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The impact of service innovation on customer satisfaction and customer loyalty: a case in Vietnamese retail banks

Ha Minh Nguyen[1,2,3], Trinh Kieu Thi Ho[4] and Trung Thanh Ngo[2,5*]

Abstract

Customer loyalty continues to be a crucial factor for retail banks in maintaining market share, increasing revenue and profits, and reducing costs in the highly competitive business landscape of today. They consistently strive for innovation to maintain a competitive edge, introducing novel experiences and heightened satisfaction to customers, thereby enhancing customer loyalty. This study aims to examine the effect of service innovation on customer satisfaction and loyalty in the Vietnamese banking sector. The research investigates banking service innovation from three angles: novel service concept, novel service procedure, and novel technological distribution system. To confirm the relationship between concepts and complete the survey questionnaire, qualitative research techniques are employed. Simultaneously, a quantitative research technique (structural equation modeling—SEM) is used to assess the relationship between concepts. The study surveyed 398 clients of Vietnamese retail banks. All dimensions of service innovation, including novel service concept, novel service procedure, and novel technological distribution system, have positive effects on customer satisfaction and loyalty. Customer satisfaction also has a substantial effect on customer loyalty. Finally, it then draws some conclusions and makes some recommendations to retail banks to improve both customer satisfaction and customer loyalty via enhancing service innovation.

Keywords Novel service concept, Novel service procedure, Novel technological distribution system, Retail banking sector

*Correspondence:
Trung Thanh Ngo
trung.nt@ou.edu.vn
[1] Ho Chi Minh City Open University, 35-37 Ho Hao Hon Street, District 1, Ho Chi Minh City, Vietnam
[2] Finance, Economic and Management Research Group (FEMRG), Ho Chi Minh City Open University, 35-37 Ho Hao Hon Street, District 1, Ho Chi Minh City, Vietnam
[3] Research Centre in Business, Economics, and Resources (CBER), Ho Chi Minh City Open University, 35-37 Ho Hao Hon Street, District 1, Ho Chi Minh City, Vietnam
[4] The Graduate School, Ho Chi Minh City Open University, 97 Vo Van Tan Street, District 3, Ho Chi Minh City, Vietnam
[5] Faculty of Finance and Banking, Ho Chi Minh City Open University, 35-37 Ho Hao Hon Street, District 1, Ho Chi Minh City, Vietnam

Introduction

Customer loyalty is a well-established and long-lasting marketing and business idea. It has been the subject of scholarly inquiry for many decades. Customer loyalty is a vital component of a company's profitability and operation. It is used in marketing to determine the relationship between consumer preferences and product offerings [10]. Customer loyalty has a substantial impact on profit production. It may be described as the degree of correlation between an individual's recurrent patronage and the grade of their relative attitude toward the business [98]. Furthermore, it is recognized as a holistic investment that provides insight into the management of consumer-service provider relationships across numerous industries [57].

In many business contexts, customer satisfaction is one of the crucial antecedents that positively influences consumer loyalty. Many prior studies, including those by Kassim and Asiah Abdullah [54], Pan et al. [75], Quach et al. [76], Samudro et al. [81], Singh et al. [85], Zhang et al. [104], have demonstrated this. The relationship between customer satisfaction and customer loyalty in the banking industry has also been the subject of extensive research, with numerous findings indicating that the two concepts are significantly related. Customer loyalty is significantly influenced by satisfaction levels in the retail banking industry in India [56] and in Vietnam [72]. Customer loyalty is significantly impacted by customer satisfaction in the realm of electronic banking [9, 35]. Additionally, Albaity and Rahman [2] assert that satisfied customers are less likely to defect from their banks, indicating that customer satisfaction and loyalty are positively correlated. Similar findings regarding the relationship between customer loyalty and satisfaction were obtained by Fida et al. [36], Tegambwage and Kasoga [89], both of whom conducted research in the context of Islamic banking.

In today's competitive market, innovation is increasingly viewed as a critical factor in determining a business's long-term success [11, 41], as businesses that can innovate will be able to overcome environmental challenges more quickly and effectively than non-innovative ones [15, 20], [67]. According to Rogers et al. [80], innovation is defined as a new idea, practice, or object by an individual or organization.

The role of innovation is crucial in enabling the sustainable development of banks. In order to ensure the retention of competitive advantage, the satisfaction of client needs, and the encouragement of economic growth, banks must prioritize their attention on innovation [63]. The aforementioned technology enables improved management of constraints, flexibility in adapting to changing circumstances, and the capacity to suggest customized offers that correspond to evolving needs [84]. Furthermore, a positive association has been shown between innovation and knowledge management practices in the banking industry. The aforementioned processes involve the procurement, utilization, and retention of information, all of which have a substantial impact on the cultivation of sustainable competitive advantage within the banking industry [61].

In the 4.0 technology era, retail banks cannot afford to ignore the use of technology to improve service distribution and operational efficiency. The integration of innovation and technology in the banking industry has significantly transformed the approach to delivering products and services to customers [1]. In other words, technological innovation is viewed as a key factor in driving innovation in the retail banking sector. This can be attributed to novel services. The emergence of these new electronic channels has made banking services more convenient to supply [50]. The banking sector experiences notable effects on service delivery as a result of technological innovation, leading to enhancements in efficiency, customer service, and overall performance [4]. Retail banks are obligated to maximize shareholder returns and wealth. They can only achieve this desired outcome through innovation. Innovation is very important in the retail banking sector; there is a constant need to adapt to changing client needs [68].

