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ĐÁNH GIÁ SỰ HÀI LÒNG KHÁCH HÀNG VỚI DỊCH VỤ NGÂN HÀNG SỐ VCB DIGIBANK

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Tóm tắt

Nghiên cứu này áp dụng mô hình E-SERVQUAL để kiểm tra mức độ hài lòng của khách hàng đối với các dịch vụ ngân hàng số VCB Digibank. Dựa trên dữ liệu thu thập từ 204 khách hàng sử dụng VCB Digibank, kết quả cho thấy Hiệu quả (EF), Tin cậy (RE), Khả năng đáp ứng (RES), Đảm bảo (AS), Đồng cảm (EM) và Giá cả (PR) ảnh hưởng đáng kể và tích cực đến sự hài lòng của khách hàng đối với các dịch vụ của VCB Digibank, trong đó Đồng cảm có ảnh hưởng mạnh mẽ nhất. Tác giả cũng đưa ra các có giá trị cho Vietcombank trong việc thúc đẩy các dịch vụ ngân hàng số, hướng tới mục tiêu cuối cùng là thúc đẩy sự chấp nhận của khách hàng, cải thiện sự hài lòng của khách hàng và nâng cao lòng trung thành của khách hàng khi sử dụng dịch vụ ngân hàng số trong tương lai.

Keywords: Ngân hàng số, Sự hài lòng khách hàng, Mô hình E-Servqual, VCB Digibank

AN ASSESSMENT OF CUSTOMER SATISFACTION WITH VCB DIGIBANK SERVICES

Abstract

This study applies the E-SERVQUAL model to examine customer satisfaction with VCB Digibank services. Based on data collected from 204 customers using VCB Digibank, the results demonstrated that Efficiency (EF), Reliability (RE), Responsiveness (RES), Assurance (AS), Empathy (EM), and Price (PR) significantly and positively influence customer satisfaction with VCB Digibank services, in which Empathy presents the strongest influence. The author also proposes valuable recommendations for Vietcombank in promoting their digital banking services towards the ultimate goals of motivating acceptance of customers, improving customer satisfaction, and enhancing the customers' loyalty of using digital banking services in the future.

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Keywords: Digital banking, Customer Satisfaction, E-Servqual model, VCB Digibank.

1. Introduction

Under the rapid growth of information technology, digital banking is considered an inevitable development trend of commercial banks in the modern world economy. The benefits and potentials of digital banking are enormous for customers, banks, and the economy as a whole.

In Vietnam, digital banking is also being actively promoted. The program “National digital transformation to 2025, with orientation to 2030” of the Government has clearly stated that finance and banking is one of the fields with great social impact; and hence, should be prioritized to digitize first. In reality, the issue of developing digital banking services at commercial banks is still tough and demanding. A big requirement for banks in Vietnam nowadays is to develop and improve the quality of digital banking services to meet customer needs and enhance their satisfaction. In order to achieve that, it is urgent for banks to determine the factors affecting customer satisfaction with digital banking services. From there, banks can develop the right strategies to keep customers feel satisfied with the services provided, having them introduce the services to other potential customers through word of mouth, thereby improving the bank's position, market share, and profit.

Vietcombank is one of leading commercial banks in Vietnam that has achieved much success with its e-banking services. Being the most prestigious commercial bank in 2020 according to the Vietnam Report, Vietcombank has always fulfilled its mission as a pioneer in applying digital technology. In 2020, Vietcombank launched a digital bank application, VCB Digibank, integrating the former VCB internet banking and VCB mobile banking. It attains many outstanding features, allowing customers to perform financial, non-financial transactions and advanced utilities. After a few months into operation, VCB Digibank soon became one of the leading digital banking services in Vietnam and was honored at the 2021 Sao Khue Award. According to YouNet Media, although VCB Digibank was launched later than some other digital banking services, as of December 2020, it has a market share of up to 14.7%.

