An investigation about factors that affecting satisfaction and efficiency in Vietnamese tourism

Thanh Tuyen Tran *

Scientific Research Office, Lac Hong University, No. 10 Huynh Van Nghe, Bien Hoa City, Dong Nai, Vietnam

A B S T R A C T

Vietnam has been highly appreciated as the most rapid development in regional tourist arrivals in South-East Asia. Many researchers, economists, and tourism business leaders have widely recognized the opportunities for Vietnam to become one of the most interesting destinations for global visitors. Therefore, it is particularly important for the tourism business leaders to get as many as precious updating information about tourists' remarks and thoughts for national well-preparation. Consequently, they can provide the best tourist service and enhance traveler satisfaction and that is also expected to increase efficiency and sales performance in terms of flexibility of time. The current empirical study focuses on identifying the key factors of service quality that have the most influence on tourist satisfaction by doing a survey to examine the level of satisfaction that international travelers gave to tourist spots in Hanoi, Vietnam. In order to satisfy the research objectives, the data are carefully collected and analyzed in detail by apply SPSS software with a multi-statistical process, including descriptive analysis, the analysis of exploratory factor, reliability, correlation, and regression model. Study results pointed out that among service quality factors, only three factors: Responsiveness-Reliability, Tangible, and Hygiene can cause a positive effect on tourist satisfaction. The author suggests that these findings may offer alternatives to improving the service quality of Hanoi tourism in particular and Vietnam tourism in general, for the competence and development of national tourism industry toward Asian countries.

1. Introduction

South-East Asia has been highly appreciated as the most rapid development in regional tourist arrivals in the world (Hitchcock et al, 2009). In the case of Vietnam, a country with a 4000-year history and a long-established and diverse cultural tradition, tourism has shown its economic strength in the last decades. In 1986, Communist Party started the renovation (Berger, 2005). Since the 2000s, the country's tourism industry has developed both in size and scale beyond the expectation of local and international experts.

In 2013, as an emerging low-cost destination for both international and domestic tourists, Vietnamese tourism industry has been gaining certain achievement. According to Vietnam National Administration of Tourism Report, the total number of international visitors in the first six month 2013 reached to the peak of 3.540.403, up 2.6% compared with the previous year 2012; for instance, the Russian market went up 60.4%, Thailand increased by 24.3%, Indonesia rose to 21.5%, China stepped up 21.0%, New Zealand improved by 16.7%, Malaysia grew up 12.2%, .etc. This success has approved the important position of Vietnamese tourism industry with a potential for significant beneficial outcomes. Nguyen and Tran (2017) said because the majority of international tourists come from developed countries, the countries may benefit from the source income of foreign exchange. Also according to this report, in 1994, a total of 1.02 million tourists arrived in Vietnam, spending US$210 million and representing 11.3% of the country's GDP. In addition, tourism, known as a potential service industry, may help the country with good capacity of solving employment needs. One more positive aspect is that tourism also contributes to government revenues through taxation.

Many researchers, economists and tourism business leaders have widely recognized the opportunities for Vietnam to become one of the most interesting destinations for global visitors. In a study of Luu and Dinh (1997), they surveyed 600 travel agents and found that more than 60 per cent of respondents rated Vietnam as one of the most attractive destination in South-East Asia thanks to its beautiful landscape and its rich cultural heritage.

For the purpose of competing with other nations and attracting visitors, it is urgent for tourism business leaders get as many as precious updating information about tourists' remarks and thoughts for national well-preparation. Consequently, in this paper, aiming to catching up the international visitors' perception and their feelings, who are visiting Hanoi capital, known as a cradle of civilization in the delta of Red River, we conduct a survey to investigate how satisfaction they feel about tourist spots located in this ancient land. According to the result of research, it may give necessary advice to improve the satisfaction level of international tourists visiting Hanoi, capital of Vietnam. These findings may also contribute some solutions for Vietnamese tourism industry. As the above analysis, the potential of Vietnamese tourism industry is very large.

