A Study on Factors Affecting Customer Intention to Use the Express Bus

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Abstract: The improvement of transit service quality is an essential need in developing urban and interstate transportation. Local government, as well as bus service companies, should understand the behavioral intention of passengers to meet their expectations and requirements. This paper aims to highlight such behavioral decisions and investigate dominant factors that influence customers' decision to use the express bus service. The study explores the case of express bus companies in Tay Ninh province, Vietnam. By using the structural equation model approach to analyze the data collected from 295 passengers, who have experience in using the express bus, the results reveal that service quality has a significantly positive relationship with both perceived value and corporate image. Specifically, customer satisfaction and organizational image also positively influence behavioral intention. Meanwhile, service quality indirectly affects behavioral intention through perceived value and corporate image. Based on the findings, we provide some insightful managerial implications and recommendations to managers of bus carriers, and valuable practical suggestions to policymakers in the local government of Tay Ninh province to improve the service quality to encourage more citizens to use the express bus.

Keywords: Express bus, dominant factors, service quality, perceived value, corporate image, behavioral intention.

1. Introduction

In Vietnam, while the society is waiting for the new mass rapid transit system (MRT or Metro) being under constructions, buses (including both public transit and express buses) still significantly contribute to addressing the demand for transportation in many major metropolitan areas such as Ho Chi Minh City and Hanoi. In their research, Kuo and Tang (2014) mentioned that problems related to transportation need to be emphasized and prioritized [1]. Therefore, concentration on the improvement of the bus system is crucial and imperative. However, in a research on Vietnam state budget management in transportation, Nguyen, Ogunlana and Lan [2] stated the management of construction projects has faced many barriers. Therefore, the outcomes of many projects were too hard to evaluate. They expected that "the capital loss

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ratio in basic construction accounts for 30 percent of the total construction capital due to poor management". Besides the large cities, in Vietnamese sub-urban areas, where the investment is inadequate, the transit system using buses is not only deficient but also causes dissatisfaction, which lessen transit demand in these regions. Moreover, according to a research conducted throughout Vietnam, synchronous planning and unattended maintenance are deteriorating the situation in sub-urban and rural areas [3]. Thus, the involvement of the private sector in high-quality and express buses is presumed to reconcile the pressure of increasing demands that have not been addressed due to capital shortage.

During the period 2016 to 2020, the government will promulgate policies to promote public transit using buses, including price and interest subsidies, exemption from import duty and intermediary fees, etc., while at the same time the private sector has not received any significant support from authorities to invest in express buses to satisfy the demands. In addition, those supporting policies only prioritize expanding the network as well as intensifying the number of buses while disregarding the quality of service. Meanwhile, in many previous studies, the result implies that service quality significantly contributes to the success of doing business in the service sector [4]. In detail, high standard service quality is a fundamental factor in the process of delivering customer satisfaction [5]. Service quality provided somehow, directly or indirectly, influences the customers' intentions on experiencing service. Moreover, following the verdict of Lai and Chen (2011) [6], it is necessary to gain profound understanding on the behavioral intentions of passengers after experiencing service in the transport sector, which delivers a sufficient response from managers to satisfy passengers' needs. In the commuters' perception, the excellent quality of service significantly contributes to their satisfaction, and it plays an essential role in

them re-using the service in the future.

Furthermore, many existing transport firms do not pay attention to creating a brand name but only concentrate on carrying customers and generating revenue in the short term, while a positive corporate image substantially involves a long-term operation. Hence, both authorities and investors should consider more factors to attract and motivate people to use the express bus service instead of private cars. Specifically, a little study has investigated the demand of people living in sub-urban and rural areas in Vietnam for express buses such as a case study of Tay Ninh province. Tay Ninh Province plays a vital role as a bridge connecting Ho Chi Minh City in Vietnam with Phnom Penh in Cambodia.

