

E-Service Quality and Customer Satisfaction: Insights and Trends from a Bibliometric Analysis

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Abstract

The rapid expansion of e-commerce has made e-service quality a critical factor in determining customer satisfaction. This bibliometric analysis explores the key research trends and future directions related to e-service quality and customer satisfaction in the e-commerce sector. By reviewing two decades of academic contributions, the study identifies the most influential articles, authors, and research patterns shaping this field. Key themes such as website usability, service reliability, security, and customer support consistently emerge as essential factors driving customer satisfaction in e-commerce. The study also highlights the growing complexity of managing customer expectations as online shopping becomes more widespread. While the literature has made significant progress, gaps remain in understanding how e-service quality varies across different regions, cultures, and industries. This calls for further research to explore these differences and develop tailored approaches for improving e-service quality within the global e-commerce landscape. The findings provide useful insights for researchers and practitioners seeking to enhance customer satisfaction by improving the e-service quality.

Keywords: E-Service Quality, Customer Satisfaction, E-Commerce, Bibliometric Analysis

Introduction

In the rapidly growing e-commerce industry, e-service quality plays a critical role in shaping customer satisfaction. E-service quality refers to the overall effectiveness of online services in delivering a smooth, reliable, and secure experience for customers (Sasono et al., 2021). Key dimensions of e-service quality, such as website usability, service reliability, responsiveness, and security, have been shown to significantly influence customer satisfaction and loyalty (Parasuraman et al., 2005). As more consumers shift towards online shopping, businesses

must prioritize high-quality e-services to retain customers and remain competitive in the digital marketplace (ADEKUNLE, & Razaq,2020).

Extensive research has been conducted on the relationship between e-service quality and customer satisfaction, with studies spanning various industries and geographic regions (Rita, Oliveira and Farisa, 2019). This body of work has consistently demonstrated the importance of improving e-service quality to enhance customer satisfaction and foster repeat business. However, despite the substantial contributions to the field, there are still gaps in understanding how e-service quality factors interact in different contexts, industries, and cultures. Further, while much research exists, there is a need to systematically analyse the trends, collaborations, and thematic focus areas within this vast literature.

To address this gap, this research will utilize bibliometric analysis to comprehensively examine the existing literature on e-service quality and customer satisfaction in e-commerce. Bibliometric analysis is a powerful tool used to quantitatively assess scientific research outputs, identify publication trends, and explore collaborative networks among researchers (Donthu et al., 2021). This study will focus on analyzing key aspects of the literature, including publication trends, co-authorship networks, co-occurrence of keywords, and bibliographic coupling. By examining these elements, the research aims to provide insights into the evolution of the field and highlight potential future research directions.

This study is developed to answer the following research questions:

RQ1: What are the publication trends in the research on e-service quality and customer satisfaction?

RQ2: Which are the most frequently cited documents in the study of e-service quality and customer satisfaction?

RQ3: Which countries exhibit strong bibliographic coupling in research on e-service quality and customer satisfaction?

RQ4: What research trends emerge from the co-occurrence of author keywords in studies on e-service quality and customer satisfaction?

Literature Review

E-Service Quality

E-service quality is the assessment of service quality in the virtual market (Ginting, Chandra, Miran, & Yusriadi, 2023). E-service quality also determines the success and effectiveness of websites, customer satisfaction (Fan,Shao and Dong, 2022). (Parasuraman et al., 2005)stated e-service quality as the “extent to which a website facilitates efficient and effective shopping, purchasing, and delivery.” This statement indicates that the concept of E-service quality rooted from the repurchase intention (e.g., ease of use, product information, ordering information, and protection of personal information) to the post-purchase stage (e.g., distribution, customer service, and return policy). (Parasuraman et al., 2000) suggested themes in the online environment, particularly the positive ones (e.g., flexibility, convenience, efficiency...); negative themes (e.g., security failure, malcontrol, risk of obsolescence...), these factors are closely related to service quality in many ways.