2. Literature review

2.1. Definitions for tourism

The United Nations World Tourism Organization (UNWTO) defines tourism as the act of travel for the purpose of recreation and business, and the provision of services for this act. Mathieson and Wall (1982) also contributed a simple definition of this concept, i.e., tourism is the temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay in those destinations, and the facilities created to cater to their needs.

A group of authors, who were written and composed the book "Parks and Recreation Management Introduction" have given a brief definition of this concept that explains tourism in modern economic context: "Tourism is a collection of activities, services and industries that delivers a travel experience, including transportation, accommodations, eating and drinking establishments, retail shops, entertainment businesses, activity facilities and other hospitality services provided for individuals or groups traveling away from home."

Table 1 shows tourism according to its types. Makings a profitable tourism business sometimes creates negative effect to the local community environment. It is possible for the tourism industry to cooperate with other industries and bring benefits to both the tourism organizations and local businesses. The first required step for a successful tourism business is the deep understanding of the

needs and desires of both the host community and the tourists to make a balance for the industry.

Table 1: Types of tourism (Dumond, 2000)

Inbound international tourism	Visits to a country by nonresident of that country
Outbound international tourism	Visits by the residents of a country to another country
Internal tourism	Visits by residents of a country to their own
Domestic tourism	Inbound international tourism, internal tourism
National tourism	Internal tourists, outbound international tourism

2.2. The importance of tourism sector in expanding economic opportunity

It is essential that government understand the influence of tourism industry on the country development. Tourism, firstly, is considered as an essential source of income especially for many developing countries, which is earned by entrepreneurs and workers who participate in it. According to Work Bank, tourism provides enterprises the variety of opportunities for generating income through the consumption of goods and services by tourists.

Secondly, tourism creates or draws on a new change for inputs supply channels from economic sector, such as the food and beverage, construction, transportation, furniture and so on. Moreover, hospitality service has been strongly boosted parallel by the development of tourism industry due to customers' need of accommodation. It will be to government's benefit to earn income from a big amount of the taxes levied on businesses in the tourism industry.

In addition, tourism effectively helps solving employment issue in the service industries associated with it. Evidence in the studies by Green (2001) and Tosun (2002), it was suggested that in developing country, tourism tend to employ a relatively high proportion of women and to purchase product, such as food and crafts, produced by women in informal sector. Thus, tourism industry has the ability to enhance women's economic position and help to overcome gender barriers.

2.3. Travel-related services

Local government plays a major role in tourism and is engaged in tourism in many ways. Councils are actively involved in promoting tourism, providing infrastructure and services to support tourism, but also in managing the impacts of tourism. The adoption of a sustainability framework in council practice: from essential services, such as waste management, to higher level strategic direction, e.g. planning policy that supports sustainable tourism development can make a significant difference to the localized impacts of tourism. Local government have also worked hard to develop networks and partnerships across the tourism and government over several years.

Travel agency is a private retailer or public service that provides travel and tourism related services to the public on behalf of suppliers such as airlines, car rentals, cruise lines, hotels, railways, and package tours. In addition to dealing with ordinary tourists most travel agencies have a separate department devoted to making travel arrangements for business travelers and some travel agencies specialize in commercial and business travel only. There are also travel agencies that serve as general sales agents for foreign travel companies, allowing them to have offices in countries other than where their headquarters are located.

The hotel or hospitality service provides tourists accommodation, catering, social, healthcare, entertainment, and many functions, thus it is considered as the most critical part of the tourism industry which affect to the tourism development. Hospitality and tourism cannot be separated since hospitality is the key success to the tourism industry. In order to make sure that the customer will feel satisfied using the tourism services we have to ensure that the customer felt satisfied using hospitality's components. We need hospitality applied in the food and beverages, so as customer will fell well treated during their lunch, dinner or others. We also need hospitality applied in the transportation provider so as customer or passenger will feel comfortable during their journey.

