

# Assessing Customer Satisfaction and Service Quality A Vietnamese Context

Phạm Thị Liên<sup>\*</sup>, Nguyễn Thị Ngọc Anh

*VNU University of Economics and Business,  
144 Xuân Thủy Str., Cầu Giấy Dist., Hanoi, Vietnam*

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**Abstract:** Service quality and its relationship with customer satisfaction has received considerable academic and business attention in recent years. But the nature of the relationship between these two constructs is not well-explained in the literature. This study used the SERVPERF model as proposed by Cronin & Taylor (1992) to assess perceived service quality in a Vietnamese organization, and then studied the relationship between organization's service quality and customer satisfaction. Based on the results of a customer survey, the study identified five components – TA-EM (tangible-empathy factor), RESPONSIVENESS (the willingness or readiness of employees to help customers and provide services), RELIABILITY, ASSURANCE and IMAGE – which explain customer perception of service quality. The relationship between these service quality components and customer satisfaction is also investigated through regression analysis. It is found that these five components of service quality have a positive relationship with customer satisfaction in which TA-EM has the most significant impact on customer satisfaction level. The results showed that 64 percent of the variance in customer satisfaction can be explained by these five variables. In addition, based on these findings, the study also gives some suggestions for Vietnamese organizations to further improve service quality and customer satisfaction level.

*Keywords:* Service quality, customer satisfaction, SERVPERF model.

## 1. Introduction

In Vietnam in 2013, the life insurance market was not competitive. There were pressures due to the population's idle money deposited in banks, securities investment, and a decrease in real estate value. At the same time people saw risks when the financial crisis occurred in Europe. The Life Insurance sector seized the opportunity to develop products and enhance customer care, bringing in revenue

estimated at 21,000 billion VND - a growth of 15 percent. On the other hand, the non-life insurance sector overcame difficulties and challenges, with a revenue estimated at 23,600 billion VND - an increase of 8 [1].

This study examines services at the Bao Viet Life (BV), using the SERVPERF model [2] to assess the perceived service quality of the BV Life Corporation, and then researches the relationship between service quality and customer satisfaction. The research uses quantitative methodology and the strategy of

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<sup>\*</sup> Corresponding author. Tel.: 84-983820460  
E-mail: lienpt@vnu.edu.vn

the inquiry is through survey. The research was carried out at branches of BV Life at 6 cities in Vietnam. Data collected from this survey was analyzed by SPSS 16.0 in order to find out customers' assessments of BV Life's service quality, and the relationship between this assessment result and customer satisfaction.

This paper is divided into 7 main parts. Besides this introduction, Section 2 provides a literature review for the study. The research methodology is described in Section 3. Section 4 presents the research analysis and results, which are followed by findings and discussion in Section 5. After presenting the limitations of the study and suggestions for further research in Section 6, the paper provides a conclusion in Section 7.

## 2. Literature review and conceptual framework

### 2.1. Service quality and customer satisfaction

#### a. Service quality

Services are one of the two key components of economics - the other being goods - and they are consumed at the point of sale. Philip Kotler defined a service as a product that consists of any activity, benefit or satisfaction that one party can offer to another for sale. Services are essentially intangible and do not result in the ownership of anything [3].

The American Society for Quality gave the definition of *quality* as "the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs" [4].

*Service quality* was defined by Kotler et al., 2005 as the ability of a service to perform its functions including the overall durability,

reliability, precision, ease of operation and repair, and other valued attributes.

*Measuring quality in the service sector* is more difficult than measuring quality in the manufacturing sector because quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery. One of many service quality research models in use in the world nowadays is the SERVPERF scale proposed by Cronin and Taylor (1992). This scale is based on the SERVQUAL scale [5] which assesses service quality through the gaps between customer "expectations" - (E) and "perceptions" - (P). However, SERVQUAL has been criticized for its confusion, and SERVPERF was proposed by Cronin and Taylor (1992) in which "expectation" - (E) component of SERVQUAL was discarded and replaced by "performance" [2]. The (P) component alone is used. Cronin and Taylor provided empirical evidence across four industries: namely, banks, pest control, dry cleaning, and fast food to corroborate the superiority of their "performance - only" instrument [6]. The scale measures performance with five service quality components termed Tangible, Reliability, Responsiveness, Assurance, and Empathy [5]:

- Tangible: physical evidences of the service such as appearance of physical facilities, equipment, personnel, etc
- Reliability: ability to perform the promised service dependably and accurately
- Responsiveness: willingness of employees to help customers and provide services
- Assurance: knowledge and courtesy of employees and their ability to convey trust and confidence
- Empathy: is individualized care and attention that the firm provides to its customers

### *b. Customer satisfaction*

The definition of customer satisfaction has been widely debated as organizations increasingly attempt to measure it. Customer satisfaction can be experienced in a variety of situations and connected to both goods and services. It is a highly personal assessment that is greatly affected by customer expectations [7].

