
Links among service quality, customer satisfaction and loyalty in Vietnam retail industry during the COVID-19 pandemic

Thien-Vu Tran*

Department of Digital Economy and Electronic Commerce,
Vietnam-Korea University of
Information and Communication Technology,
The University of Danang, Vietnam
Email: ttvu@vku.udn.vn

and

Department of Economics and Business,
VN-UK Institute for Research and Executive Education,
The University of Danang,
158A Le Loi, Hai Chau District, Danang City, Vietnam
Email: vu.tranthien@vnuk.edu.vn

*Corresponding author

Nhi Thi Hoai Nguyen

Department of Economics and Business,
VN-UK Institute for Research and Executive Education,
The University of Danang,
158A Le Loi, Hai Chau District, Danang City, Vietnam
Email: vu.tranthien@vnuk.edu.vn
Email: nhi.nguyen180132@vnuk.edu.vn

Abstract: In-store service quality and customer satisfaction, with its final effect on customer loyalty, have attracted relatively little attention during the COVID-19 pandemic in Vietnam. This study examines the causal links among service quality, customer satisfaction and loyalty in Vietnam retail industry. A questionnaire-based survey collected data from 249 Vietnamese customers from a supermarket in Danang City during the lockdown. The research model was validated using PLS-SEM. The findings show that: 1) physical aspects, reliability, personal interaction, customer care, and policy as the five components of service quality positively influence customer satisfaction; 2) customer satisfaction has a positive influence on loyalty and also plays a mediating role linking service quality and loyalty; 3) among these components, reliability and customer care make a difference between direct purchase and shopping through electronic devices. Consequently, retail managers should significantly improve the five dimensions of service quality to maintain customer satisfaction and loyalty; among these dimensions, reliability and customer care should be considerably paid attention to when customers purchase online.

Keywords: service quality; customer satisfaction; customer loyalty; retail industry; Vietnam; COVID-19.

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Biographical notes: Thien-Vu Tran received his PhD in Business Administration from Tokyo Metropolitan University, and he is a Senior Lecturer at the University of Danang, Danang City, Vietnam. His research fields are marketing, focusing on electronic commerce, and operations management. He is a member of the Chartered Management Institute (CMI) and The Global Academy.

Nhi Thi Hoai Nguyen holds a Bachelor of Science in International Business and Management from the Department of Economics and Business, VN-UK Institute for Research and Executive Research, the University of Danang, Danang City, Vietnam. Her areas of research interest are business development and analysing sustainable strategies in organisations, especially in the retail sector.

1 Introduction

Service quality has been the subject of considerable interest by scholars and practitioners in recent decades, inspired by the seminal work of Parasuraman et al. (1985, 1988). It is essential that service quality is conceptually related to customer satisfaction and loyalty, grounding on the expectancy/disconfirmation framework in process theory (Caruana, 2002). Service marketing literature stated that better service quality relationship with customers generates many benefits for retailers, such as increasing profitability and income and achieving a competitive advantage in the business environment (Caruana, 2002; Yuen and Chan, 2010). In other words, positive service quality is a crucial indicator of success for enterprises. It is noted that the retail industry is a highly competitive and fast-growing industry worldwide. Hence, retailers should focus on customer-oriented service toward satisfying and retaining customers, sustaining their competitiveness in operational business activities.

The retail industry had remarkable growth and fast-paced expansion globally in recent decades. Retail can generally be described as selling products or services from a business to a customer for consumption or use, basically carried out through offline and online channels. Retailers are willing to improve operational and business activities to provide customers with an excellent shopping experience. In Vietnam, the retail industry has been dramatically developed in recent three decades. Some well-known retailers such as Saigon Coop, BigC, Auchan, MM Mega Market, Aeon Vietnam, and Lotte Vietnam have successfully expanded their retail networks in Vietnam's major cities and regions and even nationally scale (Vietnamplus, 2021). With the population reaching 98 million people, Vietnam has become a potential market for retail. According to the Statista report by Nguyen (2021), the retail sector accounts for 12% of gross domestic product in 2020, and retail sales of goods and services are estimated to be over 5,000 trillion Vietnam dong. Among ASEAN countries, Vietnam's total consumer expenditure is growing at the fastest rate (around 8% per annum) (Nguyen, 2021). However, the COVID-19 outbreak has hit the national economy so that retail sales of consumers' goods and services seem to be slowing down. Accordingly, customers tend to switch to online

channels. Therefore, retail stores must improve their service quality, consequently satisfying and retaining customers during the COVID-19 period.

In recent years, Vietnamese households have tended to purchase at retail stores. Customers can shop through three main channels in Vietnam: traditional groceries, convenience stores, and supermarkets. Vietnamese customers prefer to shop at traditional groceries because of their habits and affordable prices. According to the report of Statista by Nguyen (2021), traditional grocery sales grew by 4% and reached a total value of 1,027 trillion VND in 2019. In contrast, convenience stores rapidly grew at 18%, but the total market size was 4.4 trillion VND in 2019 (Nguyen, 2021). Nevertheless, Vietnamese households attain a higher standard of living and tend to shop at supermarkets rather than the traditional markets since supermarkets provide a wide variety of products best fitting with customers' demands.

Furthermore, the COVID-19 encourages customers to purchase at supermarkets instead of local markets because customers have various choices opting for products in need with low social contact. Shopping at supermarkets brings customers a better experience and satisfaction because of the excellent shopping atmosphere, service quality, and promotional campaigns. Additionally, during the lockdown period, customers tend to purchase through websites, mobile apps, and telesales at the supermarkets due to the social distance. Hence, this study aims to research service quality, customer satisfaction, and loyalty and compare online and offline shopping modes in the context of the COVID-19 in Vietnam supermarkets.