2.4. Tourism product quality

According to the study of CEC (2001), tourism is a service sector with a particularly complex product which depends on an extremely fragmented supply. Each link in the tourism value chain (travel agencies, tour operators, carriers, hoteliers, restaurateurs, etc.) offers one element in the overall product. Together, these components determine tourists' experiences and their appreciation of the quality of the service. Dwyer and Kim (2003) and Beerli and Martin (2004) said that natural and cultural resources, tourist facilities, the communications infrastructure, accommodation and restaurants are the basic resources of a tourist destination.

2.5. Tourism quality standards

World Tourism Organization (WTO, 2003) designed seven standards that measure tourism service. Based on SERVQUAL model, these standards could be listed as follows:

1. Tangible-A tourism product or service cannot represent danger to life, damage to health and other vital interests and integrity of the consumer (even if we talk about "adventure tourism").
2. Price-This determinant requires that physical, communication and service barriers must be done away with to allow, without discrimination, the use of mainstream tourism products and services by all people irrespective of their natural

and acquired differences, including people with disabilities.
3. Reliability-The ability to perform the service as promise in a dependable and accurate manner. It is a key element to provide for legitimacy of expectations and consumer protection. It relates to providing and effectively communicating truthful information on the characteristics and coverage of the product and its total price.
4. Competence-The ability of introducing the employees to perform their jobs well. In a commercial world, authenticity is the hardest and most subjective quality determinant to attain. It also has marketing and competition dimensions.
5. Empathy-Caring, individualized attention the firm provides its customers
6. Responsiveness. The willingness of service providers to help clients and satisfy their needs, immediately replies to their inquiries, and solve their problems as quickly as possible.
7. Hygiene is also a very important factor to measure service quality. For example, an accommodation facility just has to be safe and clean, one cannot pretend that such requirements are more important to high-class establishments. Food safety standards (often also established by law) must be met and be common to all types of food outlets, from street vendors to luxury gourmet restaurants to airline catering.

2.6. Tourism service quality in Vietnam

On the basis of the above analysis, quality can be considered as a principle for guiding tourism business' managers in taking their managerial decisions on the level of all tourism enterprise/destination's departments. For achieving tourism services quality, tourism organization management has to guarantee to fulfill three requirements:

1. Tourists' satisfaction;
2. Quality-management process; and
3. Achieving the efficiency of processes.

In the context of this philosophy of quality, this paper was written with the purpose of for evaluating tourism services quality in Hanoi, Vietnam, from the view points of the internal customers (employees) and the external customers (tourists) assuming that the efficiency of processes has been fulfilled.

3. Method development

3.1. Research model

The most known and used models are SERVQUAL, SERVPERF, TQS and ISQM. The widely used model is SERVQUAL developed by Parasuraman et al. (1985). For the purpose of promoting quality in tourism and tourist products as priority elements, the SERVQUAL model in this

current study consists of 47 items on service attributes, which are grouped along the six dimensions of Reliability, Responsiveness, Competence, Empathy, Price and Tangible.

3.2. Hypotheses

Hypotheses are used often in experiments in which investigators compare groups. Advisers often recommend their use in a formal research project, such as a dissertation or thesis, as a means of stating the direction the study will take. Hypotheses' objectives, on the other hand, indicate the goals or objectives for a study. The use of variables in research questions or hypotheses is typically limited to three basic approaches. The study's research null hypotheses are formulated to make it directed and focused.

H_{01}: There is no relationship between reliability factor and visitor satisfaction.
H_{02}: There is no relationship between responsiveness factor and visitor satisfaction.
H_{03}: There is no relationship between competence factor and visitor satisfaction.
H_{04}: There is no relationship between empathy factor and visitor satisfaction.
H_{05}: There is no relationship between price factor and visitor satisfaction.
H_{06}: There is no relationship between tangible factor and visitor satisfaction.
H_{07}: There is no relationship between loyalty factor and visitor satisfaction.

3.3. Measurement instrument

Questionnaire items were in the form of five-point Likert scale. Options were ordered as; "Strongly dissatisfy", "Dissatisfied", "Undecided", "Satisfied" and "Strongly satisfied". The answers were ordered from "Strongly Dissatisfied" to "Strongly Satisfied" by grading them from 1 to 5. The title of the research's questionnaire is: *"Examining International Visitor Satisfaction for Tourist Spots in Hanoi, Vietnam"*. The questionnaire used for surveying tourists' opinion and feelings is composed of 03 parts: (1) Questions of respondents' information; (2) Questions of respondents' satisfaction level; (3) One question of respondents' general satisfaction.

