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Factors Influencing Customer Satisfaction towards Internet Banking Service: Case Study of Vietnam

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ABSTRACT: This study investigates the impact of service quality dimensions on customer satisfaction in the context of internet banking services in Vietnam. Using a quantitative approach, data were collected through a structured questionnaire from a sample of 934 customers of the ten largest banks in Vietnam. The five service quality dimensions examined in this study are Tangibility, Reliability, Assurance, Responsiveness, and Empathy. Correlation and multiple regression analyses were conducted to assess the relationships between these dimensions and customer satisfaction. The correlation analysis revealed that all five service quality dimensions had significant positive correlations with customer satisfaction, with Assurance having the strongest correlation, followed by Responsiveness, Empathy, Reliability, and Tangibility. The regression results indicated that all five dimensions were significant predictors of customer satisfaction, with Responsiveness, Reliability, and Assurance having the strongest relative impact. This study contributes to the understanding of service quality and customer satisfaction in the digital banking era, providing valuable insights for bank managers and policymakers to enhance service quality and customer satisfaction in the highly competitive Vietnamese banking market. The findings highlight the need for banks to prioritize Responsiveness, Reliability, and Assurance while also addressing Tangibility and Empathy to meet customer expectations and foster long-term customer loyalty.

KEYWORDS: Customer satisfaction, internet banking, Vietnam, Service Quality, SERVQUAL

1. INTRODUCTION

In the rapidly evolving digital landscape, internet banking has emerged as a crucial aspect of modern financial services. The adoption of internet banking has been increasing globally, offering customers the convenience of conducting financial transactions from the comfort of their homes or offices. Customer satisfaction plays a vital role in determining the success and sustainability of internet banking services (Yoon, 2010). Therefore, understanding the factors that influence customer satisfaction towards internet banking is of paramount importance for both academics and practitioners in the banking industry.

From a theoretical perspective, this research aims to contribute to the existing body of knowledge by investigating the factors that impact customer satisfaction in the context of internet banking services in Vietnam. Previous studies have identified various factors that influence customer satisfaction in online banking, such as perceived ease of use, perceived usefulness, security, and privacy (Casaló et al., 2008; Yoon, 2010). However, the majority of these studies have been conducted in developed countries, and there is a scarcity of research focusing on emerging markets like Vietnam (Nguyen et al., 2020). Security and privacy are also critical factors that influence customer satisfaction in online banking. Customers are more likely to be satisfied with internet banking services that they perceive as secure and that protect their personal and financial information (Casaló et al., 2008). In the digital age, where cyber threats and data breaches are prevalent, ensuring the security and privacy of customer information is of utmost importance for banks to maintain customer trust and satisfaction (Raza et al., 2020). However, it is important to note that the majority of these studies have been conducted in developed countries, and there is a scarcity of research focusing on emerging markets like Vietnam (Nguyen et al., 2020). Emerging markets, such as Vietnam, present unique challenges and opportunities for internet banking services. These markets are characterized by rapidly growing economies, increasing internet penetration, and changing consumer behavior (Nguyen et al., 2020). Therefore, it is crucial to investigate the factors that influence customer satisfaction in the context of emerging markets, as the findings from developed countries may not be directly applicable to these markets.

Vietnam presents a unique case study due to its rapidly growing economy and increasing adoption of digital technologies. The country has witnessed a significant rise in internet penetration, with over 70% of the population having access to the internet (Statista, 2021). This digital transformation has led to a surge in the use of internet banking services, making it crucial to examine the factors that influence customer satisfaction in this context (Nguyen et al., 2020). Moreover, cultural differences and market-specific characteristics may influence the factors that impact customer satisfaction in internet banking (Tam & Oliveira, 2017). Vietnam, with its collectivistic culture and high uncertainty avoidance (Hofstede, 2001), may exhibit distinct patterns of customer behavior and preferences compared to individualistic and low uncertainty avoidance cultures. Thus, conducting this research in the Vietnamese context can provide valuable insights into the unique factors that shape customer satisfaction in this market.

Furthermore, this study aims to address the research gap by employing a comprehensive theoretical framework that integrates multiple dimensions of customer satisfaction. By examining the interplay between technological, service quality, and trust-related factors, this research seeks to provide a holistic understanding of customer satisfaction in internet banking (Lee & Chung, 2009; Raza et al., 2020).