The relationships among service quality, customer satisfaction, and loyalty have been empirically examined in many circumstances. Nevertheless, these relationships studied in the COVID-19 outbreak in Vietnam have received little attention from scholars. In the corpus of literature, Ngo and Nguyen (2016), Dinh and Pickler (2012), Pham and Phan (2016) and Nguyen et al. (2020) studied a similar topic in the banking industry in Vietnam. Le et al. (2020) research service quality and customer satisfaction in Vietnam's port logistics. Moreover, Nguyen et al. (2015) studied service quality and customer satisfaction in the hotel industry in Vietnam. To our best understanding of knowledge, few academic works research service quality, customer satisfaction, and loyalty during the COVID-19 in the retailing industry. Furthermore, service quality comprises five components, and few studies treat service quality as the second-order latent construct.

Therefore, our research objective is to investigate the links among the elements of service quality and customer satisfaction and loyalty in supermarkets in Vietnam within the case of social distancing. Second, we examine the driving factors of service quality that significantly influence customer satisfaction and loyalty in the case of transforming into online selling because of the COVID-19. Then we pose three research questions:

- 1 What elements of service quality significantly drive customer satisfaction and loyalty in supermarkets?
- 2 Whether customer satisfaction play an essential role in mediating the link between service quality and loyalty?
- 3 What factors make a difference in service quality when switching from traditional purchasing toward online shopping?

The remains of the paper are structured as follows. Section 2 reviews related literature and establishes the hypothesis. We present the data collection and research method in

Section 3. The research findings are exhibited and discussed in Section 4. Finally, Section 5 remarks on the conclusions and policy implications.

2 Literature review

2.1 Service quality

Since the late 1970s, the notion of service quality early appeared in the scholarly literature on service marketing, also known as interactive marketing (Grönroos, 2001). Accordingly, Parasuraman et al. (1985, 1988) defined perceived service quality as the difference between customer expectations and perceived service. Then, Parasuraman et al. (1988) established the service quality (SERVQUAL) model, in which five elements of service quality include tangible, responsiveness, reliability, assurance, and empathy, reflecting the service quality measurement. This model has still attracted many scholars and practitioners to conduct research. Next, Cronin and Taylor (1992) reexamined the SERVQUAL model and proposed the performance-based measure of service quality or SERVPERF model for better measurement results. Some scholars conjecture that SERVPERF outweighs SERVQUAL in terms of reliability, validity, and predictive power, but SERVQUAL generates better diagnostic information (Kuo et al., 2009).

In the scholarly corpus of literature, a scale to measure SERVQUAL, including five dimensions: tangibles, reliability, responsiveness, assurance, and empathy, proposed by Parasuraman et al. (1985, 1988), seems to be widely used in empirical studies. SERVQUAL model has been examined in various service industries such as the banking industry, hospital service, education system, tourism industry, and online shopping. The SERVQUAL model is slightly different from others in the retail industry because retail service quality provides customers with a mix of merchandise and service (Huang, 2009). Therefore, based on the five components mentioned above, retail service quality, including physical aspects, reliability, personal interaction, problem-solving, and policy, has been suggested for empirically testing (Kaul, 2007; Huang, 2009).

First, physical aspects are defined as the appearance and layout of a retail store (Vazquez et al., 2001). Hence, a well-designed store and convenient layout can foster retailers' competitive advantage through customer satisfaction. Second, reliability indicates that the capability of a store to provide customers with services is promised precisely without mistakes (Vazquez et al., 2001). Accordingly, stores are responsible for keeping promises, offering accurate information, and supplying promptly. Third, employees serving in retail stores play an essential role in a business's successful performance. This is because employees are sales representatives, interacting with customers throughout the sales process and after-sales services (Vazquez et al., 2001). Therefore, personal interaction is also a dimension contributing to the quality of service. Fourth, customer care refers to the ability of the store to handle returns and exchanges and process customer concerns and complaints. Customers have a more favourable satisfaction with stores with reasonable customer care procedures. A good customer care system can recognise and solve problems, reducing the store's unhappiness and customer complaints. The fifth dimension of the retail service quality scale is policy, including aspects influenced by the store policy, such as merchandise quality, loyalty programs, methods of payments, operational hours, and other miscellaneous customer services (Kaul, 2007). Finally, our study considers service quality as the second-order construct

attributed to physical aspects, reliability, personal interaction, customer care, and policy. Therefore, we pose the following hypothesis:

- H1a The physical aspect has a positive effect on service quality in retail stores.
- H1b Reliability has a positive effect on service quality in retail stores.
- H1c Personal interaction has a positive effect on service quality in retail stores.
- H1d Customer care has a positive effect on service quality in retail stores.
- H1e The policy has a positive effect on service quality in retail stores.

2.2 Customer satisfaction and loyalty

The notion of customer satisfaction has been widely used in the retail industry. Generally, customer satisfaction refers to “a post-consumption evaluation of how well a store or product meets or exceeds customer expectations” [Levy et al., (2019), p.304]. Customer satisfaction is considered the customers’ post-purchase evaluation, producing the customer’s internal information for decision-makers in the store. In the marketing literature, two main concepts of satisfaction are needed satisfaction and appraisal satisfaction. While need satisfaction indicates the result of satisfying corresponding needs compared to the expected outcome, appraisal satisfaction is associated with the service quality concept, which measures the expectations and the perception of customers performed (Biscaia et al., 2017). Consequently, customer satisfaction plays an essential role in measuring service quality, particularly in the retail sector.