Despite widespread recognition of innovation's important role in a competitive environment, innovation is not without its challenges [27]. These challenges for the retail banking industry include recurring system failures, network problems, automated teller machine (ATM) malfunctions, and so on, which lead to customer churn, dissatisfaction, and disloyalty with service providers. Customers' influence in retail banks' businesses is growing as a result of mobile technology and social networks. Good business is not enough; it is also necessary to provide customers with values other than the core value. Retail banks are increasingly carrying more and more responsibilities. Banking services innovation comprises technologies, service concepts, delivery systems, and client interfaces, all of which result in novel consumer experiences and service utilization [91]. So, these institutions must consequently identify the necessary innovations to distribute services to their customers successfully, as well as devise methods and strategies for effectively managing these innovations to achieve the desired goal. When a business gains a competitive advantage and grows, it fosters customer loyalty, which is critical to the success of all organizations, as acquiring new consumers is more costly and time-consuming than keeping existing ones [90]. Businesses that develop and retain client loyalty might obtain larger profit margins throughout the life of the client relationships [95]. As a result, the objective of this research undertaking is to investigate the influence of service innovation on customer loyalty and satisfaction within the retail banking industry in Vietnam. The experimental findings are utilized to formulate recommendations pertaining to service innovation with the aim of enhancing consumer loyalty and satisfaction.

Literature review

Customer loyalty

Customer loyalty can be determined by behavioral and attitude factors. Customers' attitudes encompass concepts such as their intention to repurchase or purchase more products from a specific provider, their intention to suggest the product to many different consumers, and their demonstrated adherence to the supplier through their refusal to switch to other competitors or their willingness to pay high prices [21]. In addition, consumer loyalty can be described as the customer's disposition regarding the likelihood of repurchasing identical products [49]. Customer loyalty is behaviorally described as the repeated purchase of a variety of items from a single vendor, the willingness to refer the provider to various clients, and a long-term perception of the brand as a viable option.

As these, customer loyalty refers to an intended or real behavior toward a supplier. Customer loyalty can be viewed as vital to the continued success of a corporation [58]. Loyal clients are unconcerned about additional fees within a fair range, speak more favorably about the company, and ignore competing businesses [87, 88]. Customer loyalty is one of a business's most critical and essential assets. When a supplier establishes and retains client loyalty, the connection between the supplier and the customer is a win–win situation [75]. According to Oliver [73], customer loyalty is the firm assurance of future repurchases of preferred products. Loyal consumers are unaffected by unfavorable procurement situations or other suppliers' efforts to promote supplier switching. Consequently, churn barrier construction expenses will be reduced, and the organization's revenue will exhibit greater stability and facilitate growth. The impact of customer loyalty on long-term financial performance and the accomplishment of organizational goals serves to highlight its significance [55]. It is regarded as a critical component of organizational effectiveness [70].

Customer satisfaction

The concept of customer satisfaction is complex and has been the subject of extensive research across various domains. The concept is frequently defined as the degree to which post-purchase perceptions of a service or product align with its actual characteristics. Customer satisfaction is the emotional reaction of a customer when their evaluation of a product or service matches their initial expectations [40, 45], [65]. Customers feel satisfied when they perceive that the product or service fulfills their desires and expectations [13]. The gap between anticipated and actual outcomes is the metric utilized in the traditional satisfaction model to assess customer satisfaction [51].

Satisfaction is defined by Hesselink et al. [48] as a positive state that impacts assessments of every aspect of multilateral cooperation. A primary concern for organizations is the establishment and sustenance of a competitive edge [17]; additionally, the perception of the product among the general public following customer usage is crucial [18]. Consequently, customer satisfaction has attained an all-encompassing status, given that the majority of businesses consider their customers to be their primary revenue generators.

Customer satisfaction is a dynamic concept that is influenced by a multitude of environmental and temporal factors [64], [105]. Customer satisfaction with banking service refers to the degree to which customers are content with their overall encounter at a bank branch, encompassing service procedures and waiting time [74]. According to Anderson et al. [6], Briggs et al. [14], Deng et al. [26], price fairness, service quality, and performance-based satisfaction are the determinants of the aforementioned comparison. Furthermore, it exhibits a strong correlation with customer engagement, satisfaction, and the fulfillment of basic human requirements [29], [100]. Customer satisfaction is a critical determinant of business performance, profitability, and shareholder value within the service industry [23, 78].

Service innovation

According to Schumpeter [82], the concept is defined as a novel approach or a unique mix of production elements. Damanpour [22] defines innovation as a total or partial change in a firm's structure, operations, and outputs that allow integration with the outer world. Damanpour emphasizes that innovation must be integrative, regardless of where it comes from, it would be fully incorporated into the context, since this determines customer acceptance and use. Furthermore, innovation must have a positive environmental impact, introducing a socially responsible aspect to the innovation process. Elçi [30], like Damanpour [22], emphasizes innovation as a continuous process and defines it as continuous change and differentiation in products, services, and work methods. Elçi [30] asserts that innovation must be helpful to both the economy and society since it is the result of the fusion between social and technological processes.

The multidimensional and interactive view of service innovation resulted in Den Hertog [24]'s six-dimensional conceptual model. This six-dimensional model is derived from the explanations provided by scholars such as Den Hertog and Bilderbeek [25], Hertog [47], Van Ark et al. [93]. The model denotes various service-related innovations in six distinct dimensions, as follows:

New service concept The most widely recognized aspect of service innovation is the novel service concept [7, 47]. According to Frei [37], novel service concepts are also referred to as providing additional services, they combine elements of one service with a portion of another service to create a new service or policy. This aspect could be a plan or a solution for how management previously failed at an organization and is now looking to incorporate additional services to apply in the organization's current context [94].

New customer interaction This element refers to changes in client interaction methods during the service's conception, manufacturing, distribution, and consumption. This dimension, according to Hertog [47], emphasizes the participatory role of the client because innovation can stem from how a service organization interacts with the user. Martin and Horne [66] believe that a major success component in the process of developing novel services is the new customer interaction aspect.

New business partner It is a shift in how a service is created, such as collaborative implementation with a partner. Service innovation may necessitate collaboration with partner organizations in addition to co-production and co-creation with customers. Thus, collaborative development and collaborative production are considered a shift in the overall output of a service, akin to a structural upgrade in the value chain.