Philip Kotler defined customer satisfaction as the extent to which a product's perceived performance matches a buyer's expectations. If the product performance falls short of expectations, the buyer is dissatisfied. If performance matches or exceeds expectations, the buyer is satisfied or delighted [3].

Customer satisfaction is an important theoretical as well as practical issue for marketers and consumer researchers. Customer satisfaction can be considered as the essence of success in today's highly competitive world of business [8].

### *c. Relationship between service quality and customer satisfaction*

Parasuraman stated that there is a distinction between service quality and customer satisfaction: perceived service quality is a global judgment or attitude relating to the superiority of the service, whereas customer satisfaction is related to a specific transaction [5].

However, many researchers have stressed the positive relationship between service quality and customer satisfaction [9]. Brady and Robertson (2001) conducted research about fast food restaurants in America and Latin America [10]. The results indicated that there was a certain relationship between service quality and customer satisfaction. In addition, Ruyter et al., (1997) tested the health care service and attempted to determine the relationship between service quality and customer satisfaction [11]. The results suggested that service quality should be treated

as an antecedent of customer satisfaction. From these researches, it can be concluded that service quality and customer satisfaction have a positive relationship in which service quality is an antecedent as well as an important factor impacting on customer satisfaction.

## *2.2. Research model and hypothesis*

### *a. Research model*

SERVPERF is one of the popular models measuring service quality in the world. It was used in research such as "SERVPERF analysis in retail banking" by Vanniarajan et al. (2007) [8]; "SERVPERF Analysis in Banking Services" by M.Muzaffar Zahoor; "Measuring information science system service quality with SERVQUAL: Users' perceptions of relative importance of the five SERVPERF dimensions" by Hollis Landrum et al. (2009) [12].

This study will use the SERVPERF scale to measure perceived performance of an insurance service. Six components of service quality are Tangible, Reliability, Responsiveness, Assurance, Empathy and Image:

- Tangible: the appearance of BV Life Corporation's staff, physical facilities at branches, materials provided for customers
- Reliability: ability to perform services accurately and on time right at the first time
- Responsiveness: willingness to provide services and help customers
- Assurance: the trust in the service, trust in employees' professional skills as well as serving attitude
- Empathy: attention and care to each individual customer
- Image: success, reputation, brand and social responsibility of the Corporation
- The SERVPERF score which represents the perceived performance of components of

service quality can be expressed with the following equation [6]:

$$SQ_i = \sum_{j=1}^k P_{ij}$$

Where: SQ = perceived service quality of individual “i”

k = number of attributes/items

P = perception of individual “i” to performance of service on item “j”

One of the drivers of satisfaction that falls in the general service quality conceptualization is the Technical and image quality. Christian Gronroos developed a service quality model that has three components of service quality, namely: technical quality, functional quality, and

image (see Figure 1). He maintains that the customer evaluations of perceived performance of service against his/her perceived service quality result in a measure of service quality. Image, which could be referred to as reputational quality, is very important to service firms and this can be expected to build up mainly by the technical and functional quality of service including the other factors (tradition, ideology, word of mouth, pricing and public relations). Frank Kwadwo Duodu Theresa Amankwah in their thesis - “An Analysis and Assessment of Customer Satisfaction with Service Quality in Insurance Industry in Ghana” also added the Image factor to check the effective to customer satisfaction.

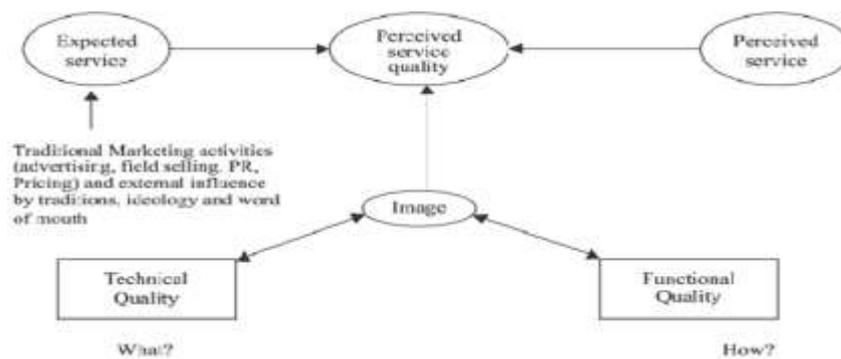


Figure 1: Gronroos Model.  
Source: Gronroos, 1984.

