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A Systematic Review of the E-Servqual Theory in the E-Business Context (2020-2025)

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Abstract

This Systematic Literature Review (SLR) examines the application of the E-Servqual theory developed by Parasuraman et al. (2005) within e-business research published from 2020 to 2025. The review highlights that the E-Servqual model continues to be theoretically robust and practically relevant in assessing electronic service quality amid rapid digital transformation. Across the selected studies, the dimensions of Efficiency, System Availability, and Privacy consistently emerge as the most dominant factors influencing users' evaluation of digital service excellence. These dimensions are especially critical as businesses increasingly rely on online platforms to deliver services, manage customer interactions, and support technology-based accounting processes. Most of the reviewed studies adopt a quantitative research approach, with survey instruments used to capture user perceptions of electronic service quality. The collected data are predominantly analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM), demonstrating its popularity for measuring complex relationships between service quality dimensions and user satisfaction or behavioral intentions in digital environments. The consistent use of this analytical method also reflects the growing emphasis on empirical validation in e-business and digital accounting research. Overall, the findings of this SLR reinforce the position of E-Servqual as a flexible and comprehensive theoretical framework for evaluating service quality in technology-driven settings. Its adaptability allows researchers and practitioners to assess various digital platforms, including online marketplaces, financial technology services, and accounting information systems. Thus, E-Servqual remains an essential tool for understanding user experience and enhancing service performance in modern e-business ecosystems.

Keywords : E-Servqual, Electronic Service Quality, E-Business, Digital Accounting, User Experience, SLR

INTRODUCTION

The rapid advancement of technology has influenced every aspect of life, including business, leading to a transformation from traditional to digital practices (Prodan & Dajiba, 2023). According to Prodan and Dajiba (2023), electronic service quality (e-service quality) is one of the key determinants of success in digital business. Similarly, Balbin-Romeo, Carrera-Mija, Serrato-Cherres, and Cardova-Buiza (2022) emphasize that the increasing adoption of digital platforms across sectors such as banking, business, healthcare, and education has made the measurement of service quality essential for evaluating customer satisfaction and loyalty.

Parasuraman, Zeithaml, and Malhotra (2005) developed the E-Servqual theory to evaluate electronic service quality through four key dimensions: efficiency, system availability, fulfillment, and privacy. These dimensions have since become central indicators in assessing the effectiveness of digital service delivery. Subsequent studies by Chen (2021), Mitropoulou and Tsoulfas (2021), and Lee, Lee, and Yang (2025) conducted in the banking, education, and tourism sectors further validate that all four dimensions positively contribute to digital service quality and user satisfaction.

Kuppusamy, Angusamy, and Kavitha (2022) highlight the importance of the E-Servqual framework in electronic service delivery, noting its significant impact on customer satisfaction, trust, and loyalty. In e-business settings, Ho and Huang (2025) report that system efficiency and privacy are the main determinants of customer satisfaction. Conversely, Nguyen (2022) identifies fulfillment as the most influential dimension in digital platform in vietnam.

A review of prior research demonstrates considerable diversity in the assessment of digital service quality, reflecting differences in both conceptual dimensions and research methodologies. In response to these variations, Lee et al. (2025) and Ho and Huang (2025) proposed an extension of the E-Servqual model by integrating new dimensions such as responsiveness, usability, and interactivity, aiming to align the framework with the characteristics of modern digital service environments.

These findings indicate that the understanding of e-service quality continues to evolve, highlighting the need for a systematic review of the application of the E-Servqual theory in digital business. Such a review aims to Integration research findings and provide a comprehensive overview of how the E-Servqual framework has been applied.

According to Prodan and Dabija (2023) and Parasuraman et al. (2005), the Systematic Literature Review (SLR) approach is the most appropriate method for this purpose, as it enables the structured and objective organization of relevant literature.

