyword analysis was performed to identify emerging and prominent keywords, thereby providing emerging keywords. The findings show that recent publications focus on service recovery, customer trust, and factors affecting customer satisfaction post covid.

Altogether the field of customer satisfaction in online shopping has been gaining attention from academicians over the past few years. Given the modest number of influential articles and the fact that 184 articles have been published, there is a vast opportunity for academicians to explore the field. The already published articles would provide a robust foundation to the field by laying out the theoretical base and an opportunity to build on it. The findings of this study

contribute to the field by providing a retrospective overview of the area using an objectively driven approach.

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