This model confirms the relationship between Image factor and service quality. In this thesis, the Image will be added to check this relationship in the BV Life case. This relationship is modeled as follows:

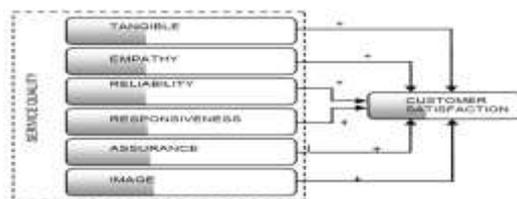


Figure 2: Research model.  
Source: Author’s research.

*b. Hypotheses*

There are several hypotheses for this research model as follows:

- H1: The Tangible component and customer satisfaction have a positive relationship. This means the higher/lower the customer evaluates the tangible factor, the higher/lower the level of customer satisfaction.
- H2: The Reliability component and customer satisfaction have a positive relationship. This means the higher/lower the customer evaluates the reliability factor, the higher/lower the level of customer satisfaction.

- H3: The Responsiveness component and customer satisfaction have a positive relationship. This means the higher/lower the customer evaluates the responsiveness factor, the higher/lower the level of customer satisfaction.

- H4: The Assurance component and customer satisfaction have a positive relationship. This means the higher/lower the customer evaluates the assurance factor, the higher/lower the level of customer satisfaction.

- H5: The Empathy component and customer satisfaction have a positive relationship. This means the higher/lower the customer evaluates the empathy factor, the higher/lower the level of customer satisfaction.

- H6: The Image component and customer satisfaction have a positive relationship. This means the higher/lower the customer evaluates the image factor, the higher/lower the level of customer satisfaction.

### 3. Research methodology

The research process follows these stages:

- Designing the questionnaire

The questionnaire was designed in Vietnamese, and divided into two main parts:

- Part I: asking customers about their basic information.

- Part II: collecting customer perception of the quality of service and their satisfaction level.

In the questionnaire, Part II included 31 variables in total. There were 27 variables

used to assess customer perception of quality of the BV Life service, 4 variables used to measure customer satisfaction based on the performance of the BV Life Corporation. This measurement is based on a 5-point rating scale which corresponds to 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree.

- Sampling and collecting data

The method used to collect data was the conducting of surveys of customers of BV Life Corporation in 6 cities: Hanoi, Da Nang, Nghe An, Nha Trang, Hai Phong and Ho Chi Minh City. Questionnaires were provided to customers and one staff interview per customer. It took each customer about 10 to 15 minutes to take part in the interview. The survey process was carried out from April 5-24, 2014.

- Analysing data

At first, data was collected and screened to identify missing samples. After rejecting all invalid samples, the data was encoded in SPSS 16.0 as in Table 1. After being encoded, the data was analyzed by SPSS 16.0 through the following process:

*a. Reliability analysis by Cronbach's alpha*

Cronbach's alpha is a common measure of the internal consistency (reliability) of a test or scale. Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inner-relatedness of the items within the test [13].