2. LITERATURE REVIEW AND PROPOSED RESEARCH MODEL

In today's increasingly service-oriented economy, the role of service organizations in value creation has become more significant than ever (Gilaninia et al., 2013). As service organizations continue to expand their presence in various sectors of the economy, the importance of quality management in maintaining a competitive edge cannot be overstated. To ensure customer satisfaction and deliver high-quality services, service organizations must adopt a proactive and effective approach to quality management, which involves gaining a deep understanding of the current state of service quality, customer expectations, and the key characteristics that define quality in their specific context (Gilaninia et al., 2013). Unlike tangible goods, services are inherently intangible and are considered an integral part of the service provider (Gilaninia et al., 2013). This intangibility makes it more challenging for customers to evaluate the quality of services compared to physical products. Therefore, identifying the dimensions of service quality, understanding the relative importance of each dimension to customers, and analyzing customer expectations and perceptions regarding these dimensions are crucial steps in delivering excellent service and ensuring customer satisfaction (Gilaninia et al., 2013). Service quality is a critical construct that helps explain and justify the future and desired effects on a company's financial results and overall performance (Gilaninia et al., 2013). Given the importance of service quality as a key strategy for organizational survival, it is not surprising that numerous researchers have dedicated their efforts to studying the various aspects of service quality (Gilaninia et al., 2013). In the field of service management and marketing, service quality is considered one of the most crucial issues. Service firm leaders recognize that higher quality leads to improved performance, bringing benefits such as increased customer loyalty, better meeting of customer needs, market share expansion, and enhanced organizational efficiency (Gilaninia et al., 2013).

The relationship between service quality and customer satisfaction is well-established and significant (Gilaninia et al., 2013). Parasuraman et al. (1988) argue that effective measurement of service quality can be highly beneficial in resource allocation and customer segmentation. Service quality is widely recognized as an indicator of a company's competitiveness, and in the service sector, service performance is considered a strategic weapon that drives customer satisfaction (Gilaninia et al., 2013). By delivering superior service quality, firms can gain a competitive advantage in their respective markets (Gilaninia et al., 2013). Parasuraman et al. (1988) posit that customers assess service quality by comparing their expectations and requirements with the actual services they receive. To bridge the gap between customer expectations, perceptions, and actual service delivery, the authors proposed the SERVQUAL model. This model identifies five dimensions that can be used to measure service quality: tangibility, reliability, assurance, responsiveness, and empathy (Parasuraman et al., 1988).

In the banking industry, service quality plays a crucial role in determining customer satisfaction. This paper examines the impact of various service quality dimensions, including tangibility, reliability, assurance, responsiveness, and empathy, on customer satisfaction in the banking sector. By understanding the significance of these dimensions, banks can develop strategies to enhance customer satisfaction and gain a competitive advantage.

Tangibility, which encompasses the physical aspects of the servicescape, such as equipment, facilities, and aesthetic appeal, is a critical dimension of service quality in the banking industry. Numerous studies have found that tangibility has a significant impact on customer satisfaction in this sector (Ananth et al., 2011; Parasuraman et al., 1988). Tangibility can be defined as the appearance of physical facilities, equipment, personnel, and communication materials (Parasuraman et al., 1988). It also refers to the clear presentation of resources necessary for providing services to customers, the appearance of the management team and professional staff, and informative brochures and pamphlets, all of which contribute to customer satisfaction. Ananth et al. (2011) found that attractiveness, physical facilities, and aesthetic appeal are positive indicators of tangibility's influence on customer satisfaction in the banking industry. Reliability is the extent to which customers can depend on the organization to deliver the