From Vietcombank perspective, studying the factors that affect customer satisfaction is of great importance to enhance customer experience and influence customers' willingness to continue using VCB Digibank service provided by the bank. With the above reasons, a comprehensive research model is necessarily required to identify factors that influence customer satisfaction with VCB Digibank services. Based on empirical findings, some recommendations are expected to be proposed to enhance the customer satisfaction with VCB Digibank services.

2. Theoretical basis and literature review

2.1. Digital banking services

According to Sharma (2016), digital banking is the banking model that applies advanced technology platforms to perform all functions and services of banks. Trivedi (2019) added that digital banking gives customers the comfort of being able to access and perform all banking activities 24/7 without having to go directly to the bank branch as digital banking services can be done through computers, laptop, tablet or mobile phone.

Digital banking has a broader and more comprehensive scope compared to e-banking. E-banking is a channel supporting other traditional services, where customers can make some simple

transactions such as mobile banking, internet banking; whereas digital banking refers to the bank's digital integration across all banking operations, application of digitization in the system of the bank including structure, banking process and activities.

2.2. Customer satisfaction with banking services

Kotler *et al.* (2009) defined satisfaction as the feeling of pleasure or disappointment resulting from the comparison between the perceived performance of a product with people's expectations.

Research by Rust *et al.* (1995), Zeithaml *et al.* (1996), Lai and Cheng (2005), and many other researchers all found that there is a positive and significant relationship between service quality and business performance, in which service quality is a premise that plays a decisive role in customer satisfaction. If a service provider offers products whose quality meets the needs of the customers, they have completed the first step of making customers satisfied. Therefore, service quality is an important tool to measure the satisfaction of customers. Many widely used model also consider service quality as a measurement of customer satisfaction.

2.3. Literature review

The SERVQUAL model developed by Parasuraman (1988) and SERVPERF model developed by Cronin & Taylor (1992) are the two most used techniques in analyzing perceived customer satisfaction on quality aspects of banking services, most of the prominent studies apply these two models and their variations. Siddiqi (2011) applied the SERVQUAL model framework and showed that service quality is positively correlated with customer satisfaction; in which, understanding is the factor that has the highest positive correlation with customer satisfaction, followed by assurance and tangible. The SERVPERF scale used by Shanka (2012) was proved to be convenient and effective to measure retail banking service quality. The relationship between service quality and customer satisfaction was examined and service quality was found to have a positive influence on customer satisfaction. In specific, two factors having the strongest influence on customer satisfaction are understanding and responsiveness, followed by tangibles, assurance and reliability which having the least impact.

Parasuraman *et al.* (2005) developed the e-SERVQUAL model to analyze factors influencing customer satisfaction with electronic banking services. Ho and Lin (2010) developed an online banking service quality scale by taking a sample of 500 e-banking users in Taiwan and identifying the five components in the scale including effectiveness, responsiveness, privacy, secure communication, compensation, interface, and customization. Francisco *et al.* (2013) did a research on the field of satisfaction from the perspective of electronic banking users and found that accessibility, trust, ease of use, usefulness led to the customer satisfaction and showed a clear positive relation with customer satisfaction. Service quality, confidence, compliance, digitalization, tangibles, and human skills were the five characteristics of service quality (Zouari and Abdelhedi, 2021). Except for tangibles, the results showed a positive and significant association between the key characteristics of customer service quality and customer satisfaction. Osman (2016) showed that service quality is the most significant factor that makes customers satisfied. Raza *et al.* (2020) applied the modified e-SERVQUAL model to investigate the structural relationship between Internet banking service quality, electronic customer happiness, and

electronic customer loyalty. According to the findings, all dimensions had a positive and significant influence on customer satisfaction.

For the case of Vietnam, Tran (2015) investigated the factors affecting customer satisfaction with banking services at Asia Commercial Bank, Ho Chi Minh branch and found that reliability, responsiveness, service quality, empathy, and tangibles are contributing to the satisfaction of customers, in which responsiveness has the strongest influence. Research by Nguyen (2018) showed that the products in Timo are developing in a positive direction with a high level of customer satisfaction and only a few problems such as security, deposit interest rate, crashes, and transaction time. Do (2019) examined customer satisfaction with internet banking services at Vietcombank – Can Tho Branch and concluded that the influencing factors are tangible, responsiveness, reliability, and service capacity. Thereby, some solutions were proposed to enhance customer satisfaction at Vietcombank – Can Tho Branch.

