

Factors Affecting Customer Satisfaction with the Bus Service Quality of Phan Thiet Automobile Transport Cooperative

Luong My Linh¹, Nguyen Quoc Nghi², Dinh Hoang Anh Tuan¹

¹Phan Thiet University, ²Can Tho University, Vietnam

Corresponding Author: Luong My Linh

ABSTRACT

This study aims to determine the factors influencing customer satisfaction with the bus service quality of Phan Thiet Automobile Transport Cooperative. Research data are collected from 290 customers who regularly use bus services of Phan Thiet Automobile Transport Cooperative. Applying the exploratory factor analysis and multivariate linear regression, the research results indicate factors positively affecting customer satisfaction with bus service quality are trust, assurance, empathy, traffic culture, perceived value, quality of the station, and tangible facilities. In which, the perceived value puts the most impact on customer satisfaction with the bus service quality of Phan Thiet Automobile Transport Cooperative.

Keywords: *satisfaction, bus service, customer.*

1. PROBLEM STATEMENT

Modern life allows people to have higher income and living standards, this leads to high requirements on the product/service quality. Accordingly, the demands for services such as food, entertainment, transportation, etc. significantly improved. Especially, traveling is an essential demand in modern society. In recent years, passenger transport services have developed rapidly to meet the travel demands, especially bus services in urban areas. Using buses brings certain benefits for individuals and the environment; meanwhile, people in urban areas rarely use buses. Most customers tend to choose

private vehicles over buses due to their inconveniences, such as long waiting times, jostling, poor service, and low-quality facilities. This significantly affects the customer's satisfaction and acceptance to continue using the service in the long term. Within the above context, Phan Thiet Automobile Transport Cooperative has constantly improved the quality of customer service and considered customer satisfaction as the top priority. Therefore, identifying affecting factors to customer satisfaction and proposing solutions to improve service quality will be the key to find out ways to enhance bus service quality of Phan Thiet Automobile Transport Cooperative.

2. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

Referring to the concept of satisfaction, Bachelet (1992) considers customer satisfaction as the customer's emotional response to their experiences with a product or a service. Customer satisfaction is the expectation before and after purchasing a product or service (Oliver, 1997). According to Zeithaml and Bitner (2000), customer satisfaction is the customer's evaluation of a product or service that has met their needs and expectations. Kotler and Keller (2006) have defined customer satisfaction as the degree of a person's sensory state resulting from comparing the results obtained from consuming a product/service with their expectations. The level of satisfaction depends on the difference

between the results received and the expectations. If the actual results are lower than expected, the customers are not satisfied; if the actual results are commensurate with the expectation, the customers are satisfied; if the actual results are higher than expected, the customers are highly satisfied. Zeithalm and Bitner (2000) argued that customer satisfaction is affected by many factors such as product quality,

service quality, price, situations, and personal factors. In the service industry, service quality is an essential factor that strongly influences customer satisfaction.

Based on the literature review and group discussions (qualitative research), the study proposes seven factors that are likely to affect customer satisfaction with the quality of bus service of Phan Thiet Automobile Transport Cooperative.

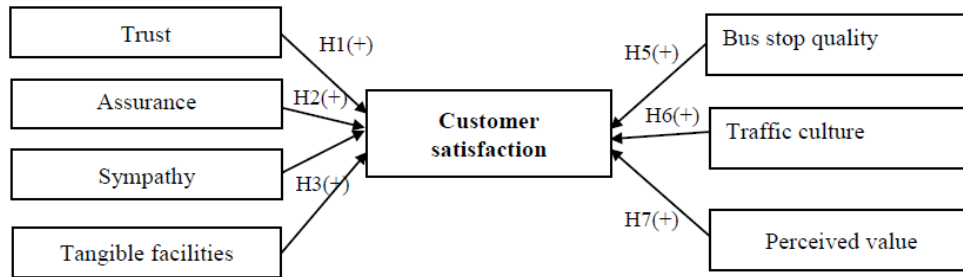


Figure 1: Proposed research method

From the above model, the research hypotheses are as follows: H1: Trust positively affects customer satisfaction with bus services. H2: Assurance has a positive influence on customer satisfaction with bus services. H3: Empathy positively impacts customer satisfaction with bus services. H4: Tangible facilities positively affect customer

satisfaction with bus services. H5: Bus stop quality beneficially affects customer satisfaction with bus services. H6: Traffic culture positively influences customer satisfaction with bus services. H7: Perceived value has a positive influence on customer satisfaction with bus services.

