

Hang, Nga Phan Thi; Trung, Nguyen Kim Quoc

## Article

# Service quality, customer satisfaction and loyalty: a case study in Vietnamese SMEs

Cogent Business & Management

## Provided in Cooperation with:

Taylor & Francis Group

*Suggested Citation:* Hang, Nga Phan Thi; Trung, Nguyen Kim Quoc (2024) : Service quality, customer satisfaction and loyalty: a case study in Vietnamese SMEs, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 11, Iss. 1, pp. 1-15,  
<https://doi.org/10.1080/23311975.2024.2377769>

This Version is available at:

<https://hdl.handle.net/10419/326433>

### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

### Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>

# Service quality, customer satisfaction and loyalty: a case study in Vietnamese SMEs

Nga Phan Thi Hang & Nguyen Kim Quoc Trung

To cite this article: Nga Phan Thi Hang & Nguyen Kim Quoc Trung (2024) Service quality, customer satisfaction and loyalty: a case study in Vietnamese SMEs, Cogent Business & Management, 11:1, 2377769, DOI: [10.1080/23311975.2024.2377769](https://doi.org/10.1080/23311975.2024.2377769)

To link to this article: <https://doi.org/10.1080/23311975.2024.2377769>



© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 13 Jul 2024.



Submit your article to this journal [↗](#)



Article views: 4295



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 2 View citing articles [↗](#)

# Service quality, customer satisfaction and loyalty: a case study in Vietnamese SMEs

Nga Phan Thi Hang  and Nguyen Kim Quoc Trung 

Faculty of Accounting - Auditing, University of Finance – Marketing, Ho Chi Minh City, Vietnam

## ABSTRACT

This study assesses how various aspects of loan service quality in Vietnamese commercial banks impact the satisfaction levels of small and medium enterprises (SMEs) and their relationship with customer loyalty to these banks. Implementing both qualitative methods (such as group discussions, expert interviews, and customer surveys) and quantitative methods (including partial least squares structural equation modeling (PLS-SEM)), the authors identified and analyzed five dimensions of loan service quality—tangibility, reliability, assurance, responsiveness, and empathy—that positively influence SME satisfaction within these banks. Additionally, this study explores the connection between SME satisfaction and loyalty, recognizing it as a crucial factor for improving operational efficiency and gaining a competitive advantage in facilitating banking transactions.

## ARTICLE HISTORY

Received 27 September 2023

Revised 17 May 2024

Accepted 3 July 2024

## KEYWORDS

Service quality; loans; customer loyalty; customer satisfaction; small and medium enterprises

## REVIEWING EDITOR

Pablo Ruiz, Universidad de Castilla-La Mancha, Spain

## SUBJECTS

Entrepreneurship and Small Business Management; Small Business Management; Organizational Behaviour; Banking

## 1. Introduction

As stated by the Asian Development Bank (2023), small and medium enterprises (SMEs) continue to serve as significant catalysts for economic growth in developing Asia and the Pacific. Amidst the ongoing global uncertainties stemming from geopolitical tensions and shifting supply chains, it is imperative to emphasize the advancement of SMEs to bolster their domestic impact on sustainable development. SMEs fulfill diverse functions within developing economies and encounter various obstacles. Specifically, fostering the growth of SMEs and enhancing financial inclusion are crucial for promoting a more equitable and robust economic growth trajectory throughout developing Asia and the Pacific (Asian Development Bank, 2023).

Due to limited resources like finance, technology, and human capital, small and medium enterprises (SMEs) are compelled to seek diversified funding sources to support their operations and explore alternative avenues for enhancing their performance. Compared with large corporations, SMEs face unique challenges related to ownership structures, economies of scale, collateral, and information disclosure disparities, which pose obstacles to approaching financial resources (Mirza et al., 2023; Rabbani et al., 2023; Rehman et al., 2023). Thus, to accelerate their development process, bank lending to SMEs is essential for economic growth because, according to Rehman et al. (2023), SMEs have produced 60–70% of the total world employment and over 50% of the world's gross domestic product (GDP).

In the global economy, Vietnamese SMEs appear to be quite innovative and productive because of their adoption of information and technology. State-owned commercial banks finance SMEs in Vietnam, covering approximately half of total SME loans. SME lending constitutes 22% of the country's overall

**CONTACT** Nguyen Kim Quoc Trung  [nkq.trung@ufm.edu.vn](mailto:nkq.trung@ufm.edu.vn)  University of Finance – Marketing, Ho Chi Minh City, Vietnam.

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

bank lending (OECD, 2021). To improve SMEs' access to finance, fostering increased competition in credit markets is crucial. This could involve initiatives such as promoting the emergence of alternative lending institutions and expanding the utilization of loan guarantees to SMEs.

In particular, the State Bank of Vietnam (SBV) has effectively managed its monetary and credit policies proactively, flexibly, and consistently. This aimed to facilitate access to bank loans for businesses and individuals, thereby fostering their production and commercial endeavors. There has been notable progress in enhancing the legal framework governing credit institutions' lending operations, empowering them with greater decision-making authority and accountability, especially concerning loans to SMEs, as per the Credit Institutions Law. This legal framework has eased access to credit and alleviated the obstacles faced by all customers, including SMEs. Consequently, there is a positive outcome in SMEs' credit.

Practical evidence from the 2018-2022 period illustrates this success. The average annual credit growth rate for SMEs stood at 14.17%, surpassing the overall credit growth rate of the economy. By the end of 2022, credit extended to SMEs increased by 8.28% compared to the previous year, constituting nearly 19% of the total credit in the economy. On March 14, 2023, the SBV reduced the short-term lending interest rate by 0.5% for certain sectors and industries, aiming to support cost reductions for customers in borrowing (now standing at 5% per annum) (Nguyen, 2023). Practical evidence from the 2018-2022 period illustrates this success. The average annual credit growth rate for SMEs stood at 14.17%, surpassing the overall credit growth rate of the economy. By the end of 2022, credit extended to SMEs increased by 8.28% compared to the previous year, constituting nearly 19% of the total credit in the economy. On March 14, 2023, the SBV reduced the short-term lending interest rate by 0.5% for certain sectors and industries, aiming to support cost reduction for borrowing (Nguyen, 2023).

Quality is the cornerstone of the service industry and is crucial for satisfying customers and fostering loyalty (Hasan et al., 2016; Kumar et al., 2009). Within the banking sector, quality is paramount for delivering a value chain of financial services to customers in the monetary domain. As such, the primary aim of this research is to investigate how factors related to loan service quality influence the satisfaction of small and medium enterprises (SMEs) and their relationship with SMEs' loyalty. In pursuit of the objective, we will explore the following research question: 'To what extent, does the SMEs' satisfaction intervene the effect of loan service quality on SMEs' loyalty in Vietnamese commercial banks?'

## 2. Literature review and hypothesis development

### 2.1. Literature review

Service quality is covered in the theoretical frameworks and models proposed by Cronin and Taylor (1992), Grönroos (1984), and Parasuraman et al. (1985). Grönroos (1984) explains that service quality is evaluated by comparing the value that customers anticipate before using a service with the value they perceive after using the service. Parasuraman et al. (1985) define service quality as the gap between customer expectations and perceptions after experiencing a service. The author's group constructed and developed the SERVQUAL scale, comprising 22 pairs of observed variables that measure customers' perceptions and expectations of service quality, with five fundamental components: (1) tangibles, (2) reliability, (3) responsiveness, (4) assurance, and (5) empathy.