According to (Kaya et al., 2019), the interactive nature of the Internet facilitates the search and integration of information to meet customer requirements effectively. E-service quality

can make a valuable difference for business development for online service providers. Website interactive features, various media contents, and customizability (Wilson et al., 2019) attract the attention of businesses in e-commerce (Rahman et al., 2021). Hence, focusing on e-service quality is the primary concern in e-commerce.

Customer Satisfaction in E-Commerce

Customer satisfaction is a widely studied concept that refers to the degree to which a customer feels content with a product, service, or experience after a purchase. It is often defined as the difference between customers' expectations and their actual experiences (Oliver, 1980). Kotler and Keller (2016) describe customer satisfaction as an emotional response resulting from the evaluation of the perceived performance of a product or service in relation to expectations. High levels of customer satisfaction are typically associated with increased customer loyalty, repeat purchases, and positive word-of-mouth (Anderson & Sullivan, 1993).

In the context of e-commerce, customer satisfaction plays a critical role in shaping consumer behaviour and determining the success of online businesses (Rita, Oliveira and Farisa, 2019). With the increasing prevalence of online shopping, understanding what drives customer satisfaction in digital environments has become essential for e-commerce retailers (Bhatti et al., 2020). Research has shown that factors such as website usability, product quality, service delivery, and customer support significantly influence customer satisfaction in e-commerce settings (Goh, Zhang & Xia, 2023).

For instance, studies by (Saoula et al., 2023) indicate that ease of navigation, information availability, and the overall design of e-commerce websites are fundamental to creating a satisfying online shopping experience. Additionally, the role of perceived value—defined as the difference between the benefits received and the costs incurred—has been highlighted as a significant predictor of customer satisfaction in e-commerce (Chakraborty et al., 2023). Therefore, customers who perceive high value in their purchases are more likely to express satisfaction and loyalty toward the e-commerce platform.

Relationship between Customer Satisfaction and E-Service Quality in E-Commerce

As online shopping continues to gain popularity, understanding how e-service quality influences customer satisfaction has become crucial for businesses aiming to enhance their competitive edge in the digital marketplace (Wang et al., 2021). E-service quality encompasses various dimensions, including website usability, service reliability, responsiveness, security, and customer support (Zeithaml et al., 2002). Customer satisfaction, on the other hand, refers to the extent to which a customer's expectations are met or exceeded after using a product or service (Jeyaprabha & Sundar, 2021). This literature review explores the key findings and theories that elucidate the relationship between these two constructs within the e-commerce context.

For instance, a study by Alkhateeb (2020), found that higher levels of e-service quality significantly led to increased customer satisfaction and loyalty. They argue that effective e-service quality fosters trust and enhances the customer experience, which ultimately influences satisfaction levels. Similarly, (Marati et al., 2021) highlighted that dimensions such

as responsiveness and reliability directly correlate with customer satisfaction in online retailing environments.

Additionally, the role of user experience in shaping customer satisfaction cannot be overstated. Research indicates that seamless navigation, quick loading times, and engaging content on e-commerce platforms significantly enhance e-service quality perceptions and, consequently, customer satisfaction (Phromlert et al., 2019). When customers encounter difficulties during their online shopping experience, such as slow response times or technical issues, their satisfaction levels decline (Kaya et al., 2019).

Bibliometric Analysis

Bibliometrics involves quantitatively assessing the publication patterns of both broad and detailed forms of communication, including an analysis of authorship through mathematical and statistical calculations (Mat et al., 2021). Bibliometrics is a quantitative and qualitative method used to explore the pattern of trends in a particular field (Fam et al., 2024). As described by Pitchard, bibliometrics aims to enhance comprehension of the dynamics of written communication and the characteristics and development of a particular field. In recent years, bibliometric analysis has gained wide popularity in business research, and this popularity has spread as a result of the availability of many bibliometric analysis programs such as biblioMagika, Gephi, Leximancer, and VOSviewer, and scientific databases such as Scopus and Web of Science (Donthu et al., 2021). Specifically, there has been an increase in the number of publications that utilize bibliometrics, with an average of 1021 publications in the past ten years. This rise can be attributed to the expansion of scientific research itself (Qamar and Samad, 2022). In addition to the possibility of using it in various disciplines, from information systems to business research. There are many benefits to using bibliometric analysis, such as the possibility of dealing with large amounts of scientific data and providing high-quality scientific research (Verma & Gustafsson, 2020).