New revenue model This dimension is related to the contention that some service innovations are only concerned with new costing or revenue generation strategies. A service enhancement, whether it is a unique combination of current service elements or a novel service pack, frequently demands an acceptable model of price and cost allocation considerations so that customers recognize and are ready to pay for the extra value of the service.

New service distribution system (organizational component) This dimension is concerned with the human component of the distribution system, which includes personnel, organizational structure, and culture. In other words, it involves the supplier-purchaser relationship. The new distribution system component is particularly relevant to the change in the internal structure of the organization in order to promote change in the way services are given [7, 38, 47]. When other components of service innovation are modified, the organization and its service distribution system are frequently updated to allow these changes to take place, as new services may need a different organizational structure as well as the skills and potential mix of personnel involved.

New service distribution system (technological component) This dimension focuses on the technological systems and processes involved in service distribution. The development of information and communication technologies is opening up enormous possibilities for the introduction of new service concepts, new ways of interacting with customers and other partners, the development of new revenue models, and the establishment of new service distribution systems. New technological service distribution systems will stimulate and/or necessitate new innovations in one or more of the other dimensions, and vice versa [24].

Customers are less likely to recognize the new business partner aspect because it is not publicly declared by the company and is not clearly visible to them. In contrast, the remaining five dimensions, which include "new service concept," "new customer interaction," "new revenue model," "new service distribution system (organizational component)," and "new service distribution system (technological component)," are all properly seen by customers as innovation outcomes. As a result, these five factors are commonly utilized as indicators to assess customers' impressions of the supplier's service innovation. According to Mahmoud et al. [62], there are parallels between some of the aforementioned components, thus, they combine the "new service concept" and "new revenue model" into the "novel service concept" aspect and the "new customer interaction" and "new service distribution system (organizational component)" into the "novel service procedure" aspect. The last dimension is renamed from "new service distribution system (technological component)" to "novel technological distribution system." Tonui et al. [91] assert that servicing concepts, delivery systems, client interfaces, and technologies are all components of banking service innovation, which generates novel customer experiences and product utilization. Hence, drawing inspiration from the studies of Mahmoud et al. [62] as well as Tonui et al. [91], this research investigates three facets of banking service innovation: novel service concept, novel service procedure, and novel technological distribution system.

The relationships between concepts

The impacts of service innovation on customer satisfaction

The primary goal of innovation is to enhance services and products in order to delight customers, boost productivity, lower costs, and create new opportunities [39]. When new products or services are put into the market, they have an effect on consumers' views of their potential to meet their requirements [60]. When customers are satisfied, they prefer to purchase more, and their favorable feedback readily and inexpensively attracts new customers. It is critical to invest in innovation since it enables businesses to satisfy customers [42, 43]. Service innovation is basically a corporate strategy for developing new products or increasing the value of existing services to meet customers' demands. As a consequence, it is vital to confront the issues given by consumers, and at this point, the major innovation capability is to increase customer contact in the service delivery system or technology [52, 60]. Service innovation reflects market advantages and assists businesses in establishing long-term connections with customers and providing them with high-quality products and services [28]. According to the findings of Biswas et al. [12], Kanwal and Yousaf [52], YuSheng and Ibrahim [103], there is a positive association between service innovation and customer satisfaction, and customers are better satisfied when they perceive more innovation. Yeh et al. [101], Chuang and Hsu [19], Tsai et al. [92] all discovered the relation between service innovation and customer satisfaction. As a result, the following hypothesis was formulated regarding the relationship between service innovation and customer satisfaction:

H_{1a} There is a positive relationship between the novel service concept of service innovation and customer satisfaction.

H_{1b} There is a positive relationship between the novel service procedure of service innovation and customer satisfaction.

H_{1c} There is a positive relationship between the novel technological distribution system of service innovation and customer satisfaction.

The impacts of service innovation on customer loyalty

Customer loyalty is impacted by the customer's evaluation of the outcomes obtained from interactions with the service provider, which is alternatively referred to as service output quality [34]. Customers are unlikely to transfer to an alternative brand if the current brand offers superior products with higher output quality that more effectively fulfill their needs. Customer loyalty is positively impacted by service quality [96]. Outdated technologies and approaches are incapable of fulfilling forthcoming demands. Hence, for sustained growth, an organization must try to introduce innovative services and enhance customer benefits with the intention of fostering customer loyalty [52]. Customers remain loyal to a business exclusively when it introduces novel products and services that align with changing market trends or meet new demands of customers. As a result, service innovation is regarded as a critical component in the pursuit of consumer loyalty. In the absence of innovative products or services, consumers have a tendency to transition to alternative brands that possess more distinctive attributes [39]. Awuku et al. [8] present empirical support for the notion that service innovation has a substantial and positive effect on customer loyalty within the telecommunications sector. Furthermore, the loyalty of consumers who utilize e-commerce services is positively impacted by service innovation [77].

Ameme and Wireko [5], Musara and Fatoki [69], Nanda et al. [71], Rashid et al. [79], YuSheng and Ibrahim [103] are among the few scholars who have compiled empirical evidence on the effect of service innovation on customer loyalty in the retail banking sector of emerging countries. Ameme and Wireko [5] recognize the correlation between customer loyalty and technological innovation; however, they caution that the introduction of such innovations in the banking sector incurs substantial transaction costs and presents numerous drawbacks for customers. Technological innovation, according to Musara and Fatoki [69], is crucial for increasing banking efficiency and decreasing transaction costs for banking customers. The significance of service innovation in impacting consumer loyalty toward bank-provided services is further demonstrated in studies by YuSheng and Ibrahim [103] and Rashid et al. [79]. Concerning the effect of service innovation on consumer loyalty, the subsequent hypotheses are formulated:

H_{2a} There is a positive relationship between the novel service concept of service innovation and customer loyalty.