As highlighted by Cronin and Taylor (1992), a conceptualization and method exists for measuring service quality and its association with consumer satisfaction and purchase intentions. Their study involved comparing computed difference scores and perceptions, leading to the conclusion that perceptions alone are a more reliable predictor of service quality.

To measure the perceived service quality provided by the banking sector in this study, Parasuraman's SERVQUAL model was chosen because it has been widely used (Hasan et al., 2016; Izah and Wan Zulqurnain, 2005; Munusamy et al., 2010). Drawing from researchers' insights into service quality, loan service quality within the operational framework of commercial banks is defined by its alignment with customers' credit service expectations and fulfillment of their requirements.

In the modern economy, with the advancement of the commerce and service sectors, service quality has emerged as a critical component of customer satisfaction, with the two concepts closely intertwined. According to Wilson et al. (2016), although service quality and customer satisfaction share certain

similarities, customer satisfaction tends to encompass a broader spectrum. By contrast, service quality specifically targets distinct aspects of a service. This viewpoint is supported by the findings of Shrestha and Koirala (2012).

Both service quality and customer satisfaction are frequently evaluated through a gap approach, which involves assessing the variance between perceptions and expectations (Rust et al., 1999). The discrepancy between service quality and customer satisfaction largely stems from differing definitions of expectations. In the theory of service quality, customer expectations are defined as the wants (needs) of consumers, which customers feel that a service provider should offer them rather than what the service provider will offer' (Martinaityte et al., 2019; Mbango, 2019).

According to Anderson and Jacobsen (2000), customer loyalty is the outcome of an organization providing benefits to customers, leading them to maintain or even increase their purchases from that organization. They assert that customer satisfaction is a precursor to customer loyalty. There is a growing acknowledgment that the primary goal of measuring customer satisfaction should be to foster customer loyalty (Singh, 2006; Sivadas and Baker-Prewitt, 2000).

Research conducted by Maswadeh (2015), Qadeer (2014), Raza et al. (2020), Shanmugam (2022), and Zhou et al. (2021) has revealed the impact of service quality on customer satisfaction within the global banking sector. Conversely, Bui (2022), Le (2016), Phung (2020), and To and Vo (2020) focused on Vietnam. However, these authors limited their investigations to individual banks or branches and omitted customer loyalty in their models. Consequently, this study seeks to address this gap by examining the mediating role of SMEs' satisfaction in the relationship between loan service quality and loyalty within the Vietnamese banking sector.

## **2.2. Hypothesis development**

### **2.2.1. Tangibility affects customer satisfaction**

According to Santos (2002), tangibility constitutes a dimension of service quality as identified by Parasuraman et al. (1988). It denotes the tangible aspects of services, encompassing the appearance of physical facilities, tools, equipment, personnel, communication materials, other physical features utilized in service delivery, and the presence of other customers in the service environment. In a recent investigation by Khan et al. (2021), tangibility was related to the physical infrastructure, equipment, staff, and specialized tools engaged in service provision.

Tangibles include physical assets, instruments, and machinery used in service delivery, such as loans, cards, and deposits (Rahaman et al., 2020). These authors assert that tangibility also involves elements such as external appearance, bank counters, facilities, operating hours, and speed and efficiency of transactions. Evidence from studies by Fida et al. (2020), Kant and Jaiswal (2017), and Rahman et al. (2017) indicates a significant positive impact of tangibility on customer satisfaction within the banking industry.

When transactions occur under pleasant conditions, consumers tend to feel more satisfied with the services provided by the company. Consequently, the tangible dimension enhances employee readiness to respond promptly to consumers' needs. It has been observed that the quality of tangibles an organization provides directly correlates with the level of service delivered to consumers (Balinado et al., 2021; Ngaliman and Suharto, 2019).

Hypothesis 1: Tangibility has a positive effect on the satisfaction of SME customers.

### **2.2.2. Reliability affects customer satisfaction**

Parasuraman et al. (1988) introduced the pivotal concept that reliability is the cornerstone of service performance, as highlighted by Rahaman et al. (2020). Reliability holds a primary position within the SERVQUAL framework for measuring the service quality. Baumann et al. (2017) define it as the degree to which customers can rely on the service provided by a business entity. Among the dimensions of service quality, reliability is regarded as fundamental in influencing customer satisfaction (Zhang et al., 2019). It signifies the commitment to deliver promised services and complements operational precision (S and

Devesh, 2019). Moreover, reliability entails the capability to deliver promised services consistently and the organization's trustworthiness, particularly in providing services promptly and as agreed upon (Bungatang and Reynel, 2021).

Research conducted by Kant and Jaiswal (2017) and Pakurár et al. (2019) provides robust evidence of a significant correlation between reliability and customer satisfaction within the banking sector. Khan et al. (2021) explored the positive relationship between the reliability of mobile banking services and customer satisfaction.

Hypothesis 2: Reliability has a positive effect on the satisfaction of SME customers.

### **2.2.3. Responsiveness affects customer satisfaction**

Parasuraman et al. (1988) emphasized that employee responsiveness encompasses various aspects, including providing accurate completion estimates to customers, offering undivided attention, promoting helpfulness, and aligning responses with customer needs. Responsiveness evaluates the speed at which employees deliver timely and appropriate assistance, as noted by Endara et al. (2019). This capability to promptly fulfill assigned tasks, manually or electronically, is termed responsiveness, according to Uddin et al. (2015). Vencataya et al. (2019) confirmed that responsiveness significantly predicts customer satisfaction in the banking sector of Mauritius. Moreover, responsiveness has been shown to significantly influence customer satisfaction in various studies significantly (Abdelhadi, 2021; Kant and Jaiswal, 2017; Khan et al., 2021; Rahaman et al., 2020).

It is essential to define responsiveness as employees' willingness or desire to assist and provide the services required by consumers (Rahaman et al., 2020). Allowing consumers to wait, especially without an apparent reason, can create a negative impression that should be avoided at all costs. Addressing such errors promptly is not just crucial, but also of utmost importance, as it can significantly impact the overall customer experience (Bungatang and Reynel, 2021).

Hypothesis 3: Responsiveness has a positive effect on the satisfaction of SME customers.

### **2.2.4. Assurance affects customer satisfaction**

Grönroos (1984) initially identified assurance as the foremost dimension of service quality, although Parasuraman et al. (1994) later positioned it fourth. Assurance encompasses expertise, courtesy, and employees' ability to inspire trust and confidence during interactions (Zeithaml et al., 1990). This dimension involves keeping customers well-informed in a language they understand and attentively listen to, regardless of their educational background, age, or nationality. Assurance is closely linked to the sense of security that customers feel during banking transactions (Ennew et al., 2013) and exhibits a direct and positive correlation with customer satisfaction in the banking sector (Pakurár et al., 2019).

Balinado et al. (2021) highlight assurance as a fundamental dimension of service quality that significantly influences customer satisfaction. They emphasized that the demonstration of acquired knowledge by staff in catering to customer preferences during service delivery can be highly assuring. Empirical studies show a favorable connection between assurance and customer satisfaction (Etana, 2021; Kant and Jaiswal, 2017; Khan et al., 2021; Yarimoglu, 2014).