Table 1: Encoded data

	Code	Explain
TANGIBLE (TA)	TA1	Has product features that are clear and understandable
	TA2	BV' s branches are elegant and friendly with large waiting areas
	TA3	BV has all products/services which I am looking for
	TA4	Available brochures, leaflets, posters...with detail information related to products/services/promotion
	TA5	Staff with professional image, consistent wearing of uniform
EMPATHY (EM)	EM1	Attractive insurance benefit
	EM2	Offer competitive charges
	EM3	Has attractive promotional programs
	EM4	Processes applications quickly and efficiently
	EM5	Having convenient branch operating hours
	EM6	Listen to your comments
RELIABILITY (RE)	RE1	Is trustworthy and honest
	RE2	Speak clearly in a language you can understand
	RE3	Has a good knowledge of financial products, able to answer all your questions exactly
	RE4	Prompt follow up from agents upon client query
ASSURANCE (AS)	AS1	Knowledge, competence of customer service staff whom you dealt with
	AS2	Offers flexible products that meet your changing needs
	AS3	Has attractive promotional programs
	AS4	Friendliness and helpfulness
RESPONSIVE-NESS (RES)	RES1	Ease of getting through to call center
	RES2	Ease of contacting the agent for insurance needs
	RES3	Proactive on seeking customer needs
	RES4	Handles medical information for underwriting with speed and sensitivity
IMAGE (IM)	IM1	How successful is your insurance company?
	IM2	What is the reputation of your insurance company?
	IM3	What is the brand image of BV?
	IM4	How socially responsible is BV?
CUSTOMER SATISFACTION (E)	E1	How would you rate the overall performance, products and services of BV Life?
	E2	Would you continue to use the products and services of BV Life company again?
	E3	Would you recommend the products and services of BAO VIET Life to business partners/ associates or acquaintances?
	E4	Given what you know about other insurance companying service providers, how would you rate the competitive advantage, by dealing with BV compared to other providers?

Source: Author's research.

The value of alpha ( $\alpha$ ) may be between negative infinity and 1. However, only positive values of alpha have meaning. In general, alpha coefficient ranges in value from 0 to 1, and the

increase of this value means that the correlations between the items increase [14]. In this study, scales which have Cronbach's alpha coefficient greater than or equal to 0.6 will be accepted.

Besides assessing the reliability of scales, Cronbach's alpha analysis also helps to check whether any item is not consistent with the rest of the scale through item-total correlations. Variables which have greater than 0.3 item-total correlations will be accepted; the others which have smaller than 0.3 item-total correlations will be eliminated from analysis data.

#### *b. Exploratory factor analysis*

Exploratory factor analysis is a powerful statistical technique which is used for data reduction and summarization. The sampling adequacy of factor analysis is based on the Kaiser-Meyer-Olkin (KMO) Measure. In the case that the KMO has a value between 0.5 and 1.0, and Sig. is smaller than 0.5, the factor analysis is accepted. In the case that the KMO's value is smaller than 0.5, or Sig. is greater than 0.5, the factor analysis may not be accepted.

By performing exploratory factor analysis, an investigator can decide the number of factors to extract in the model. The Kaiser-Meyer-Olkin states that the investigator should use a number of factors equal to the number of the eigen values of the correlation matrix that are greater than one [15].

An important part in exploratory factor analysis is interpreting factor matrixes. This research will use Varimax rotation process to produce multiple group factors. Factor loadings which indicate correlations between the variables and the factors are required to have values greater than 0.5. In this case, a factor can be interpreted in terms of the variables that have a high load on it.

#### *c. Regression analysis*

Regression analysis is a modelling technique for analysing the relationship between dependent variables (customer satisfaction) and independent variables (tangibility, reliability, responsiveness, assurance, empathy and image). Then, based on the regression function, we can assess the

impact of each independent variables on dependent variable as well as predict the change in dependent variables when there is any change in independent variables.

At first, it is necessary to test assumptions for regression analysis. The principal assumption is that there is a linearity in the relationship between dependent and independent variables. This research investigates the model with more than one independent variables, the correlation among independent variables (multi-collinearity) should be checked through a Variance inflation factor (VIF). Regression model accept variables which have a VIF smaller than 10. In addition, it is assumed that the error terms  $\varepsilon$  are independent, there are normally distributed random variables with mean value of 0, and there are constant variances. As long as these assumptions are not seriously violated, a regression model will be established. R-square (coefficient of determination) will provide a goodness-of-fit measure. With a higher R-square value, the model is a higher fit for analysis.

## **4. Research analysis and results**

### *4.1. Data description*

From the 400 questionnaires provided to customers, 380 responses were collected. After inputting data and screening questionnaires, there were 369 valid samples and 11 missing samples. In the 369 samples, the number of females was much greater than the number of males. There were 67 percent females and 33 percent males, respectively. The participants ranged from 25 to 55 years old and were divided into 3 groups of equal percentage. In addition, the income of participants was at a high level. 78 percent of the participants had an income greater than 5 million.