Vo (2019) used primary data collected from surveys and secondary data on newspapers and previous studies. The author found out the factors affecting the satisfaction of individual customers with e-banking services of commercial banks in Ho Chi Minh City the most are service capabilities and reliability. The study also came up with some recommendations for commercial banks to have policies and appropriate actions to develop services to meet customer satisfaction.

Recently, Nguyen (2020) applied e-SERVQUAL model in studying the influential factors on e-banking service quality satisfaction at Tien Phong Bank concluded that there were six factors affecting customer satisfaction in using banking services including reliability of e-banking services, ability to meet e-banking services, electronic equipment, e-banking service capacity, e-banking customer empathy, prices, e-service costs of banking, with reliability having the strongest influence on customer satisfaction with e-banking service of Tien Phong bank.

A majority of international and domestic studies on factors affecting customer satisfaction with banking services use the SERVQUAL and SERVPERF models to evaluate service quality, which are not sufficient to measure e-service quality due to the lack of some characteristics relating to electronic services. Moreover, most studies on customer satisfaction with the banking sector in Vietnam has been conducted with e-banking services. Hence, the number of studies on customer satisfaction with digital banking have been limited.

3. Overview of VCB Digibank services

3.1. Overview of Vietcombank and VCB Digibank services

Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank), formerly known as Bank for Foreign Trade of Vietnam, was established on 01/04/1963 from the Foreign Exchange Bureau (of the State Bank of Vietnam), being the first state commercial bank chosen for pilot privatization by the Government.

Vietcombank has many advantages of applying advanced technology into the automatic banking system, product development, and digital banking services based on its high technology foundation, modern banking technology and infrastructure, as well as the successful transformation of the core banking system in early 2020. The digital transaction platforms with a variety of digital banking services, such as VCB Digibank has attracted a large number of

customers due to their convenience, promptness, safety, and efficiency, thereby helping to create the habit of non-cash payments among the general public.

3.2. Current situation of using VCB Digibank services

According to the World Bank (2019), the volume of non-cash transactions in Vietnam is currently the lowest in the region (at 4.9%), while this rate in China is 26.1%, and 59.7% in Thailand, up to 89% in Malaysia, etc. These numbers revealed the great potential for developing digital banking services in Vietnam.

The COVID-19 epidemic has had a negative impact on all aspects of the economy, but it has been the driving force behind the dynamic implementation of transactions on digital banking platforms. According to the representative of National Payment Corporation of Vietnam (NAPAS), e-payment in the first quarter of 2020 increased by 76%, the total transaction value increased by 124% over the same period in 2019. Vietnam currently has a growth rate of 200% in Mobile Banking and about 30 million people use the banking payment system every day.

Along with other commercial banks, Vietcombank has made a timely transformation when putting into use VCB Digibank with a promotion campaign to users. According to VCB News, by the end of 2019, the total number of customers activating Internet Banking/Mobile Banking of Vietcombank reached nearly 6 million accounts. Within the first week of launching the new VCB Digibank services, VCB recorded a positive response with over 60% of existing customers converting to VCB Digibank. After 10 months in operation, almost all existing customers have converted from VCB e-banking to VCB Digibank. Along with that, the number of customers coming to Vietcombank's transaction points to register and experience new services also doubled.

4. Research methodology

4.1. Data Collection

The data in this research is gathered from questionnaires. The questionnaire is designed with two parts including demographic questions and constructs questions in the form of Likert scale. Demographic questions include gender, age, income, occupation, and education of the respondents. These questions are for the purpose of obtaining an overview of the sample. There are 32 constructs questions belonging to eight components: efficiency (EF), reliability (RE), responsiveness (RES), assurance (AS), interface (IN), empathy (EM), price (PR), and customer satisfaction (SA). The questions are based on Likert five-point scales ranging from 1 to 5 (In which: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree).