H_{2b} There is a positive relationship between the novel service procedure of service innovation and customer loyalty.

H_{2c} There is a positive relationship between the novel technological distribution system of service innovation and customer loyalty.

The impacts of customer satisfaction on customer loyalty

Customer satisfaction is an antecedent of customer loyalty. A wide range of empirical research findings provide support for this assertion. According to the research of Kassim and Asiah Abdullah [54], customer satisfaction influences both trust and loyalty in the e-commerce environment. Regarding electronic banking services, Zhang et al. [104] concur that customer satisfaction plays a crucial role in fostering loyalty. Additional empirical investigations have examined the positive correlation between customer satisfaction and loyalty within the banking industry. These studies include those by Albaity and Rahman [2], Ayinaddis et al. [9], Esmaeili et al. [35], Fida et al. [36], Kaura et al. [56], Nguyen et al. [72], Tegambwage and Kasoga [89]. In Islamic banking, customer satisfaction is additionally identified as an antecedent to customer loyalty [89].

Numerous empirical studies conducted in the broader research context, including those by Carolina and Yasa [16], Samudro et al. [81], Singh et al. [85], Yang and Peterson [99], confirm that customer satisfaction affects customer loyalty. The significance of customer satisfaction for businesses stems from the fact that it has an impact on the financial performance of the organization, as well as subsequent customer loyalty and behavior [3, 23, 78]. Furthermore, it exhibits a strong correlation with customer retention, trust, and switching barriers [32]. Customers maintain loyalty when they have a positive experience with the services provided by the bank [12]. On the contrary, customers who are unsatisfied will exhibit disloyalty toward the provider and seek out viable alternatives that can fulfill their demands. Pan et al. [75], Quach et al. [76] highlight the significance of reciprocity and customer-related elements, such as customer satisfaction, as antecedents to customer loyalty. Furthermore, upon examination of structural relationships, it becomes evident that customer satisfaction not only establishes a connection with customer loyalty but also functions as a mediator in the relationship between customer loyalty and other variables, including e-CRM, product and service quality [53, 86]. So, this study proposed the hypothesis about the impact of customer satisfaction on customer loyalty as below:

Hypothesis H3 There is a positive relationship between customer satisfaction and customer loyalty.

The proposed research model

From the literature review, the research model is suggested as follows (Fig. 1).

Besides, this study proposes hypotheses below:

H_{1a} There is a positive relationship between the novel service concept of service innovation and customer satisfaction.

H_{1b} There is a positive relationship between the novel service procedure of service innovation and customer satisfaction.

H_{1c} There is a positive relationship between the novel technological distribution system of service innovation and customer satisfaction.

H_{2a} There is a positive relationship between the novel service concept of service innovation and customer loyalty.

H_{2b} There is a positive relationship between the novel service procedure of service innovation and customer loyalty.

H_{2c} There is a positive relationship between the novel technological distribution system of service innovation and customer loyalty.

H_3 There is a positive relationship between customer satisfaction and customer loyalty.

Methodology

Measures

Novel service concept scale This scale consists of three component scales: the novel service concept scale (denoted DV), the novel service procedure scale (denoted QT), and the novel technological distribution system scale (denoted CN). The initial scales are referred to Mahmoud et al. [62]. The study conducts focus groups with ten customers who have utilized the bank's credit services and two bank managers in order to alter and supplement the scale in the research context. As a result, the official scale employs four, five, and six items to measure the "novel service concept," "novel service procedure," and "new technological distribution system" dimensions, respectively.

Customer satisfaction scale (denoted HL) This scale is based on previous studies by Kanwal and Yousaf [52], Mahmoud et al. [62], Nanda et al. [71], with four new

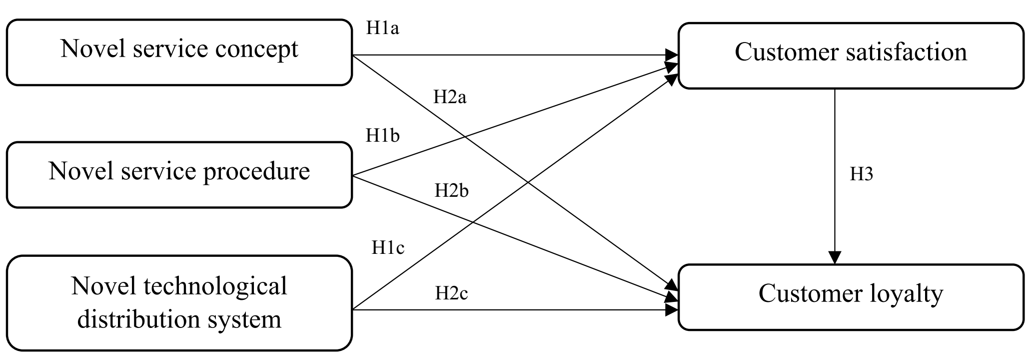

Fig. 1 Proposed research model

items from qualitative research. As a result, the formal scale comprises eight items.

Customer loyalty scale (denoted TT) includes five items borrowed from studies by Emine et al. [33], Kanwal and Yousaf [52].

Research data

The data for the study are gathered online via a pre-designed survey questionnaire. Customers who have utilized credit services from retail banks in Vietnam for one year or more are eligible for the survey. The study uses the question "Do you have experience utilizing the credit services of the bank for at least 1 year?" at the top of the questionnaire to select interviewees in order to ensure that the right respondents are interviewed. Only those who answered "yes" to this question were allowed to continue with the survey and record their comments.

The survey was given to 450 people through email, and 398 valid replies were obtained. The data utilized in this study were collected from a sample of 398 individuals who availed themselves of services at retail banks in Vietnam. There are 191 male clients and 207 female consumers. Customers utilizing state-owned retail banks account for 26 percent (103 people), domestic private retail banks account for 43.72 percent (174 people), and the rest use credit services supplied by international banks or foreign bank branches. Table 1 provides additional details about the interviewees. Research data is used in quantitative research to better comprehend the link between ideas.

