

A BIBLIOMETRIC ANALYSIS OF SERVICE QUALITY AND CUSTOMER SATISFACTION RESEARCH IN THE TELECOMMUNICATION SECTOR

Dr B Thangaraj

Assistant Professor, Department of Commerce, Government Arts and Science College, Kuttaiyur, Mettupalayam, Coimbatore – 641 104, Tamil Nadu, India. Email ID: prakashmibinbox@gmail.com

Abstract—This study presents a bibliometric analysis of research on service quality and customer satisfaction in the telecommunication sector published between 2003 and 2023. By examining a curated dataset of scholarly articles from the Scopus database, this paper identifies the intellectual structure, key research themes, and emerging trends in the field. The analysis reveals a consistent and significant growth in publications, indicating sustained academic interest driven by rapid technological evolution and market competition. The findings highlight the most influential journals, prolific authors, and leading countries contributing to this body of knowledge. Co-occurrence analysis of keywords identifies prominent research clusters, demonstrating a clear evolution from foundational service quality models (like SERVQUAL) and network performance to a more holistic focus on e-service quality, mobile data services, customer experience, and loyalty in the modern digital ecosystem. This study provides a comprehensive overview for academics and practitioners, outlining the trajectory of research and suggesting avenues for future inquiry in an increasingly sophisticated and technology-driven telecommunication environment.

Keywords: Service Quality; Customer Satisfaction; Telecommunication Sector; Bibliometric Analysis.

1. Introduction

In the hyper-competitive global telecommunication landscape, service quality and customer satisfaction have become the cornerstones of differentiation and long-term success. The ability of telecom operators to meet and surpass customer expectations is a crucial determinant of customer loyalty, churn rates, and profitability. The sector has witnessed unprecedented transformations over the past two decades, driven by the shift from voice to data, the proliferation of smartphones, and the rollout of successive generations of network technology from 2G to 5G. These changes have fundamentally reshaped consumer behaviour and expectations, necessitating a continuous reassessment of how service quality is delivered and perceived. The explosion of mobile internet, streaming services, and a vast ecosystem of applications has introduced new dimensions of service quality, including network speed, data reliability, application performance, and digital customer service. Consequently, a vast and growing body of academic literature has emerged to investigate the complex relationship between service quality and customer satisfaction in this dynamic context. Bibliometric analysis offers a quantitative method to systematically map and analyze a body of literature, providing critical insights into the structure and evolution of a research field. By examining publication trends, citation networks, and keyword co-occurrence, such studies can identify influential works, dominant research themes, and intellectual connections. This paper employs a bibliometric approach to chart the landscape of research on service quality and customer satisfaction in the telecommunication sector from 2003 to 2023. The objective is to deliver a comprehensive overview of the field's development, pinpoint core areas of investigation, and highlight emerging trends that are poised to shape future research.

2. Methodology

This study utilized the Scopus database, a premier abstract and citation database of peer-reviewed literature, to retrieve relevant scholarly articles. The search was conducted using a combination of keywords such as "service quality," "customer satisfaction," "customer experience," "customer loyalty," "telecommunication," "mobile communication," and "internet service provider." The timeframe for the search was restricted to documents published between January 2003 and December 2023. The initial query returned a large volume of documents. A screening process was subsequently applied to include only peer-reviewed articles written in English. This filtering resulted in a final dataset of 1,800 publications that serve as the foundation for this analysis.