In 2015, Hoai et al. [7] revealed in their research that there are many factors that affect the behavioral intentions of passengers in Ho Chi Minh City and Can Tho, such as personality, vehicle characteristics, attitude towards the environment, etc. Nevertheless, passenger intention is influenced by many more factors on which domestic scholars have not yet conducted research. Hence, this paper attempts to develop a conceptual model to seek more determinants that impact on passengers' decisions to use the express bus in Tay Ninh province, Vietnam. By using the structural equation model approach to analyze the data collected from 295 passengers, the findings reveal that service quality is significantly associated with both perceived value and corporate image. Moreover, customer satisfaction and organizational image also have a substantial impact on behavioral intention. Meanwhile, service quality indirectly affects behavioral intention through perceived value and the corporate image. Based on the findings, we provide some insightful managerial implications and recommendations to managers of express bus carriers, and valuable practical suggestions to policymakers in the local government of Tay Ninh province to improve

the service quality to encourage more citizens to use the express bus.

2. Literature review

2.1. Behavioral intentions

Behavioral intentions display the possibility of the future purchasing behavior of customers [4] and can be judged as a strategic key in competitiveness as well as to distinguish a service provider from other competitors. It also can signify customer's switching in using the services of competitors instead of being devoted to only one provider [8]. Thus, a research of Lai and Chen (2011) [6] proposed that effective marketing strategies, which well adapt to the diversity of needs and a changing business environment, can be generated from a profound understanding of passenger behavior intentions. Many previous scholars have conducted research and then revealed the importance of customer intentions, i.e., to use for measuring customer loyalty [9], and elucidating its relationship with other factors such as service quality, customer satisfaction, and value received [10]. Therefore, according to Fujii and Van (2009) [11], the critical resolution is to give priority to encouraging people's intention to choose buses, gradually replacing private vehicles.

2.2. Service quality

Service quality is defined as the judgment of customers about the overall excellence or superiority of service [12]. Ladhari (2009) [4] proposed that concentration on service quality contributes to the success of doing business that is related to the service sector. Based on a research on the intercity bus industry in Taiwan, serving passengers well is considered more sustainable than providing service with a cheap price [13]. Moreover, according to Sumaedi et al. (2014) [14], customers can evaluate the service provided through their experiences of the general performance, which expresses public transport service quality.

Therefore, there will be an optimistic increase in the perception of passengers on the quality of public transport services if the performance of services is elevated. However, when the expectations exceed the performance, it leads to passenger frustration. Hence, previous scholars also conclude that highly perceived value derives from the above provision of quality service and it significantly supports the value perceived by commuters [15, 16].

In 1988, Parasuraman et al. (1988) [17] invented the SERQUAL scale, and it is used predominantly in measuring service quality. To evaluate this SERQUAL scale, preceding academicians divided service quality into 22 items of 5 dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy. Many following researchers also widely applied this Service Quality instrument to modify and develop models in transport services such as bus services [18-20] and rail services [21-23]. However, some empirical studies recorded the instability of factors in SERQUAL [24] or incongruity [25]. Thus, in each specific case, amendment is needed so that SERQUAL can signify characteristics of different studies accurately [6].

Service quality is supposed to have a significant impact on the corporate image [1, 26]. In addition, in the transportation industry, Chou and Yeh (2013) [27] indicated the positive relationship between the image of high speed rail firms with the service provided. Therefore, based on the preceding discussion, the following hypotheses are proposed:

H1: Service quality has a positive relationship with perceived value.

H2: Service quality has a positive relationship with the corporate image.