The method is frequently used in exploring and analysing large-scale scientific research data, evaluating the scientific research trend of a specific subject or concept, examining the impact values of publications, or mapping bibliometric networks in various ways (Kocyigit, 2023; METN, 2023; Sreylak et al., 2022). Researchers can use bibliometric analysis to highlight the theoretical foundations of a specific research subject, identify the important findings of prior studies, and predict future research ideas (Ellili, 2022). Overall, bibliometric analysis is a valuable method for understanding the current state of research in a particular field, identifying research gaps, and informing policy and practice (Choryuin et al., 2024).

In this study, a bibliometric analysis is conducted to explore the field of e-service quality and customer satisfaction in e-commerce, encompassing relevant literature from the year 2003. The analysis draws on data retrieved from the Scopus database, focusing on publication trends, most-cited documents, bibliographic coupling by country, and co-occurrence of author keywords.

Materials and Methods

Data from academic publications provided by the SCOPUS documents was employed to conduct a bibliometric study on e-service quality and customer satisfaction. The Scopus database was the source of data for the current study. It is considered the largest citation and

abstract database of peer-reviewed literature which covers a wide array of subjects (Alsharif et al., 2020). Data were extracted for the bibliometric analysis from the database from the date of 29 Oct 2024. The search string was mainly focused on the central theme that was “e-service quality” and “customer satisfaction”. It resulted in 189 documents. The oldest publication was found in the year 2003. Therefore, trend publication was mentioned from 2003 till 2024 (29 Oct 2024).

Strategy for Search and Data Gathering

The procedure for the search flowchart is shown in Figure 1 below.

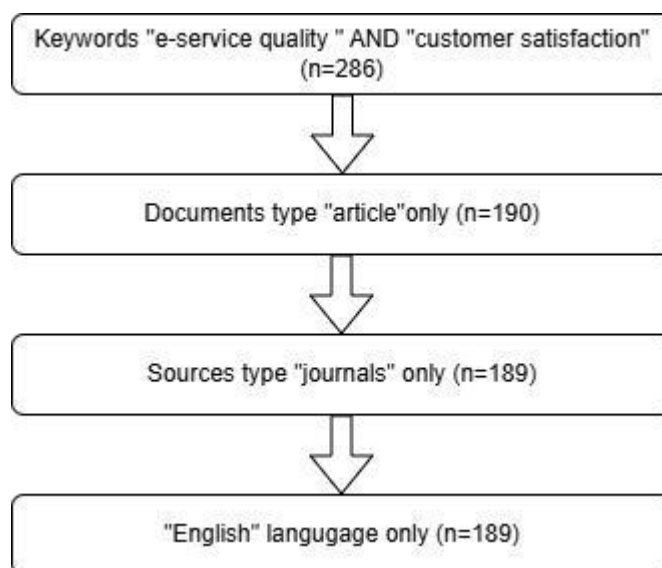


Figure 1: Search Process Flow

Results & Discussion

We executed the bibliometric analysis on 189 documents. We analyzed the publication output across time frames, the most cited journals and authors, bibliographic coupling of country-wise and co-occurrence of author keywords.

Publication Trend

The publication trend shown in Figure 2 and Table 1 illustrates "e-service quality" and "customer satisfaction" from 2003 to 2024 shows a dynamic progression in research interest, with notable peaks and fluctuations. In the early years (2003-2005), there was minimal publication activity, indicating limited initial interest or awareness of the topic. Starting around 2006, there was a gradual increase, with researchers beginning to explore the implications of online services as e-commerce started to grow. By 2009, the number of publications spiked significantly, likely reflecting a heightened focus on e-service quality as digital customer interactions became more prominent. This interest continued but with some decline in 2010 and 2011, perhaps as researchers delved into more specific subtopics within the field.