Table 1: Interpretation of observed variables in the research model

Sign	Observed variables	References resource
	Trust	
TR1	The bus follows the route, schedule, and frequency as announced.	Kian et al. (2012), Nghi (2014)
TR2	The information about time, schedule, and frequency is adequate and easy to understand.	
TR3	High level of safety and hygiene.	
TR4	The service fee is the same as in the price list.	
TR5	Drivers follow traffic rules.	
	Assurance	
AS1	The staff is always polite to customers.	Kian et al. (2012), Nghi (2014)
AS2	The staff cares about preserving customers' wealth and property.	
AS3	Customers always feel safe when using the service.	
	Sympathy	
SY1	The staff arranges seats for priority groups: the elderly, children, pregnant women, the disabled.	Kian et al. (2012), Nghi (2014)
SY2	Monthly tickets can be purchased easily and conveniently.	
SY3	The staff is always happy to show care for customers.	
	Tangible facilities	
TF1	The equipment on the bus is in good condition.	Chow and Luk (2005), Kian et al. (2012)
TF2	Equipment is neatly arranged.	
TF3	The staff's dress code is professional.	
	Bus stop quality	
SQ1	Bus stops have a convenient location for waiting and picking up buses.	Kian et al. (2012), Nghi (2014)
SQ2	Bus stops are clean.	
SQ3	Bus stops have sunshades and safe seats.	
SQ4	All bus stops have clear route instructions.	
	Traffic culture	
TC1	There are preferential policies for people with disabilities, the elderly, women, and children.	Kian et al. (2012), Nghi (2014)
TC2	Staff respect customers and behave politely.	
TC3	The bus service reflects the city's characteristics.	

Table 1 Continued...

	Perceived value	
PV1	The ticket price is commensurate with the quality of service received.	Kian et al. (2012), Nghi (2014)
PV2	The ticket price is commensurate with the expected service quality.	
PV3	Ticket prices do not change when gasoline prices increase.	
	Satisfaction	
SA1	Satisfied with the service process.	Kian et al. (2012), Nghi (2014)
SA2	Satisfied with the responsiveness.	
SA3	Satisfied with the service quality.	
SA4	Satisfied with the value received from the service.	

3. RESEARCH METHODOLOGY

The hypothesis test is carried out in a three-step order as follows: Step 1: Use Cronbach's alpha coefficient to test the degree of internal correlation between observed variables. Step 2: Use exploratory factor analysis (EFA) to evaluate the convergent and discriminant validity of each observed variable. Step 3: Use multivariable linear regression to point out the influencing factors and the influence level of each factor within customer satisfaction.

According to Tho (2011), the sample size needed for the study depends on several factors such as the data analysis method and the required reliability. Hair et al. (1998) suggested that to apply EFA, the sample size should be at least 50 and the best could be 100. The observation/ measurement ratio should reach 5/1, meaning that one measure needs at least five observations. In particular, the proposed research model includes 28 observed variables, so the required minimum sample size is $28 \times 5 = 140$. The study has surveyed 290 customers regularly using bus services of Phan Thiet Automobile Transport Cooperative. Therefore, the collected data ensures a high implementation level of the research model.

4. RESEARCH RESULTS AND DISCUSSION

To test the research model of factors affecting customer satisfaction with bus services of Phan Thiet Automobile Transport Cooperative, the study uses the SPSS software to support the analysis process. The test results are presented in the following order:

4.1. Test the reliability of scales

The study uses Cronbach's alpha coefficient to test the reliability of the scales. The test results in table 2 show that all scales have high Cronbach's alpha values (> 0.7). The corrected item-total correlation of variables is greater than 0.3, so no variable is excluded from the research model (Nunnally, 1978; Peterson, 1994; Slater, 1995). Therefore, all observations are satisfactory and can be included in the exploratory factor analysis.

Table 2: Reliability test result

Factor	Number of observed variables	Min corrected item-total correlation	Cronbach's alpha
Trust	5	0.469	0.805
Assurance	3	0.470	0.701
Sympathy	3	0.616	0.801
Tangible facilities	3	0.618	0.793
Bus stop quality	4	0.551	0.782
Traffic culture	3	0.645	0.817
Perceived value	3	0.574	0.775
Satisfaction	4	0.487	0.783

