



# Assessment of tourist satisfaction in Da Nang museum, Vietnam

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## Abstract

The purpose of this study was to assess the impact of factors affecting visitor satisfaction when visiting the Danang Museum. The methodology involved a survey of 180 domestic and foreign tourists visiting the Danang Museum. The results of the study suggest that Da Nang Museum leaders should significantly consider visitors' satisfaction. Compared to factors (1) level of assurance, (2) reliability, (3) empathy, (4) tangibles and (5) responsiveness have the least impact on the satisfaction of visitors, but they are still positively related to visitor satisfaction.

**Keywords:** museum, satisfaction, Danang, Vietnam.

## Introduction

As the economy grows, incomes and living standards improve, and people generally people have more opportunities and conditions to relax, and explore the world. Tourism activities are thus increasingly popular and considered an indispensable need for people. In the past, the number of international tourists to Da Nang has been increasing and creating a strong development for the tourism industry in particular and the city economy in general. Within that framework, Da Nang Museum is a miniature space of Danang city, and the activities of the people of Danang are vividly recreated in this small space. For tourists to Danang, the museum is an interesting place to get an overview of the historical, cultural and social values of the land and its people. In addition to attracting visitors, the Da Nang Museum needs to be diverse and increasingly improve the quality of service so that every tourist visiting will always have the highest satisfaction after the end of their tour. After the opening time used to welcome visitors on their visit to the Da Nang Museum, the question we always ask is if tourists were really satisfied with the quality of service at the Da Nang Museum, and how we could improve tourists' satisfaction levels to attract more visitors to the museum.



Based on the above issues, the research aimed to assess the satisfaction of visitors at the Da Nang Museum and recommend solutions to improve service quality to better meet the tourists' needs when sightseeing us carried out by either domestic or international visitors. On the issue of objects surveyed by visitors at the Da Nang Museum, due to the ability and time being limited, this topic could not be studied at all and the scope of the study involved probability of why some tourists go or don't go to the museum.

In order to create conditions to improve the quality of the museum activities and exploit the strengths of each specialized item in the museum and at the same time, strengthen the management, protection, exploitation and promotion of the value of cultural heritage in the city, meeting the inevitable development trend of a grade-1 urban area, the People's Committee of Da Nang city has a huge task. It has invested in building a headquarters and displaying a new History Museum at the location of 24 Tran Phu; At the same time, it decided to separate the Cham Sculpture Museum and the Heritage Management Office of the Danang Museum to establish the Danang Museum of Cham Sculpture on July 2, 2007 and establish the Cultural Heritage Management Centre into Da Nang city on February 8, 2011.

After nearly two years of construction and exhibition, on April 26, 2011, the new Da Nang Museum was officially inaugurated and put into operation to serve visitors needs. This is a great achievement, a new and important step in the life of museums in Da Nang. The Da Nang Museum is a typical and important work and cultural institution of Danang City and is one of the most spacious and modern museums of Central Vietnam. The museum's display content is diverse on topics, rich in artefacts, lively with renewable spaces, and shown in the perspective and methodology of modern museums. Many documents and original artefacts with typical value of history, culture, rare and precious antique collections were first introduced. All have been used to recreate an overview of, and typical historical and cultural progress of the land and people of Da Nang from the beginning of the exploration and expansion of the territory, fighting against foreign invaders, gaining independence and the period of peace period, innovation, integration and development into a dynamic city in the Central region.

The Da Nang Museum has a display space with an area of over 3000m<sup>2</sup> including three floors introducing more than 2,500 documents, images, artefacts of historical and cultural value of Da Nang city and its vicinity; including more than 1,900 original artefacts collected from the day of liberation up to the present time. It also has many precious artefacts, first released to the public.

### **Literature review**

Much research on customer satisfaction for service quality has been done in recent times. Parasuraman (1985) spearheaded the study of service quality and this was considered by many researchers to be quite comprehensive (Svensson, 2002). These researchers define service quality as the distance between customer service expectations and their perceptions when used through the service, and finally provide a five-scale scale, (1) reliability, (2) responsiveness, (3) empathy, (4) Service capacity, (5) tangible facilities. Each component is measured by multiple observed variables, a total of 21 observed variables, and is referred to as SERVQUAL (Parasuraman 1988). SERVQUAL is a key tool in the service for quality assessment (Parasuraman, 1994). Parasuraman (1994) constantly tested the scale and looked at different theories, and assumed that SERVQUAL was a scale of reliability and value. This scale is applicable in many different service environments. However, there are also many studies proving that the components of service