3.4. Data collection

The questionnaire was designed and presented in December, 2013 after objective criticisms and suggestions from the instructors, who are experts in measurement and evaluation. In the cases where respondents did not answer every question, the questionnaires were discarded. It was sent to the total of 300 foreigners at tourist sites in Hanoi, Vietnam. Finally, there are 290 questionnaires were

deemed good to be analyzed, which represented a response rate of 97%.

3.5. Methods of data analysis

Descriptive statistic is defined as a set of brief descriptive coefficients that summarizes a given data set, which can either be a representation of the entire population or a sample. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the standard deviation (or variance), the minimum and maximum variables.

Reliability indicates degrees of consistency between multiple measurements of a variable. Firstly, we consider consistency of the entire scale, which Cronbach's alpha being the most widely used measure. The lower limit for Cronbach's alpha is 0.7, although it may decrease to 0.6 in exploratory research. The present study adopts Peterson (1994) suggestions with the value 0.6 deemed the lower limit of acceptability. Next, to measure item reliability, we regard on the item-to-total correlation (the correlation of the item to the summated scale score). It is suggested that the item-to-total correlations should exceed 0.3 (Drasgow, 1984).

EFA is a technique within factor analysis whose overarching goal is to identify the underlying relationships between measured variables. It is commonly used by researchers when developing a scale (a scale is a collection of questions used to measure a particular research topic) and serves to identify a set of latent constructs underlying a battery of measured variables.

Multiple regression analysis is a powerful technique used for predicting the unknown value of a variable from the known value of two or more variables- also called the predictors. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher.

The correlation coefficient, denoted by r, is a measure of the strength of the linear relationship between two variables. The correlation coefficient takes on values ranging between +1 and -1. If correlation coefficient equal to 0 indicates no linear relationship, +1 indicates a perfect positive linear relationship: as one variable increases in its values, -1 indicates a perfect negative linear relationship: as one variable increases in its values.

4. Empirical results

4.1. Descriptive statistics

The researchers delivered 300 questionnaires to the respondents at nine tourist sites around Hanoi capital, Vietnam. Each of tourist was received a gift after being asked to fill out the questionnaire. In the

case of the tourists did not answer the research questions, the questionnaires were discarded. Finally, there are 290 questionnaires were deemed good to be analyzed, which represented a response rate of 97%. Table 2 shows tourist characteristics in detail.

Table 2: Statistics of the sampled tourist characteristics

Characteristic	Category	Frequency	Percentage
Gender	Female	111	38.30
	Male	179	61.70
Age	>18	2	0.70
	18- 35	237	81.70
	36-45	30	10.70
	46-60	17	6.20
	>60	2	0.70
Career	Manager	16	5.50
	Employee	55	19
	Teacher	23	7.90
	Engineer	22	7.60
	Staff Officer	36	12.40
	Student	86	29.70
	Sale	15	5.20
	Worker	13	4.50
	Others	24	8.30
Ways of Travelling	Package tour	113	39
	Backpacking	177	61
Tourist sites	Hoan Kiem Lake	42	14.50
	Mot Cot Temple	56	19.30
	The Temple of Literature	21	7.20
	St. Joseph's Cathedral Church	14	4.80
	Old Town	2	0.70
	The Hanoi Opera House	4	1.40
	Ho Chi Minh Mausoleum	18	6.20
	West Lake	86	29.70
	Bat Trang Ceramic Village	47	16.20
Nationality	American	25	8.62
	Chinese	44	15.17
	Korean	82	28.27
	Japanese	62	21.38
	Taiwanese	39	13.45
	Australian	5	1.72
	Kampuchean	13	4.48
	Singapore	12	4.14
	Thai	12	4.14
	Others	6	2.07

The author also asked respondents about the length of stay in each tourist site, times of visiting and the total number of tourist sites that they have come. The survey revealed that backpackers had more time to experience tourist service, while tourist who travelled with tour operator with heavy schedule, seemed to have less time to stay at each site. The answers were described in Table 3.