Furthermore, customer satisfaction reflects the customer’s judgement on a cognitive and emotional experience. In reality, cognitive evaluation and emotional reaction have been proven to explain the level of satisfaction experienced in a retail setting (Burns and Neisner, 2006). In the context of retail, emotional reaction is found to be more important than cognitive evaluation because negative emotion concerning poor performance seems to deteriorate the level of satisfaction (Burns and Neisner, 2006). It turns out that customers with high emotional reactions tend to repurchase products and services offered by a retail store. Accordingly, customer satisfaction is likely to increase loyalty, suggesting that satisfaction is a prerequisite for customer loyalty and retention.

Customer loyalty in the retail industry is defined as “the customer’s attitudinal and behavioural preference for the retailer when compared with available competitive alternatives” (Wallace et al., 2004). Therefore, two main dimensions of customer loyalty include attitudinal and behavioural dimensions. First, the attitudinal dimension indicates the psychological commitment reflected by the customer’s intention to repurchase and the willingness to recommend to other potential customers (Howat and Crilley, 2007). Furthermore, behavioural dimension is intentionally measured by the actual repurchase behaviour, purchase frequency, duration of use services, and consistency. Therefore, customer loyalty can boost profitability because the actual repurchase of customers brings about revenues to stores. In contrast, a campaign to attract novel customers seems costly rather than an action to retain old customers (Kuo et al., 2009). Hence, loyal customers can offer profitable and valuable sales sources for stores.

2.3 *Relationships among service quality, customer satisfaction, and loyalty*

The service provider's success is subject to the high-quality relationship with customers, determining customer satisfaction and loyalty. Service quality has been shown to influence organisational outcomes such as performance (e.g., increasing sales profit and market share, improving customer relations, enhancing company image, and promoting customer loyalty). Among these links, service quality has a positive impact on customer satisfaction. To name some, Sivadas and Baker-Prewitt (2000) support Oliver's four-stage cognitive-affective-conative-action model that entails the positive relationship between service quality (cognitive loyalty) and customer satisfaction (affective loyalty). Additionally, Gomez et al. (2004) posed that customer service, quality, and value are antecedent factors of customer satisfaction in the retail sector. Likewise, Kuo et al. (2009) find that service quality positively impacts customer satisfaction in the mobile industry in Taiwan. The same finding was found by Kim (2011) in the context of Korean food chain restaurants. Moreover, Orel and Kara (2014) found a positive relationship between self-checkout service quality and customer satisfaction in Turkey's emerging market. The same result was found in the Portugal market (Veloso et al., 2018). In the case of the retail stores in Vietnam, we pose the hypothesis as follows:

H2 Service quality has a positive effect on customer satisfaction.

Research has shown the possibility of a direct link between service quality and customer loyalty. In scholarly work, Oliver's four-stage loyalty model illuminates the customer satisfaction (affective characteristic) impacting conative and action loyalty (Sivadas and Baker-Prewitt, 2000). Previous studies have frequently examined the positive association between service quality and customer loyalty. For instance, Kim (2011) indicated that perceived service quality positively and significantly affects customer loyalty. Furthermore, Ngo and Nguyen (2016) stated the positive association between service quality and customer loyalty in the Vietnamese retail banking sector. This relationship also was found in the Korean market on mobile phone services presented by Kim (2011). Yuen and Chan (2010) also confirmed the positive relationship between service quality and loyalty for the Hunter Douglas, a leading lightweight aluminium blind in the USA. In other words, good service quality can induce the likelihood of customer loyalty. Thus, we pose the hypothesis as follows:

H3 Service quality has a positive effect on customer loyalty in retail stores.

A considerable amount of service management literature has shown the link between customer satisfaction and loyalty. Customer satisfaction is a kind of emotional tendency to repurchase products and services offered by a retail store (Hoq and Amin, 2010). In fact, satisfaction is assumed to be a significant determinant of sales increase (Gomez et al., 2004), word-of-mouth behaviour, and customer loyalty (Caruana, 2002). Empirical studies such as Kasiri et al. (2017), Kim (2011), Kuo et al. (2009), Bennett and Rundle-Thiele (2004) and Orel and Kara (2014) also support the positive relationship between customer satisfaction and loyalty. Though this link is subjected to the type of industry under a specific context, we pose the same link in the context of retailing in Vietnam. Therefore, we pose the hypothesis as follows:

H4 Customer satisfaction has a positive effect on customer loyalty in retail stores.

Customer satisfaction is also a mediating role in the relationship between service quality and customer loyalty. Some empirical investigations indicated that customer satisfaction mediates the effects of service quality on customer loyalty, such as in food chain service in Korea (Kim, 2011), retail banking (Caruana, 2002), mobile service in Taiwan (Kuo et al., 2009), retail banking in Vietnam (Ngo and Nguyen, 2016), supermarket in Turkey (Orel and Kara, 2014), and retail industry in Portugal (Biscaia et al., 2017; Veloso et al., 2018). The evidence has shown the role of customer satisfaction as an antecedent of customer loyalty and determinant of service quality. Hence, we deduce the hypothesis:

- H5 Customer satisfaction mediates the relationship between service quality and customer loyalty.

3 Research methodology

To test the theoretical framework, we examined the perception of consumers on service quality, satisfaction and loyalty at supermarkets during the time of the COVID-19 under strictly lockdown conditions. We researched consumers purchasing through both direct and indirect approaches. The research participants were consumers who participated in this study voluntarily in Da Nang City, Vietnam. We use non-probabilistic sampling with a conventional approach. Data collected in our study with a high rate of return (over 80% of respondents replied to our questionnaire survey) were active consumers. Three hundred twenty questionnaires were sent out, including 150 directly and 170 through e-mail and messenger, and 268 questionnaires were returned. The remaining data for analysis was 249 responses after eliminating incomplete and inappropriate data. The study was conducted on August 2021, lockdown time due to the COVID-19 in Da Nang City. Appendix 1 shows further details of the demographic characteristics of participants.