Hypothesis 4: Assurance has a positive effect on the satisfaction of SME customers.

### **2.2.5. Empathy affects customer satisfaction**

*Empathy* is defined as an individual's reaction to others' observed experiences (Davis, 1983). This finding suggests that empathy encompasses both cognitive and emotional responses. It entails consideration, personalized attention, and provision of customized services to clients (Parasuraman et al., 1994). Empathy involves fostering the perception that each customer is unique. Quantitative research

on service quality has consistently focused on safety, trustworthiness, and empathy. Empathy is fundamental to supportive and compassionate interactions, making it indispensable to service provision (Bove, 2019).

Empathy involves service providers demonstrating care, offering personalized attention to customers, treating them as valuable assets, and consistently displaying courtesy (Mi Jeon et al., 2013). These behaviors also play a pivotal role in determining consumer loyalty (Prentice, 2013). As stated in Balinado et al. (2021), Gunasekar et al. (2021), Khan et al. (2021), and Markovic et al. (2018), empathy positively affects customer satisfaction.

Hypothesis 5: Empathy has a positive effect on the satisfaction of SME customers.

### **2.2.6. Customer satisfaction affects customer loyalty**

The loyalty of a firm's customers has been recognized as the dominant factor in a business organization's success (Kandampully and Suhartanto, 2000). Customer satisfaction is paramount in all marketing endeavors of a market-oriented firm. It is crucial for fulfilling the firm's objectives, including business expansion, securing a larger market share, and fostering repeat and referral businesses, all of which contribute to enhanced profitability (Barsky, 1992).

Research by Cronin and Taylor (1992) in various service sectors, including banking, has revealed that customer satisfaction strongly influences future purchase intentions. They posit that satisfaction increases the likelihood of customers continuing to engage with a firm, thus fostering ongoing transactions. Similarly, McAlexander et al. (1994) discovered that patient satisfaction and service quality significantly impacted future purchase intentions in the healthcare sector.

Maintaining customer loyalty to bank services is crucial for the long-term survival of a bank organization on a global scale (Supriyanto et al., 2021). Service quality and customer satisfaction are key factors that must be investigated to understand their influence on customer loyalty. Organizations that foster customer loyalty tend to experience higher levels of customer satisfaction (Supriyanto et al., 2021). Ariff et al. (2013) emphasize that customers remain loyal only when they are satisfied with the services provided.

Hypothesis 6: Customer satisfaction positively affects the loyalty of SME customers.

## **3. Methodology**

### **3.1. Sample**

According to Hair et al. (2017), the recommended range for the minimum sample size is between 100 and 150, or a minimum of five times the sample size required to estimate a parameter, as indicated by Bollen (1989). To establish an adequate sample size for this research, the authors opted for Bollen's (1989) approach, which involves computing  $n*5$  observations, where  $n$  represents the estimated parameter or scaling factor for the variables under consideration. A total of 411 forms were issued, with 376 forms collected after the survey, representing 91.5% of the distributed forms. This meets the requirements for both the quantity and composition of the sample. Consequently, the sample size suitable for analysis includes 376 observations.

### **3.2. Research model**

### **3.3. Methodology**

The study employed a combined approach involving both qualitative and formal research methods. Data collection was conducted through verbal interviews with participants using qualitative techniques. Notably, these individuals provided written informed consent, allowing the researchers to exclusively



utilize the gathered information for this study and its subsequent publication in an academic journal. The interview participants typically included experts and professionals, such as credit officers, supervisors, and managerial personnel from selected commercial banks in Ho Chi Minh City.

Expert interviews were conducted in the preliminary research phase to identify the factors influencing the loan service quality of SMEs customers at selected Vietnamese commercial banks. These factors were refined and adjusted based on the proposed research model. Based on the expert consensus rate calculation, the identified factors were re-evaluated to ensure relevance within the Vietnamese context. The assessment of expert interview reliability was determined using Krippendorff's alpha coefficient (Kalpha), a metric used to gauge reliability quality in expert interviews (Hayes and Krippendorff, 2007). Notably, they established that a Kalpha value of 1 signifies perfect reliability or a dependable consensus ratio, whereas a Kalpha values of 0.8 are generally accepted as the benchmark for good reliability, does not fall below 0.6. Consequently, factors with an expert consensus rate in the paper of 75% m, which exceeds 60 percent, encompassing reliability, relevance, timeliness, confidentiality, and ease of use as outlined by experts, were retained. The following factors were included in the SERVQUAL model: reliability, responsiveness, assurance, tangibles, and empathy (Parasuraman et al., 1988). Following the expert interviews' results, five validated and adjusted elements—reliability, responsiveness, assurance, tangibles, and empathy (Figure 1) – were chosen to assess their impact on SMEs' satisfaction.

Subsequently, quantitative research was conducted to refine the initial scales established during the qualitative phase. The survey was designed by considering constructs measured using and adapting existing scale items from the literature and previous studies (Appendix 1). Responses were rated on a five-point Likert scale, ranging from 'completely disagree' to 'completely agree.' A double-masked back-translation process translated the items from Vietnamese to English.

Following this qualitative study, the outcomes led to the creation of a survey questionnaire for SME customers. The authors encoded these scales and utilized SmartPLS software to assess scale reliability, perform exploratory factor analysis, and construct multiple linear regression models based on aggregated survey data. Various tests were executed to ensure the robustness and reliability of the research findings.

### 3.4. Ethical approval statement

Research methods encompass both qualitative and quantitative approaches. The qualitative method of research focuses on interviews with banking experts. The authors approached these experts, who had participated in previous conferences—specifically, the Conference of Finance for Sustainable Development 2023, the International Conference on Business Based on Digital Platform (BDP 3), and the 8th International Conference on Accounting and Finance (ICOAF 2023)—by scheduling appointments for in-depth interviews.

Participation in the study was secured by obtaining the interviewees' agreement to discuss banking-related information through a structured questionnaire during the in-depth interviews. This process aimed to identify the factors influencing the research and allowed the information to be disclosed



Figure 1. Research model.



in this article. Furthermore, the interviewees consented to and assigned all rights to the authors to use the verbal data for this study. Additionally, all questions were designed based on the interviewees' knowledge and skills to provide evidence supporting the authors' assessments.

The University of Finance – Marketing's ethics committee granted ethical approval to the researchers. During data collection, the researchers adhered to the Decree on the Protection of Personal Data (Decree No. 13/2023/ND-CP, April 17, 2023) (Vietnam, 2023), ensuring the anonymity and confidentiality of the respondents throughout the study.

## 4. Research results and discussions

### 4.1. Research results

First, the reliability and validity of constructs are shown in Table 1.

Based on Table 1, the author tested the construct reliability by calculating Cronbach's alpha and composite reliability for each construct. All constructs have Cronbach's alpha values above 0.7, which suggests that the constructs are acceptable (Taber, 2018). In addition, according to Hair et al. (2017), the composite reliability (CR) and average variance extracted (AVE) should be greater than 0.7, and 0.5 respectively to establish reliability and convergent validity, respectively. All the constructs satisfy the conditions of CR and AVE, so they have reliability and convergent validity.