## 4.2. Reliability analysis

Table 2: Reliability analysis results

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<b>Tangible: Cronbach's alpha= .834</b>				
TA1	12.4761	6.4366	0.6234	0.8032
TA2	12.7127	6.3635	0.7021	0.7819
TA3	12.6704	6.5267	0.6118	0.8063
TA4	12.6817	6.3136	0.6604	0.7926
TA5	12.5577	6.5976	0.5735	0.8172
<b>Empathy: Cronbach's alpha= .840</b>				
EM1	15.7131	10.3134	0.6422	0.8098
EM2	15.6506	10.0456	0.6251	0.8125
EM3	15.6875	10.4605	0.5832	0.8206
EM4	15.8040	9.6680	0.6893	0.7992
EM5	15.7330	9.9912	0.6217	0.8133
EM6	15.8864	10.4429	0.5444	0.8285
<b>Reliability: Cronbach's alpha= .827</b>				
RE1	9.5855	4.6304	0.5892	0.8099
RE2	9.5055	4.1633	0.7182	0.7520
RE3	9.4909	4.2800	0.6745	0.7724
RE4	9.6764	4.2708	0.6339	0.7916
<b>Assurance: Cronbach's alpha= .731</b>				
AS1	11.4309	3.8437	0.5055	0.6795
AS2	11.4282	3.7944	0.5217	0.6703
AS3	11.4743	3.7120	0.5181	0.6723
AS4	11.4634	3.6406	0.5385	0.6602
<b>Responsiveness: Cronbach's alpha= .866</b>				
RES1	8.9241	6.3220	0.6305	0.8633
RES2	8.7393	6.1007	0.7248	0.8255
RES3	8.8482	5.8974	0.7317	0.8224
RES4	8.8251	5.8865	0.7812	0.8025
<b>Image: Cronbach's alpha= .670</b>				
IM1	11.1491	3.1326	0.4254	0.6232
IM2	11.3171	3.3584	0.3947	0.6405
IM3	11.1057	3.2089	0.4984	0.5743
IM4	11.1518	3.1454	0.4937	0.5756
<b>Customer satisfaction: Cronbach's alpha= .857</b>				
E1	11.1902	7.168	.713	.818
E2	10.8179	6.051	.734	.805
E3	10.7228	6.244	.703	.819
E4	11.0054	7.035	.676	.829

Source: Author's calculation.

Table 2 shows that the seven scales are reliable with Cronbach's Alpha value greater than 0.6. All of the variables have

item-total correlations greater than 0.3, and so will be accepted.

In conclusion, through reliability analysis, no item is rejected. The initial scale has 27 variables and the customer satisfaction has 4 variables.

#### 4.3. Exploratory factor analysis

##### a. Exploratory factor analysis for service quality scale

Exploratory factor analysis results for the service quality scale found that initial six components were reduced to five components extracted with eigen values greater than 1. The first components, namely TA-EM are a combination of Tangible and Empathy components. The other four components are RELIABILITY, RESPONSIVENESS, ASSURANCE and IMAGE. All factor loadings are greater than 0.5. Only one item has an acceptable factor loading. The service quality

scale including 27 observed variables, divided into 5 components namely TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and IMAGE.

Besides, exploratory factor analysis is adequate with the KMO value being 0.919 and the Sig. value .000. In addition, with a Cumulative percentage of Variance of 59.36 percent, these four components explain 59.36 percent of service quality variance.

In conclusion, after making an exploratory factor analysis, the service quality scale includes 27 observed variables, divided into 5 components, namely, TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and IMAGE.

Table 3: Reliability and factor analysis for service quality scale

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.919
Bartlett's Test of Sphericity	Approx. Chi-Square	3.334E3
	Df	351
	Sig.	.000

<b>Rotated Component Matrix<sup>a</sup></b>					
	Component				
	1	2	3	4	5
EM3	.703				
EM1	.697				
EM4	.694				
TA3	.680				
TA1	.641				
TA5	.603				
EM5	.596				
EM6	.572				
EM2	.567				
TA4	.523				
TA2	.521				
RES4		.821			
RES3		.818			
RES2		.741			
RES1		.701			
RE1			.728		

RE2			.715		
RE3			.682		
RE4			.664		
AS1				.738	
AS3				.666	
AS2				.662	
AS4				.604	
IM1					.670
IM4					.661
IM2					.649
IM3					.597
Eigenvalues	9.5000	2.7610	1.5340	1.1610	1.0710
Cumulative % of Variance	19.01	31.05	42.30	50.96	59.36

Source: Author's calculation.

*b. Exploratory factor analysis for customer satisfaction scale*

Customer satisfaction scale includes two items. In KMO and Bartlett's Test, the KMO value measuring the sampling adequacy equals 0.820 with Sig. .000. These numbers confirm the validity of data for exploratory factor analysis.