We sent the questionnaire survey through two means. We served as supermarket staff and were directly asked to fulfil the questionnaire on site. On the other hand, some questionnaires were sent through an online platform. Data analyses for both the measurement model and structural model were suggested using partial least squares (PLS). We embraced SmartPLS 3.0 with bootstrapping (500 permutations). PLS analyses structural equation models with multi-item variables for both measurement and structural models. In SEM, the measurement model refers to the linkages between the latent variables and manifest variables, while the structural model captures the hypothesised causal relationships among the research constructs.

The questionnaire used was made up of 29 items for measuring service quality, customer satisfaction, and loyalty respectively. Five-point Likert scale described at the positive extreme 5 = 'strongly agree' and negative extreme 1 = 'strongly disagree' were used. The second-order latent variable of service quality comprises five dimensions measured on the ground by combing various previous studies. Mainly, the physical scale includes five items extracted from Kaul (2007) and Yuen and Chan (2010); reliability from Kaul (2007) and Mahfooz (2014); personal interaction based on Mahfooz (2014); customer care relied on Kaul (2007) and Yuen and Chan (2010); and policy adopted from Kaul (2007) and Mahfooz (2014). To measure customer satisfaction and customer loyalty, the instruments of Orel and Kara (2014) were used to gauge the perceptual and behavioural responses of participants from the sample surveyed. Appendix 2 illustrates the 29 items along with statistically descriptive results.

4 Data analyses and results

4.1 Content validity

Content validity is how well a questionnaire measures a theoretical construct. A comprehensive review of the literature on the subject relevant to this study was conducted to ensure content validity. The pilot test for the questionnaire also was reviewed by experts in the retailing industry and researchers in academia; then, we necessarily improved both the content and clarity of the questionnaire survey. Then, ten respondents were separately asked to check and give feedback on the clarity of the questionnaire survey. We excluded the pilot test in the primary sample.

4.2 Reliability

The measurement model was assessed by estimating internal consistency for reliability and convergent and discriminant validity tests for construct validity. Internal consistency illuminates the consistency of the inner relationship between observed variables (indicators) and constructs in the research model, using Cronbach's alpha and Fornell's composite reliability to present the internal consistency (Fornell and Larcker, 1981). Cronbach's alpha assesses the reliability of the multi-item scales measuring the constructs and being higher than the minimum cut-off point of 0.70 (Hair et al., 2010). Furthermore, the composite reliability relies on the actual loadings to constructs and is thus better for internal consistency measurement. Composite reliability has a value higher than 0.70 to be acceptable (Fornell and Larcker, 1981). Table 1 shows the descriptive statistics for the constructs, the Cronbach's alpha, and composite reliability of the scales and references for measurement scales, respectively. All constructs' Cronbach's alpha and composite reliability attain a value higher than 0.70, suggesting that these constructs achieved adequate internal consistency (Miranda and Saunders, 2003).

Table 1 Descriptive statistics and reliability indices for constructs

<i>Construct</i>	<i>Types of indicators</i>	<i>Mean</i>	<i>S.D.</i>	<i>Alpha</i>	<i>Composite reliability</i>	<i>AVE</i>	<i>Adapted from</i>
Physical aspects	Reflective	3.98	0.64	0.855	0.896	0.634	Kaul (2007) and Yuen and Chan (2010)
Reliability	Reflective	2.59	0.74	0.890	0.919	0.693	Kaul (2007) and Mahfooz (2014)
Personal interaction	Reflective	2.87	0.96	0.926	0.947	0.818	Kaul (2007) and Yuen and Chan (2010)
Customer care	Reflective	4.03	0.65	0.752	0.859	0.671	Kaul (2007) and Yuen and Chan (2010)
Policy	Reflective	3.98	0.61	0.798	0.869	0.623	Kaul (2007) and Mahfooz (2014)
Customer satisfaction	Reflective	3.80	0.61	0.824	0.884	0.655	Orel and Kara (2014)
Customer loyalty	Reflective	3.73	0.63	0.814	0.878	0.642	Orel and Kara (2014)

Additionally, our descriptive results of constructs' average variance extracted (AVE) value was higher than 0.50. This means that all constructs can account for more than 50% of the variance of measurement items (Fornell and Larcker, 1981).

4.3 Construct validity

Construct validity was examined by assessing convergent validity and discriminant validity (Gotz et al., 2010). Convergent validity represents items of a specific construct that converge or share a high proportion of variance in the same construct. In contrast, discriminant validity indicates that a construct is genuinely distinct from other constructs (Hair et al., 2010).

4.3.1 Convergent validity

A standard measure to examine convergent validity is the AVE (Fornell and Larcker, 1981). AVE includes the variance of its indicators captured by the constructs relative to the total amount of variance, including the variance due to measurement error. The AVE of less than 0.5 is considered insufficient, as more variance is due to error variance than indicator variance (Rodgers and Pavlou, 2003). As shown in Table 1, all AVE of more than 0.5 indicates that measurement of responses is not highly correlated.

4.3.2 Discriminant validity

The average variance extracted (AVE) can also be used to evaluate discriminant validity. Discriminant validity refers to the dissimilarity in a measurement instrument's measurement of different constructs (Gotz et al., 2010). If a latent variable's AVE is larger than this latent variable with any other constructs, discriminant validity is proven (Fornell and Larcker, 1981). Diagonal elements in the matrix (Table 2) are the square root of AVE. The value of inter-construct correlations in the lower matrix should not exceed the diagonal elements (except the AVE value between customer satisfaction and loyalty is higher than the diagonal element). This indicates discriminant validity among variables.