Source: Survey data, 2021

4.2 Exploratory factor analysis (EFA)

The proposed research model requires the exploratory factor analysis to perform twice with independent factors and the dependent factor. The EFA for independent scales achieved the following results: (1) Factor loading value of scales > 0.5 . (2) Suitability test of the model ($0.5 < KMO = 0.742 < 1.0$). (3) Bartlett's test on correlation of observed variables (Sig. = $0.00 < 0.05$). (4) Total variance explained = $66.7\% > 50\%$. Hence, the observed variables achieve discriminant and convergent validity (Hair et al., 1998). Thereby, 7 independent factors are created from 26 observed variables, there is no disturbance among variables, so the factors' names remain the same. Similarly, the EFA results of the Satisfaction scale achieves the

following values: (1) Factor loading > 0.5; (2) Testing the model's suitability ($0.5 < KMO = 0.776 < 1.0$). (3) Bartlett's test on correlation of observed variables (Sig. = $0.00 < 0.05$). (4) Total variance explained = $60.92\% > 50\%$. The observed variables achieve discriminant and convergent validity (Hair et al., 1998). Therefore, this factor has no variable disturbance, so its name remains the same as in the proposed research model.

Table 3: Exploratory factor analysis test result

Sign	Observed variables	Factor
TR	5 variables: TR1, TR2, TR3, TR4, TR5	Trust
AS	3 variables: AS1, AS2, AS3	Assurance
SY	3 variables: SY1, SY2, SY3	Sympathy
TF	3 variables: TF1, TF2, TF3	Tangible facilities
SQ	4 variables: SQ1, SQ2, SQ3, SQ4	Bus stop quality
TC	3 variables: TC1, TC2, TC3	Traffic culture
PV	3 variables: PV1, PV2, PV3	Perceived value
SA	4 variables: SA1, SA2, SA3, SA4	Satisfaction

Source: Survey data, 2021

4.3 Multivariate linear regression

Before testing the model, the study implements the exploratory testing on the regression model through the VIF and Durbin-Watson tests. The results show that the Durbin-Watson value of the model is 1.777, which means the model does not have autocorrelation (Nam, 2008). Besides, the variation inflation factor (VIF) of independent variables is much smaller than 4, so there is no multicollinearity (Trong and Ngoc, 2008).

The analysis in table 4 shows that the significance level of the model (Sig.F = 0.00) is much smaller than $\alpha = 5\%$, so the regression model is significant. This means there is at least one independent variable that affects customer satisfaction with bus service quality. The adjusted $R^2 = 44.5\%$ meaning that 44.5% of the variation of the "customer satisfaction with bus service quality" factor is explained by independent factors included in the model.

Table 4: Multivariate linear regression test result

Factor	Standardize coefficient	Significance level (Sig.)	Variance inflation factor (VIF)	Hypothesis
Trust	0.143	0.002	1.141	H1: accepted
Assurance	0.144	0.002	1.130	H2: accepted
Sympathy	0.180	0.000	1.281	H3: accepted
Tangible facilities	0.170	0.001	1.265	H4: accepted
Bus stop quality	0.127	0.007	1.162	H5: accepted
Traffic culture	0.113	0.016	1.131	H6: accepted
Perceived value	0.339	0.000	1.198	H7: accepted
Adjusted R^2				0.445
Durbin-Watson stat				1.777
Sig.F				0.000

Source: Survey data, 2021

Based on the results in table 4, all seven factors in the model are statistically significant at the 5% level and positively correlated with customer satisfaction. In other words, trust, assurance, sympathy, tangible facilities, bus stop quality, traffic culture, and perceived value positively affect customer satisfaction with the bus service quality of Phan Thiet Automobile Transport Cooperative. In which, the perceived value has the strongest impact on customer satisfaction. It shows that when using bus services, customers are concerned about the following criteria: The ticket price is commensurate with the quality of the service received; The ticket price is commensurate

with the expected service quality; The ticket price does not change when gasoline price increases. Besides, sympathy and tangible facilities are also focused on. These findings are a helpful scientific basis for Phan Thiet Automobile Transport Cooperative to refer to and make appropriate action programs to improve service quality and customer satisfaction.

5. CONCLUSION

Overall, the research has achieved the set goals to identify the factors impacting customer satisfaction with the bus service quality of Phan Thiet Automobile Transport Cooperative. The factors of trust,

assurance, empathy, tangible facilities, bus stop quality, traffic culture, and perceived value positively affect customer satisfaction with bus service quality. In which, perceived value is the most significant factor that has the strongest influence on customer satisfaction. Therefore, some managerial implications are proposed to improve customer satisfaction with the bus service quality of Phan Thiet Automobile Transport Cooperative as follows: Firstly, the most priority is to enhance the perceived value of customers and improve the service quality. Secondly, sympathy is an essential factor constituting the service quality. Thus, administrators should pay attention to building trust for customers. Thirdly, administrators need to improve responsiveness. Fourthly, administrators should focus on tangible facilities which help improve the customers' perceived value.

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