A total of 230 questionnaires were distributed, of which 204 were returned, giving a response rate of 89%. The SPSS Statistics version 20.0 is utilised for analysing the data.

4.2. Research Model

The SERVQUAL model was developed by Parasuraman *et al.* (1988), originally built from 10 dimensions of the service quality and then generalized to only 5 dimensions measuring service quality gap, including Reliability, Responsiveness, Tangibles, Assurance, Empathy.

The E-SERVQUAL model was developed from the SERVQUAL model by Parasuraman *et al.* (2005) to assess the quality of electronic services. The initial scales that are used to assess e-service quality include 22-item scale and are called E-S-QUAL. However, this approach

encounters a lot of debate over the scale's complexity and details, which makes it difficult for applying in specific circumstances. After extensive research, Zeithaml *et al.* (2002) developed a 7-dimensional scale including: Efficiency, Fulfillment, Reliability, Privacy, Responsiveness, Compensation, and Contact.



Figure 4.1. The proposed research model

Source: Proposed by the authors

The measurements for the selected variables are described in Table 4.1.

4.3. Research hypotheses

Based on the previous studies and the context of Vietnamese digital banking system, this thesis proposed the following hypotheses:

H₁. Efficiency positively and significantly influences customer satisfaction with VCB Digibank services.

H₂. Reliability positively and significantly influences customer satisfaction with VCB Digibank services.

H₃. Responsiveness positively and significantly influences customer satisfaction with VCB Digibank services.

H₄. Assurance positively and significantly influences customer satisfaction with VCB Digibank services.

H₅. Empathy positively and significantly influences customer satisfaction with VCB Digibank services.

H₆. Interface positively and significantly influences customer satisfaction with VCB Digibank services.

H₇. Price positively and significantly influences customer satisfaction with VCB Digibank services.

Table 4.1. Variables of the model and their indicators

Variables	Symbol	Indicators
Efficiency (EF)	EF1	I think that the app and website of VCB Digibank handle a transaction quickly
	EF2	I can find what I need easily on the app and website of VCB Digibank
	EF3	I find the app and website of VCB Digibank simple to use
	EF4	I can easily log in the app and website of VCB Digibank anywhere
	EF5	I think the app and website of VCB Digibank has a fast speed of loading
Reliability (RE)	RE1	I find the information provided by VCB Digibank services to be accurate and reliable
	RE2	I find VCB Digibank delivers all the services as promised
	RE3	I believe that my personal information will be secured when using VCB Digibank services
	RE4	I believe the procedure of settling transactions of VCB Digibank services is safe
	RE5	I feel that technical problems rarely happen with the system of VCB Digibank services
Responsiveness (RES)	RES1	I think VCB Digibank provide services that satisfy my needs
	RES2	I believe customer support center of VCB Digibank services are ready to help me at any time
	RES3	I believe customer support center of VCB Digibank services supports me with great enthusiasm
	RES4	I believe customer support center of VCB Digibank are ready to answer all my questions
Assurance (AS)	AS1	I feel that VCB Digibank services have good reputation and image
	AS2	I feel assured when making transactions with VCB Digibank services
	AS3	I feel that VCB Digibank services's staff have good knowledge and expertise
Empathy (EM)	EM1	I feel that VCB Digibank provide services according to my needs and habits
	EM2	I see that VCB Digibank provide specific, easy-to-understand instruction to use the services