Table 2 Correlations of latent variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Physical aspect	0.796						
(2) Customer care	0.476	0.819					
(3) Personal interaction	0.118	0.145	0.905				
(4) Customer loyalty	0.462	0.701	0.204	0.801			
(5) Policy	0.465	0.729	0.106	0.699	0.789		
(6) Reliability	0.163	0.117	0.363	0.282	0.174	0.883	
(7) Customer satisfaction	0.509	0.731	0.211	0.906	0.760	0.302	0.810

Note: Diagonal elements are the square root of the average variance extracted. These values should exceed the inter-construct correlations for adequate discriminant validity.

4.4 Structural model assessment

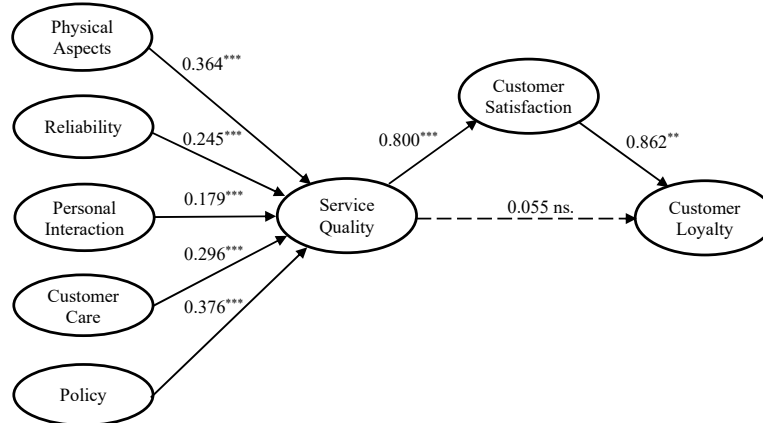
The structural model is estimated through path coefficients and R-squared. While path coefficients indicate how well the model is performing (Chin, 1998), R squared shows the measure of goodness of fit (GOF) in PLS (Haenlein and Kaplan, 2004). Our results indicate that the R-squared value for service quality, customer satisfaction, and customer loyalty are 1.000¹, 0.639, and 0.822, respectively. Also, the goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI) was nearly 1.00 higher than the cut-off value requirement. The root means square residual (RMSR) was 0.173, satisfying the cut-off value of 0.10. Hence, we could put forward the next stage of structural model analysis.

The assessment and hypothesis testing results are shown in Table 3 and Figure 1. As shown in the figure, most exogenous variables, including physical aspect, reliability, personal interaction, customer care, and policy, have a significant statistical impact on service quality (at the significant 0.01 level). The policy has the strongest impact on service quality with a coefficient of 0.376, while personal interaction has the smallest impact with a coefficient of 0.179. Thus H1a, H1b, H1c, H1d and H1e were supported.

Additionally, as we proposed and expected, the path coefficient of service quality \rightarrow customer satisfaction ($\beta = 0.800$) and customer satisfaction \rightarrow customer loyalty ($\beta = 0.862$) was significant at the 0.01 significant level. Hence the H2 and H3 also were supported. However, the relationship between service quality and customer loyalty was not statistically significant. H4 was not supported. The result also indicates that the hypothesised path of service quality \rightarrow customer satisfaction \rightarrow customer loyalty or H5 cannot be rejected, with the path coefficient of indirect effect value at 0.689. It turns out that customer satisfaction fully mediates the relationships among service quality and customer loyalty.

Table 3 The summary of path coefficient, t-value, and p-value

<i>Hypothesis</i>	<i>Path coefficient</i>	<i>t-value</i>	<i>p-value</i>	<i>Support</i>
H1a Physical aspect \rightarrow Service quality	0.364	11.019	0.000	Yes
H1b Reliability \rightarrow Service quality	0.245	5.321	0.000	Yes
H1c Personal interaction \rightarrow Service quality	0.179	4.943	0.000	Yes
H1d Customer care \rightarrow Service quality	0.296	14.192	0.000	Yes
H1e Policy \rightarrow Service quality	0.376	13.051	0.000	Yes
H2 Service quality \rightarrow Customer satisfaction	0.800	27.151	0.000	Yes
H3 Customer satisfaction \rightarrow Customer loyalty	0.862	23.282	0.000	Yes
H4 Service quality \rightarrow Customer loyalty	0.055	1.380	0.168	No
H5 Service quality \rightarrow Customer satisfaction \rightarrow Customer loyalty	0.689	16.475	0.000	Yes

Figure 1 Results of structural model

Notes: *, **, *** significant level at the 0.10, 0.05, and 0.01, respectively.
ns. – not significance.

The R squared for service quality, customer satisfaction, and loyalty were 1.00², 0.639, and 0.822, reflecting that the model provides strong explanations of the variance in service quality, customer satisfaction, and loyalty, respectively.

4.4.1 Further investigation on multiple-group of purchasing types

Our study further investigated the role of offline and online purchasing among these links examined. We use the Multiple-Group Analysis (MGA) approach in PLS-SEM to compare the bootstrapping³ estimate of one group with the same of another group (Hair et al., 2010). Group 1 is defined as customers directly purchasing at physical stores, and group 2 refers to customers purchasing through the website, mobile phone applications, and telesales. In our sample surveyed, group 1 accounts for 81 customers, while group 2 includes 168 customers. Due to the social distance during the COVID-19, most customers prefer the second option. First, in the direct effect, we can recognise the relationship between reliability and service quality exists the difference among the five dimensions of service quality at the significant level of 0.086. The same was found in the service quality and satisfaction at a significant level of 0.043. It can deduce that there is a difference in reliability and service quality impacting satisfaction between the two channels, suggesting that retailers should pay attention to improving reliability and service quality when customers purchase through the website, apps, or telesales.