Table 2 presents the evaluation of discriminant validity using the Fornell-Larcker criterion as recommended by Fornell and Larcker (1981). This criterion is widely employed to assess the extent of common variance among the latent variables within the model. The Fornell-Larcker criterion is met when the square root of Average Variance Extracted (AVE) values is greater than the (partial) cross-loadings in the corresponding column and row (Fornell and Larcker, 1981), affirming the robust discriminant validity of the scales.

To assess discriminant validity using the PLS approach, Heterotrait–Monotrait correlation values below 0.900 were considered acceptable (Henseler et al., 2015). The computed values, as presented in Table 3, fall below this threshold, confirming the acceptance of discriminant validity. These results underscore the reliability and validity of the measurement scales (Henseler et al., 2015), thus establishing the validity of the research model. Furthermore, both the predictive capability of the model and causal relationships among the variable constructs were statistically significant (Figure 2).

Figure 2 illustrates that the R-squared value for the estimated equation is 0.567, signifying statistical significance at the 1 percent level. Furthermore, the adjusted R-square indicates that 56.7% of the variation in the satisfaction of customers of small and medium-sized enterprises (SMEs) can be attributed to factors such as tangibility, reliability, responsiveness, assurance, and technological innovation.

**Table 1.** Composite reliability.

	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
A	0.882	0.882	0.628
CL	0.917	0.915	0.809
E	0.854	0.872	0.641
R	0.809	0.836	0.593
RE	0.878	0.884	0.707
SA	0.998	0.998	0.996
TA	0.964	0.967	0.903

**Table 2.** Composite reliability.

	A	CL	E	R	RE	SA	TA
A	0.793						
CL	0.289	0.899					
E	0.382	0.417	0.800				
R	0.333	0.443	0.601	0.770			
RE	0.428	0.509	0.578	0.498	0.841		
SA	0.530	0.577	0.627	0.626	0.618	0.998	
TA	0.327	0.350	0.508	0.539	0.469	0.536	0.950

**Table 3.** Heterotrait-monotrait ratio (HTMT) - Matrix.

	A	CL	E	R	RE	SA	TA
A							
CL	0.315						
E	0.450	0.463					
R	0.409	0.505	0.711				
RE	0.486	0.561	0.671	0.602			
SA	0.563	0.593	0.676	0.702	0.664		
TA	0.355	0.364	0.546	0.619	0.512	0.545	

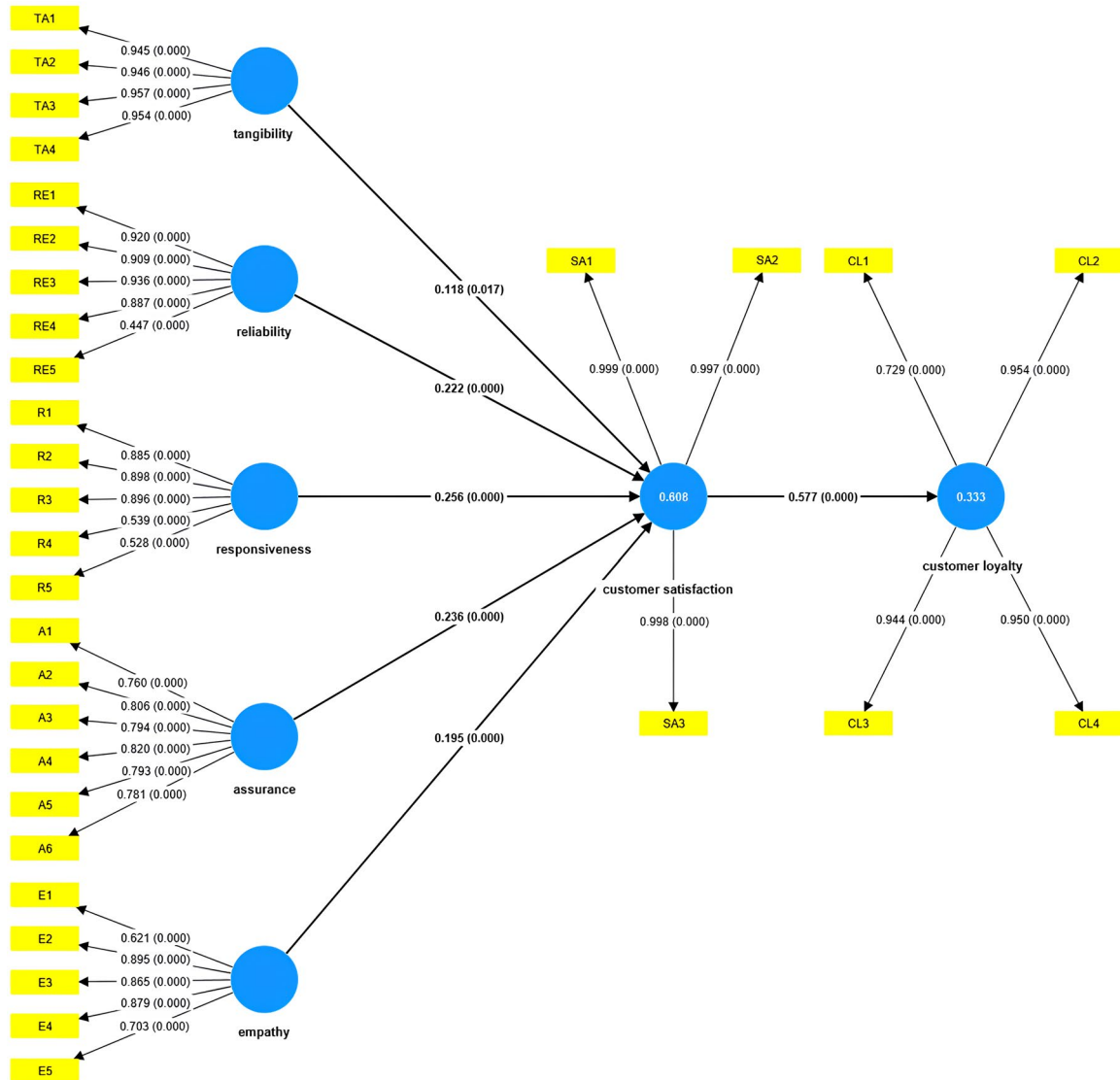
**Figure 2.** Structural equation modeling (PLS- SEM).

Table 4 presents the comprehensive results of employing the analytical bootstrapping method to examine the hypotheses. This approach assesses the significance level of the relationships between variables by employing a 5000-re-sampling bootstrapping procedure implemented using SmartPLS.

The results displayed in Table 4 indicate that service quality's attributes such as tangibility, reliability, responsiveness, assurance, and empathy exert a notable and statistically significant influence on the satisfaction of small and medium-sized enterprises (SMEs) utilizing loan credit. Additionally, the satisfaction of SMEs' customers positively affects loyalty. This is evident from all p-values being below 5%.