quality vary according to different contexts such as service type, market, etc. (Behara, 2002; Robinson, 1999). In Vietnam, there have been many authors and research works on service quality. We can mention some typical projects. Juran (1988) said that quality is conformity to demand; Feigenbaum (1991) said it is a customer decision based on practical experience with a product or service, measured based on customer requirements, which may or may not be stated and can be conscious of or simply perceived, wholly subjective or professional and always represent dynamic goals in a competitive market; Lehtinen and Lehtinen (1982) argue that service quality must be assessed on two aspects, one is the service delivery process and the other is the result of the service. Nicolaides (2008) posits that a competitive strategy which is based on enhanced service quality is the most effective means for a service operation to achieve a significant position in its market. This requires over-all commitment from all employees and all managers. The service quality provision should first and primarily be highly consistent at all times and in all situations. Gronroos (1984) also proposed two areas of service quality, namely technical quality and functional quality. Technical quality refers to what is served and the quality of function dictates how they are served. However, Parasuraman is (1985, 1988) probably the pioneers in the study of service quality in specific and detailed marketing industry. According to Parasuraman (1988) service quality is a comprehensive assessment of the attitude towards service excellence.

### **Factors determining service quality**

In 2001, Sureshchandar et al, gave five factors affecting service quality, including: core service; human element; non-human element; tangibles; social responsibility; Gronroos (1990) conducted research and presented six factors measuring service quality as follows: professionalism and skills; attitudes and behaviour; accessibility and flexibility; reliability and trustworthiness; reputation and credibility; recovery. Parasuraman et al (1985) gave ten factors determining service quality including: access; communication; competence; courtesy; credibility; reliability; responsiveness; security; tangibles; understanding the customer; By 1988, he had consolidated these into five specific factors: reliability; responsiveness; tangibles; assurance; Currently there are many different scales used to measure and evaluate the quality of service, they are suitable for each service characteristic and all have one thing in common that is to show the level of satisfaction that customers feel. received when they use the service.

Parasuraman et al., (1985) are the ones who have conceptualized the components of service quality perceived by customers so that they can design a measurement scale to measure it. These researchers believe that in any service, the quality of the service perceived by the customer can be described via ten components, that is: reliability refers to the ability to perform the appropriate service suitably and timely the first time; Responsiveness expresses the desire and willingness of service staff to provide services to customers; Competence refers to the qualification to perform the service. This expertise is necessary for employees to interact with customers, staff directly perform the service, the ability to research to capture relevant information necessary for customer service; Access refers to making it easy for customers to access the service such as shortening customer wait times, service locations and convenient opening hours for customers; Courtesy speaks of a warm, respectful, and friendly customer service; Information related to communication and communication with customers in a language they can easily understand and listen to them about issues related to them such as service explanation, costs, complaint settlement question; Credibility expresses the ability to create trust for customers, making customers trust the company. This ability is reflected in the name and reputation of the company, the personality of the service staff to communicate

directly with customers; Security refers to the ability to ensure the safety of customers, reflected in material, financial, and information security; Understanding / knowing the customer manifests in the ability to understand customer needs by understanding customer requirements, taking care of them personally and identifying regular customers; Tangibles are shown through appearance, attire's attire and support equipment for the service.

The above ten-component model of service quality has the advantage of covering almost every aspect of a service. However, the model has the disadvantage of being complicated in measurement. Therefore, these researchers have repeatedly tested this model and came to the conclusion that service quality consists of five basic components, that is, reliability: speaks of the ability to perform services suitably and timely the first time; Responsiveness: expressing the desire and willingness of service staff to provide services to customers; Ensuring the quality of employees will create confidence for customers: professionalism, courtesy, respect for customers, ability to communicate; Empathy: showing care and attention to each individual customer; Tangibles: shown through appearance, attire's attire, service equipment.

In fact, SERVQUAL consists of three segments. The first two segments, each of which are 22 observed variables, measure the quality of service expected and perceived by customers. The variables use a 7-point Likert scale. The discrepancy (perceived minus expectations) of the evaluation denotes service quality. This measurement model is called a disconfirmation model. The third segment asks customers to rate the importance of five components. After many tests and application studies, SERVQUAL has been recognized as a measure of theoretical and practical value. However, there is still a lot of debate, criticism and questioning about this scale, especially on the generality and validity of measurement. Another thing that can be seen is that SERVQUAL measurement procedure is quite verbose. As a result, a variation of SERVQUAL has been SERVPERF. This scale was introduced by Cronin and Taylor (1992, cited by Thongsamak, 2001), determining service quality by measuring perceived service quality (instead of measuring both perceived and expected quality as SERVQUAL). They said that service quality is best reflected by perceived quality without the expected quality as well as the weighting of the five components. Due to its origins in the SERVQUAL scale, the components and observed variables of this SERVPERF hold as SERVQUAL. This measurement model is called the perception model.