Second, in the indirect effect, the reliability → service quality → satisfaction → loyalty, and customer care → service quality → satisfaction have a difference between the two approaches at the level of significant 0.091 and 0.068, respectively. It turns out that in the online platform, retailers should take serious consideration reliability and customer care because these factors significantly influence customer satisfaction and loyalty.

5 Concluding remarks

5.1 Discussions and policy implications

This study seeks to empirically investigate service quality on customer satisfaction and loyalty in the retail industry in Vietnam. The results confirm 8 of the 9 hypothesised relationships proposed in the research model. Our findings indicate that service quality has a significant impact on customer satisfaction and leads to customer loyalty. In other words, customer satisfaction plays a role as mediating variable between service quality and customer loyalty. It can be repeatedly confirmed that enhancing customer satisfaction leads to an increase in customer loyalty. When satisfied, customers tend to share a positive word-of-mouth communication with their relatives (conative loyalty) and tend to repurchase products and services (action loyalty) as well. Our findings were aligned with studies of Sivadas and Baker-Prewitt (2000), Caruana (2002), Kuo et al. (2009), Kim (2011), Orel and Kara (2014), Biscaia et al. (2017) and Veloso et al. (2018). To maintain a long-term relationship with customers, retailers should strategically boost service quality for customer satisfaction and loyalty strategically.

First, the findings indicate that the physical aspect becomes a salient role in supermarkets. Customers prefer to shop in a supermarket that features clean, visually appealing, modern-looking facilities and a good indoor layout. Besides, easily and conveniently parking lot can satisfy customers at the outdoor. Hence, supermarket managers should take serious consideration of physical aspects and improve operational activities. Second, reliability has a significant effect on service quality and customer satisfaction. The more retailers keep their promises to provide customers with products and services in the proper manner at the first time and insist on error-free sales transactions, the more satisfied customers attain. This result seems different from previous research by Kaul (2007). Then, managers should maintain excellent warehouse systems to meet customers' needs in time with high-quality products and to avoid a shortage of merchandise.

Third, personal interaction also has the lowest magnitude of coefficient on service quality and customer satisfaction. This can be explained that in the COVID-19 both shoppers and staff tend to keep interpersonal distances and even do not interact. Practices in 5K [*Khau trang* (facemask), *Khu khuan* (disinfection), *Khoang cach* (distance), *Khong tap trung* (no gathering), and *Khai bao y te* (health declaration)] policy in the common places significantly decreased the face-to-face interaction. Fourth, customer care positively impacts customer satisfaction. Excellent customer care can trigger customer satisfaction because staff shows sincere interest in solving problems and handle customers' complaints directly and immediately. Furthermore, issuing the membership card with the accumulated points expects to enhance the customer experience. Finally, a good policy satisfies customers because retailers provide high-quality merchandise, convenient operating hours, flexible payment methods, and promotion programs.

Additionally, five components of service quality positively affect the service quality as the second-order latent variable with different levels of coefficient magnitude. In which, the retailing policy had the strongest impact on service quality. This implies that the flexibility in payments and operational hours opened and promotional programs through membership cards boost the high service quality. Finally, in the case of purchasing through electronic devices, there were no significant differences in physical aspects, personal interaction, and polity. Nevertheless, reliability and customer care are

exposed to be crucially important. Consequently, retailers should facilitate their excellent operation's reliability and customer care factors in the case of online shopping. Consequently, maintaining both traditional and online shopping is significantly necessary during the period of the COVID-19 pandemic.

5.2 Limitations and future research

This research does not go without limitations. Our sample size with a limited number of 249 respondents makes us harder for generalisation for the whole population. Furthermore, respondents were drawn from consumers who inhabited Danang City – the most vulnerable suffering from the COVID-19 pandemic in Vietnam, which was not geographically representative of the entire Vietnam retail industry. Therefore, we appreciate scholars and practitioners expanding our research in cross-sectional and longitudinal studies to improve the validity of the research. Further research should focus on click-and-mortar service quality and the customer experience in the retailing industry in Vietnam.

References

- Bennett, R. and Rundle-Thiele, S. (2004) 'Customer satisfaction should not be the only goal', *Journal of Services Marketing*, Vol. 18 No. 7, pp.514–523.
- Biscaia, A.R., Rosa, M.J., Sa, P.M. and Sarrico, C.S. (2017) 'Assessing customer satisfaction and loyalty in the retail sector', *International Journal of Quality & Reliability Management*, Vol. 34, No. 9, pp.1508–1529.
- Burns, D.J. and Neisner, L. (2006) 'Customer satisfaction in a retail setting: the contribution of emotion', *International Journal of Retail & Distribution Management*, Vol. 39, No. 1, pp.49–66.
- Caruana, A. (2002) 'Service loyalty: the effects of service quality and the mediating role of customer satisfaction', *European Journal of Marketing*, Vol. 36, Nos. 7–8, pp.811–828.
- Chin, W.W. (1998). 'The partial least squares approach to structural equation modeling', *Modern Methods for Business Research*, Vol. 295, No. 2, pp.295–336.
- Cronin, J.J. and Taylor, S.A. (1992) 'Measuring service quality: a reexamination and extension', *Journal of Marketing*, Vol. 56, No. 3, pp.55–68.
- Dinh, V. and Pickler, L. (2012) 'Examining service quality and customer satisfaction in the retail banking sector in Vietnam', *Journal of Relationship Marketing*, Vol. 11, No. 4, pp. 199–214.
- Fornell, C. and Larcker, D. (1981) 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, Vol. 18, No. 1, pp.39–50.
- Gomez, M.I., McLaughlin, E.W. and Wittink, D.R. (2004) 'Customer satisfaction and retail sales performance: an empirical investigation', *Journal of Retailing*, Vol. 80, No. 4, pp.265–278.
- Gotz, O., Liehr-Gobbers, K. and Krafft, M. (2010) 'Evaluation of structural equation models using the partial least squares (PLS) approach', *Handbook of Partial Least Squares*, Springer, Berlin, Heidelberg.
- Grönroos, C. (2001) 'The perceived service quality concept – a mistake?', *Managing Service Quality*, Vol. 11, No. 3, pp.150–152.
- Haenlein, M. and Kaplan, A.M. (2004) 'A beginner's guide to partial least squares analysis', *Understanding Statistics*, Vol. 3, No. 4, pp.283–297.

- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) *Multivariate Data Analysis*, 7th ed., Pearson, New York.
- Hoq, M.Z. and Amin, M. (2010) 'The role of customer satisfaction to enhance customer loyalty', *African Journal of Business Management*, Vol. 4, No. 12, pp.2385–2392.
- Howat, G. and Crilley, G. (2007) 'Customer service quality, satisfaction, and operational performance: a proposed model for Australian public aquatic centres', *Annals of Leisure Research*, Vol. 10, No. 2, pp.168–195.
- Huang, M.H. (2009) 'Using service quality to enhance the perceived quality of store brands', *Total Quality Management & Business Excellence*, Vol. 20, No. 2, pp.241–252.
- Kasiri, L.A., Cheng, K.T.G., Sambasivan, M. and Sidin, S.M. (2017) 'Integration of standardization and customization: impact on service quality, customer satisfaction, and loyalty', *Journal of Retailing and Consumer Services*, Vol. 35, pp.91–97.
- Kaul, S. (2007) 'Measuring retail service quality: examining applicability of international research perspectives in India', *Vikalpa: The Journal for Decision Makers*, Vol. 32, No. 1, pp.15–26.
- Kim, H.J. (2011) 'Service orientation, service quality, customer satisfaction, and customer loyalty: testing a structural model', *Journal of Hospitality Marketing & Management*, Vol. 20, No. 6, pp.619–637.
- Kuo, Y.F., Wu, C.M. and Deng, W.J. (2009) 'The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services', *Computers in Human Behaviors*, Vol. 25, No. 4, pp.887–896.
- Le, D.N., Nguyen, T.H. and Truong, P.H. (2020) 'Port logistics service quality and customer satisfaction: empirical evidence from Vietnam', *The Asian Journal of Shipping and Logistics*, Vol. 36, No. 2, pp.89–103.
- Levy, M., Weitz, A.B. and Beutelspacher, L.S. (2019) *Retailing Management*, 8th ed., McGraw-Hill/Irwin, New York.
- Mahfooz, Y. (2014) 'Relationship between service quality and customer satisfaction in hypermarkets of Saudi Arabia', *International Journal of Marketing Studies*, Vol. 6, No. 4, p.10.
- Miranda, S.M. and Saunders, C.S. (2003) 'The social construction of meaning: an alternative perspective on information sharing', *Information Systems Research*, Vol. 14, No. 1, pp.87–107.
- Ngo, V.M. and Nguyen, H.H. (2016) 'The relationship between service quality, customer satisfaction and customer loyalty: an investigation in Vietnamese retail banking sector', *Journal of Competitiveness*, Vol. 8, No. 2, pp.103–116.
- Nguyen, D.T., Pham, V.T., Tran, M.D. and Pham, D.B.T. (2020) 'Impact of service quality, customer satisfaction, and switching costs on customer loyalty', *The Journal of Asian Finance, Economics, and Business*, Vol. 7, No. 8, pp.395–405.
- Nguyen, H.M., Nguyen, T.H., Phan, C.A. and Matsui, Y. (2015) 'Service quality and customer satisfaction: a case study of hotel industry in Vietnam', *Asian Social Science*, Vol. 11, No. 10, pp.73–85.
- Nguyen, N.M. (2021) *Retail Sector in Vietnam – Statistics & Facts*, Statista [online] <https://www.statista.com/topics/5334/fmcg-retail-in-vietnam/#dossierKeyfigures> (accessed 27 December 2021).
- Orel, F.D. and Kara, A. (2014) 'Supermarket self-checkout service quality, customer satisfaction, and loyalty: empirical evidence from an emerging market', *Journal of Retailing and Consumer services*, Vol. 21, No. 2, pp.118–129.
- Parasuraman, A., Zeithaml, V.A. and Berry, L. (1988) 'SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality', Vol. 64, No. 1, pp.12–40.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985) 'A conceptual model of service quality and its implications for future research', *Journal of Marketing*, Vol. 49, No. 4, pp.41–50.