Table 1 Characteristics of interviewees

N = 398	Quantity (person)	Percentage (%)
Gender		
Male	191	48.05
Female	207	51.95
Education level		
Undergraduate	79	19.8
Graduate	229	57.60
Post Graduate	90	22.60
Age		
From 18 to under 30 years old	132	33.10
From 30 to 55 years old	117	29.38
Over 55 years old	149	37.52
Type of retail bank		
State-owned bank	103	26
Domestic private bank	174	43.72
Foreign bank	121	30.28
Marital status		
Single	188	47.40
Marriage	210	52.60

Results

According to the descriptive statistics (see Table 2), the lowest mean value of the items on each scale is still high, larger than 3.6. This demonstrates that clients have a positive assessment of the retail bank's service innovation, as well as that they are satisfied with the services utilized and loyal to the retail bank that they have used. In terms of the novel service concept, the existence of service packages that are highly flexible with customers' needs (mean of DV1 = 3.734) ranked the lowest and highest by consumers is the difference between current credit services and the past (mean of DV2 = 3.819). Customers rank the bank's disbursement speed and post-loan support the highest (mean of QT4 = 3.719) and asset appraisal speed the lowest (mean of QT5 = 3.618) in terms of the novel service procedure. In terms of the novel technological distribution system, customers rate the 24/7 customer service system the lowest (mean of CN2 = 3.643) and the bank's investment in customer information security software the highest (mean of CN5 = 3.716). Customers are very satisfied with the bank's credit service innovation (mean of HL4 = 3.706), while extra credit services earned the least satisfaction (mean of HL2 = 3.648). Finally, they will return to the bank's credit services when necessary (mean of TT3 = 3.759).

The research assessed the reliability of the scales using Cronbach's Alpha, and the results revealed that all scales are reliable. Next, the study conducted exploratory factor analysis. The exploratory factor analysis (EFA) result is appropriate, as evidenced by the Kaiser–Meyer–Olkin (KMO) coefficient of 0.920 and the significance level of Bartlett's test of = 0.000. The fact that the eigenvalue of the fifth factor is 1.640 and the total variance extracted is 54.819 percent leads to the conclusion that the above 28 observable variables are extracted into five factors. The observed variables are still included in the content of each factor, as previously suggested.

The study also conducted confirmatory factor analysis (CFA) for the measurement model, which included the following primary structures: novel service concept (DV), novel service procedure (QT), novel technological

Table 2 Description of items

Scale	Number of variables	Min	Max	Mean
DV	4	1	5	3.734–3.819
QT	5	1	5	3.618–3.719
CN	6	1	5	3.643–3.716
HL	8	1	5	3.648–3.706
TT	5	1	5	3.678–3.759

distribution system (CN), customer satisfaction (HL), and customer loyalty (TT). The CFA results in Fig. 2 reveal that the discrepancy divided by degree of freedom (CMIN/df) = 1.160 (< 3.0) passes the compatibility conditions. Comparative fit index (CFI) = 0.989 (> 0.90), goodness of fit index (GFI) = 0.936 (> 0.90), Tucker Lewis index (TLI) = 0.988 (> 0.90), and root-mean-square error of approximation (RMSEA) = 0.020 (< 0.06) were also met. As a result, the measurement model is appropriate for the data acquired. Not only that, but the acquired composite reliability (CR), average variance extracted (AVE), and maximum shared variance (MSV) values aid the study in concluding that the measurement model is reliable, convergent, and discriminant.

The analysis was carried out by the study using SEM to assess the relationship between the concepts. The following (see Fig. 3) are the findings of the analysis: CMIN/df = 1.568 < 2; CFI = 0.962 > 0.9; GFI = 0.913 > 0.9; TLI = 0.958 > 0.9; RMSEA = 0.038 < 0.08. All of these indicators meet the theoretical requirements [44]. As a result, it is possible to conclude that this structural model is appropriate for the data collected.

Furthermore, all statistically significant ($p < 0.05$) standardized regression findings were obtained. As a result, it is possible to conclude that all hypotheses are accepted. Table 3 shows the outcomes of the causal relationships in the structural model.