2.3. Perceived value

A well-known definition of perceived value or customer value is considered as the appraisal of consumers about products or services and awareness of what they receive. Similarly, perceived value also encompasses customers' assessment of "getting" and "giving" attributes

[28]. Therefore, perceived value denotes the net perceived value or trade-off between utility and sacrifice of services in transactions with a company. Many researchers have conducted studies that reveal that value perceived by customers significantly drives customer satisfaction and their purchase intentions [10, 15, 29]. Furthermore, according to Boksberger [30], despite the distinctions of each term, customer quality, as well as customer satisfaction, still interdependently connect with perceived value to generate strong relationships among these concepts. Specifically, in research on public transit, some authors suggest that customer satisfaction can be elevated through the improvement of customers' perception on the enhancement of some service quality characteristics, such as cleanliness, reliability, and frequency [31, 32]. Thus, this following hypothesis is suggested:

H3: Perceived value has a positive relationship with customer satisfaction.

2.4. Customer satisfaction

A well-known definition proposed by Oliver [33, 34] is that satisfaction is a general reaction of consumers or customers after experiencing services or goods based on the difference between their expectations and perceived performance. In many cases, customers can be seen as a subjective soft index effectively denoting the quality of service because they are direct users [35], which demonstrates that these service providers are focusing on customers' pleasure. Furthermore, the slogan "the customer is always right" existing in most businesses reconfirms the contribution of providing high quality to the satisfaction of customers [36]. The importance of satisfaction is re-emphasized in the case of Slovenia Railways when it conducted a survey to explore whether customers take pleasure in using its service [37]. On the contrary, if firms are not able to satisfy customers' expectations of products and services, it will result in a negative expression in behaviors [38] and

promote a pessimistic consequence in the revenue of those firms [16]. In detail, consumers' feelings, in support of advanced communications such as the social network, can be converted into unpleasant word-of-mouth damaging the hard-built reputation of firms' during their formation [39], which proves that customer satisfaction has a connection with their behavior. In the public transit industry, there is evidence that reveals that behavioral intentions are affected by the satisfaction level of customers [20, 40]. The situation points to the following hypothesis:

H4: Customer satisfaction has a positive relationship with behavioral intentions.

2.5. Corporate image

According to previous studies, corporate image represents customers' judgment [41] and the impression of customers about the overall performance of a company that differentiates it from other competitors [42]. In addition, corporate image also contains sensation as well as perspectives of many internal (i.e., employees) and external parties (i.e., customers, the public, the media, etc.) about an organization on its performance [43]. To appropriately transfer the corporate image into scale, some previous studies proposed various factors, such as institutional image, functional image, and commodity image [44], or three distinct intentions: functional, symbolic and experienced, as well as its impact on the repurchase intentions of customers [45]. In a study related to Korean airlines, Park, Robertson and Wu [46] mention the relationship between corporate image and behavioral intention, which is the foundation of the assumption that corporate image assists with a positive reputation which will attract customers' purchasing intention. In line with these rationales, the study hypothesizes:

H5: Corporate image has a positive relationship with behavioral intentions.

Figure 1 illustrates the research framework with hypothesis development.

3. Methodology

The researchers collected data over the period June to December of 2017 in Tay Ninh province, Vietnam. We went to the bus stations to conduct the questionnaire survey. Three hundred and forty questionnaires were distributed to respondents who were using the express bus service. The number of valid forms retrieved was 295, which indicates a response rate of 86.8%. Respondents were asked to provide general information to explore the demographic characteristics of passengers, including gender and age. We had to make sure that all participants were eligible and appropriate to conduct the research objectives.

Likewise, to measure the satisfaction level of passengers as well as their intention to use the bus service, a model comprising five constructs, namely service quality, perceived value, customer satisfaction, corporate image, and behavioral intentions was developed. The respondents evaluated bus transit through 37 questions presented in a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). To assess service quality, based on the SERVQUAL model proposed by Parasuraman et al. [17], this study suggests a framework consisting of 17 items divided into 3 dimensions: carrier, staff, and safety.