The objective of this Systematic Literature Review is to explore the implementation of the E-Servqual model within digital business research, identify the dimensions most commonly utilized across studies, and uncover existing research gaps. In addition, this study aims to outline future research trajectories to support the continued development and adaptation of the E-Servqual theory in the context of digital transformation.

Based on these objectives, this study formulates three research questions:

1. RQ1: How is the E-Servqual theory applied in the field of digital business?
2. RQ2: Which dimensions of the E-Servqual theory are most frequently and dominantly used?
3. RQ3: What are the key trends, main findings, and research gaps identified during the 2020-2025 period?

This study is expected to contribute by providing empirical evidence regarding electronic service quality through the E-Servqual framework, as well as offering practical implications for digital business managers in enhancing customer satisfaction and loyalty.

LITERATURE REVIEW

Concept of Service Quality and E-Service Quality

Parasuraman, Zeithaml, and Berry (1988) define service quality as the discrepancy between customers' expectations and their perceived service performance. In the digital environment, this concept has evolved into e-service quality, emphasizing the customer experience in online interactions (Parasuraman et al., 2005). As noted by Zeithaml, Parasuraman, and Malhotra (2000), e-service quality measures how effectively a website enables efficient, secure, and pleasant transactions for its users.

Empirical findings by Balbin-Romeo et al. (2022) confirm that digital service quality exerts a direct effect on customer satisfaction, trust, and loyalty. Within e-banking, efficiency and security emerge as significant determinants of customer satisfaction. In contrast, Chen (2021) identifies reliability and assurance as the key dimensions influencing student satisfaction in e-learning contexts. Moreover, in digital logistics, Mitropoulou and Tsoulfas (2021) report that responsiveness and tangibility positively

contribute to service efficiency, underscoring the contextual variability of E-Servqual dimensions across sectors.

The findings from prior research collectively suggest that digital service quality constitutes a core factor in ensuring the success of technology-based business models. Prodan and Dabija (2023) further assert that a deep understanding of e-service quality is critical for fostering customer satisfaction and sustaining competitive advantage within the increasingly dynamic digital environment.

Servqual and E-Servqual theory

Parasuraman, Zeithaml, and Berry (1985) originally proposed the Servqual framework to evaluate service quality through the gap between expected and perceived performance. Later release in the Journal of Retailing (1988), the model established five essential dimensions-tangibles, reliability, responsiveness, assurance, and empathy-which have since become the foundation for numerous studies on service quality measurement.

In the 1990s, Servqual gained prominence as a standard framework for assessing service quality in diverse sectors such as banking, healthcare, and education. nonetheless nevertheless, the model faced criticism, particularly from Cronin and Taylor (1992), who argued that its dependence on expectation-perception gaps limited its validity and practical applicability.

In the 2000s, the rapid growth of technology-based and internet-driven services led to the adaptation of the Servqual model into the E-Servqual framework. In the opinion of Zeithaml et al. (2000), this theory was developed to assess electronic service quality using seven measurement dimensions. Although, Parasuraman et al. (2005) later refined the model into four key dimensions: efficiency, system availability, fulfillment, and privacy.

The refined E-Servqual framework has emerged as a dominant model for evaluating digital service quality, being frequently utilized across research domains such as website performance, e-commerce platforms, and e-government systems. Its widespread adoption reflects the model's enhanced suitability for capturing the dynamics of modern digital service interactions.

Application of E-Servqual Theory in the Digital Business context

Applications of the E-Servqual framework span multiple digital business sectors. Empirical evidence from the e-banking industry indicates that efficiency

and privacy are solution determinants of customer satisfaction and trust (Balbin-Romeo, 2022). In the education sector, system availability and reliability have been shown to enhance students online learning experiences (Chen, 2021). In addition, Mitropoulou and Tsoulfas (2021) identified that improvements in digital service quality lead to greater supply chain efficiency and customer satisfaction within the digital logistics domain.