Both non-affirmative and perceptual models have follow-up studies in use. It is worth mentioning that the results of the above studies show that it is difficult to conclude which model is not right or even more correct to use. This five-component model of service quality has also been used by many researchers to measure service quality in many different areas as well as in different markets. Testing results show that service quality is not consistent with each other in different service industries. Another issue raised is the importance of each component of service quality to customer satisfaction. Therefore, more research is needed in this area. Gronroos (1984) introduced this model, and service quality is assessed by comparing between the value that customers expect before using the service and the value that customers receive when using the service.

Research issues: How technical quality and functional quality affect service delivery and how customers perceive the factors. To measure the quality of service, Gronroos offers three criteria: technical quality, functional quality and image. (1) The technical quality that describes what service is provided and the quality that the customer receives from the service. (2) Functional quality describing how the service is provided or how customers receive technical quality results. (2) Image is a

very important factor, built primarily on the technical quality and functional quality of the service, in addition to a number of other factors such as tradition, word of mouth, pricing policy and PR (Mattsson, 1992); In most studies of service quality, expectation is seen as the belief in attributes given as criteria for evaluation. However, this issue needs to be considered in the light of standards based on experience, acceptable perceptions and minimum expectations. This model argues in favour of a value-based approach to service quality and considers it as a result of satisfaction and comparison of perceived standards, against experience-based standards. This model shows hidden negative objections to the level of predictive value that hypothesized to determine satisfaction at a higher attitude level. This objection is a key determinant of customer satisfaction and there should be more attention to methods based on the knowledge and experience that customer service concepts have formed and changed. This model also examines the combination and determines the importance of the constituent elements of the entire service activity. This model provides new information on how a cognitive standard can be formed and how it can be maintained in customer perceptions. The model sheds light on the importance of negative objections as a decisive factor in customer satisfaction.

Cronin and Taylor (1992) studied concepts, methods of measuring service quality and the relationship with customer satisfaction and goodwill, thereby drawing conclusions that awareness factors are a better predictor of service quality. Research issues: What is the role of values in identifying services? How does value affect purchasing decisions? Cronin and Taylor's SERVPERF measurement of service quality is seen as a convenient and clear method of measuring service quality based on measurement through the results of service quality. Cronin and Taylor argue that the SERVQUAL framework of Parasuraman et al. (1985) is easily confusing customer satisfaction and attitudes.

These authors argue that service quality can be defined similarly to an attitude and instead of the expected performance results, the actual performance results determine the service better. Accordingly, service quality is assessed only through customer perception without assessment of service quality in customer expectations, without any weight for each component of service quality. This scale, introduced by Cronin and Taylor (1992, cited by Thongsamak, 2001), determines service quality by measuring perceived service quality (instead of measuring both perceived and expected quality, such as: SERVQUAL). They said that service quality is best reflected by perceived quality without the expected quality and weighting of the five components. Because of its origins from the SERVQUAL scale, the components and survey variables of this SERVPERF hold as SERVQUAL, which are 1. Tangible means, 2. Reliability, 3. Responsibility, 4. Ability service, 5. Sympathy.

This measurement model is called a perception model. Research shows that service quality is a precedent (theme) of customer satisfaction that this precedent affects the intensity of buying products and using services of customers rather than quality service. Research shows that customers do not always buy the best quality product / service but instead can buy the product / service according to their assessment of the value of the service. Cronin and Taylor (1992) suggest that a performance-based measure of performance may be a better way to measure service quality, compared to SERVQUAL, which reduces up to 50% of the impact factor. However, a lot of useful information is lost when calculating actual performance measures to assess customer service satisfaction. The model lacks generalization for all service activities. A quantitative relationship between customer satisfaction and service quality needs to be established. For customers with positive satisfaction, they and their service providers will have a good relationship, mutual trust and satisfaction



when dealing with each other. Stable satisfaction: For customers who have a stable satisfaction, they will feel comfortable and satisfied with what is happening and do not want to have a change in the way the service which is provided. Therefore, these customers appear to be comfortable, have high trust in the business and are willing to continue using their services. Passive satisfaction: Customers with passive satisfaction have little trust in the business and they think that it is difficult for businesses to improve the quality of service and change according to their requirements. They feel satisfied not because the business fully satisfies their needs but because they think that it will not be possible to ask for better improvement. Therefore, they will not actively contribute ideas or appear indifferent to the improvement efforts of the business. In the field of service business that satisfies the needs of customers is always the top concern of businesses.