Parts of the elements contained in the factor "Service quality" were adapted from an article produced by Oña et al. [47].
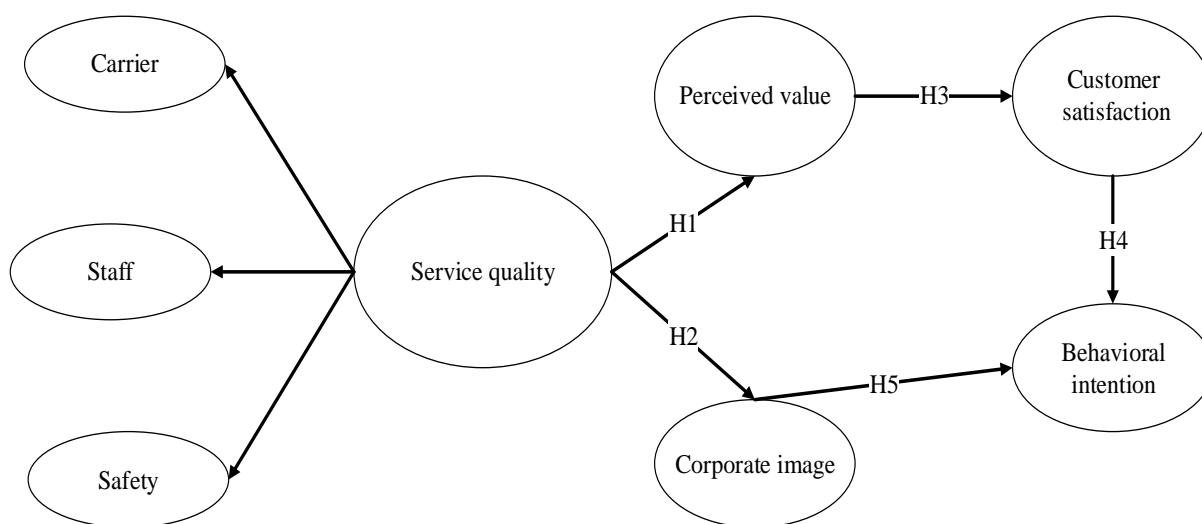

Figure 1. The research model.
Source: Authors proposed.

The factor "Perceived value" was measured through calculating the average of three items adopted from Jen and Hu [48], while items evaluated "Corporate image" were developed from previous studies of Nguyen and Leblanc [41]. Similarly, this study assessed the factor "Customer satisfaction" and "Behavioral intentions" by respectively adapting questionnaires from Cronin et al. [15] and Zeithaml et al. [8].

3.1. Data analysis

The data collection from 295 respondents illustrates the frequency of using the express bus within a month. Nine per cent of participants revealed that they used express buses once per week; about 18% of the respondents answered they took express buses less than three times in a month, and the remaining used express buses once per month.

The age range of the respondents varied from "under 25" to "over 60" as described in Table 2.

The data analysis was conducted by using the combination of EFA (exploratory factor analysis), CFA (confirmatory factor analysis) and SEM (structural equation modeling) techniques, in support of SPSS and AMOS version 20. During the conducting process of the test, a total of seven items were removed, consisting of six items in the factor of Service Quality, and one item in the factor of Corporate Image, due to the reason that those indices do not satisfy the accepted level of above 0.5. According to the result of the reliability test shown in Table 3, all the Cronbach's alpha values satisfy the recommended level which is higher than 0.7.

After the reliability of data consistency and the correlation to each other of designed items are tested, other indicators are derived from the EFA result providing that the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is in the accepted range ($0.5 \leq 0.941 \leq 1$), that the significance of Bartlett's Test of Sphericity satisfies the condition of below 0.05 (p = .000), and all factor loadings are above 0.5. Table 4 shows the results of the KMO and Bartlett's Test.

The purpose of conducting CFA following the EFA test is to evaluate the structure designated factor loading by analyzing the fit of the theoretical framework proposed in this study with the data collected. According to Bartholomew et al. [49], Chi-square/df should be less than 3; however, the range from 3 to 5 is still acceptable and considered as a good fit.