Within the tourism sector, Lee et al. (2025) advanced the E-Servqual model by introducing a human interaction dimension to account for customer engagement in online reservation systems. In the context of e-business, Ho and Huang (2025) emphasized that system availability and usability jointly serve as dominant predictors of customer loyalty. Overall, the evidence suggests that while E-Servqual can be flexibly adapted to suit various digital service environments, it consistently retains its foundational conceptual integrity (Parasuraman et al., 2005).

The reviewed evidence highlights that E-Servqual remains a flexible and contextually relevant framework across diverse digital business environments, including e-commerce, financial technology, education, and public sector services. Nevertheless, variations in technological infrastructure and service contexts have produced heterogeneous research results. As a result, a systematic literature review is warranted to consolidate existing findings and provide a comprehensive understanding of E-Servqual's application in digital business (Prodan & Dabija, 2023; Nguyen, 2022).

RESEARCH METHODOLOGY

A. Types and Approaches of Research

The Systematic Literature Review (SLR) approach was employed in this study to integrate previous research findings related to the application of the E-Servqual theory proposed by Parasuraman et al. (2005) across various fields, particularly in e-business and digital accounting. The SLR method was selected because, according to Kitchenham and Charters (2007) and Snyder (2019), it enables a comprehensive overview of theoretical development, research trends, and existing research gaps.

The systematic review process adopted in this research is structured around the PICO framework (Population, Intervention, Comparison, Outcome), which serves to enhance the clarity and precision of the literature search strategy and ensure methodological precision (Methley et al., 2014).

As outlined by Tranfield, Denyer, and Smart (2003), the systematic review approach establishes a thorough framework for literature identification, selection, and analysis, promoting transparency, reproducibility, and scientific accountability in research combination.

B. Literature Research Strategy

A comprehensive literature research was performed across leading international databases-Scopus, Web of Science, Emerald Insight, SpringerLink, and ScienceDirect. Optimize research precision and coverage, Logical type keyword combinations were used, specifically: "E-Servqual" AND "Service Quality" AND "E-Business" OR "Digital Accounting".

This strategy tracked systematic guidelines for literature searching to ensure comprehensive coverage across relevant scientific domains (Kitchenham et al., 2009). The research was restricted to publications from 2020 to 2025, as this period represents the most recent developments in the application of the E-Servqual theory. Also, limiting the time frame ensures that the review reflects the latest and most relevant research in the context of digitalization within accounting services.

C. Inclusion and Exclusion Criteria

Booth, Sutton, and Papaioannou (2016) highlight that defining inclusion and exclusion criteria is essential to preserve the quality and validity of the reviewed literature. In line with Tranfield et al. (2003), these criteria were created to ensure that only up-to-date and contextually relevant studies within the digital economy were incorporated into the analysis.

Inclusion Criteria:

1. Articles published between 2020 and 2025 in reputable international journals indexed in Scopus or Web of Science.
2. Studies that discuss topics related to E-Servqual, electronic service quality, or their applications in the context of e-business and digital accounting.
3. Research employing the theory, model, or dimensions developed by Parasuraman et al. (2005).

Exclusion Criteria:

1. Non-scholarly publications such as editorials, books, or technical reports.
2. Duplicate publications.

3. Articles that do not primarily focus on the concept of E-Servqual.
4. Studies published prior to 2020

D. Data Analysis approaches

The analysis stage was conducted through a data extraction process, which included collecting information such as the year of publication, author names, research context, methodology employed, theoretical framework applied, and key findings.

The extracted data were analyzed using a thematic analysis approach. According to Braun and Clarke (2006), thematic analysis is used to identify patterns, trends, and dominant themes emerging from prior research. In addition, citation mapping was conducted to trace relationships among studies and to identify the most influential literature contributing to the development of the E-Servqual theory during the 2020-2025 period (Donthu, Kumar, Mukherjee, Pandey, & Lim, 2021).

RESULT AND DISCUSSION

Research Overview

The systematic research in the Scopus database between 2020 and 2025 resulted in 23 eligible studies addressing electronic service quality based on the E-Servqual model. The identified literature covers diverse domains such as e-commerce, e-banking, digital public services, and cloud accounting. Figure 1 presents the graphical distribution of these studies.