- Pham, L. and Phan, D.V. (2016) 'Internet banking service quality, customer satisfaction and customer loyalty: the case of Vietnam', *International Journal of Strategic Decision Sciences*, Vol. 7, No. 1, p.17.
- Rodgers, W. and Pavlou, P. (2003) *Developing a Predictive Model: A Comparative Study of the Partial Least Squares vs Maximum Likelihood Techniques*, Working paper, Graduate School of Management, University of California, Riverside.
- Sivadas, E. and Baker-Prewitt, J.L. (2000) 'An examination of the relationship between service quality, customer satisfaction, and store loyalty', *International Journal of Retail & Distribution Management*, Vol. 28, No. 2, pp.73–82.
- Vazquez, R., Rodríguez-Del Bosque, I.A., Díaz, A.M. and Ruiz, A.V. (2001) 'Service quality in supermarket retailing: identifying critical service experiences', *Journal of Retailing and Consumer Services*, Vol. 8, No. 1, pp.1–14.
- Veloso, C.M., Magueta, D., Ribeiro, H. and Alves, S.R. (2018) 'The links between service quality, brand image, customer satisfaction and loyalty in the retail industry', *28th International Scientific Conference on Economic and Social Development*, Paris.
- Vietnamplus (2021) *Vietnam Report Announces top 10 Prestigious Retailers in Vietnam* [online] <https://en.vietnamplus.vn/vietnam-report-announces-top-10-prestigious-retailers-in-2021/210290.vnp> (accessed 27 December 2021).
- Wallace, D.W., Giese, J.L. and Johnson, J.L. (2004) 'Customer retailer loyalty in the context of multiple channel strategies', *Journal of Retailing*, Vol. 80, No. 4, pp.249–263.
- Yuen, E. and Chan, S (2010) 'The effect of retail service quality and product quality on customer loyalty', *Journal of Database Marketing and Customer Strategy Management*, Vol. 17, No. 3, pp.222–240.

Notes

- 1 R-squared value for service quality attains 1.000 because service quality is a second-order latent variable of five dimensions, and these five dimensions totally reflect the service quality.
- 2 Service quality plays a formative role of five exogenous variables, hence these five variables reflect 100% of the service quality.
- 3 We adopt the biased and accelerated bootstrap 500 times.

Appendix 1*Demographic characteristics of respondents*

	<i>Frequency</i>	<i>Percentage (%)</i>
Gender		
Male	101	40.6
Female	140	56.2
Others	8	3.2
Age		
Younger than 20	8	3.2
20–30	82	32.9
31–40	87	34.9
41–50	46	18.5
51–60	21	8.4
Above 60	5	2.0
Occupation		
Students	38	15.3
Employees	116	46.6
Self-employed person	34	13.7
Housewife/husband	25	10
Retired	19	7.6
Others	17	6.8
Frequency to shop		
Once a day	8	3.2
Once a week	106	42.6
More than once a week	57	22.9
Once a month	44	17.7
Less than once a month	34	13.7
Types of customers		
Personal customer	208	83.5
Business customer	14	5.6
Money spent on this purchase		
Under 500 thousand dong	32	12.85
500 thousand dong–under 1 million	79	31.73
1–under 3 million	102	40.96
3–under 5 million	25	10.04
5–under 10 million	7	2.8
Above 10 million	4	1.6
Modes to purchase		
Offline	81	32.5
Online	168	67.5

Appendix 2

Proposed measurement items for constructs

<i>Constructs</i>		<i>Measurement items</i>	<i>Mean</i>	<i>S.D.</i>	<i>Loading</i>
Physical aspect	PA1	The physical facilities at this supermarket are visually appealing.	3.88	.747	0.832
	PA2	This supermarket has modern-looking equipment.	3.93	.922	0.713
	PA3	This supermarket is clean.	4.08	.699	0.808
	PA4	The layout makes it easy for me to move around in the supermarket.	3.88	.822	0.830
	PA5	This supermarket provides plenty of convenient parking for customers.	4.14	.807	0.793
Reliability	R1	When this supermarket promises to do something by a certain time, it will do so.	3.65	.779	0.817
	R2	This supermarket performs the service provision in the right manner at the first time.	3.55	.887	0.819
	R3	This supermarket insists on error free sales transaction.	3.49	.880	0.839
	R4	This supermarket has a delivery service quickly and accurately.	3.44	.719	0.850
	R5	This supermarket always has availability of merchandise.	3.82	.799	0.837
Personal interaction	PI1	Employees in this supermarket are willing to respond to my questions.	3.88	.832	0.908
	PS2	Employees of this supermarket treat me courteously.	3.85	.765	0.892
	PI3	The staff in the delivery are friendly.	3.84	.612	0.884
	PI4	Employees of this supermarket are dedicated.	3.87	.735	0.934
Customer care	C1	When I have a problem, employees show a sincere interest in solving it.	3.99	.687	0.859
	C2	Employees of this supermarket are able to handle complaints directly and immediately.	4.08	.738	0.743
	C3	This supermarket willingly handles returns and exchanges.	4.04	.764	0.850
Policy	P1	This supermarket offers high-quality merchandise.	4.03	.680	0.825
	P2	This supermarket has operating hours convenient to all customers.	3.97	.861	0.764
	P3	This supermarket accepts different payment formats such as cash, cards	4.07	.793	0.788
	P4	This supermarket offers digital membership cards and exchanges accumulated points into many attractive vouchers for customers.	3.85	.782	0.780

Proposed measurement items for constructs (continued)

<i>Constructs</i>		<i>Measurement items</i>	<i>Mean</i>	<i>S.D.</i>	<i>Loading</i>
Customer satisfaction	CS1	I am very happy with this supermarket.	3.85	.566	0.822
	CS2	My shopping needs are satisfied here.	3.83	.909	0.777
	CS3	This supermarket meets my expectations.	3.67	.758	0.778
	CS4	Overall I am satisfied with the service quality provided by this supermarket.	3.82	.763	0.859
Customer loyalty	L1	I would shop in this supermarket again.	3.86	.644	0.794
	L2	I would recommend this supermarket to any of my friends.	3.70	.889	0.779
	L3	This supermarket is my preferred choice.	3.67	.882	0.807
	L4	I would speak positively about this supermarket to others.	3.70	.736	0.825