The correlation statistics of five fundamental constructs, which illustrate strong proof of the validity and reliability of the measurement is presented in Table 6.

Table 1. Sources of questionnaires

Service quality	Oña et al. (2016), Eboli, Forciniti & Mazzulla (2017)
Corporate image	Nguyen & Leblanc (2001)
Customer satisfaction	Cronin et al. (2000)
Perceived value	Jen & Hu (2003)
Behavioral intentions	Zeithaml et al. (1996)

Source: Authors summarized.

Table 2. Demographic statistics

			Std. Deviation
Gender	Male	60.20%	0.49003
	Female	39.80%	
Age range	Under 25	17.76%	0.73508
	From 25 to 40	50.33%	
	From 41 to 60	29.61%	
	Over 60	2.30%	
Frequency	One time per week	9%	0.65064
	Less than three times per month	18%	
	One time per month	73%	

Source: Data analysis.

Table 3. Summary of constructs, items, factor loading and Cronbach's Alpha

Constructs		Items	Factor loading	Cronbach's Alpha
Service quality	Carrier	SQ1: Carrier uses up-to date equipment	0.708	0.959
		SQ3: Carrier has good facilities	0.803	
		SQ4: Carrier keeps promises with customers	0.719	
		SQ5: Carrier sympathetically helps customers solve problems	0.658	
		SQ6: Service and equipment provided by carrier are dependable	0.710	
		SQ7: Carrier ensures the schedule on time	0.578	
		SQ8: Carrier provides exact operating schedule of express buses	0.599	
	Staff	SQ13: Staff are polite with passengers	0.647	
		SQ14: Staff can receive adequate support to help passengers	0.690	
		SQ16: Staff gives customers personal support	0.702	
		SQ17: Staff understands passengers' needs	0.665	
	Safety	SAF1: I feel that driver ensures the passengers' safety	0.637	
		SAF2: I feel safe when I am on an express bus	0.701	
		SAF3: I feel safe when I am in bus station	0.626	
Corporate image		CI1: This company is well-known	0.788	0.953
		CI2: This company is professional	0.614	
		CI4: I have a good impression about this company	0.788	
		CI5: I think this company has a good image in the minds of customers	0.799	
		CI6: I believe this company is attractive to customers	0.820	
Customer satisfaction		CS1: I always have a satisfying experience with this company	0.760	0.958
		CS2: Choosing this company is a good decision	0.778	
		CS3: This company's bus services always meet my needs	0.642	
		CS4: Overall I am satisfied with this company's bus services	0.742	
Perceived value		CV1: The service offered is valuable	0.829	0.919
		CV2: The service based on specific price is acceptable	0.875	
		CV3: It is better to ride the express bus than the other vehicles	0.795	
Behavioral Intentions		BI1: I will say positive things about the express bus to other people	0.763	0.946
		BI2: I will encourage people to use the express bus	0.841	
		BI3: I consider the express bus as my first choice	0.813	
		BI4: I will use more express buses in the future	0.824	

Notes: Items rejected as Factor Loading indices are not appropriate include SQ2: Carrier's employees are well dressed, SQ9: Employees provide accurate service, SQ10: Staff are willing to help passengers, SQ11: I trust company's employees, SQ12: I feel safe when using service, SQ15: The operating schedule is convenient for passengers, CI3: This company pays attention to customers' interest and community services.
Source: Data analysis.

Table 4. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.941
Bartlett's Test of Sphericity	Approx. Chi-Square	10588.064
	Df	435
	Sig.	0.000

Source: Data analysis.

Table 5. Goodness-of-fit indices of the confirmatory factor analysis

		Threshold	**Result**	**References**
Chi-square/Df		≤ 5	3.327	Bentler & Bonett (1980)
Root mean square of fit index	RMR	≤ 0.08	0.028	Bentler & Bonett (1980)
Root mean square error of approx.	RMSEA	≤ 0.1	0.089	Bentler & Bonett (1980)
Comparative of fit index	CFI	≥ 0.9	0.914	Bentler & Bonett (1980)
One goodness-of-fit index	TLI	≥ 0.9	0.904	Bentler & Bonett (1980)

Source: Authors summarized.