The author also wanted to know about the expenditure of each tourist paying at each tourist site. The results from the survey shown that there were 56.2% of tourists who paid less than 200,000VND, 29.3% paid from 200,000VND to 500,000VND, 7.9% paid from 500,000VND to 1,000,000VND, and 6.6% of them paid more than 1 million VND. These amounts of expenditure revealed that the total amount of money that tourists paid at

each site seems not so high. Besides, the low-income-tourists also can afford a Hanoi trip with their suitable budget. Finally, tourists may have a chance to visit so many places in Hanoi with limited time because of the convenience of distance, transportation and abundant site.

Table 3: Results of quantitative analysis

Questions	Minimum	Maximum	Mean	Standard Deviation
Length of staying	1	10	3.57	3.659
Times of visiting	1	15	3.99	1.487
Total number of tourist sites	1	14	5.72	2.603
Length of staying in each sites	1	10	2.12	1.279

4.2. Reliability analysis for reliability, responsiveness, competence, empathy and tangible factors

As shown in Table 4, reliability test was carried on 4-item scale of factor Reliability, 4-items scale of factor Responsiveness, 5-item scales of factor Competence, 3-item scales of factor Empathy and 16-item scales of factor Tangible to ensure that all items were measuring in the same construct. Cronbach's alpha for the variables related to 05 factors were larger than 0.6 which indicates acceptable internal consistency reliability. No item of this subscale was removed based on the item total correlation (> 0.30). Therefore; the above of 05 Factor is suitable for further research's analyses.

4.3. Reliability analysis for price factor

As shown in Table 5, factor Price includes 7 variables. Cronbach's alpha for the variables were larger than 0.6, which indicates acceptable internal consistency reliability. No item of this subscale was removed based on the item total correlation (> 0.30). Therefore; 7 variables of the factor Price are suitable for further research's analyses.

4.4. Reliability analysis for satisfaction level factor

As shown in Table 6, factor Satisfaction Level includes 5 variables. Cronbach's alpha for the variables were larger than 0.6, which indicates acceptable internal consistency reliability. No item of this subscale was removed based on the item total correlation (> 0.30). Therefore; 5 variables of the factor Satisfaction Level are suitable for further research's analyses.

4.5. Reliability analysis for loyalty factor

As shown in Table 7, factor Loyalty includes 4 variables. Cronbach's alpha for the variables were larger than 0.6, which indicates acceptable internal consistency reliability. No item of this subscale was

removed based on the item total correlation (> 0.30). Therefore; 4 variables of the factor LOYALTY are suitable for further research's analyses.

Table 4: Cronbach's alpha SERVQUAL of five measurement factors

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Reliability (RE): Alpha=-0.672				
RE1	10.14	3.923	.747	0.615
RE2	10.36	3.046	.691	0.561
RE3	10.49	3.905	.696	0.614
RE4	10.48	4.869	.721	0.6290
Responsiveness(RES):Alpha=0.803				
RES1	10.11	5.312	0.544	0.789
RES2	10.13	4.484	0.693	0.715
RES3	10.17	5.131	0.658	0.734
RES4	10.55	5.265	0.578	0.772
Competence (C): Alpha=*0.739*				
C1	14.58	6.756	0.432	0.72
C2	14.29	6.759	0.483	0.7
C3	14.77	6.049	0.631	0.641
C4	14.92	6.464	0.569	0.668
C5	14.97	7.148	0.4	0.729
Empathy (E):Allpha=0.781				
E1	6.19	2.334	0.645	0.674
E2	6.05	2.568	0.604	0.72
E3	6.3	2.341	0.609	0.715
Tangible (T):Alpha=0.886				
T1	52.49	82.624	0.438	0.883
T2	53.08	80.014	0.547	0.879
T3	52.62	79.366	0.576	0.878
T4	52.53	78.721	0.594	0.877
T5	52.99	80.194	0.482	0.882
T6	53.5	79.683	0.522	0.88
T7	53.39	81.187	0.448	0.883
T8	52.65	80.249	0.538	0.879
T9	52.78	78.904	0.563	0.878
T10	53.04	78.189	0.597	0.877
T11	53.08	77.547	0.602	0.877
T12	53.04	78.653	0.535	0.88
T13	52.56	79.693	0.555	0.879
T14	52.14	81.204	0.56	0.879
T15	52.49	79.351	0.614	0.876
T16	52.69	82.092	0.428	0.883