Variables	Symbol	Indicators
	EM3	I feel that VCB Digibank services's counselor give advice for my greatest benefit
	EM4	I feel being cared about when using VCB Digibank services
Price (PR)	PR1	I find that the fees and rates of VCB Digibank is competitive
	PR2	I find that the fees and rates to register, maintain and use the services of VCB Digibank is stable
	PR3	I think that the fees and rates to register, maintain and use the services of VCB Digibank is reasonable for its service
	PR4	I notice that VCB Digibank has attractive discount promotions and special offers
Interface (IN)	IN1	VCB Digibank's website / application can be customized according to my preferences
	IN2	I think that the VCB Digibank's website / application has eye-catching and inspiring design
	IN3	I think that the VCB Digibank's website / application has good structure
	IN4	I think that the VCB Digibank's website / application has clear images
Customer satisfaction (SA)	SA1	I am satisfied with VCB Digibank services
	SA2	I think I made an accurate decision to use VCB Digibank services
	SA3	I will introduce VCB Digibank services to other people

Source: Proposed by the authors

5. Research results and analysis

5.1. Demographic Analysis

Table 5.1. Demographic analysis

	Category	Frequency	Percentage
Gender	Male	96	47.10%
	Female	108	52.90%
Age Group	From 18 to 24	115	56.40%
	From 24 to 34	54	26.50%
	From 35 to 44	26	12.70%
	From 45 to 54	5	2.50%
	More than 55	4	2%
Education	High school	7	3.40%
	Bachelor's Degree	160	78.40%
	Master's Degree	32	15.70%
	PHD's Degree	5	2.50%
Income	Less than 5 million VND	94	46.10%
	From 5 to 10 million VND	62	30.40%
	From 10 to 20 million VND	32	15.70%
	From 20 to 40 million VND	11	5.40%
	More than 40 million VND	5	2.50%
Time use	Less than a month	28	28
	From 1 to 4 months	39	39
	From 4 to 7 months	46	46
	More than 7 months	91	91

Source: Results of demographic analysis from SPSS 20

Table 5.1 shows that the gender respondents are distributed quite equally, with the number of female respondents slightly greater (53%), leaving the remaining 47% being male respondents. In terms of age, most respondents fall within the range of 18 to 24 years old, accounting for 56% (115 respondents). Among 204 respondents, 78% have a bachelor's degree and 16% have a master's degree. Only 5 in 205 respondents have received PHD's Degree (2.5%); 3.4% of the respondents has finished high school.

VCB Digibank was launched on 16 July 2020, which has been about 11 months up to the time of the thesis. The time was divided into 4 categories with "More than 7 months" being the longest time use. Over two-fifths of the respondents have been using VCB Digibank services for more than 7 months (44.6%), indicating that they have used the service from the time of launching. 15.7% respondents have just started using the service for less than a month. Furthermore, the

demographic results indicated that the selected sample skewed toward a young and highly educated generation with income ranging mostly from less than 5 million VND to 10.

5.2. Cronbach's alpha

Table 5.2. Cronbach's Alpha analysis results

Observable variables	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Efficiency (Cronbach's Alpha =0.870)		
EF1	0.653	0.852
EF2	0.694	0.842
EF3	0.726	0.835
EF4	0.676	0.847
EF5	0.726	0.834
Reliability (Cronbach's Alpha =0.778)		
RE1	0.465	0.763
RE2	0.66	0.7
RE3	0.65	0.707
RE4	0.706	0.686
RE5	0.359	0.819
Responsiveness (Cronbach's Alpha =0.830)		
RES1	0.525	0.839
RES2	0.74	0.746
RES3	0.638	0.796
RES4	0.738	0.748
Assurance (Cronbach's Alpha =0.701)		
AS1	0.542	0.578
AS2	0.608	0.519
AS3	0.43	0.739
Empathy (Cronbach's Alpha =0.869)		
EM1	0.717	0.835
EM2	0.754	0.82
EM3	0.737	0.827
EM4	0.679	0.85

Observable variables	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Price (Cronbach's Alpha =0.737)		
PR1	0.592	0.649
PR2	0.532	0.677
PR3	0.548	0.669
PR4	0.497	0.722
Interface (Cronbach's Alpha =0.824)		
IN1	0.568	0.814
IN2	0.674	0.768
IN3	0.618	0.792
IN4	0.751	0.737
Customer Satisfaction (Cronbach's Alpha =0.784)		
SA1	0.626	0.71
SA2	0.684	0.641
SA3	0.574	0.773