promised service (Ennew et al., 2013). Parasuraman et al. (1988) define reliability as the organization's ability to provide the service independently and dependably. As a dimension of service quality, reliability has a significant impact on customer satisfaction. Ennew et al. (2013) describe reliability as the ability to perform and deliver the required service for customers consistently, accurately, and as promised, as well as the capacity to address customer issues. It is crucial to take action to resolve problems, perform services correctly on the first attempt, and deliver services at the designated time. Maintaining an error-free record is the hallmark of service quality reliability and has a substantial effect on customer satisfaction. The assurance dimension of service quality reflects the knowledge, courtesy, and ability of employees to inspire trust and confidence in customers. Assurance is characterized by the expertise and good manners or politeness of employees (Kant & Jaiswal, 2017). It is also described as the ability of staff, supported by their knowledge, to generate the confidence and trust that will significantly influence the level of customer satisfaction. The relationship between assurance and customer satisfaction is positive. In the banking industry, assurance refers to the sense of security customers experience when conducting financial transactions. Polite customer service, efficiency in processing orders, easy access to account information, convenience within the bank, maintaining proper books of accounts and quotations, employing experienced professional staff, and providing excellent service will all contribute to increased customer satisfaction. The responsiveness dimension of service quality relates to an organization's willingness and ability to help customers and provide prompt service. The willingness of employees to deliver the required service at any time without causing any inconvenience will influence customer satisfaction. The primary focus of responsiveness is how service organizations respond to customers through their employees. Individual attention will increase customer satisfaction, as will employee attention to customer concerns; when this occurs, there will be a fundamental change in customer satisfaction. It is likely that the responsiveness of the banking sector has a direct relationship with customer satisfaction. According to Ennew et al. (2013), the empathy dimension of service quality involves being attentive in communication settings, understanding customer needs, displaying pleasant behavior, and taking care of a customer's specific requirements. It can also be viewed as the ability to care for and provide individualized attention to customers, especially while offering services. Furthermore, Parasuraman et al. (1988) proposed that understanding customer expectations better than competitors and providing care and individualized attention to customers had a significant impact on customer satisfaction. Ananth et al. (2011) found that flexible working hours, personalized attention, a better understanding of customers' special needs in the banking sector, and the empathy dimension had a positive effect on customer satisfaction. All of these factors play a vital role in customer satisfaction.

Service quality and customer satisfaction are considered essential factors in business success, as a company's growth is heavily dependent on its ability to retain customers through the provision of excellent services (Hernon et al., 1999). This paper explores the relationship between service quality and customer satisfaction, as well as their impact on business competitiveness and growth. Service quality is defined as the correlation between customer expectations and the actual service performance (Hernon et al., 1999). When a company delivers superior service quality, it is expected to increase customer satisfaction, which in turn promotes customer loyalty and retention. Agyapong (2011) found a positive relationship between service quality and customer satisfaction, demonstrating that all dimensions of service quality were reliable predictors of customer satisfaction. Providing excellent service quality can make businesses more competitive in the market (Hernon et al., 1999). By identifying service issues and developing metrics to improve service performance, outcomes, and customer satisfaction, companies can differentiate their products and services from those of their competitors (Agyapong, 2011). This differentiation can lead to increased market share and profitability. Service quality can be assessed by comparing the expected service to the actual service delivered (Hernon et al., 1999). This comparison allows businesses to identify gaps between customer expectations and the service they receive, enabling them to take corrective actions to improve service quality. By continuously monitoring and measuring service quality, companies can ensure that they are meeting or exceeding customer expectations. Recognizing and addressing customers' needs can lead to improvements in network services, as the services provided can be used to differentiate a company's offerings from those of its competitors (Agyapong, 2011). By understanding and catering to customer needs, businesses can create a competitive advantage and foster long-term customer loyalty.