From 2012 to 2015, publication levels remained steady, showing sustained but moderate interest. This period likely reflects a phase where e-service quality was becoming more established in academic and industry circles. In the years 2016 to 2018, there was a renewed but gradual increase in publications, possibly driven by advancements in digital technology

and rising customer expectations. A significant peak appears in 2019, coinciding with rapid digital transformation and the rise of sophisticated customer service tools. However, the pandemic in 2020 may have contributed to a brief drop in publications as research priorities shifted or were disrupted.

Following the pandemic, the interest surged again, with another peak in 2022, possibly fuelled by the growing reliance on digital services and the critical role of customer satisfaction in online interactions. This trend continued strongly in 2023, although there was a slight decrease from the previous year. In 2024, however, there is a sharp decline, which may indicate a recent dip in new studies or delays in publication data for the year. Overall, the pattern highlights the evolving interest in e-service quality and customer satisfaction, with research intensifying during periods of technological change and increasing digital engagement, reflecting the sector's growing importance.

Documents by year

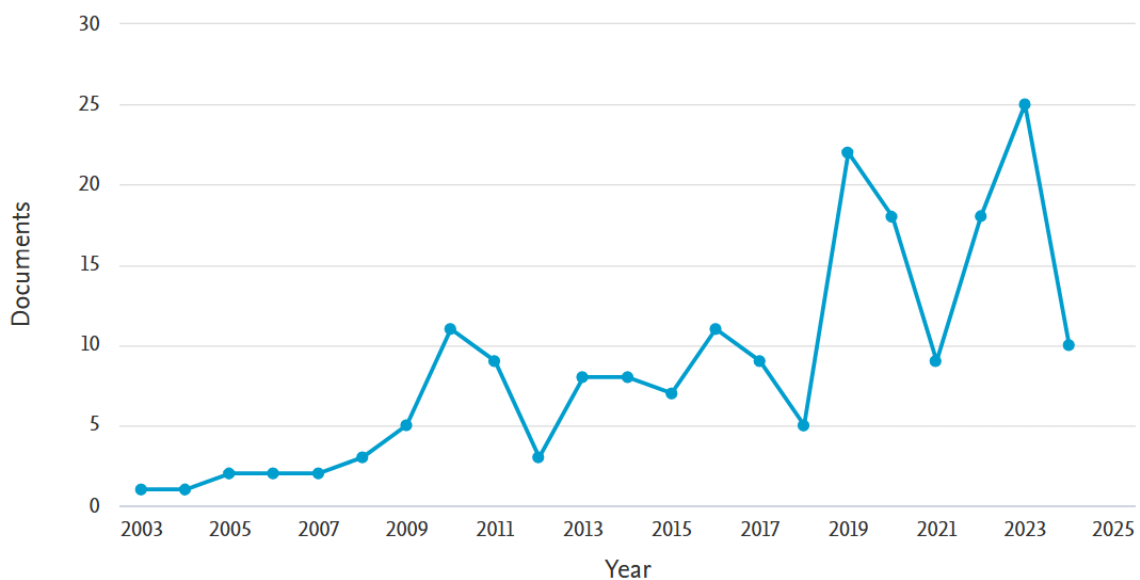


Figure 2: Analysis of Publications by Year

Table 1

Analysis of Publications by Year

Year	Num. of Publication	Year	Num. of Publication
2003	1	2013	8
2004	1	2014	8
2005	2	2015	7
2006	2	2016	11
2007	2	2017	9
2008	2	2018	5
2009	5	2019	22
2010	11	2020	18
2011	9	2021	9
2012	3	2022	18
		2023	5
		2024	10

Most Cited Documents

We analyzed the most productive journal authors in e-service quality research. Our results revealed the top 10 most cited journals and prominent authors in the 'e-services and e-service quality' research in Table 2. International Journal of Hospitality Management was found at the top with the most publications with 677 total citations and it was published by Elsevier. It was followed by Journal of Business Research, and they were published by Elsevier, respectively. All top ten journals were mentioned in Table 2.