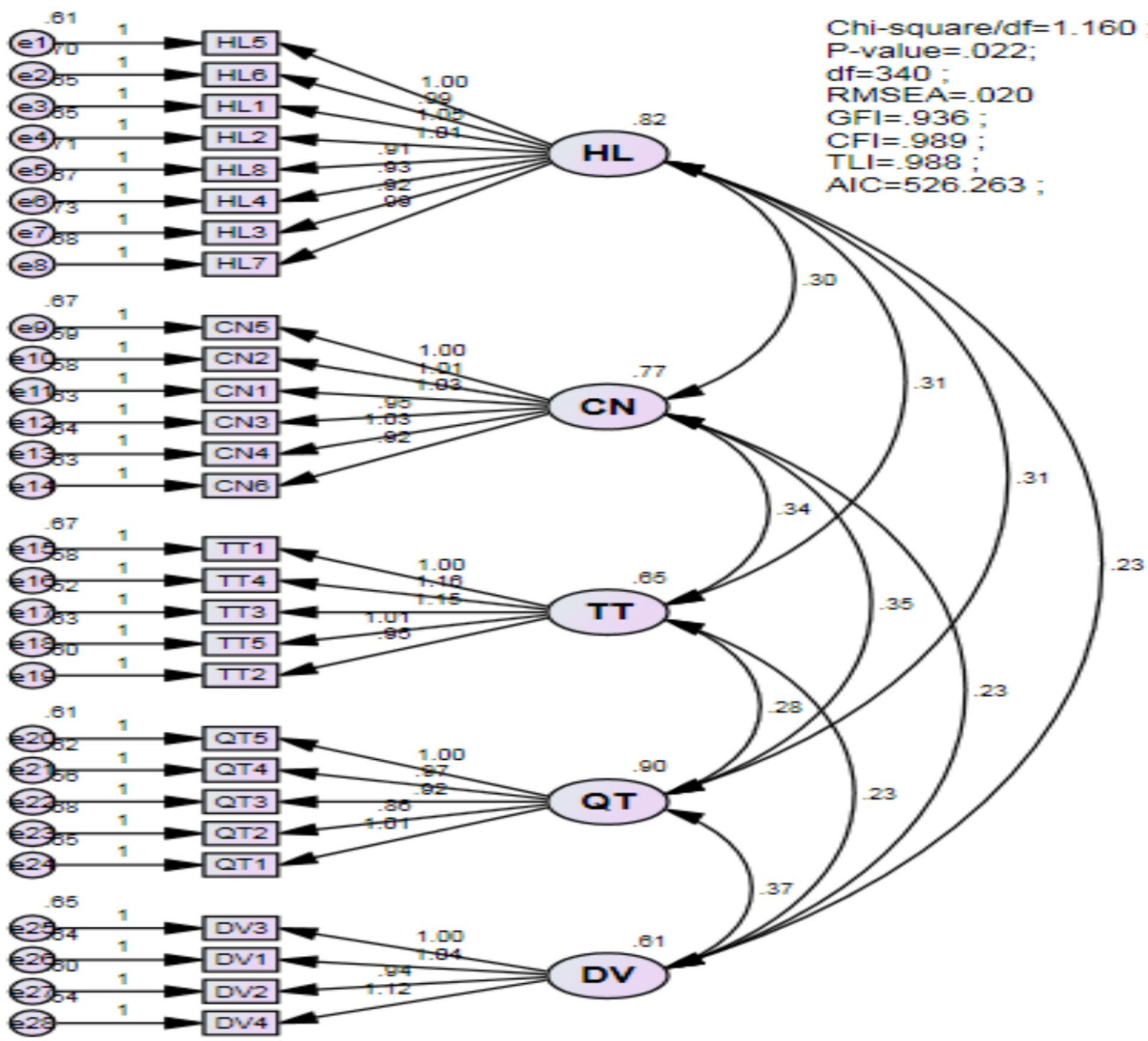

Fig. 2 CFA result of all constructs

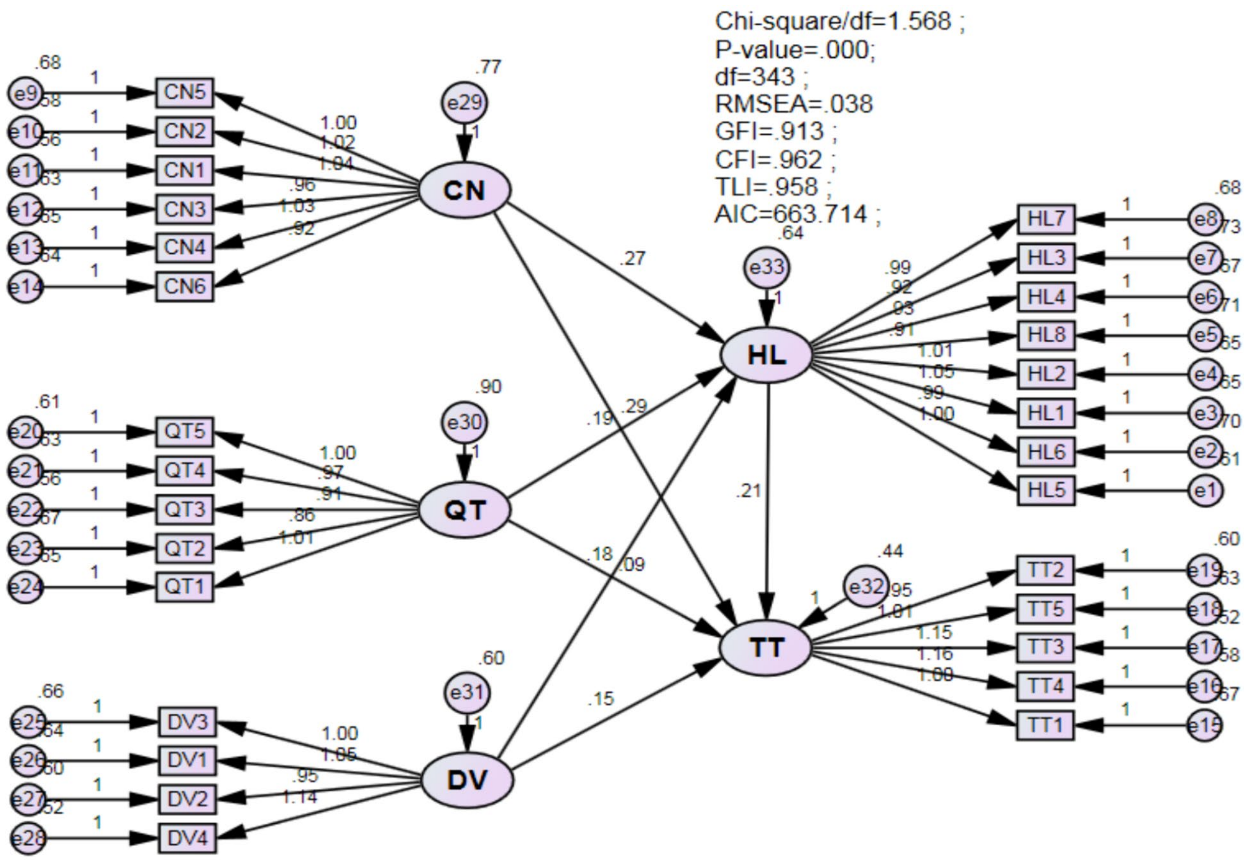

Fig. 3 SEM results

Table 3 Results of regression weight

Path	Unstandardized estimate	Standardized estimate	S.E	C.R	*P*
CN → HL	0.271	0.273	0.056	4.852	***
QT → HL	0.195	0.213	0.051	3.850	***
DV → HL	0.184	0.164	0.064	2.892	**
CN → TT	0.288	0.326	0.053	5.467	***
QT → TT	0.090	0.110	0.044	2.023	**
DV → TT	0.151	0.152	0.056	2.695	**
HL → TT	0.209	0.235	0.053	3.960	**