Table 6. Convergent validity and Discriminant validity

	CR	**AVE**	**MSV**	**MaxR(H)**	**Value**	**Image**	**Intention**	**Satisfaction**	**Serqual**
Value	0.928	0.814	0.376	0.973	0.902				
Image	0.966	0.852	0.585	0.990	0.610	0.923			
Intention	0.948	0.820	0.497	0.992	0.525	0.647	0.905		
Satisfaction	0.959	0.855	0.666	0.993	0.613	0.737	0.606	0.925	
Serqual	0.904	0.759	0.666	0.994	0.596	0.765	0.705	0.816	0.871

Source: Data analysis. ***p < 0.001.

Table 7. Result of hypothesis testing

Hypotheses	**Path estimate**	**P-value**	**Conclusion**
H1: Service quality has a positive relationship with perceived value.	0.654	***	Supported
H2: Service quality has a positive relationship with corporate image.	0.788	***	Supported
H3: Perceived value has a positive relationship with customer satisfaction.	0.625	***	Supported
H4: Customer satisfaction has a positive relationship with behavioral intentions.	0.296	***	Supported
H5: Corporate image has a positive relationship with behavioral intentions.	0.474	***	Supported

Source: Data analysis. ***p < 0.001.

Figure 2 presents the testing results:
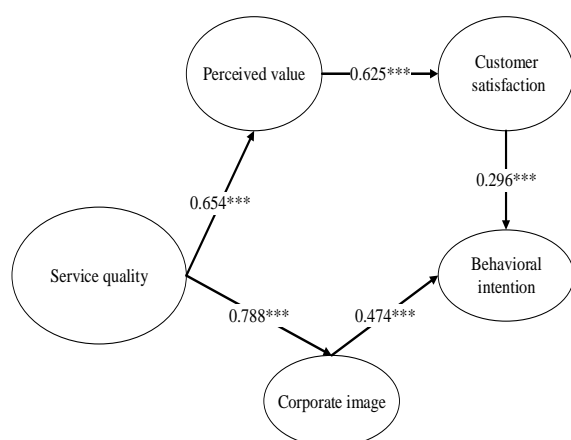

Figure 2. The testing results (***: p_value<0.001).
Source: Data analysis.

To test the model of customer's behavioral intentions, SEM is used to test the hypotheses. Similar to the result illustrated in the CFA test, the overall fit indices of CMIN/df (3.605), CFI (0.903), TLI (0.893) and RMSEA (0.094) approximately attain the cutoff points described above, indicating a high level of model fit. Additionally, the hypotheses suggested when building this model are all supported by the path estimates shown in Table 7. As performance of highest standardized coefficients, the hypothesis stating that service quality has a positive relationship with the corporate image is the most critical factor contributing to the model. It can be noted as well that service quality has a significant impact on the perceived value.

5. Discussion

According to the research conducted by Eboli, Forcinitu and Mazzulla [51], many dimensions are considered good indicators for measuring the service quality provided by the transporting company. However, this paper emphasizes only three dimensions which well fit the conditions in the researched area, such as personnel elements (staff, carrier, and safety). Similar to the findings of Bakti and Sumaedi [52], this paper re-confirms the importance of

safety in the process of delivering comfort and satisfaction to passengers. Basing on the empirical result of Hypothesis 1, service quality has a positive relationship with perceived value. It can be stated that the company can increase the value in customers' perception by offering a high level of service. Besides, the study of Lai and Chen [6] also supports the finding about the relationship between perceived value and customer satisfaction. The value that customers receive in this case not only includes being safely carried to the destinations but also experiencing comfortable and entertained feelings during the travelling time. In other words, the more positive value customers perceived, the higher the sense of customer satisfaction.