**Table 4.** Hypothesis testing.

Hypotheses	Path	$\beta$	P-values	Decision
H1	Tangibility -> Satisfaction of SMEs' customers	0.118	0.017	Accept
H2	Reliability -> Satisfaction of SMEs' customers	0.222	0.000	Accept
H3	Responsiveness -> Satisfaction of SMEs' customers	0.256	0.000	Accept
H4	Assurance -> Satisfaction of SMEs' customers	0.236	0.000	Accept
H5	Empathy -> Satisfaction of SMEs' customers	0.195	0.000	Accept
H6	Satisfaction of SMEs' customers -> Loyalty of SMEs' customers	0.577	0.000	Accept

**Table 5.** Inner VIF values.

	VIF
Tangibility -> customer satisfaction	1.588
Assurance -> customer satisfaction	1.285
Customer satisfaction -> customer loyalty	1.000
Empathy -> customer satisfaction	1.959
Reliability -> customer satisfaction	1.738
Responsiveness -> customer satisfaction	1.821

Consequently, all hypotheses put forth in this context were affirmed. The corresponding path coefficients were as follows:

Tangibility affects the satisfaction of SMEs' customers with the coefficient of 0.118 and p-value of 0.017.

Reliability affects the satisfaction of SMEs' customers with the coefficient of 0.222 and p-value of 0.000.

Responsiveness affects the satisfaction of SMEs' customers with the coefficient of 0.256 and p-value of 0.000.

Assurance affects the satisfaction of SMEs' customers with the coefficient of 0.236 and p-value of 0.000.

Empathy affects the satisfaction of SMEs' customers with the coefficient of 0.195 and p-value of 0.000.

The satisfaction of SMEs' customers affects their loyalty with the coefficient of 0.577 and p-value of 0.000.

Table 5 presents the outcomes of the Inner VIF assessments, aimed at detecting multicollinearity. According to Hair et al. (2013), multicollinearity is present in the model when VIF values surpass 4.0. In Table 5, all the VIF values adhere to the recommended threshold, signifying the absence of multicollinearity. Consequently, the model is deemed trustworthy and unbiased in its estimation.

## 4.2. Discussions

The authors relied on the magnitude of the regression coefficients to assess the impact of service quality attributes on SMEs' satisfaction. From the results, we found that the hypotheses were accepted at the 5% level of statistical significance. The impact of factors related to the quality of loan services on the satisfaction of SMEs at state-owned commercial banks is arranged in descending order of the regression coefficients. Specifically, the highest impact coefficient was associated with responsiveness, followed by Assurance, Reliability, Empathy, and Tangibility. The findings confirm Parasuraman's SERVQUAL model, which was chosen in this study because it has been widely used to assess the attributes of service quality affecting customer satisfaction (Hasan et al., 2016; Izah and Wan Zulqurnain, 2005; Munusamy et al., 2010).

First, the responsiveness factor, with a coefficient of 0.256, being greater than 0, positively affects the satisfaction regarding the quality of loan services offered by commercial banks in Vietnam, specifically within the Ho Chi Minh City region. These findings are consistent with those of previous studies (Abdelhadi, 2021; Bungatang and Reynel, 2021; Kant and Jaiswal, 2017; Khan et al., 2021; Rahaman et al., 2020).

Second, Assurance, with a coefficient of 0.236, ranks second in terms of its positive influence on SMEs concerning the caliber of loan services provided to them by commercial banks in Vietnam. This positive

effect is particularly notable in Ho Chi Minh City, which is consistent with studies by Etana (2021), Kant and Jaiswal (2017), Khan et al. (2021), Yarimoglu (2014), and Balinado et al. (2021).

Third, the Reliability factor with a coefficient of 0.222 ranks third in terms of its positive influence on the content of SMEs concerning the caliber of loan services provided to them by commercial banks in Vietnam. These findings are consistent with those of Etana (2021), Kant and Jaiswal (2017), Khan et al. (2021), Pakurár et al. (2019), and Balinado et al. (2021).

The Empathy factor, with a coefficient of 0.195, holds the fourth position in terms of its positive impact on the satisfaction regarding the quality of loan services offered by commercial banks in Vietnam. These results are consistent with those of Balinado et al. (2021), Gunasekar et al. (2021), Khan et al. (2021), and Markovic et al. (2018).

Tangibility within the spectrum of loan service quality has the least notable effect on the satisfaction of small and medium-sized business clients within commercial banks in Vietnam, particularly in Ho Chi Minh City. This is apparent from the lowest standardized beta coefficient recorded at 0.118. Despite its lower impact, the tangibility factor still positively influences the satisfaction of SME customers, a finding supported by statistical significance, as noted in the studies by Balinado et al. (2021) and Ngaliman and Suharto (2019).

Service quality is essential to gain a competitive advantage in the marketplace, and it also helps to satisfy customers' demands, especially in service industries (Parasuraman et al., 1994). In addition, commercial banks (especially state-owned commercial banks) in Vietnam are becoming increasingly concerned about the quality of services provided to customers, especially SMEs. The State Bank of Vietnam (SBV) has set a reduced upper limit on interest rates for short-term loans in Vietnamese Dong aimed at priority development sectors, including SMEs, which is 1-2% lower annually compared to the regular production and business sectors. Additionally, with the issuance of Circular No. 02/2023/TT-NHNN on April 23, 2023, 'guiding credit institutions and foreign bank branches on debt restructuring and classification retention to aid borrowers facing difficulties', the circular underscores the government's backing for customers involved in lending activities with commercial banks. Agribank allocates 10,000 billion Vietnam Dong (VND) to implement preferential credit programs for SME customers with attractive interest rates by 2023. Agribank also earmarked over 50,000 billion VND to implement various synchronized preferential credit programs for import-export customers and the forestry and aquatic product sectors. VietinBank, another bank in Vietnam, continues to lower interest rates for SME business loans by 2023, with adjusted rates starting from 5.9% per annum. The scale of the interest rate incentive package reaches up to 15,000 billion VND, which aims to assist SMEs in their operations.

Finally, as stated in the literature, the findings also confirm the positive effect of customer satisfaction on customer loyalty, because the coefficient is higher than 0 ( $\beta=0.577$ ). These findings are consistent with those of Cronin and Taylor (1992), Supriyanto et al. (2021), and Ariff et al. (2013). They suggested that satisfaction boosts the probability of customers remaining involved with the company, thereby encouraging sustained transactions.

## 5. Conclusions and limitations

Employing a combination of qualitative and quantitative research techniques, this study examined the influence of service quality on SMEs' satisfaction and their relationship with loyalty. The results confirm that five service quality attributes—tangibility, reliability, responsiveness, assurance, and empathy—positively influence customer satisfaction. Furthermore, SME customer satisfaction positively correlates with loyalty when utilizing loans provided by commercial banks in Vietnam.

Although specific results have been obtained, some limitations still exist. First, the sample was limited to Ho Chi Minh City; therefore, the results were only achieved with a certain level of confidence. Therefore, it is possible for future studies to widen the scope of surveys across the country instead of just within Ho Chi Minh City. Second, future studies could implement the SERVPERF model instead of the SERVQUAL model.

## Disclosure statement

In accordance with the Taylor and Francis policy and my ethical obligation as a researcher, I am reporting that I received no funding from any organization that may be affected by the research reported in the enclosed paper. I have fully disclosed these interests to Taylor and Francis, and I have in place an approved plan for managing any potential conflicts arising from that involvement. The authors (s) declare no conflicts of interest regarding the publication of this paper.