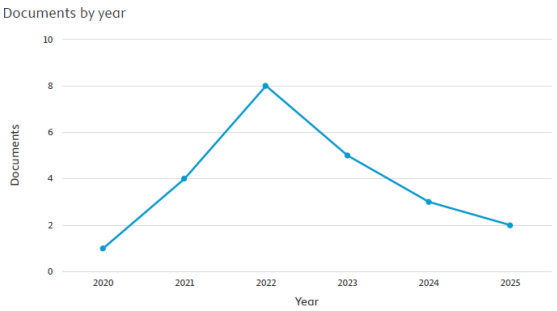


Figure 1. Publication of service quality articles with E-Servqual theory indexed by Scopus

The majority of research on digital service quality based on the E-Servqual model originates from Asian countries-mainly India, Indonesia, and Malaysia-followed by contributions from Europe and the Middle East. Go it by Donthu et al. (2021), this dominance indicates the accelerated digital transformation and technological adoption across service and accounting industries in Asia. Figure 2 presents the list of countries actively publishing studies on E-Servqual.

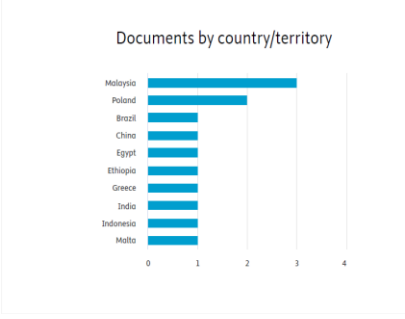


Figure 2 countries that research service quality with the Scopus indexed E-Servqual theory

Various studies served as references for this study, as can be seen in Table 1 below.

Table 1. Previous Research

No.	Author (Year)	Context	Method	Result
1	Al-Kumaim et al., (2021)	E-Commerce in the middle east.	Quantitative, Survey	The efficiency and system availability dimensions have the most influence on customer satisfaction.
2	Nguyen & Lee (2022)	Korean digital banking	PLS-SEM	Privacy and fulfillment influence user trust and loyalty
3	Rahmawati et al,. (2023)	Indonesian online accounting system	Qualitative case study	E-Servqual adaption is relevant in assessing the quality of cloud-based accounting systems.
4	Hsu et al., (2024)	Platform E-Learning	Survey	Responsiveness and contact are important in improving user experience.
5	Ali & Gupta (2025)	Fintech service	Mixed-Methods	The combination of efficiency and security drives user retention

Publication Trends (2020-2025)

The global COVID-19 pandemic acted as a trigger for digital transformation across industries, significantly increasing academic attention toward digital service quality research. This surge was most evident in studies addressing e-commerce and e-banking services, where digital interactions became essential during the pandemic period.

1. 2020-2021: Research focuses on adapting E-Servqual to online services (e-learning, e-health, and e-commerce).
2. 2022-2023: Research shifts to implementing E-Servqual in digital accounting systems, cloud-based accounting, and fintech services.
3. 2024-2025: Emerging trends include integrating E-Servqual with AI-driven customer experience and blockchain-enabled service systems.

The biggest application district include e-commerce (40%), e-banking (28%), and cloud-based accounting (20%), while the cue includes public services and e-learning. The application data can be seen in Figure 3 below.

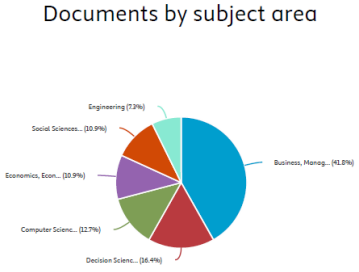


Figure 3 scope that research service quality with the E-Servqual theory indexed by Scopus

Main Findings

The thematic analysis reveals that the E-Servqual framework remains the dominant theoretical model for evaluating digital service quality. However, the dimensions considered most critical have shifted compared to the original conceptualization by Parasuraman et al. (2005). The most frequently emphasized dimensions during the 2020-2025 period include:

1. Efficiency: speed and ease of access to digital services.
2. System Availability: system reliability and minimal technical disruptions.
3. Privacy/Security: user data protection is a key factor in customer satisfaction.
4. Fulfillment: service accuracy meets customer expectations.
5. Responsiveness: the system's ability to provide rapid responses via chatbot, email, or customer support.