Similarly, Hypothesis 4 was supported. It confirmed that customer satisfaction had a relationship with behavioral intentions. This finding is also consistent with the research on public transit of Lai and Chen (2011) [6]. In addition, service quality connects with the corporate image, which means that if the company ignores the significance of service quality and delivers unsatisfied feelings to customers, it can mutilate their reputation in the customers' perception. The last result confirms that corporate image influences behavioral intentions. From the passengers' viewpoint, a bad image of the company can lead to hesitation in choosing the service with first-time users or switching of the behaviors of existing customers; this result is comparable with the study of Park et al. [46].

6. Conclusion and recommendations

This study proposed and analyzed the model of passengers' intention in using express buses with the following factors: service quality, perceived value, corporate image and customer satisfaction. In the case of the Vietnamese transportation industry, these four determinants are unprecedented and often neglected although they are considered as

fundamental ones when a transport company decides to do business in this field in many developed countries. Moreover, research on these factors can quickly benefit firms with practicality in the case of sub-urban areas in Vietnam, which means only by augmenting service quality, the customers can be satisfied through the value perceived as well as positively raising the awareness of the company image. In addition, if the research had been conducted with other complicated determinants that rarely can be experienced in the Vietnamese express bus service, there would have been challenges for residents in less developed regions, which could lead to misunderstandings and confusion in completing the survey. The result of this study can be applied for both private and public sectors to enhance the service quality as well as the capability of management. Furthermore, doing business relating to the service industry is mainly determined through quality; as a result, not only private companies but also express buses operated under any ownership can be included in the implications of this research.

According to previous studies, the service quality model can be evaluated through diversified dimensions as mentioned in the literature review. In addition, detailed and complicated models were constructed to interpret the correlations among factors influencing behavioral intentions. Research initiative determines and designates only the elements having significant possibilities to affect the intentions of residents that are appropriate to measures in the existing conditions of Vietnam's rural area. Besides, the passengers' awareness of the service provider's attention to safety, the attitude of staff and the image of the carrier is a strong indicator in assessing quality service due to its feasibility and conspicuousness.

Enterprises in the local scale should take advantage of the bridging position of the province of Tay Ninh to enhance the existing inner provincial express bus lines as well as to newly operate long-distance routes, for superior connectivity with economic hubs. Forestalling and briskly penetrating the market will undergird forthcoming projects and strategies in magnifying their market share, whereas latecomers can strenuously strive to achieve a substantial position when it stretches to the level of saturation. As in the results shown in the preceding parts of this study, high service quality accounts for a significant role in establishing a superior corporate image as well as in forming the positive perception of passengers. Hence, transporting firms need to surpass their services by impressing customers on the three most basic major points, including carrier, staff, and safety. Based on the evaluation of passengers, service providers should invest in improving facilities and utilities attached to the transport business. The services of express buses need to be integrated to become a recreational means rather than purely carriers. Furthermore, a caring passenger system, including professional and willing-to-help staff as well as friendly in-bus attendants, should be concentrated on to provide advanced services as they directly interact with passengers and deliver the principles of company. Last but not least, express bus drivers are the primary factor in the process of providing a high level of safety, beside the carrying system; for that reason, the training attitude as well as driving competence through rigorous methods is considered as a crucial step in the pre-operating phase.

However, improving the service quality in a short period can lead to an increase in the costs and directly raise ticket prices, which relatively disappoints passengers; especially, Vietnamese people in rural and sub-urban areas are still facing many financial challenges. Hence, companies should achieve high quality gradually and divide it into many steps, which are able to be accepted thanks to more reasonable fares. To address this complicated problem, firms have to attain a deep

understanding of their customers and conduct surveys to ensure what criteria the passengers need to be prioritized to take action first to avoid charging them high prices.

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