Table 5: Reliability analysis for price

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Price (P): Alpha=0.831				
P1	19.71	17.903	0.473	0.803
P2	19.79	18.026	0.473	0.786
P3	19.91	17.816	0.564	0.788
P4	20.01	17.477	0.604	0.778
P5	19.86	17.365	0.623	0.775
P6	19.24	18.815	0.477	0.8
P7	09.51	08.009	0.57	0.785

Table 6: Reliability analysis for satisfaction level factor

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Satisfaction Level (S): Alpha=0.906				
S1	14.82	9.636	0.792	0.897
S2	15.09	9.574	0.764	0.884
S3	150.8	8.72	0.821	0.872
S4	14.8	9.727	0.713	0.895
S5	15.04	9.631	0.732	0.891

Table 7: Reliability analysis for loyalty factor

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Loyalty (L): Alpha=0.899				
L1	10.99	7.211	0.739	0.883
L2	10.78	7.482	0.749	0.881
L3	11.16	6.505	0.811	0.856
L4	11.32	6.252	0.816	0.856

4.6. Exploratory factor analysis for SERVQUAL measurement

The measurement in this current study includes five factors with 32 variables: (1) Reliability, (2) Responsiveness, (3) Competence, (4) Empathy, and (5) Tangible. Factor analysis was removed all variables of the factor Competence because of low factor loadings (<0.5).

After doing factor reduction, we have 17 items remained in SERVEQUAL measurement. We divided 17 items into 5 significant underlying factors (Table 8).

Table 8: Pattern matrix

Item	Factor				
	1	2	3	4	5
RES2	.870.				
RES3	.848				
RES1	.600				
RES4	.545		.279		
RE2	.527				
RE4	.482				
T14		.824			
T15		.697			
T4		.695			
T9		.533			
E1			.874		
E2			.681		
E3			.616		
T12				.915	
T11				.695	
T6					.930
T7					.608
KMO=0.840					
Cumulative= 54.5%					

Next, we named 5 factors according to meaning in the research questionnaire. The first group of items RES1, RES2, RES3, RES4, RE2 and RE4 was named as Responsiveness-Reliability. The second group of items T14, T15, T4, and T9 was still named as Tangible. E1, E2, E3 was Empathy. The two variables T11 and T12 were named as Hygiene. Finally, the name Game was given to two variable T6 and T7.

4.7. Exploratory analysis for price factor

The measurement for Price Factor was done by the method of principal axis factoring and promax rotation. The variable P7 was removed from the measurement because of factor loading is lower than 0.5. At last, the measurement for Price was divided into two factors. The first factor (P3, P4, P5, P6) was still called as Price, while the second one (P1, P2) was named as Service Fee (Table 9).

Table 9: Pattern matrix

Item	Factor
P4	.780
P3	.667
P5	.630
P6	.590
P1	.895
P2	.646
KMO	0.771
Cumulative	51.4%

4.8. Exploratory analysis for satisfaction level

As shown in the Table 10, the measurement for Satisfaction Level was done by applying the method of principal component analysis. The results for this analysis are absolutely appropriate because of KMO is larger than 0.5, significant level is lower than 0.5 and cumulative is larger 50%.

Table 10: Rotation matrix

Item	Factor
S3	.892
S1	.873
S2	.853
S5	.829
S4	814
KMO	0.877
Cumulative	72.745

4.9. Exploratory analysis for loyalty

As shown in the Table 11, the measurement for Loyalty was done by applying the method of

principal component analysis. The results for this analysis are absolutely appropriate because of KMO is larger than 0.5, significant level is lower than 0.5 and cumulative is larger 50%.