Source: Results of Cronbach's Alpha Tests from SPSS 20

The results as shown in Table 5.2 show that scales for Efficiency, Reliability, Responsiveness, Assurance, Empathy, Price, Interface, and Customer Satisfaction all have Cronbach's Alpha greater than 0.7, and Corrected Item-Total Correlation of each observable variables are greater than 0.3. The value of Cronbach's Alpha if Item Deleted of RE5 and AS3 are greater than the scale's Cronbach's Alpha; however, these observable variables are quite important and meaningful in terms of research, the author does not remove these variables. Thus, all the observable variables are kept for subsequent analysis.

5.3. Exploratory factor analysis

According to the results, $KMO = 0.837 > 0.5$, this means that the data analysis is consistent with the research data. Bartlett's test has the level of significance $Sig. = 0.000 < 0.05$, so factor analysis to group variables together is appropriate.

The results of factor analysis extracted at eigenvalue is $1.233 > 1.00$ and the total variance extracted to explain the factor is $66.53\% > 50.00\%$, which is satisfactory. It can be said that these factors can explain 66.53% of the variation of the data.

Table 5.3. Rotated Component Matrix

Independent variables		Component						
		1	2	3	4	5	6	7
Efficiency	EF1	0.8						
	EF3	0.8						
	EF5	0.78						
	EF4	0.74						
	EF2	0.72						
Empathy	EM2		0.84					
	EM3		0.81					
	EM1		0.75					
	EM4		0.71					
Reliability	RE4			0.83				
	RE2			0.78				
	RE3			0.76				
	RE1			0.58				
	RE5			0.57				
Interface	IN4				0.84			
	IN2				0.81			
	IN3				0.78			
	IN1				0.76			
Price	PR1					0.79		
	PR2					0.76		
	PR3					0.73		
	PR4					0.7		
Responsiveness	RES4						0.79	
	RES2						0.75	
	RES3						0.75	
Assurance	AS2							0.83
	AS1							0.79
	AS3							0.68

Source: Results of Rotated Component Matrix from SPSS 20

5.4. Result of Regression model

Table 5.4. Pearson's Correlation Coefficient

Variables	EF	RE	RES	AS	EM	IN	PR	SA
EF	1							
RE	0.351**	1						
RES	0.456**	0.339**	1					
AS	0.309**	0.205**	0.269**	1				
EM	0.393**	0.326**	0.532**	0.162*	1			
IN	-0.085	-0.072	-0.205**	0.175*	-0.052	1		
PR	0.180*	0.287**	0.159*	0.08	0.141*	-0.052**	1	
SA	0.515**	0.609**	0.564**	0.302**	0.645**	-0.209**	0.369**	1

Note: *, ** denote for significance levels at 5% and 1% respectively

Source: Results of Pearson's Correlation Matrix from SPSS 20

We can see that the correlation coefficient between the dependent variable and the independent variable is mostly high, with Sig = 0.000. Thus, there is a linear relationship between the dependent variable and the independent variables. The correlation coefficient between the independent variables is not greater than 0.9, so the correlation analysis is satisfactory and suitable for regression analysis.

Regression analysis

Regression analysis was conducted with the dependent variable being customer satisfaction and 7 independent variables which are: efficiency, reliability, responsiveness, assurance, empathy, price, and interface.

Table 5.5. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.823	0.678	0.666	0.39852	2.018

Source: Synthesized from SPSS 20

R-Square is 0.678 and the adjusted R-Square is 0.666, meaning that the relevance of the model is 66.6%. In other words, this model can explain 66.6% of the variation of the customer satisfaction affected by the studied factors, the remaining 33.4% variation are explained by other variables outside the model that have not been mentioned in the scope of this study. In addition, the Durbin is 2.018, lying in the range from 1 to 3, indicating there is no autocorrelation, which means that the model does not violate the hypothesis of error of independence.