The analysis extracts 1 component which has eigen values of 2.821 (greater than 1). Four customer satisfaction items define this component with factor loadings greater than 0.5. The cumulative variance is 70.518 percent, which means that this component explains 70.518 percent of customer satisfaction variance.

Table 4: Exploratory factor analysis of customer satisfaction scale

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.82
Bartlett's Test of Sphericity	Approx. Chi-Square	653.857
	Df	6
	Sig.	0
<b>Component Matrix<sup>a</sup></b>		
	Component	
	1	
E2	0.857	
E1	0.845	
E3	0.835	
E4	0.821	
Eigenvalues	2.821	
Cumulative % of Variance	70.518	

Source: Author's calculations.

In short, after making exploratory factor analysis, the customer satisfaction scale includes 4 observed variables, extracted to 1 component - SATISFACTION.

*c. Research model - Version 2*

After making an exploratory factor analysis, the two scales TANGIBLE and EMPATHY together define the TA-EM component. Therefore, the original research model is

adjusted to become Research Model – Version 2 as in Figure 3.

Hypothesis H2, H3, H4, H5, H6 remains unchanged.

Hypothesis H7 is added for the TA-EM component: the TA-EM component and customer satisfaction have a positive relationship. This means the higher or lower the customer evaluates the TA-EM factor, the higher or lower the level of customer satisfaction.

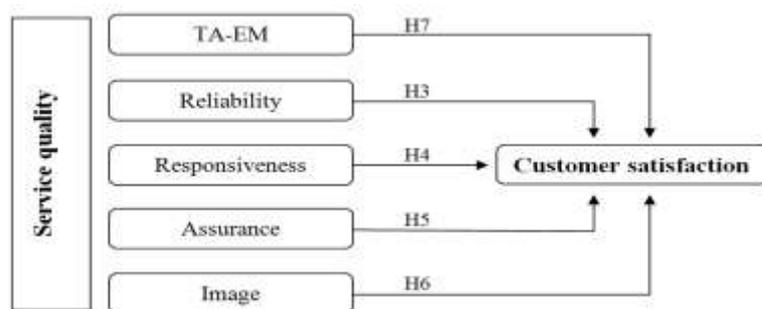


Figure 3: Research model - Version 2.

Source: Author’s research.

*4.3. Regression analysis*

*a. Regression analysis*

At first, the average scores of five dependent variables and independent variables (TA-EM, RELIABILITY, ASSUARANCE, RESPONSIVENESS, and IMAGE) for 369 participants we calculated. Then, it was necessary to test whether the data satisfies assumptions for regression analysis.

Table 5: Regression analysis summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805	.649	.637	.39638

Source: Author’s calculations.

In Table 5, the adjusted R-square value accounts for .637. This value indicates that nearly

64 percent of the variance in customer satisfaction can be explained by five variables, namely TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and IMAGE.

The Pearson Correlation between SATISFACTION and the other five components - TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and IMAGE - present positive values. That means there is a positive linear relationship between dependent and independent variables. Besides, the correlation among the five components is also quite strong with Pearson values greater than 0.3, which may lead to a multi-collinearity situation. However, the VIF values of five components are very small (much smaller than 10). Thus, there will not be a multi-collinearity situation, and the regression model accepts these variables.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	0.137	0.117		1.169	0.243
	TA.EM	0.295	0.027	0.330	10.846	0.000
	RE	0.207	0.036	0.180	5.776	0.009
	RES	0.242	0.034	0.226	7.048	0.000
	AS	0.232	0.036	0.203	6.518	0.014
	IM	0.056	0.021	0.075	2.611	0.039

Source: Author's calculations.

In short, it can be seen that assumptions for the regression model are not seriously violated; therefore, the regression model will be established.