Table 2

Most Cited Documents per Year

No	Journal	The Most Cited Documents	Total Citations	TC Per Year	Publisher
1.	International Journal of Hospitality Management	An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behaviour	677	45.13	Elsevier
2.	Journal of Business Research	eTransQual: A transaction process-based approach for capturing service quality in online shopping	610	32.11	Elsevier
3.	Managing Service Quality: An International Journal	Comfort your online customer: quality, trust and loyalty on the internet	590	28.10	Emerald Insight
4.	Managing Service Quality: An International Journal	Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty	590	32.78	Emerald Insight
5.	Heliyon	The impact of e-service quality and customer satisfaction on customer behaviour in online shopping	403	67.17	Elsevier
6.	Online Information Review	Determinants of customer repurchase intention in online shopping	377	23.56	Emerald Insight
7.	Total Quality Management & Business Excellence	The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value	327	20.44	Taylor & Francis
8.	Tourism Management	The development of an e-travel service quality scale	323	17.94	Elsevier
9.	International Journal of Information Management	An assessment of customers' e-service quality perception, satisfaction and intention	308	20.53	Elsevier
10.	Journal of Foodservice Business Research	Loyalty toward online food delivery service: the role of e-service quality and food quality	248	41.33	Taylor & Francis

Bibliometric Maps

VOSviewer was the software that was used in mapping the literature of e-service quality research. It was a software which read the bibliometric maps pertaining to citations, author keywords and bibliographical information of databases. Maps include the items which represent the names of documents, authors, countries, and keywords. These items relate to each other by the link and its strength. This link is shown with positive numerical value. The higher the value, the higher the link strength between two items.

Bibliographic Coupling of Country-Wise

India has the highest total link strength, indicating its extensive bibliographic connections with other countries in the field of "e-service quality" and "customer satisfaction." The main countries with significant link strength connections to India include Malaysia, Taiwan, and China (green cluster). In another prominent group, the United States shows strong bibliographic coupling, especially with the United Kingdom, South Korea, and Spain. Taiwan, with a notable number of citations and link strength, has developed strong bibliographic ties with countries such as the United States, South Korea, and Malaysia (red cluster).

China exhibits substantial bibliographic coupling with Taiwan, Indonesia, and Malaysia, highlighting collaborative research networks within the region. The United Kingdom, while having fewer documents, shows robust connections, particularly with Spain, Greece, and Jordan. Indonesia, with considerable document output, is also well-connected, forming strong bibliographic ties with neighbouring countries and extending links to South Korea and Pakistan. Figure 3 illustrates these country-wise bibliographic couplings, revealing distinct clusters of research collaboration and influence across regions.

Table 3

Bibliographic Coupling of Country-Wise

Country	Documents	Citations	Total Link Strength
India	34	577	9761
United States	15	791	7651
Taiwan	16	1861	6265
China	13	546	5994
Malaysia	16	518	5058
United Kingdom	7	792	4027
Indonesia	25	432	3782
Pakistan	6	250	3205
South Korea	8	909	3031
Spain	6	808	2586

Greece	6	261	2465
Saudi Arabia	6	328	2215
Jordan	6	65	2173
Vietnam	5	89	1148
Bangladesh	5	46	741