There are different views on the level of customer satisfaction: According to Bachelet (1995), Oliver (1997), Nicolaidis, (2008; 2016), satisfaction is explained as a customer emotional response to a product or service based on personal experience. Kotler (2001) states that satisfaction is the degree to which a person's sensory state originates from comparing the results obtained from a product or service to his or her expectations. Service businesses often perceive that service quality and customer satisfaction are consistent. However, in fact, there have been many studies showing that service quality and customer satisfaction are two distinct concepts. According to Zeithaml and Bitner (2000), customer satisfaction is a general concept of customer satisfaction when using products or services while service quality focuses on specific components of the service. In addition, there are many studies that test and prove the relationship between service quality and customer satisfaction (Cronin & Taylor, 1992; Spreng & Mackoy, 1996). But very few studies have focused on testing the level of interpretation of service quality components for customer satisfaction, particularly in specific service industries (Lassar, 2000). Service quality is an intangible aspect which does not exist beyond an individual customer's perception but it may be commonly defined as service which balances the needs and expectations of customers, employees and owners and it needs to relate to the customers' expectations and satisfy their needs and wants unfailingly (Nicolaidis, 2008).

In the study of the relationship between service quality and customer satisfaction Spreng and Mackoy (1996) showed that service quality is the premise of customer satisfaction. Therefore, in order to improve customer satisfaction, service providers must improve service quality. In other words, service quality and customer satisfaction are closely interrelated, in which service quality is what is created first and then determines customer satisfaction. The causal relationship between these two factors is a key issue in most customer satisfaction studies. If suppliers provide customers with products of high quality that meet their needs, initially make customers happy. Therefore, service quality is the most important factor affecting customer satisfaction (Cronin & Taylor, 1992; Yavas et al, 1997; Ahmad & Kamal, 2002).

Nguyen Thi Mai Trang, (2006) studied service quality, satisfaction and loyalty of supermarket customers in Ho Chi Minh City. The study used the SERVQUAL scale of Parasuraman et al., and the technical / functional quality scale of Gronroos (1990) but adjusted it to fit in the context of a library. The research concept scales were evaluated by Cronbach alpha reliability coefficient and continue to be tested for convergence and discriminant validity through factor analysis (EFA). The paper examined the relationship between supermarket service quality and consumer loyalty towards supermarkets. These relationships were tested with 318 customers at the supermarket in Ho Chi Minh City. Research results showed that service

quality is an important factor to satisfy customers as well as increase their loyalty to supermarkets. Moreover, the results also show that the age and income factor does not affect the role of service quality in supermarket customers' satisfaction and loyalty. Huynh Phuong Linh and Luu Tien Thuan (2012) analysed factors affecting customer loyalty for Pepsi carbonated soft drinks in Can Tho City. Data of the study was obtained via interviews directly from 171 final consumers of Pepsi carbonated soft drinks in the center of Can Tho City. The analytical methods used in the study were: descriptive statistics for a general assessment of customer loyalty, a factor analysis method and Cronbach's Alpha coefficient testing to build building and testing the scales. In addition, the method of linear structure model (SEM) was used to test the reliability, discriminant validity, convergence value, the monolithic of concepts and scales in the research. Research results showed that perceived quality is an important factor in customer satisfaction and price factor does not affect satisfaction. On the other hand, customer loyalty is only positively impacted by two factors: satisfaction and corporate image, and habit factors that do not really affect customer loyalty.

### **In Museums**

In the field of museums, the quality of service is a very important factor that affects satisfaction and therefore determines the number of visitors to the museum. One of the most accepted service quality scales is the SERVQUAL scale created in the mid-1980s by Parasuraman, Zeithaml and Berry and the SERVQUAL variant is SERVPERF. This is a multi-dimensional measurement scale, consisting of five components: reliability; response; guarantee; empathy; tangibility. Cronin and Taylor's SERVPERF measurement of service quality is seen as a convenient and clear method of measuring service quality based on measurement through the results of service quality.