With coefficients presented in Table 6, regression function is as follows:

$$\text{SATISFACTION} = 0.330 \text{ TA-EM} + 0.180 \text{ REABILITY} + 0.226 \text{ RESPONSIVENESS} + 0.203 \text{ ASSURANCE} + 0.075 \text{ IMAGE}$$

#### b. Research model and hypothesis tested result

From data selected from customers of BV Life, this research constructed a regression model in which five components of service quality (TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and EMPATHY) have a statistically positive relationship with customer satisfaction (SATISFACTION). All hypotheses are supported by this result:

Table 7: Hypotheses tested results

Hypotheses	Result
H7: The TA-EM component and customer satisfaction have a positive relationship. This means the higher/lower customers evaluate the TA-EM factor, the higher/lower the level of customer satisfaction.	Supported
H3: The RELIABILITY component and customer satisfaction have a positive relationship. This means the higher/lower customers evaluate the RELIABILITY factor, the higher/lower the level of customer satisfaction.	Supported
H4: The RESPONSIVENESS component and customer satisfaction have a positive relationship. This means the higher/lower customers evaluate the RESPONSIVENESS factor, the higher/lower the level of customer satisfaction.	Supported
H5: The RESPONSIVENESS component and customer satisfaction have a positive relationship. This means the higher/lower customers evaluate the RESPONSIVENESS factor, the higher/lower the level of customer satisfaction.	Supported
H6: The IMAGE component and customer satisfaction have a positive relationship. This means the higher/lower customers evaluate the IMAGE factor, the higher/lower the level of customer satisfaction.	Supported

Source: Author's research.

## 5. Findings and discussion

### 5.1. Assessment of perceived service quality at BV Life Corporation

Perceived performance of service quality can be assessed through the SERVPERF scores. The SERVPERF scores on TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and IMAGE are calculated by the average score of service quality components with a higher

perceived performance implying higher service quality. Assessment will base on this convention: score from 4 to 5: very high level, score from 3 to 4: fairly high level, score from 2 to 3: average level, score under 2: below average level.

Table 8: Perception on service quality at BV Life Corporation

	N	Minimum	Maximum	Mean
TA.EM	369	1.00	4.82	3.8164
RE	369	1.00	5.00	3.0882
RES	369	1.00	5.00	3.3882
AS	369	1.75	5.00	3.1756
IM	369	2.00	5.00	3.0270

Source: Author's calculations.

As Table 8 shows, perceived scores for three components of service quality in the BV Life Corporation ranges from 3.0270 to 3.8164. Among the five components, TA-EM gets the highest score 3.8164 which is nearly reach very high assessment level. It is followed by RESPONSIVENESS, ASSURANCE, then RELIABILITY and IMAGE.

In short, it can be concluded that customers assessed BV Life's service quality at a fairly high level.

### 5.2. Impact of service quality factors on customer satisfaction at BV Life

The service quality factors at BV Life Corporation are classified into TA-EM, RELIABILITY, ASSURANCE, RESPONSIVENESS, and IMAGE. They are also service quality components which determine customer satisfaction level.

The regression function which illustrates the relationship between these three factors and customer satisfaction is as follows:

$$\text{SATISFACTION} = 0.330 \text{ TA-EM} + 0.180 \text{ RELIABILITY} + 0.226 \text{ RESPONSIVENESS} + 0.203 \text{ ASSURANCE} + 0.075 \text{ IMAGE}$$

All hypotheses for these components are supported. From the equation, the positive coefficients show that five factors have a positive relationship with customer satisfaction. The factor which has the most significant influence on overall customer satisfaction is TA-EM with a standardized coefficient of 0.330. This number reveals that unit increases (decreases) in tangible-empathy will lead to an increase (decrease) in overall customer satisfaction by 0.330 units. That also means if the BV Life Corporation increases its tangible and empathy ability in serving customers by 1 unit, they may increase the customer satisfaction level by 0.330 units.

The second important factor in determining customer satisfaction is the RESPONSIVENESS component with a standardized coefficient of 0.226. This means a unit increase (decrease) in willingness to help customers and to provide prompt service may increase (decrease) the overall customer satisfaction level by 0.226 units.

The third factor which has impacts on customer satisfaction is ASSURANCE with a standardized coefficient value, which is quite high, of 0.203. It shows the importance of knowledge and courtesy of employees and their

ability to convey trust and confidence. If the corporation can increase this ability by 1 unit, it will contribute to an increase in overall customer satisfaction of 0.203 units.

The next factor is RELIABILITY which does not have high standardized coefficient (0.180). The corporation tries to perform the promised service in a dependable way and to build customer trust. If this ability increases (decreases) 1 unit, it leads to a customer satisfaction increase (decrease) of 0.180 units.

The last factor, which has the smallest impact on customer satisfaction level, is IMAGE, with a standardized coefficient value of 0.075. This value says that the image component, which is the willingness to help customers and provide prompt services, influences customer satisfaction.

The adjusted R-square value of 0.64 indicates that these three service quality components can explain 64 percent of the variance in customer satisfaction. The remaining 36 percent can be explained by other factors, such as brand image, advertising activities, social responsibility, etc.