Table 11: Pattern rotation

Item	Factor
L4	.780
L3	.667
L2	.630
L1	.590
KMO	0.805
Cumulative	51,4%

4.10. The effect of SERVQUAL measurement on tourist satisfaction

To explore which factors can effect tourist satisfaction, regression analysis was applied in this section. The objective of regression analysis is to choose suitable strategies in enhancing the level of satisfaction and enhance tourist loyalty. The first table of interest is the Model Summary table (Table 12). Table 12 provides the R and R^2 value. The R value is 0.881, which represents the simple correlation and, therefore, indicates a high degree of correlation. The R^2 value indicates how much of the dependent variable, the satisfaction of tourist can be explained by the independent variables: *Responsiveness-Reliability, Tangible, Empathy, Hygiene, Game Activities, and Price*. In this case, 65.1% can be explained, which is very large.

Table 12: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.811[a]	.658	.651	.487	.658	93.807	4	195	.000

a. Predictors: (Constant); Dependent Variable: Satisfaction (DV); and Independent Variables

The next table is the ANOVA table. Table 13 indicates that the regression model predicts the outcome variable significantly well. Sig. column (P = 0.000) which is less than 0.05 and indicates that, overall, the model applied is *significantly good enough* in predicting the outcome variable.

The regression output, reproduced in Table 14 shows that *Empathy, Game Activities, Price* are not significant (sig >5%). These variables barely fail to reach significance and drop out of the regression model. They are one by one removed from the regression model.

Then, the final results from regression analysis are as in Table 15.

Table 13: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	89.094	4	22.274	93.807	.000[a]
Residual	46.301	195	.237		
Total	135.395	199			

a. Predictors: (Constant), Responsiveness-Reliability, Tangible, Empathy, Hygiene, Game Activities, Price and Dependent Variable: Satisfaction

Table 14: Predictors

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.457	.280	--	1.631	.104
Responsiveness-Reliability	.141	.009	.733	15.567	.000
Empathy	.055	.025	.103	2.190	.052
Tangible	.028	.012	.103	2.395	.018
Hygiene	.032	.014	.102	2.336	.021
Game activities	.010	.018	.027	.536	.060
Price	.006	.017	.017	.337	.057

Table 15: Predictors[a]

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.457	.280	--	1.631	.104
Res-Reliability	.141	.009	.733	15.567	.000
Tangible	.028	.012	.103	2.395	.018
Hygiene	.032	.014	.102	2.336	.021

a. Dependent Variable: Satisfaction; What is the unstandardized regression equation?; Satisfaction = 0.457 + 0.141 Res-Reliability + 0.028Tangible + 0.032 Hygiene

Thus, the regression model demonstrated that among service quality factors, only three factors: Responsiveness-Reliability, Tangible and Hygiene can cause positive effect on tourist satisfaction.

4.11. The effect of tourist satisfaction on their loyalty

In this section, we examine how tourist satisfaction can effect on their loyalty. Regression model includes one dependent variable (loyalty) and one independent variable (satisfaction) (Table 16).

Table 16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
				Sig.[a]
1	.741	.549	.547	0.000

a. Predictors: (Constant); Dependent Variable: Loyalty; and Independent Variables: Satisfaction

The next table is the ANOVA table. Table 17 indicates that the regression model predicts the outcome variable significantly well. Sig. column ($P = 0.000$) which is less than 0.05 and indicates that, overall, the model applied is *significantly good enough* in predicting the outcome variable.

Table 17: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.[a]
Regression	158.678	1	158.678	350.664	.000
Residual	130.322	288	.453		
Total	289.000	289			

a. Predictors: (Constant), Satisfaction; Dependent Variable: Loyalty

The regression output, reproduced in Table 18 shows that *satisfaction level* are significant (sig < 5%). The regression model demonstrated that *satisfaction level* has positive correlation with *loyalty level*. They are one by one removed from the regression model.