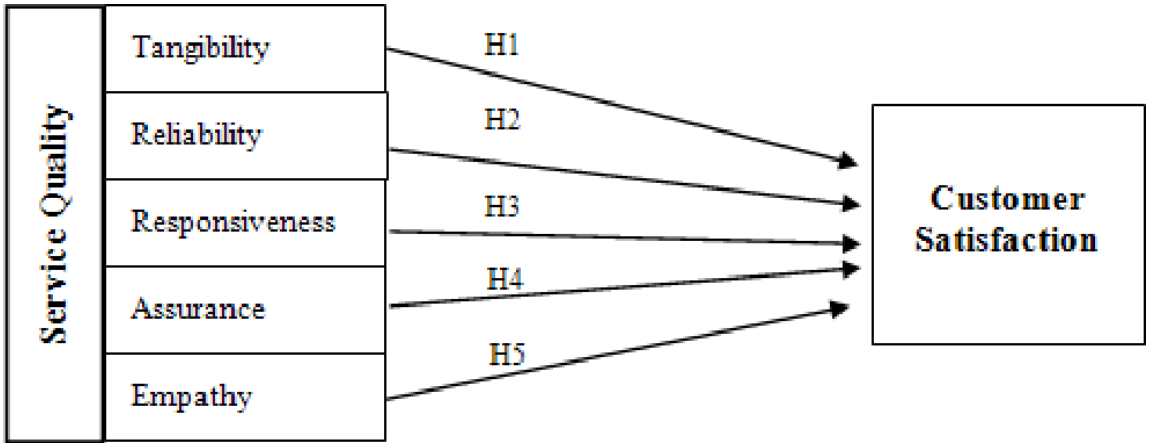

Figure 1: Proposed research model

3. RESEARCH METHODOLOGY

This study employs a quantitative research method to investigate the factors influencing customer satisfaction with internet banking services in Vietnam. Quantitative research is a systematic empirical investigation of observable phenomena via statistical, mathematical, or computational techniques (Given, 2008). This approach is suitable for testing hypotheses, measuring variables, and analyzing relationships between variables (Creswell & Creswell, 2018). Quantitative methods allow for the generalization of findings from a sample to a larger population, making it an appropriate choice for this study, which aims to understand customer satisfaction across a broad range of banking customers in Vietnam (Bhattacherjee, 2012).

The research relies on primary data collected from customers of the 10 largest banks in Vietnam that offer internet banking services. Vietnam's banking sector has experienced significant growth and transformation in recent years, with internet banking becoming increasingly popular among customers (Nguyen & Nguyen, 2020). The 10 largest banks in Vietnam were selected based on their market share, total assets, and the availability of internet banking services (State Bank of Vietnam, 2021). By focusing on the largest banks, this study ensures that the sample is representative of a significant portion of the Vietnamese banking market and that the findings are relevant to the broader context of internet banking in Vietnam (Nguyen et al., 2019). Moreover, these banks have a large customer base and well-established internet banking services, making them suitable for studying customer satisfaction in this domain. A structured questionnaire was developed based on previous literature and distributed to the target population. Questionnaires are a common tool for collecting quantitative data, as they allow for the standardization of questions and responses, making data analysis more efficient and reliable (Fowler, 2014). The use of a structured questionnaire ensures that all respondents are presented with the same questions in the same order, reducing the potential for bias and increasing the comparability of responses (Saunders et al., 2016).

The sample size for this study was determined using the formula proposed by Tabachnick and Fidell (2013), which states that the sample size should be at least 50 + 8m, where m is the number of independent variables. Considering the five independent variables in this study (tangibility, reliability, assurance, responsiveness, and empathy), the minimum sample size required is 90. However, to ensure a more representative sample and to account for potential invalid responses, a larger sample size was targeted. A total of 1,000 questionnaires were distributed to customers of the 10 largest banks in Vietnam offering internet banking services. The banks were selected based on their market share and the availability of internet banking services. The questionnaires were distributed using a combination of online and offline channels, including email, social media, and in-person distribution at bank branches. After data cleaning and the removal of incomplete or invalid responses, a total of 934 valid samples were obtained, which is considered sufficient for the purpose of this study (Hair et al., 2010).

The collected data were analyzed using the Statistical Package for Social Sciences (SPSS) version 27. The following statistical techniques were employed:

Descriptive Statistics: Descriptive statistics, such as mean, standard deviation, and frequency distribution, were used to summarize the demographic characteristics of the respondents and to provide an overview of the data (Zikmund et al., 2013).

Exploratory Factor Analysis (EFA): EFA was conducted to identify the underlying structure of the measured variables and to assess the unidimensionality of the constructs (Hair et al., 2010). The principal component analysis (PCA) with varimax rotation was used to extract the factors.

Cronbach's Alpha: Cronbach's alpha coefficient was calculated to assess the internal consistency and reliability of the measurement scales (Cronbach, 1951). A Cronbach's alpha value of 0.7 or above is considered acceptable (Nunnally, 1978).

Multivariate Regression Analysis: A multiple linear regression analysis using the Ordinary Least Squares (OLS) approach was conducted to examine the relationship between the independent variables (tangibility, reliability, assurance, responsiveness, and empathy) and the dependent variable (customer satisfaction). The OLS method is widely used in social sciences research for estimating the parameters of a linear regression model (Greene, 2008).
The regression equation is as follows:

$$CS = \beta 0 + \beta 1TAN + \beta 2REL + \beta 3ASS + \beta 4RES + \beta 5EMP + \varepsilon$$

Where:
CS = Customer Satisfaction
TAN = Tangibility
REL = Reliability
ASS = Assurance
RES = Responsiveness
EMP = Empathy
β0 = Intercept
β1, β2, β3, β4, β5 = Regression coefficients
ε = Error term
The significance level for all statistical tests was set at 0.05.