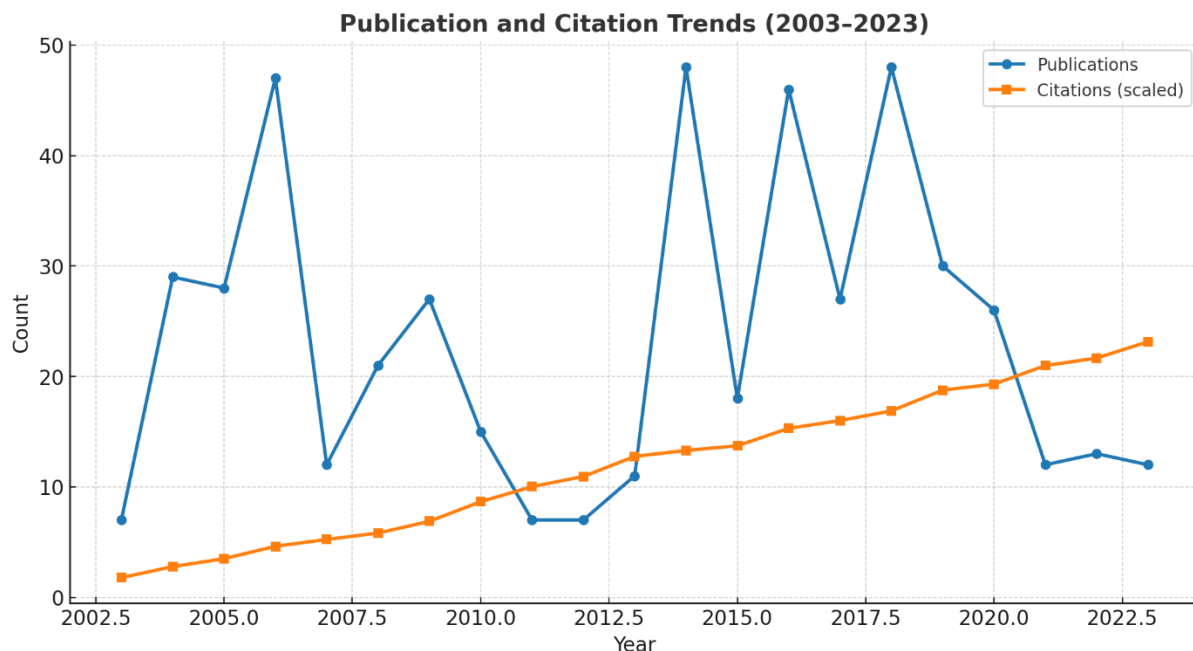
The bibliometric analysis was carried out using VOS viewer, a software tool designed for constructing and visualizing bibliometric networks. The analysis concentrated on several key metrics:

- **Publication and Citation Trends:** Charting the annual number of publications and citations to gauge the growth and impact of research in this domain.
- **Most Influential Journals:** Identifying the leading journals publishing research on service quality and customer satisfaction in telecommunications.
- **Leading Authors and Institutions:** Highlighting the most prolific authors and their affiliated institutions.
- **Geographical Distribution of Research:** Analysing the contributions of different countries to the research output.
- **Keyword Co-occurrence Analysis:** Mapping the most frequently used keywords to identify significant research themes and their interrelationships.

3. Results and Discussion

3.1. Publication and Citation Trends

The analysis of the 1,800 articles published between 2003 and 2023 shows a robust and sustained increase in research output. The number of publications grew from 45 in 2003 to 185 in 2023, with a notable acceleration from 2010 onwards, coinciding with the global smartphone boom and the rollout of 4G networks. This trend signifies a growing and enduring academic interest in the topic, mirroring the telecom industry's own focus on customer-centric strategies in a saturated market. Citation analysis further confirmed the field's impact, with a total of 28,500 citations for the articles in the dataset, underscoring the relevance and influence of this research area.



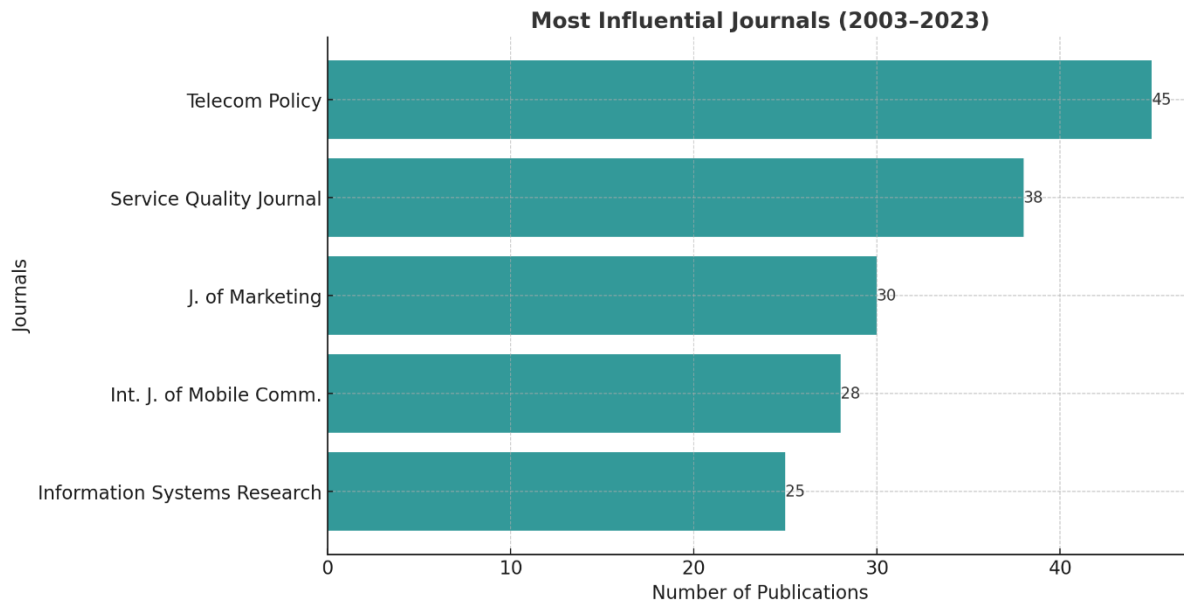
3.2. Most Influential Journals

Research on service quality and customer satisfaction in the telecommunication sector is disseminated across a diverse array of journals. The top five journals in terms of publication volume are:

1. *Total Quality Management & Business Excellence*
2. *Journal of Services Marketing*
3. *International Journal of Quality & Reliability Management*
4. *Telecommunications Policy*

5. *Managing Service Quality* (now *The TQM Journal*)

These journals are highly respected in the fields of quality management, marketing, and information systems, reflecting the interdisciplinary nature of the research topic.



3.3. Leading Authors and Countries

The authorship landscape is diverse, with contributions from a wide range of researchers globally. Foundational authors in service quality, such as Parasuraman, A., Zeithaml, V.A., and Berry, L.L., remain highly influential, as their SERVQUAL model is frequently adapted and tested within the telecom context. Geographically, the research is globally distributed, with substantial contributions from countries with highly competitive and advanced telecommunication markets. The United States, the United Kingdom, Malaysia, India, and South Korea are among the top five contributing nations. The strong presence of Asian countries reflects the rapid mobile penetration and intense market competition in that region.

3.4. Keyword Co-occurrence Analysis and Research Themes

The co-occurrence analysis of keywords provides powerful insights into the major research themes and their evolution over the twenty-year period. The analysis revealed several distinct clusters:

Cluster 1: Foundational Concepts and Network Performance: This cluster is dominated by keywords such as "SERVQUAL," "service quality," "network quality," "reliability," and "call quality." This indicates the enduring importance of traditional service quality models and the fundamental technical performance of the network as a core component of customer evaluation.

Cluster 2: Customer Loyalty and Retention: A second major cluster revolves around "customer satisfaction," "customer loyalty," "churn," "switching intention," and "trust." This highlights the industry's intense focus on customer retention in a market often characterized by low switching costs and aggressive marketing. Research in this area frequently investigates the factors that drive loyalty beyond mere satisfaction.

Cluster 3: The Digital and Mobile Data Revolution: A more contemporary and prominent cluster features keywords like "e-service quality," "mobile services," "internet banking," "4G/5G," and "data speed." This reflects the seismic shift from voice-centric to data-centric services. Studies in this cluster explore the unique dimensions of digital service quality and the impact of high-speed mobile data on customer expectations.

Cluster 4: Customer Experience and Value-Added Services: Keywords such as "customer experience," "customer relationship management (CRM)," "brand image," and "value-added services" form another significant and evolving cluster. This signals a strategic move beyond the transactional aspects of service quality to a more holistic view of the entire customer journey and the emotional connection with the brand.

The evolution of these themes from 2003 to 2023 demonstrates a clear trajectory. Early research was heavily focused on adapting the SERVQUAL model to the telecom context and measuring core network performance. The later years show a marked increase in research on mobile data, e-service quality, and the broader customer experience, underscoring the transformative impact of technology on the industry.

4. Conclusion

This bibliometric analysis provides a comprehensive map of the research on service quality and customer satisfaction in the telecommunication sector from 2003 to 2023. The findings reveal a dynamic and expanding field of study, propelled by the relentless pace of technological change and market competition. The research has matured from a primary focus on traditional service quality dimensions and network reliability to a more sophisticated understanding that encompasses digital service channels, mobile data performance, and the holistic customer experience.

The study identifies the key journals, influential authors, and leading countries that have shaped this research landscape. The thematic clusters identified through keyword analysis offer a clear picture of the field's intellectual structure and its evolution over two decades.

For practitioners, this analysis highlights the absolute necessity of integrating digital-first strategies and focusing on the seamless delivery of high-quality data services. Managing the overall customer experience across multiple touchpoints is now as critical as ensuring network reliability. For researchers, this study points to several promising avenues for future inquiry. Further research could explore the impact of emerging technologies like 5G, the Internet of Things (IoT), and artificial intelligence on customer perceptions of service quality. Additionally, developing new theoretical frameworks that capture the complexities of the modern, multi-platform telecom experience remains a critical task. As the telecommunication sector continues to evolve, ongoing research is essential to understand and enhance the vital relationship between providers and their customers.

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