This study focused on testing theoretical models, hypotheses about the relationship between components of service quality and visitor satisfaction to assess the factors that really affect the guests' satisfaction when coming to the Museum. The hypotheses were set out as follows:

*H1: The tangibility influences the satisfaction of visitors at Da Nang Museum.*

*H2: The reliability influences the satisfaction of visitors at Da Nang Museum.*

*H3: Sympathy influences visitor satisfaction at the Danang Museum.*

*H4: The level of assurance affects the satisfaction of visitors at Da Nang Museum.*

*H5: Responsiveness has an effect on visitor satisfaction at the Da Nang Museum.*

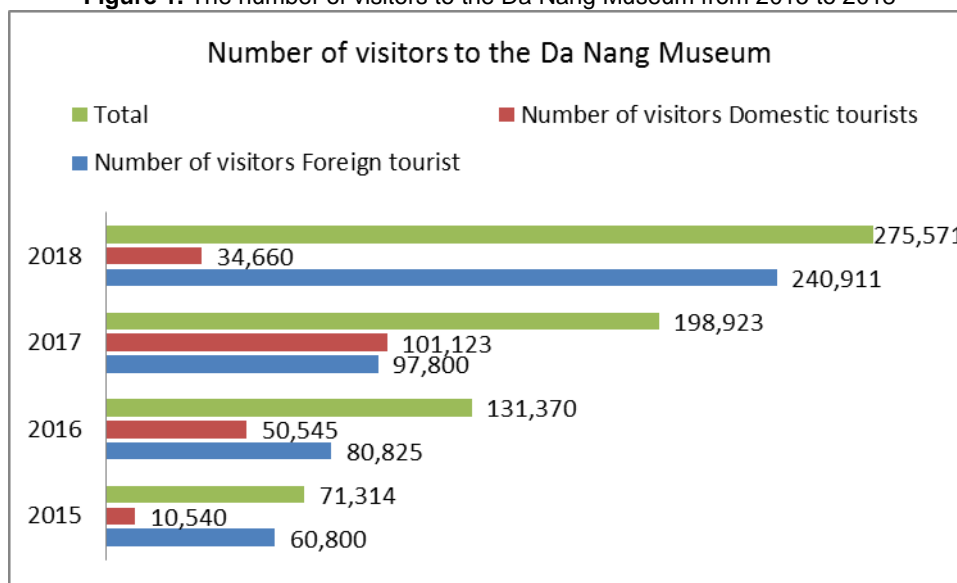
$$\text{SUHAILONG} = \beta_0 + \beta_1 * \text{SUHUUHINH} + \beta_2 * \text{DOTINCAY} + \beta_3 * \text{SUCAMTHONG} + \beta_4 * \text{DAMBAO} + \beta_5 * \text{DAPUNG}$$

Information variables in the model

- SUHAILONG: satisfaction
- SUHUUHINH: tangibility
- DOTINCAY: reliability
- SUCAMTHONG: sympathy
- DAMBAO: level of assurance
- DAPUNG: responsiveness

## Research results

**Figure 1.** The number of visitors to the Da Nang Museum from 2015 to 2018



(Source: Operation Report of Danang Museum)

According to the statistical results of the Danang Museum from 2015 to 2018, the number of visitors to the Da Nang Museum is increasing, which is the result of the efforts of all officers and employees Da Nang Museum. One of the most important tasks of the Da Nang Museum is its good communication and promotion. On average, the Danang Museum organizes more than 20 thematic and traveling exhibitions per each. Da Nang Museum has collaborated with Danang Department of Education and Training to organize programs such as: "Extracurricular lessons"; "Club I love history"; "Ring the golden bell"; "Hear artefacts told"; "Discovering summer" ... and practical experience chains which all attract tens of thousands of students and students to participate and then they successfully transfer students (Da Nang Department of Education and Training) Danang) spontaneously to the museum voluntarily. After four years of official operation, the Da Nang Museum has succeeded in its marketing and it is proud of this as it is clearly shown in the annual statistics on the number of visitors attending.

Samples were collected through the method of distributing questionnaires and direct collection thereof: The total number of questionnaires issued was 200, the number of questionnaires collected was 180 (thus a 90% response rate). After analysis and examination, 12 tables were rejected due to lack of information or only one rating for all statements.