4. ESTIMATION RESULTS

4.1. Descriptive statistics

Based on the table above, it can be seen that the Assurance dimension has the highest Mean value at 4.26, which implies that it is highly evaluated by customers among other factors. With the reliable customer support, strong security platform and long-term brand reputation, Vietnamese banks has been able to gain trust from customers.

Table 1: Customers' evaluation on factors of service quality

Variables	Mean	Standard deviation
Tangibility	3.34	0.64
Reliability	3.28	0.67
Assurance	4.26	0.47
Responsiveness	3.50	0.55
Empathy	3.40	0.65

Source: *Created by authors (2024)*

Responsiveness is the second-highest dimension with the Mean value at 3.50. However, it can be seen that the distance between this dimension and Assurance is quite far. Therefore, customers are not totally satisfied with the Responsiveness factor of Vietnamese banks. The reasons behind this result are the unreachable hotline, which is promoted to be available 24/7; unsupportive staff when customers have concerned questions and infrequent introduction of the bank's new products and services. Empathy is the third-highest dimension with the mean at 3.40. It can be seen that customers are not satisfied with the Empathy dimension of Vietnamese banks. In particular, not all employees are able provide customers with the best customer service possible and show empathy with the issues they are confronting. Moreover, the needs of customers are not satisfied all the time. The second-lowest dimension is Tangibility with the Mean value at 3.34. It can be seen that the current infrastructure, equipment, offices and especially its mobile Internet banking application are not able to satisfy customers' requirements. The lowest dimension is Reliability with the Mean value at 3.28, which implies that this is the most disappointed dimension under the perspective of most customers. Regardless of its long history within this field, Vietnamese banks has failed to prove its reliability with customers. In particular, customers are not satisfied with the support of staff, transactions' speed and accuracy as well as infrequent updates that they get from the bank's employees.

4.2. Assessment of measurement scales

For the Cronbach's Alpha reliability analysis, the main purpose of this test is defined as a tool in order to help the author check the quality of the observed variables in the same factor by analyzing through the correlation indexes between the observed variables. More specifically, the Cronbach's Alpha index will be the most obvious indicator that the observed variables can show similar characteristics when in the same factor. Cronbach gives the reliability coefficient for the scale. Note, Cronbach's Alpha coefficient

only measures the reliability of the scale (including 3 or more observed variables) but it does not calculate the reliability for each observed variable (Hoang and Nguyen, 2008). "If a measurement variable has a correlation coefficient of the total Corrected Item – Total Correlation variable ≥ 0.3, then that variable meets the requirements" (Nunnally, 1978). Cronbach's Alpha coefficient value level are demonstrated below (Hoang and Nguyen, 2008):

From 0.8 to 1: the scale is very good.

From 0.7 to 0.8: a good scale.

From 0.6 to 0.7: qualifying scale.

Table 2: The Cronbach's Alpha result

Observable variables	Corrected Item-Total Correlation	Cronbach's alpha
Tangibility		
TAN1	0.654	0.756
TAN2	0.711	
TAN3	0.616	
TAN4	0.744	
TAN5	0.675	
Assurance		
AS1	0.533	0.754
AS2	0.644	
AS3	0.587	
AS4	0.689	
AS5	0.455	
Reliability		
REL1	0.791	0.798
REL2	0.786	
REL3	0.733	
REL4	0.689	
REL5	0.751	
Responsiveness		
RES1	0.741	0.815
RES2	0.768	
RES3	0.659	
Empathy		
EMP1	0.493	0.730
EMP2	0.648	
EMP3	0.751	
Customer satisfaction		
CS1	0.676	0.812
CS2	0.688	
CS3	0.623	