Table 18: Predictors

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.[a]
	B	Std. Error	Beta		
Constant	-1.006E-16	.040	--	.000	1.000
Satisfaction	.741	.040	.741	18.726	.000

a. Dependent Variable: Loyalty

However, after analyses, chapter four with regression model have demonstrated the accurate effect of service quality on tourist satisfaction and tourist loyalty presented Table 19.

Table 19: Hypotheses testing

	Research Null Hypotheses	Supported	Reject
H[1]	There is no relationship between reliability-responsiveness factor and visitor satisfaction.		✓
H[2]	There is no relationship between empathy factor and visitor satisfaction.	✓	
H[3]	There is no relationship between tangible factor and visitor satisfaction.		✓
H[4]	There is no relationship between hygiene factor and visitor satisfaction.		✓
H[5]	There is no relationship between game activities factor and visitor satisfaction.	✓	
H[6]	There is no relationship between price factor and visitor satisfaction.	✓	
H[7]	There is no relationship between service fee factor and visitor satisfaction.	✓	
H[8]	There is no relationship between visitor loyalty and visitor satisfaction.		✓

5. Conclusion

Due to the severe competition on the market nowadays, Vietnamese tourism industry leaders and business organizations need to pay more and more attention to get to know what factors affect the decisions of their customers (tourist) as well as the satisfaction level to their products and/or services delivering; because, satisfied visitors will bring up profits to them; whereas dis-satisfied visitors will take away not only the profits but also business opportunities to other potential customers. The purpose of the study is to adjust and complement components in scale measurement towards tourist business activities in the northern area of Vietnam as well as considering the influence of the scale component in the quality of tourist services to the satisfaction and loyalty of visitors.

The results of Crobach Alpha and EFA analysis pointed out that there are 7 factors in the scale component of tourism service quality: (1) responsiveness-reliability, (2) empathy (3) tangible, (4) game activity services, (5) hygiene (6) price, and (7) service fee. Regression model demonstrated that among service quality factors, only three factors: Responsiveness-Reliability, Tangible and Hygiene can cause positive effect on tourist satisfaction. Tangible factor has the most influence effect on tourist satisfaction. It indicated that visitors felt satisfied with landscape and architecture in the

resort. And if there is any improvement in the factors of tangible, visitor satisfaction will be increased. It also leads to the improvement of tourist loyalty. The regression model also indicated that satisfaction level has positive correlation with loyalty level.

However, it is urgent that these factors of game activities, hygiene's and tourism service quality that providing at tourist sites do not make customers satisfied and need to be solved as soon as possible to enhance the customer satisfaction level. And, some feasible solutions were also suggested to help tourism service improve its current performance and make its customers satisfied will be presented in the next section. These solutions are counted as immediate actions that tourism leaders should take into serious consideration. The results contribute to the theory of tourism services quality and boost the progress development of building business strategy to improve the quality of services for the tourist

This research, as with any study, is not without limitations. There is a number of limitations which faced this paper research: the sample size is small, compared with the size of total population, that was reflected on the level of reliability of the research results; and the limited time allowed to the respondents was reflected on the validity of the research outcomes, because they interviewed at the last time of their journey by the time they are ready for departure.

This research was designed to test hypotheses of factors related to service quality that have significant effect on tourist satisfaction and only showed that only three factors: Responsiveness-Reliability, Tangible and Hygiene can cause positive effect on tourist satisfaction. Therefore, the study has shed some light on the importance of focusing efforts on improving service quality in areas of *the research model* in order to continually increase the level of tourist satisfaction. Continued improvement in tourist satisfaction means that leaders are ready to stay ahead of its competitors. Tourist satisfaction would remain loyal of them and would bring continued profitability and business success

One important limitation of the study lies in the fact that the data were collected in only Vietnamese capital whereas the country has 64 provinces and cities in total. This study is limited because it investigates the situation of restricted number of respondents. It is recommended for future researches to do larger scales with a larger sample.

Similarity, a comparison of visitor satisfaction and visitor expectation may also be a very important issue to examine by other researchers in the future.

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