***$p < 0.001$, **$p < 0.05$

Table 4 Result of Bootstrapping with n = 1000

Path	Mean	Bias (1)	SE-Bias (2)	C.R = (1)/(2)
CN → HL	0.270	−0.003	0.002	−1.500
QT → HL	0.210	−0.002	0.002	−1.000
DV → HL	0.168	0.004	0.002	2.000
CN → TT	0.324	−0.002	0.002	−1.000
QT → TT	0.107	−0.003	0.002	−1.500
DV → TT	0.151	−0.001	0.002	−0.500
HL → TT	0.235	0.000	0.002	0.000

Finally, the study used Bootstrap structural model testing to assess the reliability of the model's estimates. The Bootstrap method is used in the investigation, with 1000 repeated samples. Table 4 displays the estimated results. Although there are some deviations, they are all within the acceptable range ($-1.96 < CR < 1.96$). As a result, the study concludes that the model's parameter estimates are reliable.

Discussion

First, the novel service concept, novel service procedure, and novel technological distribution system all have a positive impact on customer satisfaction, with magnitudes of 0.164, 0.213, and 0.273, respectively. Both relationships between novel service concept and novel service procedure and customer satisfaction are statistically significant at the 1% significance level. Meanwhile, the remaining relationship is statistically significant at the 5% level of significance. As a result, hypotheses H_{1a}, H_{1b}, and H_{1c} are all accepted. These findings are consistent with Ganesan and Sridhar [39], Kanwal and Yousaf [52], Mahmoud et al. [62], Nanda et al. [71], Senbabaoglu [83]. Both Biswas et al. [12] and YuSheng and Ibrahim [103] have similarly reached the conclusion that customer satisfaction is enhanced by banking service innovation. Customer satisfaction was also found to be positively impacted by innovation as a result of the digitalization of banking services, according to Zouari and Abdelhedi [106]. When retail banks customize their services to their clients' demands, their customers will be more satisfied. In other words, the more new services or processes, as well as new technological distribution systems, there are, the more satisfied customers are with the retail bank's services. Indeed, when retail banks integrate new services into old ones, consumer satisfaction increases. Process improvements and novel technological distribution systems help customers improve their experience and make it easier to use the bank's credit services. On the other side, when retail banks introduce new credit services, customers can meet previously unsatisfied credit demands. Additionally, customers can benefit from the bank's service innovation, which includes a reduction in the cost, time, and effort required to use the bank's credit services. As a result, the gap between their expectations prior to using the service and their evaluation following use is narrowing. In other words, customers have a greater likelihood of being satisfied.

Additionally, the novel service concept, novel service procedure, and novel technological distribution systems all had a positive effect on customer loyalty, with magnitudes of 0.152, 0.110, and 0.326. At the 1% significance level, only the relationship between the novel technological distribution system and customer loyalty is statistically significant. The following two correlations are statistically significant at the 5% level. As a result, the hypotheses H_{2a}, H_{2b}, and H_{2c} are also accepted. The findings of this study support those of previous research conducted by Nanda et al. [71], Senbabaoglu [83]. Similar evidence that customer loyalty is stimulated by service innovation is provided by the findings of Lemy et al. [59], Woo et al. [97], YuSheng and Ibrahim [103]. Service innovation is critical for increasing customer satisfaction, customer loyalty, and customers' perceived value. The novel service concept reimagines the retail bank's offerings in order to give consumers a more comprehensive service package. This more comprehensive service bundle satisfies a broader range of customer needs at a reduced cost. At that point, clients will continue to utilize the retail bank's services in their subsequent usage. Customers now have simpler access to the bank's credit services thanks to an innovative technology system. As a result, the cost to consumers of accessing the retail bank's funding will be reduced as well. Additionally, the novel technological distribution system enables the retail bank to provide credit services to consumers more quickly, securely, and safely. All of the benefits listed above eliminate the need for customers to look for a better bank the next time they utilize it. In other words, these benefits contribute to both behavioral and attitude-based consumer loyalty.

In comparison to the novel technological distribution system, the novel service procedure and novel service concept have a lower influence on customer satisfaction and loyalty. This is understandable. The credit procedure is governed by regulations that are considered internal to the bank and are conveyed exclusively to the bank's relevant staff. Customers are almost completely unaware of the details of the retail bank's credit process. Additionally, banking credit services are frequently complex, requiring clients to possess financial and economic understanding, as well as specialist banking expertise, in order to comprehend and evaluate them effectively. Customer experience with banking services is also important in assisting clients in evaluating the bank's credit service offering procedure. Customers with broader experience will be more aware of the bank's service delivery process innovations. Meanwhile, each credit service is frequently unique in its features, having been developed and offered by the retail bank for a certain customer group. As a result, clients frequently have a limited understanding of the credit service they are using, and their awareness of the bank's novel service concept will be severely limited.

Finally, customer satisfaction has a positive effect on customer loyalty, with an impact level of 0.235. This relationship is statistically significant at the 1% significance level. This means that as customer satisfaction rises, so will customer loyalty to the bank. This finding is significant since the goal of banks' innovation adoption is to provide higher-quality post-innovation services to customers and, as a result, to develop a beneficial connection between retail banks and customers. When clients are dissatisfied with the service provided by the bank, they frequently want to switch to another bank for their next consumption. This reduces the retail bank's future benefits from this bank–customer relationship (such as market share, earnings, and the potential to cross-sell services). As a result, satisfied clients are critical to the sustainability of any service firm. This study's findings are compatible with those of prior studies such as Ameme and Wireko [5], Yeh et al. [101].