Survey results show that the people who visit the museum are cadres, officials and public employees accounting for a high proportion of 36.9%, retirees account for 18.5%, followed by farmers, traders, and general workers. This shows that visitors to Danang Museum are quite diverse and emanate from all walks of life. Among the visitors visiting the museum participating in the survey, the number of new visitors for the first time accounted for the highest proportion with 42.3%, followed by the second coming visitors accounted for 28.6%. 3rd time also accounted for 22.0% and > 3 times was 7.1%. This shows that a majority of foreign visitors are visiting Da Nang Museum. The results on the survey showed that visitors have time to visit from 1 hour to 2 hours, accounting for a high proportion of 48.8%. This shows that the itinerary of the museum is reasonable, and very consistent with the time that visitors desire. However, there are still a number of tourists with less than half an hour of



sightseeing numbering a total of 17.3%. Originating from their needs and desires each traveler will choose for themselves the appropriate information channels to learn about the museum's attractions. Of the reasons given for the survey, visitors learn about the museum through the Website and this is accounting for 45.8%, besides the reason for finding out on Facebook accounts for 24.4%, which means that Facebook is also an important information channel to help the museum propagate and promote activities and events to visitors quickly. Besides, tourists know about the museum through the information channels of travel agencies, hotels, information counters and leaflets, magazines, and travel guides which account for 12.5%. Looking at the statistical results, the need for understanding the Da Nang land and people is immediately chosen by the majority of visitors, followed by the the highly appreciated activities and events of the museum. This reason speaks to the trust that the visitors have for the Da Nang Museum as well as the efforts of the staff that have been satisfied by visitors with good service quality delivery.

### Test of the reliability of the scales through Cronbach's Alpha coefficient

Table 1. Results of reliability analysis and factor analysis

No	Group variables	Number of observation variables	Cronbach's Alpha
1	Tangibles	4	0.906
2	Reliability	5	0.873
3	Empathy	5	0.916
4	Level of assurance	4	0.762
5	Responsiveness	3	0.911
6	Satisfaction	4	0.815

Source: Analysis results from SPSS 16.0 software

All accepted observed variables were used in the subsequent factor analysis.

### Factor analysis for independent variables

From the results of the reliability analysis of the scale above, the factor analysis was first conducted on 21 observed variables of independent variables affecting customer satisfaction of savings deposit (according to theoretical model).

Table 2. Testing KMO and Barlett's

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>.818</b>
<b>Bartlett's Test of Sphericity (Kiểm định Barlett's)</b>	<b>Approx. Chi-Square</b>	<b>2109.589</b>
	<b>Df</b>	<b>210</b>
	<b>Sig.</b>	<b>.000</b>

Source: Analysis results from SPSS 16.0 software

The results of factor analysis show that the KMO index is  $0.818 > 0.5$ , which proves that the data used for factor analysis is appropriate. Statistical results Chi square of Bartlett's test is 2109.589 with a significance level (p\_value)  $\text{sig} = 0.000 < 0.05$  so the observed variables are correlated with each other in the overall scope so EFA results are consistent with research data. The results show that the 21 observed variables were initially grouped into 05 groups. Value of the total variance extracted =  $73,049\% > 50\%$ : satisfactory; then it can be said that these five factors explain 73.049% of the data variability. The value of Eigenvalues coefficient is high ( $> 1$ ), the fifth factor has Eigenvalues (lowest) =  $1,936 > 1$ .

Factor matrix with Principal Varimax rotation method:

**Table 3.** Results of factor analysis of the components affecting visitor satisfaction  
 Rotated Component Matrix<sup>a</sup>

	Component				
	1	2	3	4	5
SUCAMTHONG4	.902				
SUCAMTHONG3	.870				
SUCAMTHONG1	.846				
SUCAMTHONG2	.829				
SUCAMTHONG5	.824				
DOTINCAY2		.838			
DOTINCAY5		.837			
DOTINCAY3		.830			
DOTINCAY4		.759			
DOTINCAY1		.748			
SUHUUHINH4			.903		
SUHUUHINH1			.884		
SUHUUHINH3			.874		
SUHUUHINH2			.821		
DAPUNG1				.923	
DAPUNG2				.917	
DAPUNG3				.853	
DAMBAO2					.788
DAMBAO1					.744
DAMBAO3					.743
DAMBAO4					.742

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Source: Analysis results from SPSS 16.0 software

**Factor analysis for dependent variables**

The four observed variables of the concept of "visitor satisfaction" were analyzed according to the Principal components method with Variamax rotation. Variables with a factor load factor <0.5 that did not guarantee convergence with the remaining variables in the scale were discarded.