Source: *Created by authors (2024)*

As can be seen from the above table, the Cronbach's Alpha coefficient of Tangibility factor is 0.756 > 0,6 and the corrected item – total correlation of all items (TA1,TA2,TA3,T4,TA5) is greater than 0,3. The lowest Cronbach Alpha's value is TAN1 with 0.654. Overall, it can be concluded that this scale has meet requirements of reliability test in SPSS. The Cronbach's Alpha coefficient of Assurance factor is 0.754 > 0.6 and the corrected item – total correlation of all items (AS1,AS2,AS3,AS4,AS5) is greater than 0.3. The lowest Cronbach Alpha's value is AS5 with 0.455. Overall, it can be concluded that this scale has meet requirements of reliability test in SPSS. The Cronbach's Alpha coefficient of Responsiveness factor is 0.730 > 0.6 and the corrected item – total correlation of all items (RES1,RES2,RES3) is greater than 0.3. The lowest Cronbach Alpha's value is RES4 with 0.659. Overall, it can be concluded that this scale has meet requirements of reliability test in SPSS. The Cronbach's Alpha coefficient of Tangibility factor

is 0.730 > 0,6 and the corrected item – total correlation of all items (EMP1,EMP2,EMP3) is greater than 0.3. The lowest Cronbach Alpha's value is EMP1 with 0.493. Overall, it can be concluded that this scale has meet requirements of reliability test in SPSS. The Cronbach's Alpha coefficient of Customer satisfaction is 0.812 > 0,6 and the corrected item – total correlation of all items (CS1,CS2) is greater than 0.3. Overall, it can be concluded that this scale has meet requirements of reliability test in SPSS.

Exploratory factor analysis (EFA) is defined as an analysis in order to test the correlation among all observed variables in the scale. The main difference between Cronbach's Alpha analysis and exploratory factor analysis is that it tests the correlation between observed variables in the same group and among the groups/factors. In addition, the EFA analysis also helps the author to detect the observed variables that are duplicated in many different factors due to being mistakenly assigned to the factors from the first steps of creating questionnaire. The KMO coefficient (Kaiser-Meyer-Olkin) value from 0.5 to 1 is satisfactory. Bartlett's test (Bartlett's test of sphericity) has the purpose of testing the degree of correlation between all observed variables thanks to the p-value coefficient. If the p-value system (sig) is less than 0.05, it shows that the results are statistically significant. The new Eigenvalue ≥ 1 is a criteria that meets requirements. Total Variance Explained 50% is satisfactory. Factor Loading will usually be satisfactory when it is greater than 0.5, and for some studies, the minimum level will be chosen as 0.3. In the results of this study, the author decided to choose a load factor greater than 0.5.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.758
	Sig.	.000

Source: *Created by authors (2024)*

As can be seen from the above table, the KMO value is 0.758 > 0,5 and Sig. = 0.000 < 0.05. This proved that the data of this model is satisfactory about exploratory analysis.

Besides, the two criteria on the Eigenvalues index and the total extracted variance are satisfactory when the total extracted variance reaches 63.211% > 50% and the Eigenvalues index values both reach from 1.007 > 1. Therefore, in the EFA exploratory factor analysis, these two criteria meet the requirements.

Table 4: Rotated Component Matrix[a]

	Component				
	1	**2**	**3**	**4**	**5**
TAN1	.810				
TAN2	.826				
TAN3	.689				
TAN4	.659				
TAN5	.749				
AS1		.869			
AS2		.830			
AS3		.668			
AS4		.766			
AS5		.711			
REL1			.891		
REL2			.887		
REL3			.623		
REL4			.748		
REL5			.755		
RES1				.818	
RES2				.804	
RES3				.578	
EMP1					.771
EMP2					.719
EMP3					.697
Extraction Method: Principal Component Analysis. *Rotation Method: Varimax with Kaiser Normalization.*					
a. Rotation converged in 5 iterations.					

Source: *Created by authors (2024)*

Customer satisfaction scale included 21 observed variables, as can be seen from the above table, all observed variables are divide into 5 groups. The variables included in the initial questionnaire by the author are significant when the observed variables in the each factor had the same loading coefficient in the same column. This proves that after running the exploratory factor analysis, the results are satisfactory for the next steps.

The author used multiple linear regression analysis to process the data. The main purpose of this method is to predict a dependent variable based on the value of one or more independent variables. A linear regression model with only one independent variable is called a simple linear regression. However, most phenomena in reality are multi-factorial in basic which means that more than one factor affects or causes changes in the dependent variable. To predict the dependent variable as accurately as possible, it is often necessary to include many independent variables in the model. Multiple linear regression allows testing the predictive strength of a dependent variable on the basis of many independent variables. Based on the survey results, the author conducted linear regression analysis of the factors "Tangibility" (TAN), "Assurance" (AS), "Reliability" (REL), "Responsiveness" (RES), and "Empathy" (EMP) contribute to the customer satisfaction of internet banking service of Vietnamese banks.