## About the authors

**Nga Phan Thi Hang** is an Associate Professor and the Dean of the Science Management Department at the University of Finance - Marketing (UFM) in Vietnam. I graduated Doctor in Finance and Banking from the Banking University of Ho Chi Minh City. I am teaching banking financial subjects and have published numerous international papers on credit risk management. I also serve as a reviewer for several accredited and highly-ranked international journals. Moreover, I concentrate on conducting more intensive research in tourism, aiming to improve the competitiveness of tourism enterprises and the management of human resources.

**Nguyen Kim Quoc Trung** is currently a lecturer of the Faculty of Accounting - Auditing; the University of Finance - Marketing, Vietnam. He is interested in researching the banking sector, finance and management. He has written a total of some articles in various journal indexed by Scopus, such as International Journal of Economics and Finance Studies, Cogent Business & Management, International Journal of Interdisciplinary Organizational Studies, Emerging Science Journal, International Journal of Asian Business and Information Management, Journal of Eastern European and Central Asian Research, International Journal of Procurement Management, Cogent Economics and Finance, International Journal of Procurement Management. In addition, he has served as a reviewer of some international journals listed in Scopus, such as Cogent Economics and Finance; International Journal of Law and Management; Journal of Financial Services Marketing; International Journal of Asian Business and Information Management.

## Authors' contributions

Phan Thi Hang Nga: Supervision, Writing – review & editing, revised Conceptualization, and design (for research model), interpretation of the data. Nguyen Kim Quoc Trung: Writing – original draft, Conceptualization and design, Methodology, Data analysis, Writing – review & editing. Both Phan Thi Hang Nga and Nguyen Kim Quoc Trung have contributed to the final version of the manuscript and agreed to be accountable for all aspects of the work.

## Funding

No funding was received.

## ORCID

Nga Phan Thi Hang  <http://orcid.org/0000-0003-1143-2741>  
 Nguyen Kim Quoc Trung  <http://orcid.org/0000-0001-9756-6219>

## Data availability statement

Raw data was generated from the selection of 35 commercial banks in Vietnam. Data supporting the findings of this study are available from the corresponding author, N., On request.

## References

- Abdelhadi, A. (2021). Patients' satisfactions on the waiting period at the emergency units. Comparison study before and during COVID-19 pandemic. *Journal of Public Health Research*, 10(1), 1956. <https://doi.org/10.4081/jphr.2021.1956>
- Anderson, H., & Jacobsen, P. N. (2000). Creating loyalty: Its strategic importance in your customer strategy. *Customer Relationship Management*, 55, 67.
- Ariff, M. S. M., Yun, L. O., Zakuan, N., & Ismail, K. (2013). The impacts of service quality and customer satisfaction on customer loyalty in internet banking. *Procedia - Social and Behavioral Sciences*, 81, 469–473. <https://doi.org/10.1016/j.sbspro.2013.06.462>

- Asian Development Bank. (2023). *Asia Small and Medium-Sized Enterprise Monitor 2023: How Small Firms Can Contribute to Resilient Growth in the Pacific Post COVID-19 Pandemic* (Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Federated States of, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu; p. 251). Asian Development Bank. <https://www.adb.org/publications/asia-sme-monitor-2023>
- Balinado, J. R., Prasetyo, Y. T., Young, M. N., Persada, S. F., Miraja, B. A., & Perwira Redi, A. A. N. (2021). The Effect of service quality on customer satisfaction in an automotive after-sales service. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 116. <https://doi.org/10.3390/joitmc7020116>
- Barsky, J. (1992). Customer satisfaction in the hotel industry: Measurement and meaning. *Cornell HRA Quarterly*, 7(6), 20–41.
- Baumann, C., Hoadley, S., Hamin, H., & Nugraha, A. (2017). Competitiveness vis-à-vis service quality as drivers of customer loyalty mediated by perceptions of regulation and stability in steady and volatile markets. *Journal of Retailing and Consumer Services*, 36, 62–74. <https://doi.org/10.1016/j.jretconser.2016.12.005>
- Bollen, K. (1989). *Structural equations with latent variables*. John Wiley & Sons, Ltd. [https://scholar.google.com/scholar\\_lookup?title=Structural%20Equations%20with%20Latent%20Variables&publication\\_year=1989&author=Bollen%20CKA](https://scholar.google.com/scholar_lookup?title=Structural%20Equations%20with%20Latent%20Variables&publication_year=1989&author=Bollen%20CKA)
- Bove, L. L. (2019). Empathy for service: Benefits, unintended consequences, and future research agenda. *Journal of Services Marketing*, 33(1), 31–43. <https://doi.org/10.1108/JSM-10-2018-0289>
- Bui, T. T. T. (2022). *Factors affecting service quality at banks–The case of Tay Ninh Industrial and Commercial Joint Stock Bank*. University of Economics HCMC.
- Bungatang, B., & Reynel, R. (2021). The effect of service quality elements on customer satisfaction. *Golden Ratio of Marketing and Applied Psychology of Business*, 1(2), 107–118. <https://doi.org/10.52970/grmapb.v1i2.102>
- Cronin, J. J., Jr., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56(3), 55–68. <https://doi.org/10.1177/002224299205600304>
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Endara, Y. M., Ali, A. B., & Yajid, M. S. A. (2019). The influence of culture on service quality leading to customer satisfaction and moderation role of type of bank. *Journal of Islamic Accounting and Business Research*, 10(1), 134–154. <https://doi.org/10.1108/JIABR-12-2015-0060>
- Ennew, C., Waite, N., & Waite, R. (2013). *Financial services marketing: An international guide to principles and practice*. Routledge.
- Etana, N. G. (2021). Impact of service quality performance on customer satisfaction: a case of oromia international bank (OIB), Ambo Branch, West Shoa Zone, Oromia Regional State, Ethiopia. *African Journal of Marketing Management*, 13(1), 12–24.
- Fida, B. A., Ahmed, U., Al-Balushi, Y., & Singh, D. (2020). Impact of service quality on customer loyalty and customer satisfaction in Islamic banks in the Sultanate of Oman. *SAGE Open*, 10(2), 215824402091951. <https://doi.org/10.1177/2158244020919517>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18(4), 36–44. <https://doi.org/10.1108/EUM00000000004784>
- Gunasekar, S., Kumar, D. S., Purani, K., Sudhakar, S., Dixit, S. K., & Menon, D. (2021). Understanding service quality attributes that drive user ratings: A text mining approach. *Journal of Vacation Marketing*, 27(4), 400–419. <https://doi.org/10.1177/13567667211003246>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis: Pearson new international edition PDF eBook*. Pearson Higher Ed.
- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107–123. <https://doi.org/10.1504/IJMDA.2017.087624>
- Hasan, H., Jais, M., Abd Razak, M. R., Syed Wahid, S. N., Halim, R. A., & Riduan, A. (2016). Perceived service quality of small and medium enterprises (SMEs) on banks' lending and loan service quality in Malacca. In M. A. Abdullah, W. K. Yahya, N. Ramli, S. R. Mohamed, & B. E. Ahmad (Eds.), *Regional conference on science, technology and social sciences (RCSTSS 2014)* (pp. 127–135). Springer. [https://doi.org/10.1007/978-981-10-1458-1\\_12](https://doi.org/10.1007/978-981-10-1458-1_12)
- Hayes, A. F., & Krippendorff, K. (2007). Answering the call for a standard reliability measure for coding Data. *Communication Methods and Measures*, 1(1), 77–89. <https://doi.org/10.1080/19312450709336664>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Izah, M. T., & Wan Zulqurnain, W. I. (2005). Service quality in the financial services industry in Malaysia: The case of Islamic banks and insurance. *International Review of Business Research Papers*, 1(2), 10–21.
- Kandampully, J., & Suhartanto, D. (2000). Customer loyalty in the hotel industry: The role of customer satisfaction and image. *International Journal of Contemporary Hospitality Management*, 12(6), 346–351. <https://doi.org/10.1108/09596110010342559>