Conclusions and managerial implications

The primary aim of this research is to determine how service innovation influences customer loyalty and satisfaction in the retail banking industry of Vietnam. Unlike numerous previous investigations, this study focuses on the effects of three distinct facets of service innovation—namely, the novel service concept, the novel service procedure, and the novel technological distribution system—on the customer loyalty and satisfaction of the bank. By adopting the service innovation framework utilized in the studies of Mahmoud et al. [62] and Tonui et al. [91], it is anticipated that the outcomes obtained will offer a more comprehensive understanding of the ways in which three aspects of service innovation influence banking customers' loyalty and satisfaction. In actuality, banks have the ability to carry out service innovation through one, some, or all of the components listed above. Bank managers can make better choices regarding the amount (or level and type of innovation components to be implemented for a specific banking service if they have a comprehensive understanding of the effects of each component of service innovation. This is suggested as an alternative approach to previous research, which regarded service innovation as a comprehensive concept.

According to the study's findings, all three of service innovation's components have a beneficial effect on customer satisfaction and loyalty. Simultaneously, the study demonstrates that customer satisfaction and loyalty have a favorable effect. The study's findings offer empirical evidence for the growing body of knowledge about the effect of service innovation on customer satisfaction and loyalty in emerging economies. Additionally, as previously noted, this study corroborates prior empirical research suggesting that banks may significantly improve service quality and increase customer satisfaction and loyalty through the application of service innovation. This means that the bank may manage customer loyalty both directly and indirectly by utilizing effectively novel technological distribution platforms, novel procedures, and even novel services to distribute high-quality services to customers in order to support business growth.

Based on the research findings presented above, the paper proposes some managerial implications. Banking executives in developing countries, such as Vietnam, may find them useful recommendations for their institutions' innovation efforts. To remain competitive, a financial institution's product offerings must increasingly incorporate technological advances that necessitate adaptation, innovation, and quick implementation [31]. As a result, bank executives must view technological innovation as an essential and critical activity for developing new products and services in the current environment. The financial services model is rapidly evolving as a result of the confluence of digital technologies and traditional finance. Financial technology influences commercial banks' standard procedures while also encouraging innovation [102], such as the development of new service concepts. Blockchain platforms used in financial management activities offer various distinct advantages, including the ability to gather and analyze current results in a more comprehensive manner as well as forecast future outcomes. As a result, bank executives can use more credible evidence to develop competitive strategies, enhance their products, and improve corporate processes. In addition, banks must provide cross-chain interoperability to fully facilitate online payments and value exchange [46]. Retail banks also must provide a sufficient internal banking software system, including online application approval procedures for each job title. For services that require a multi-step assessment and implementation procedure, such as credit services, the retail bank must create a stringent process for each one. This allows competent staff to easily comply with the bank's regulations while offering the fastest processing time possible. Specializing in each individual and department's tasks and job scope results in more precise and efficient work. For a variety of reasons, most retail banks should now use technology to better serve their customers. Retail banks can differentiate themselves from the competition by introducing cutting-edge technology that promotes customer convenience. Alternatively, when a retail bank updates the technology in its distribution system, consumers' ability to access, purchase, and enjoy the service at any time and from any location improves, while the bank's distribution costs may decrease. As a result, the retail bank's performance increased. Furthermore, advances in distribution system technology will allow clients to do bank transactions at their own pace. Last but not least, this invention enables the retail bank to more accurately estimate, sell, and distribute potential services based on client data. The aforementioned perceived utility will result in higher consumer satisfaction and loyalty. One example is the use of artificial intelligence (AI) in conjunction with customer data gathered through customer relationship management (CRM) programs. CRM has been applied at a number of banks. It enables the bank to better handle customer data and understand their changing requirements. CRM facilitates the development of both immediate and long-lasting connections, namely consumer loyalty and satisfaction [16]. However, when AI is used, monitoring customer information and forecasting future desires becomes faster, easier, and more accurate. As a result, retail banks may provide services that clients require to meet their needs. Customers will be pleased with the bank's services and more loyal to the source. Most importantly, retail banks should invest more in technology to prevent disruptions during service distribution, ensuring that the service is not limited and is available 24 hours a day, seven days a week.

Limitations and future research

To begin, this study examines the impact of service innovation on customer satisfaction and loyalty, but not the factors that influence bank service innovation. Future research should focus on the factors that influence bank service innovation in order to establish a solid foundation for developing solutions to boost bank service innovation. Additionally, this study adds empirical evidence on banking sector innovation. The generalizability of research findings remains limited. Future studies of this type in other domains can be conducted to circumvent this constraint. Finally, due to time and financial limitations, this study employs a convenience sampling strategy. The problem with this method is that it is unreliable because the sampling error cannot be determined, and generalizations about the population cannot be drawn from the sample data.

Abbreviations

AI	Artificial intelligence
ATM	Automated teller machine
AVE	Average variance extracted
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CMIN/df	Discrepancy divided by degree of freedom
CN	The novel technological distribution system scale
CR	Composite reliability
CRM	Customer Relationship Management
DV	The novel service concept scale
EFA	Exploratory factor analysis
GFI	Goodness of fit index
HL	The customer satisfaction scale
KMO	Kaiser–Meyer–Olkin
MSV	Maximum shared variance
QT	The novel service procedure scale
RMSEA	Root mean square error of approximation
SEM	Structural equation modeling
TLI	Tucker Lewis index
TT	The customer loyalty scale

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HM is the supervisor and helps to conceptualize and determine the methodology. TKT collects data, cleans it, analyzes it, and writes the first draft. TT contributes to the conceptualization, methodology, and writing of final manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

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Declarations

Ethics approval and consent to participate

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Competing interests

The authors declare that they have no competing interests.

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