Table 5: Adjusted R square

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	.486	**.459**	.5570

Source: *Created by authors (2024)*

The adjusted R-squared is a modified version of the R-squared (coefficient of determination) that accounts for the number of independent variables in a regression model. While R-squared measures the proportion of variance in the dependent variable explained by the independent variables, adjusted R-squared adjusts this value based on the number of predictors in the model (Miles, 2014). In the given table, the adjusted R-squared value is 0.459 or 45.9%. This means that 45.9% of the variance in the dependent variable (Customer Satisfaction) can be explained by the independent variables (Tangibility, Assurance, Reliability, Responsiveness, and Empathy) after accounting for the number of predictors in the model. The adjusted R-squared is particularly useful when comparing models with different numbers of independent variables. As the number of predictors increases, the R-squared value tends to increase as well, even if the additional variables do not significantly improve the model's explanatory power. The adjusted R-squared, on the other hand, penalizes the addition of irrelevant variables and only increases when the added predictors enhance the model's fit (Frost, 2020).

In this case, an adjusted R-squared of 0.459 suggests that the model, which includes the five service quality dimensions as independent variables, has a moderate explanatory power. It indicates that the chosen predictors account for a substantial portion of the variation in customer satisfaction, even after considering the model's complexity.

Table 6: Linear regression results

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**Sig.**
		B	**Std. Error**	**Beta**	
1	(Constant)	.389	.285		.187
	Tangibility	.135	.045	.135	.000
	Reliability	.247	.049	.247	.041
	Assurance	.210	.052	.210	.000
	Responsiveness	.213	.051	.213	.000
	Empathy	.142	.049	.142	.002

Source: *Created by authors (2024)*

Standardized coefficients, also known as beta coefficients, are used in regression analysis to compare the relative importance of each independent variable in predicting the dependent variable. Unlike unstandardized coefficients, which are measured in their original units, standardized coefficients are measured in standard deviation units, allowing for a direct comparison of the predictors' effects on the dependent variable (Schroeder et al., 2016). The standardized coefficients indicate the change in the dependent variable (Customer Satisfaction) in standard deviation units for a one standard deviation change in the corresponding independent variable, holding all other predictors constant (Frost, 2021).

Among the five predictors, Responsiveness has the highest standardized coefficient (0.213), indicating that it has the strongest relative impact on Customer Satisfaction. A one standard deviation increase in Responsiveness is associated with a 0.213 standard deviation increase in Customer Satisfaction, assuming all other predictors remain constant. Reliability has the second-highest standardized coefficient (0.247), followed by Assurance (0.210), Empathy (0.142), and Tangibility (0.135). These values suggest that Reliability, Assurance, and Empathy have a moderate relative impact on Customer Satisfaction, while Tangibility has the least relative influence among the predictors. It is important to note that the standardized coefficients are only meaningful when the independent variables are measured on different scales or have different variances (Schroeder et al., 2016). In this case, the standardized coefficients allow for a fair comparison of the service quality dimensions' relative importance in predicting customer satisfaction. Furthermore, the significance levels (Sig.) of the standardized coefficients provide information about the statistical significance of each predictor's contribution to the model. In the given table, Tangibility has a Sig. value of 0.000, Reliability has a Sig. value of 0.041, Assurance and Responsiveness have Sig. values of 0.000, and Empathy has a Sig. value of 0.002. These values indicate that all five predictors are statistically significant at the 0.05 level, suggesting that they have a significant impact on Customer Satisfaction.

The standardized coefficients in the given table reveal the relative importance of each service quality dimension in predicting customer satisfaction. Responsiveness, Reliability, and Assurance have the strongest relative impact, while Empathy and Tangibility have a moderate and the least relative influence, respectively. All predictors are statistically significant, confirming their contribution to the model. The result of regression equation is expressed as below.