- Kant, R., & Jaiswal, D. (2017). The impact of perceived service quality dimensions on customer satisfaction: An empirical study on public sector banks in India. *International Journal of Bank Marketing*, 35(3), 411–430. <https://doi.org/10.1108/IJBM-04-2016-0051>
- Khan, A. G., Lima, R. P., & Mahmud, M. S. (2021). Understanding the service quality and customer satisfaction of mobile banking in Bangladesh: Using a structural equation model. *Global Business Review*, 22(1), 85–100. <https://doi.org/10.1177/0972150918795551>
- Kumar, M., Tat Kee, F., & Taap Manshor, A. (2009). Determining the relative importance of critical factors in delivering service quality of banks: An application of dominance analysis in SERVQUAL model. *Managing Service Quality: An International Journal*, 19(2), 211–228. <https://doi.org/10.1108/09604520910943198>
- Le, V. C. (2016). *Improving the quality of credit services at Joint Stock Commercial Bank for Industry and Trade of Vietnam, Hung Vuong branch, Phu Tho* [Vietnam National University, Hanoi]. 2023-08-15. [http://repository.vnu.edu.vn/handle/VNU\\_123/15681](http://repository.vnu.edu.vn/handle/VNU_123/15681)
- Markovic, S., Iglesias, O., Singh, J. J., & Sierra, V. (2018). How does the perceived ethicality of corporate services brands influence loyalty and positive word-of-mouth? Analyzing the roles of empathy, affective commitment, and perceived quality. *Journal of Business Ethics*, 148(4), 721–740. <https://doi.org/10.1007/s10551-015-2985-6>
- Martinaityte, I., Sacramento, C., & Aryee, S. (2019). Delighting the customer: Creativity-oriented high-performance work systems, frontline employee creative performance, and customer satisfaction. *Journal of Management*, 45(2), 728–751. <https://doi.org/10.1177/0149206316672532>
- Maswadeh, S. N. (2015). An evaluation of SMEs satisfaction toward Jordanian Islamic banks service quality. *Procedia Economics and Finance*, 23, 86–94. [https://doi.org/10.1016/S2212-5671\(15\)00463-3](https://doi.org/10.1016/S2212-5671(15)00463-3)
- Mbango, P. (2019). The role of perceived value in promoting customer satisfaction: Antecedents and consequences. *Cogent Social Sciences*, 5(1), 1684229. <https://doi.org/10.1080/23311886.2019.1684229>
- McAlexander, J. H., Kaldenberg, D. O., & Koenig, H. F. (1994). Service quality measurement. *Journal of Health Care Marketing*, 14(3), 34–40. <https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=07373252&AN=9503071681&h=Y9bL1izMW/ogdTJGjAsf5b4/R0wYyMNIRe2j0GWx/QBNjDNaNAYnHlsNW2eY8ajb9KunZSk6jNQK9Ui91Vc0zg%3D%3D&url=c>
- Mi Jeon, S., Magnini, V. P., Kim, I., & Sean Hyun, S. (2013). Causal relationships between table game players' perceptions of service quality, perceived winning, and game spending: Moderating effects of demographic factors. *International Journal of Contemporary Hospitality Management*, 25(6), 922–944. <https://doi.org/10.1108/IJCHM-05-2012-0070>
- Mirza, N., Afzal, A., Umar, M., & Skare, M. (2023). The impact of green lending on banking performance: Evidence from SME credit portfolios in the BRIC. *Economic Analysis and Policy*, 77, 843–850. <https://doi.org/10.1016/j.eap.2022.12.024>
- Munusamy, J., Chelliah, S., & Mun, H. W. (2010). Service quality delivery and its impact on customer satisfaction in the banking sector in Malaysia. *International Journal of Innovation, Management and Technology*, 1(4), 398.
- Ngaliman, E., & Suharto, M. (2019). The effect of tangibles, responsiveness, and reliability on customer satisfaction of delivery services. *International Journal of Economics and Management Studies*, 6(5), 86–92. <https://doi.org/10.14445/23939125/IJEMS-V6I5P113>
- Nguyen, A. V. (2023). *Reducing loan costs for small and medium enterprises*. 2023-08-17. <https://www.qdnd.vn/kinh-te/cac-van-de/giam-chi-phi-vay-von-cho-doanh-nghiep-nho-va-vua-722572>
- OECD. (2021). *SME and Entrepreneurship Policy in Viet Nam*. Organization for economic co-operation and development. <https://doi.org/10.1787/20780990https://www.oecd.org/publications/sme-and-entrepreneurship-policy-in-viet-nam-30c79519-en.htm>
- Pakurár, M., Haddad, H., Nagy, J., Popp, J., & Oláh, J. (2019). The service quality dimensions that affect customer satisfaction in the Jordanian banking sector. *Sustainability*, 11(4), 1113. <https://doi.org/10.3390/su11041113>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41–50. <https://doi.org/10.1177/002224298504900403>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: Implications for further research. *Journal of Marketing*, 58(1), 111–124. <https://doi.org/10.1177/002224299405800109>
- Phung, V. H. (2020). The quality of consumer lending services of joint-stock commercial banks in Hanoi. *Industry and Trade Magazine*, 2020, 1–5.
- Prentice, C. (2013). Service quality perceptions and customer loyalty in casinos. *International Journal of Contemporary Hospitality Management*, 25(1), 49–64. <https://doi.org/10.1108/09596111311290219>
- Qadeer, S. (2014). *Service quality & customer satisfaction: A case study in banking sector* [Thesis, University of Gävle]. <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A706160&dsid=1969>
- Rabbani, M. R., Khan, S., & Atif, M. (2023). Machine learning-based P2P lending Islamic Fintech model for small and medium enterprises in Bahrain. *International Journal of Business Innovation and Research*, 30(4), 565. <https://doi.org/10.1504/IJBIR.2023.130079>