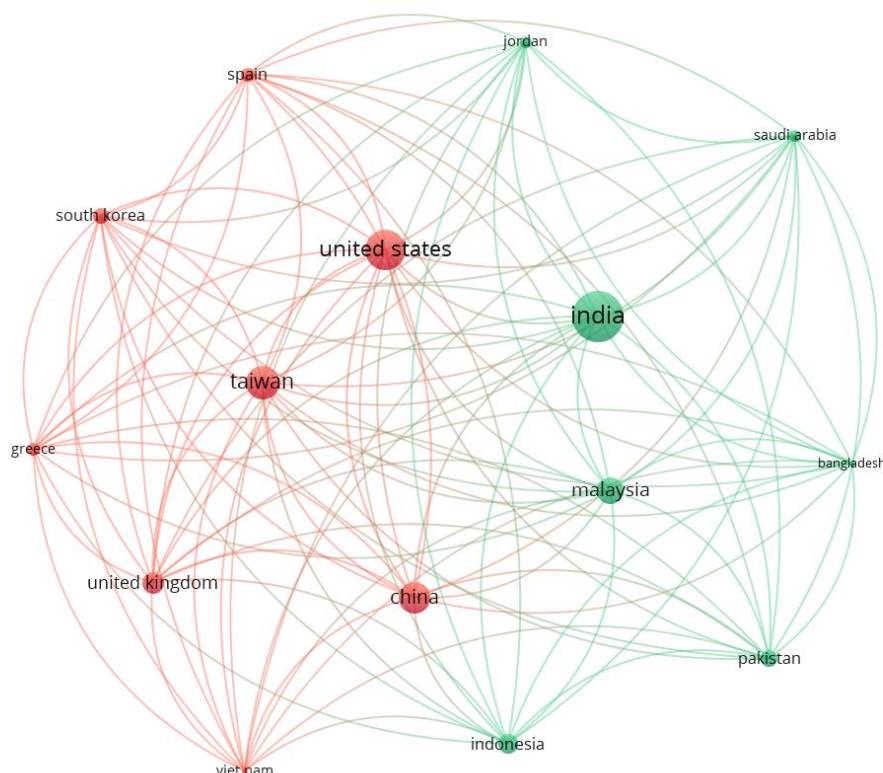


Figure 3: Bibliographic Coupling of Country-Wise

Co-occurrence (Author Keywords)

We conducted a co-occurrence analysis of keywords used by authors, as illustrated in Figure 4. This analysis highlights the primary research streams in "e-service quality" and "customer satisfaction," categorized into distinct thematic clusters. The first cluster (red) emphasizes service quality and explores its associations with key concepts like customer loyalty, trust, perceived value, and satisfaction. Within this stream, researchers focus on understanding how these factors interact, often employing structural equation modelling to evaluate their impact on customer experiences in e-commerce and related services.

The second cluster (green) is centred around the applications of e-service quality in specific domains, including online banking, internet banking, and e-customer satisfaction. Keywords like responsiveness, e-servqual, and e-loyalty indicate that research in this cluster examines the implications of service quality within digital financial services. Scholars in this stream aim to understand how service quality dimensions affect customer loyalty and satisfaction in

online service environments. The third cluster (blue), related to outcomes of e-service quality, focuses on customer satisfaction in areas such as electronic commerce, retailing, and consumer behaviour. Studies in this cluster analyse how e-service quality impacts consumer satisfaction and behaviour in broader online commercial settings, including internet-based retail.

Finally, a smaller yellow cluster investigates e-loyalty, e-satisfaction, and e-trust, reflecting research efforts that concentrate on building customer trust and loyalty as outcomes of enhanced e-service quality. This cluster underscores the importance of satisfaction and trust as critical components of customer loyalty in digital services. Figure 7(A) effectively visualizes these interconnected research themes, revealing diverse approaches to studying e-service quality and customer satisfaction across different digital service domains.



Figure 4: Authors' Keyword Co-Occurrence (Network Visualisation)

Conclusion, Limitations and Future Research Directions

This study presented an overview of “e-service quality and customer satisfaction” research. It was based on the 189 documents which were retrieved from the Scopus database with the timeline from 2003 to 2024. International Journal of Hospitality Management was found at the top among the most productive journals in chosen search. India and the United States were found to be the leading country and institution in the selected search of e-service and e-service quality.

Furthermore, along with central keywords (e-service quality and customer satisfaction) e-commerce, customer loyalty, and service quality were the most prominent and highly associated keywords found. The current study was not free from limitations. The search term was limited to “e-service quality and customer satisfaction” only, therefore, it might not cover all the relevant subjects of studies. This analysis benefits society and organizations by highlighting key factors in e-service quality that enhance customer satisfaction, trust, and

loyalty. It guides companies, especially SMEs, in improving online experiences and helps policymakers in shaping consumer protection policies, fostering a safer, more competitive digital marketplace globally.

The research contributes to the field by offering a bibliometric perspective on customer satisfaction and e-service quality, revealing patterns in publication trends and keyword co-occurrence. This analysis supports the development of targeted strategies for improving online service quality and fostering customer loyalty, a key factor in the success of e-commerce businesses.

Due to language restrictions, authors have mainly taken into consideration publications that have been published in English, which enables an opportunity for future research regarding works that are available in additional languages.

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