**Table 4.** Testing KMO and Barlett's

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.770
Bartlett's Test of Sphericity	Approx. Chi-Square	226.216
	Df	6
	Sig.	.000

Source: Analysis results from SPSS 16.0 software

KMO coefficient = 0.770 > 0.5: factor analysis is appropriate for the research data. The result of Barlett's test is 226,216 with significance level sig = 0.000 < 0.05, (reject the hypothesis H0: observed variables are not correlated with each other in the whole) so the hypothesis of the factor model is not suitable and were rejected, this proves that the data used for factor analysis is relevant. The results show that the four observed variables were initially grouped into one group. Value of the total variance deducted = 64,581% > 50%: satisfactory; It can then be said that this factor accounts for 64,581% of the data variability. Eigenvalues coefficient value of factor is greater than 1.

Thus, with all results obtained from Cronbach Alpha reliability and EFA discovery factor analysis above, it shows that the scale of research concepts has met the requirements of value and reliability. The observed variables represent the research concepts that need to be measured. Summary of testing results is shown in Table 5. After conducting the reliability analysis of the scales through Cronbach's Alpha coefficient and EFA factor analysis to determine the factors obtained from observed variables, five factors were included for tissue testing. Pearson correlation analysis was used to consider the suitability of introducing components into the regression model. The results of multivariate regression analysis were used to test the hypotheses of the model. Thus, to test the model in this study, it was necessary to perform multiple linear regression equations with 5 independent variables - (1) Visibility, (2) Reliability, (3) Sympathy, (4) Level of assurance, (5) Responsibility - impact on the dependent variable was the satisfaction of the visitors. The independent variables were correlated with the dependent variables so they were included in the model to explain visitor satisfaction. Pearson correlation analysis results showed that several independent variables were correlated with each other. Therefore, the regression analysis paid attention to the problem of multi-collinearity.

### Linear regression analysis

We conducted a regression analysis to determine the specific weight of each component affecting customer satisfaction. Regression analysis was performed with 5 independent variables (1) SUHUUHINH, (2) DOTINCAY, (3) SUCAMTHONG, (4) ĐAMBAO, (5) ĐAPUNG and SUHAILONG as the dependent variable. The analysis was performed by the general regression method of variables with SPSS software. The regression results are as follows:

**Table 5.** Results of the regression weights Coefficients<sup>a</sup>

Model	Unstandardized Coefficients (Hệ số chưa chuẩn hoá)		Standardized Coefficients (Hệ số đã chuẩn hoá)	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.040	.193		.207	.836		
SUHUUHINH	.144	.034	.194	4.291	.000	.908	1.101
DOTINCAY	.231	.036	.294	6.347	.000	.866	1.155
SUCAMTHONG	.224	.031	.325	7.113	.000	.890	1.123
DAMBAO	.293	.039	.337	7.485	.000	.914	1.094
DAPUNG	.165	.030	.253	5.486	.000	.872	1.147

a. Dependent Variable: SUHAILONG

### Model Summary

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. Change	
1	.836 <sup>a</sup>	.699	.690	.314177	.699	75.383	5	162	.000	1.871

a. Predictors: (Constant), DAPUNG, SUHUUHINH, DAMBAO, SUCAMTHONG, DOTINCAY

b. Dependent Variable: SUHAILONG

ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	37.204	5	7.441	75.383	.000 <sup>b</sup>
	Residual	15.991	162	.099		
	Total	53.195	167			

a. Dependent Variable: SUHAILONG

b. Predictors: (Constant), DAPUNG, SUHUUHINH, DAMBAO, SUCAMTHONG, DOTINCAY

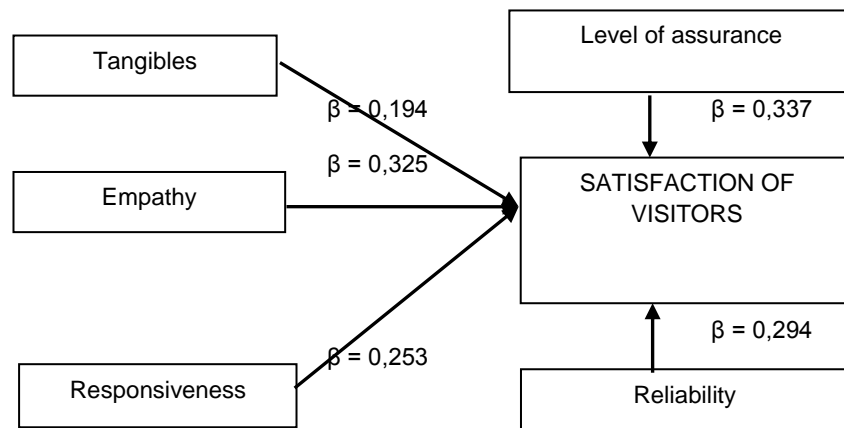
Source: Analysis results from SPSS 16.0 software