- Rahaman, M. A., Ali, M. J., Kejing, Z., Taru, R. D., & Mamoon, Z. R. School of Economics & Management, Jiujiang University, Jiangxi, China. (2020). Investigating the effect of service quality on bank customers' satisfaction in Bangladesh. *The Journal of Asian Finance, Economics and Business*, 7(10), 823–829. <https://doi.org/10.13106/jafeb.2020.vol7.n10.823>
- Rahman, A., Hasan, M., & Mia, M. (2017). Mobile banking service quality and customer satisfaction in Bangladesh: An analysis. *The Cost and Management*, 45(2), 25–32.
- Raza, S. A., Umer, A., Qureshi, M. A., & Dahri, A. S. (2020). Internet banking service quality, e-customer satisfaction and loyalty: The modified e-SERVQUAL model. *The TQM Journal*, 32(6), 1443–1466. <https://doi.org/10.1108/TQM-02-2020-0019>
- Rehman, S. U., Al-Shaikh, M., Washington, P. B., Lee, E., Song, Z., Abu-AlSondos, I. A., Shehadeh, M., & Allahham, M. (2023). FinTech Adoption in SMEs and Bank Credit Supplies: A Study on Manufacturing SMEs. *Economies*, 11(8), 213. <https://doi.org/10.3390/economies11080213>
- Rust, R. T., Inman, J. J., Jia, J., & Zahorik, A. (1999). What you don't know about customer-perceived quality: The role of customer expectation distributions. *Marketing Science*, 18(1), 77–92. <https://doi.org/10.1287/mksc.18.1.77>
- S, A., & Devesh, S. (2019). Service quality dimensions and customer satisfaction: Empirical evidence from retail banking sector in Oman. *Total Quality Management & Business Excellence*, 30(15-16), 1616–1629. <https://doi.org/10.1080/14783363.2017.1393330>
- Santos, J. (2002). From intangibility to tangibility on service quality perceptions: A comparison study between consumers and service providers in four service industries. *Managing Service Quality: An International Journal*, 12(5), 292–302. <https://doi.org/10.1108/09604520210442083>
- Shanmugam, J. K. (2022). An empirical research on factors affecting customer satisfaction towards fintech products and services in Sungai Petani, Kedah. *Journal of Academia*, 10(2), 122–135.
- Shrestha, S., & Koirala, K. D. (2012). Measuring service quality and customer satisfaction: Empirical evidence from Nepalese commercial banking sector undertakings. *Management Dynamics*, 16(1), 10–20.
- Singh, H. (2006). The importance of customer satisfaction in relation to customer loyalty and retention. *Academy of Marketing Science*, 60(193–225), 46.
- Sivadas, E., & Baker-Prewitt, J. L. (2000). An examination of the relationship between service quality, customer satisfaction, and store loyalty. *International Journal of Retail & Distribution Management*, 28(2), 73–82. <https://doi.org/10.1108/09590550010315223>
- Supriyanto, A., Wiyono, B. B., & Burhanuddin, B. (2021). Effects of service quality and customer satisfaction on loyalty of bank customers. *Cogent Business & Management*, 8(1), 1937847. <https://doi.org/10.1080/23311975.2021.1937847>
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- To, T. H., & Vo, T. H. N. (2020). Factors affecting the retail banking services at hdbank - An giang province branch. *Industry and Trade Magazine*, 2020, 1–6.
- Uddin, K. S., Nipa, N. J., & Rashid, M. (2015). Identification the factors influencing customer satisfaction on service quality in Jamuna Bank. *International Journal of Business and Economic Research*, 4(2), 30–35.
- Vencataya, L., Pudaruth, S., Juwaheer, R., Dirpal, G., & Sumodhee, N. (2019). Assessing the impact of service quality dimensions on customer satisfaction in commercial banks of Mauritius. *Studies in Business and Economics*, 14(1), 259–270. <https://doi.org/10.2478/sbe-2019-0020>
- Wilson, A., Zeithaml, V., Bitner, M. J., & Gremler, D. (2016). *Services marketing: Integrating customer focus across the firm* (3rd ed.). London: McGraw Hill.
- Yarimoglu, E. K. (2014). A review on dimensions of service quality models. *Journal of Marketing Management*, 2(2), 79–93.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. Simon and Schuster.
- Zhang, J., Zhang, J., & Zhang, M. (2019). From free to paid: Customer expertise and customer satisfaction on knowledge payment platforms. *Decision Support Systems*, 127, 113140. <https://doi.org/10.1016/j.dss.2019.113140>
- Zhou, Q., Lim, F. J., Yu, H., Xu, G., Ren, X., Liu, D., Wang, X., Mai, X., & Xu, H. (2021). A study on factors affecting service quality and loyalty intention in mobile banking. *Journal of Retailing and Consumer Services*, 60, 102424. <https://doi.org/10.1016/j.jretconser.2020.102424>

**APPENDIX I** Scales of the study.

NO	CODE/ FACTOR	ITEM	SOURCES
1	Tangibility		
1.1	TA1	Commercial banks modern machinery.	Fida et al. (2020) and Balinado et al. (2021)
1.2	TA2	Commercial banks feature good facilities, a spacious building, and a well-organized layout.	
1.3	TA3	Commercial banks offer brochures containing comprehensive information about loan services for small and medium-sized enterprises.	
1.4	TA4	Commercial banks have enough spaces for customer parking.	
2	Reliability		
2.1	RE1	Commercial banks deliver loan services in line with its commitments to small and medium-sized enterprises.	Fida et al. (2020) and Balinado et al. (2021)
2.2	RE2	All the discussed loan services to small and medium-sized enterprises were done accurately.	
2.3	RE3	Commercial banks ensure customers' transactions and records are kept confidential.	
2.4	RE4	Commercial bank staff clearly and convincingly explain loan services for small and medium-sized enterprises, providing detailed instructions.	
2.5	RE5	Commercial banks guarantee service completion time.	
3	Responsiveness		
3.1	R1	The staff demonstrate a willingness to meet customers' needs.	Fida et al. (2020) and Balinado et al. (2021)
3.2	R2	Quick resolution of any complaints.	
3.3	R3	Prompt fulfillment of customer requirements.	
3.4	R4	The staff ensure timely service delivery, even during peak hours.	
3.5	R5	Incorporating customer feedback to enhance our loan services.	
4	Assurance		
4.1	A1	Commercial banks staff consistently respect and maintain the confidentiality of information regarding small and medium-sized enterprises loans.	Balinado et al. (2021), Etana (2021) and Khan et al. (2021)
4.2	A2	Commercial banks ensure the confidentiality and privacy of our customers' transactions.	
4.3	A3	Commercial banks' staff possess sufficient professional knowledge and experience to address all customer requests.	
4.4	A4	Commercial banks' staff consistently demonstrate confidence in processing and executing loan transactions for small and medium-sized enterprises.	
4.5	A5	All customer concerns and requests were done.	
4.6	A6	Commercial banks' staff allocate customers' waiting time for service appropriately.	
5	Empathy		
5.1	E1	Service staffs apologize when committing mistakes.	Balinado et al. (2021) and Khan et al. (2021)
5.2	E2	Commercial banks notify customers in advance if there are any changes to the promised the terms of loan services.	
5.3	E3	Commercial banks do not discriminate against customers.	
5.4	E4	Commercial banks provide the convenient schedule for customers.	
5.5	E5	Commercial banks' staff understand and provide for the special needs of customers.	
6	Customers satisfaction		
6.1	SA1	I am satisfied with the quality of loan services offered to small and medium-sized enterprises.	Balinado et al. (2021)
6.2	SA2	I am satisfied with the features provided by loan services to small and medium-sized enterprises.	
6.3	SA3	I intend to keep using the bank's lending services to small and medium-sized enterprises.	
7	Customer loyalty		
7.1	CL1	I consider commercial banks as my first choice for loan services.	Markovic et al. (2018) and Supriyanto et al. (2021)
7.2	CL2	I am committed to maintaining my relationship with commercial banks.	
7.3	CL3	I am loyal to commercial banks.	
7.4	CL4	I plan to use the loan services of commercial banks more frequently.	