Regression coefficient

Table 5.6. Regression coefficient

Model	Unstandardized Coefficients		Standardize d Coefficients	t	Sig.	Collinearity Statistics	
	B	Std.Error	Beta			Tolerance	VIF
(Constant	-0.377	0.336		-1.123	0.263		
EF	0.135	0.05	0.131	2.704	0.007**	0.697	1.435
RE	0.314	0.44	0.328	7.101	0.000**	0.772	1.295
RES	0.122	0.044	0.143	2.765	0.006**	0.615	1.627
AS	0.118	0.058	0.091	2.033	0.043*	0.823	1.215
EM	0.292	0.042	0.36	7.035	0.000**	0.627	1.595
IN	-0.038	0.045	-0.038	-0.848	0.398	0.837	1.195
PR	0.167	0.042	0.169	3.963	0.000**	0.909	1.1

Note: *,** denote for significance levels at 5% and 1% respectively

Source: Regression results from SPSS 20

From the results of Table 4.15, we see that apart from Interface, six other variables all have Sig. <0.05; therefore, these variables are considered to have a significant influence on customer satisfaction.

In conclusion, there are 6 factors that significantly affect customer satisfaction, these are Empathy, Reliability, Price, Responsiveness, Efficiency, and Assurance (with significant level < 0.05). Interface does not significantly affect customer satisfaction. Thus, only 6 among 7 hypotheses are accepted: H₁, H₂, H₃, H₄, H₅, H₇. Thus, based on Table 5.6, the linear regression equation is shown as follows:

$$SA = 0.131xEF^{**} + 0.328xRE^{**} + 0.143xRES^{**} + 0.091xAS^{*} + 0.36xEM^{**} + 0.169xPR^{**} + \varepsilon$$

Note: *, ** denote for significance levels at 5% and 1% respectively.

The results show that the acceptability of the variable (Tolerance) is quite high, and all variables have VIF<2. We can conclude that the model does not occur multicollinearity and the regression model is suitable.

5.5. Testing the differences in perceived satisfaction between qualitative variables

Perceived satisfaction often varies from different target groups. Therefore, this thesis aims to explore the differences between groups to serve as a basis for their decision-making. To test the difference in customer satisfaction for individual characteristics, the thesis uses analysis of

variance technique with the support from SPSS. All tests consider the 5% significance level and obtain the following results:

- There is no difference in the variance of satisfaction of female and male customers.
- There is no difference in the variance of satisfaction among different groups of age.
- There is a difference in the variance of satisfaction among different groups of occupation. More specifically, customer satisfaction differs between freelancers with the rest of the other groups.
- There is no difference in the variance of satisfaction among different levels of education.
- There is no difference in the variance of satisfaction among income levels.
- There is no difference in the variance of satisfaction among different used time.

6. Conclusions

From the empirical results, Empathy is the factor that has the strongest influence on customer satisfaction with VCB Digibank services, followed by Reliability. This shows that only after customers feel the care that the bank has for them will they consider the reliability of the services. Price is the third strongest influence on customer satisfaction. Responsiveness, assurance, and efficiency also positively affects customer satisfaction. Interface, on the other hand, does not demonstrate a significant impact on customer satisfaction with VCB Digibank services. These findings are consistent with many previous outcomes in the world.

Digital banking services are considered an innovative step of commercial banks in the technology era. It is now the time for State Bank of Vietnam to carefully consider and create favorable conditions for digital banks to prosper. In addition, it is the aim of commercial banks in general and Vietcombank in particular to continuously improve and innovate service quality for customers. In order to do that, Vietcombank should pay special attention to factors that influencing customer satisfaction with their digital banking services including efficiency, reliability, responsiveness, assurance, empathy, and price. Therefore, joint stock commercial banks need to ensure the reliability of e-banking transactions, improve their ability to respond to e-banking services, and modernize electronic means for the e-banking system. Furthermore, they should improve staff's ability as well as service capacity for e-banking services to customers, ensure sharing and interacting well, warrant cost-effectiveness in e-banking transactions to enhance the efficiency of this service in the near future.

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