The result of multiple linear regression shows that the coefficient of determination  $R^2$  (R- Square) is 0.699 and the adjusted  $R^2$  (Adjusted R-square) is 0.690; This means that the linear regression model was built in accordance with the data set at 69.0% (or the model explained 69% of the variation of the variables depending on the satisfaction of visitors at Da Nang Museum). Check the auto-correlation phenomenon by Durbin - Watson coefficient = 1,871; i.e. independent variables in the model do not have autocorrelation. VIF magnification coefficients are all smaller than 2, indicating no multi-collinear phenomenon in the model. The statistic F in ANOVA analysis reaches 75,383 at the significance level Sig = 0.000 < 0.05. Thus, the given linear multiple regression model is consistent with the model and research data.

From the multiple linear regression equation for standardized beta-weighted variables describe the relationship between the five independent variables - "Guaranteed level", "Reliability", "Sympathy", " Visibility ", " Responsibility " impact on the customer satisfaction variable as follows:

$$SUHAILONG = 0,194 * SUHUUHINH + 0,294 * DOTINCAY + 0,325 * SUCAMTHONG + 0,337 * DAMBAO + 0,253 * DAPUNG$$

Figure 2. Research results



Source: synthesis of the author

Results of 5 surveying factors affecting visitor satisfaction, including 1 - Guarantee level ( $\beta = 0.337$ ), 2 - Reliability ( $\beta = 0.294$ ), 3- Sympathy ( $\beta = 0.325$ ), 4 - Visibility ( $\beta = 0.194$ ), 5 - Ability to meet ( $\beta = 0.253$ ). An  $R^2$  (Adjusted R-square) of 0.690 means that these factors explain 69% of visitor satisfaction. Such hypotheses are supported by the survey data.

## Conclusion

Through an analysis of the visitor's situation at the Da Nang Museum and factors affecting visitor satisfaction. We draw a general assessment of the achieved results as well as the difficulties that need to be overcome to meet the increasing demand of visitors' satisfaction at the Da Nang Museum. Visitors are mainly concentrated in the age group of about 36 to 45 years old, mostly officials and employees with stable income that is relatively high. Assessing the reason to choose the museum as the destination, the majority of visitors choose to visit it so as to understand the land and people of Danang in an overview way, and secondly because they experience



activities and events at the Danang Museum. Besides the above reasons, visitors choose to visit the Danang Museum because this is a place that can help students and where they can study and also be entertained. This is also the strength that the museum should take advantage of to retain visitors. The time that visitors choose to visit from half an hour to less than 2 hours is relatively high, accounting for nearly 50% of the total number of visitors. This shows that the itinerary of the Museum is reasonable, consistent with the time that visitors desire. Factors included in the study model to consider the level of influence on visitor satisfaction were: tangibility, reliability, sympathy, assurance and responsiveness.

After analyzing the EFA discovery factor and regression, all five factors affect visitor satisfaction. According to the visitors, the factors "Guaranteed", "Sympathy" and "Reliability" have a strong impact on the satisfaction of visitors, then the factor "Ability to meet "and" Visibility "also have an impact. The overall results of the scale assessment show that the measurement scales of the research concepts in the research model ensure reliability and value. The research also conducted the testing of hypotheses and research models by multiple linear regression method and made the measurement of the importance of factors affecting visitor satisfaction. The test results show that all assumptions made from H1, H2, H3, H4, H5 are accepted. The study also presented the importance of each individual impact on visitor satisfaction.

This research topic has some limitations and suggestions for future research as follows: Firstly, the topic did not investigate other influencing factors that can affect customer satisfaction. sightseeing, museum images, etc. In future research, it is expected that researchers will include these variables in the research scope. Secondly, this study only conducted surveys with convenient sampling methods, randomly approaching the visitors of Da Nang Museum so it was not generalized of the research sample.

In subsequent studies, a more representative sample should be used to increase generalization. Future research is to increase the sample size and expand the scope of surveys in many provinces and cities across the country. Finally, this study used multiple linear regression analysis tools to test the research hypotheses and used Pearson correlation analysis to confirm the correlation between research concepts. An alternative approach that future research can make is to use the linear SEM structure model to both test the hypothesis and determine the causal relationship between the research concepts.

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