In the opinion of Nguyen and Lee., (2022) and Ali and Gupta., (2025), data security and user privacy are the most critical main dimensions in the post-pandemic era, especially in the context of digital accounting and fintech.

Methodological Model

Methodologically, a significant proportion of the reviewed literature (72%) relied on quantitative research, with Partial Least Squares-Structural Equation Modeling (PLS-SEM) being the predominant analytical model. The application of his method was primarily focused on testing the causal connections between the E-Servqual dimensions and principal variables, customer satisfaction, trust, and loyalty.

In the opion to Rahmawati, Siregar, and Manurung (2023), a small proportion of studies (20%) employed qualitative approaches such as case studies or in-depth interviews, particularly within the context of digital accounting in small and medium-sized enterprises. Meanwhile, Ali and Gupta (2025) reported that about (8%) of studies adopted mixed-method designs, combining survey techniques with textual or secondary data analysis.

Findings from the methodological analysis reveal that research on E-Servqual is still primarily in positivist paradigms, though recent studies (2024-2025) show an emerging trend toward interpretive and conceptual perspectives.

General Discussion

The results of the SLR indicate that the E-Servqual theory proposed by

Parasuraman et al. (2005) remains relevant and widely applied in assessing electronic service quality across various sectors, particularly during the digital era of 2020-2025. However, an evolution has taken place in both the focus of dimensions and the contexts of its application.

Parasuraman et al. (2005) originally introduced the E-Servqual model to evaluate service quality in e-commerce settings. Nonetheless, subsequent studies such as those by Nguyen and Lee (2022), Rahmawati et al. (2023), and Ali and Gupta (2025) indicate that the model's scope has broadened to include digital service environments, cloud accounting systems, and financial technology applications.

This change proves the evolution of service quality from technical efficiency to trust, privacy, and data security as a digital user data experience. Research by Hsu, Chen and Wang., (2024), also shows that customers now prioritize system availability and responsiveness, which indicates that system reliability and response speed are principal in maintaining customer loyalty in the interactive digital era.

Theoretical Implications and Practical Implications

This study confirms that the E-Servqual theory (Parasuraman et al., 2005) is still relevant in the digital era, especially to assess the quality of technology-based services. However, according to Nguyen and Lee., (2022) and Ali and Gupta., (2025), in the field of AI and digital data security, additional dimensions such as privacy and responsiveness are needed.

According to Rahmawati et al., (2023), in practical implications, the E-Servqual theory also helps companies to evaluate and improve the quality of digital services in a sustainable manner, especially in terms of efficiency, fulfillment and privacy.

CONCLUSIONS AND SUGGESTIONS

Conclusions

This study presents a Systematic Literature Review (SLR) on the application of E-ServQual theory in the field of e-busniness during the period 2020-2025. It can be concluded that the E-Servqual theory proposed by Parasuraman et al., (2005) is still relevant to measure and assess the quality of electronic services both in the fields of e-commerce, e-banking, e-learning, and cloud-based accounting systems.

Efficiency, system availability, and privacy are the most dominant dimensions to measure service quality. In its application, the E-Servqual theory is adaptive to the development of digital

technology and continues to contribute to the analysis of service quality, customer satisfaction, and trust in digital systems, and modern accounting.

Suggestions

Researchers are further advised to develop a new version of the E-Servqual theory that includes AI and Blockchain technology. Using a qualitative approach to understand the user experience in depth. And apply this theory in the field of digital accounting and sustainable reporting (ESG).

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