It is clear that three service quality components together determine the customer satisfaction level in BV Life. Although the level of each factor's impact is different, they are all important factors which are in need of attention and further improvement

### *5.3. Suggestions to improve service quality and customer satisfaction at BV Life*

As analysed and discussed above, the quality of the Tangible- Empathy component is evaluated as the one with the highest impact. Therefore, to wholly improve service quality and gain customer satisfaction, there are some other suggestions to increase the quality of Tangible-Empathy: (1) invest in the physical

facilities of the branches; (2) with each different customer, the corporation should deeply understand their specific needs and help them to choose suitable services; (3) focus on shortening time and simplifying the processes of business transactions; (4) implement preferential customer policies to maintain the loyalty of its customers; (5) diversify the list of available services to meet the various needs of customers; (6) adjust service fees to attain competitive prices compared with rivals.

The research result showed that RESPONSIVENESS has a high significant influence on customer satisfaction. Therefore, in order to enhance the customer satisfaction level, BV Life should firstly pay attention to improve its RESPONSIVENESS ability by: (1) having an attracting-talents policies, and recruit the right people to the right positions; (2) after recruiting qualified employees, the corporation needs to train them; (3) establishing suitable compensation policies for employees; (4) continuously improve service processes to create comfortable conditions for both customers and staff; (5) improving customer service centres.

The Image component has the lowest impact on customer satisfaction with the standardized coefficient nearly 0. However, the image of any company is very important in long-term development. Improving the image will increase the success of the brand, social responsiveness, etc. BV Life should build its image follow the BV Holding strategy; here are some solutions for both the corporation and holding: (1) for BV Holding, brand development objects are dynamic, professional and consistent with the holding strategies to build the core values including: quality, friendliness, a cooperative spirit, dynamism and responsibility; (2) for the BV Life Corporation: synchronize towards a modern and friendly image at the branches and

at the point of sale; improve their professional advisors; enhance and improve the quality of communication activities and advertising of the BV Life image. Continue and enhance the productivity of social activities like: “Mang Tết đến vùng cao”, support to typhoon victims. BV Life should maintain collaboration with the Children Protection Fund to bring benefits for disadvantaged children.

In order to improve the customer satisfaction level, BV Life has to find short-term and long-term solutions. According to the result of this paper, I suggest some solutions based on improving these five components: tangible-empathy, reliability, assurance, responsiveness and image. However, BV Life should have solutions for other factors, for example: technical, marketing plan, advertising, etc. For the sustainable future, BV has to develop a comprehensive policy strategy. Thus, the corporation can increase and maximize customer satisfaction and then get the customer loyalty.

## 6. Limitations and suggestions for further research

*Firstly*, with the help of BV staff, the survey was conducted in six big cities of Vietnam, this gave the database a general overview. However, the number of responses from each city are different so it is quite hard to make comparisons. Furthermore, the study only considered individual customers and ignore business and group customers. This leads to a limitation of study to make a deep analysis. These limitations provide new directions for future research.

*Secondly*, the research used common methods such as: Cronbach's alpha, EFA analysis and regression analysis. However, in order to achieve better results future research should use more modern methods like SEM.

*Thirdly*, the relationship between the quality of BV Life service and customer satisfaction is relative to each other. Therefore, the relationship may change frequently and its changes cannot be predicted. Therefore, this research only explains the current relationship. More researches are required to show the trend of this relationship.

## 7. Conclusions

This research examined BV Life insurance service to investigate the components of its quality and describe the relationship between BV Life service quality's components and overall customer satisfaction level. This research was conducted using a quantitative method. The theoretical model with 27 observed items divided service quality into 5 components and customer satisfaction into 4 components. With 369 valid responses, reliability analysis, exploratory factor analysis and regression analysis, have all been conducted. The theoretical model of 5 component includes Tangible-Empathy, Reliability, Assurance, Responsiveness and Image all influence the components of customer satisfaction. The regression analysis describes the positive relationship between the quality of BV Life service and customer satisfaction as the following function:

$$\text{CUSTOMER SATISFACTION} = 0.330 \text{ TA-EM} + 0.180 \text{ RELIABILITY} + 0.226 \text{ RESPONSIVENESS} + 0.203 \text{ ASSURANCE} + 0.075 \text{ IMAGE}$$

This result confirms the importance of service quality in maintaining customer satisfaction.

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