CS = 0.135TAN + 0.247REL + 0.210AS + 0.213RES + 0.142EMP

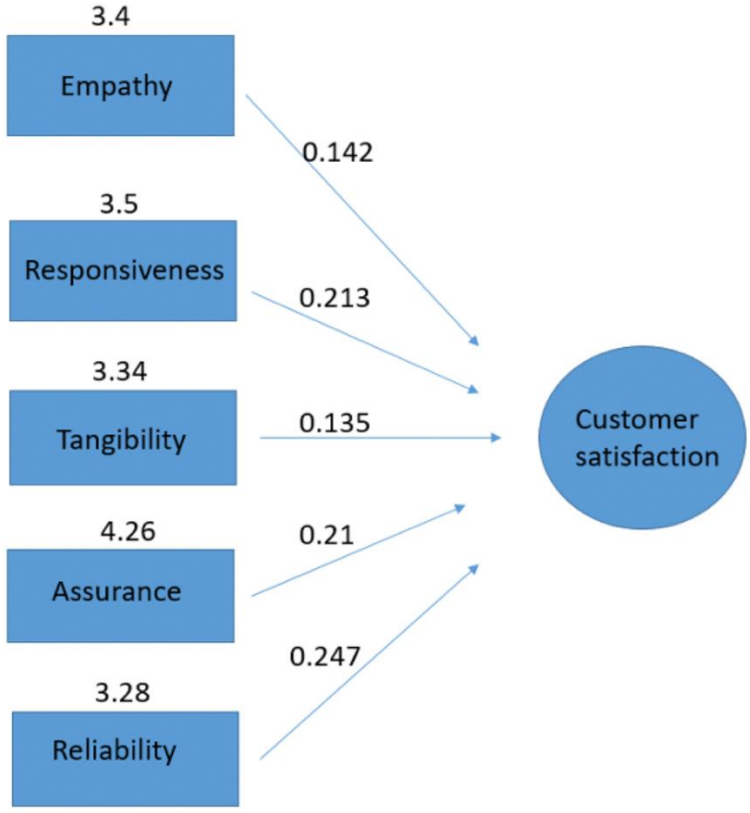

Figure 2: Summary of estimation results

5. CONCLUSION

The regression results presented in this study provide valuable insights into the relationships between service quality dimensions and customer satisfaction in the context of internet banking services in Vietnam. The findings suggest that all five service quality dimensions (Tangibility, Reliability, Assurance, Responsiveness, and Empathy) have a significant positive impact on customer satisfaction, with Responsiveness, Reliability, and Assurance having the strongest relative influence. These results are largely consistent with the existing literature on service quality and customer satisfaction in the banking sector. Numerous studies have found that service quality dimensions are significant predictors of customer satisfaction (Kant & Jaiswal, 2017; Yilmaz et al., 2018). In particular, the strong impact of Responsiveness on customer satisfaction aligns with the findings of Pakurár et al. (2019), who identified Responsiveness as a key determinant of customer satisfaction in the banking industry.

Similarly, the significant influence of Reliability and Assurance on customer satisfaction is supported by the works of Hamzah et al. (2017) and Özkan et al. (2019), respectively. These studies highlight the importance of providing reliable services and instilling trust and confidence in customers to enhance their satisfaction with banking services. However, some discrepancies between the present study and previous literature are worth noting. For example, while Tangibility had the least relative impact on customer satisfaction in this study, some researchers have found it to be a significant predictor of customer satisfaction (Amin, 2016; Phan & Nham, 2015). This inconsistency may be attributed to differences in the study context, sample characteristics, or the specific aspects of Tangibility measured in each study. Moreover, the moderate impact of Empathy on customer satisfaction in this study is in line with some previous findings (Al-Azzam, 2015; Lau et al., 2013) but contradicts others that have identified Empathy as a key driver of customer satisfaction (Kaura et al., 2015; Yavuz & Iş, 2018). These mixed results suggest that the role of Empathy in shaping customer satisfaction may vary depending on the cultural, social, and economic contexts of the study.

In conclusion, this study contributes to the growing body of literature on service quality and customer satisfaction in the banking sector by providing empirical evidence from the Vietnamese internet banking context. The findings largely support the existing knowledge on the positive relationships between service quality dimensions and customer satisfaction while also highlighting some discrepancies that warrant further investigation. As the banking industry continues to evolve and adapt to changing customer needs and expectations, understanding the relative importance of service quality dimensions in driving customer satisfaction remains crucial for banks to maintain a competitive edge and foster long-term customer loyalty.

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