Bus Rapid Transit (BRT) in Malaysia: Passengers Satisfaction on Service Quality and Price

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Abstract: A sustainable and friendly transport system are being developed rapidly in many developing cities across the globe. Knowing the satisfaction and dissatisfaction of public transport may help users and providers to determine the efficiency of public transport. Thus, this study aims to assess passengers' satisfaction with quality of services and price provided by Bus Rapid Transit (BRT) in one of the cities in Malaysia. Using five dimensions of service quality (responsiveness, reliability, assurance, empathy and tangibility) and pricing, with 215 respondents of survey questionnaire, this study provided evidence that reliability, empathy and pricing have significant effect towards customer satisfaction. Furthermore, pricing become the most important factor that affect passenger satisfaction with BRT services. Future studies may compare the service quality of all public transport available in Malaysia, such as Light Rail Transit (LRT), Mass Rapid Transit (MRT) and Monorail.

Keywords: Passenger's Satisfaction, Bus Rapid Transit (BRT), Service Quality, Public Transport

Paper type: Research paper

1. Introduction

Public transport is a system of transport offered locally which ease the public commuting from one place to another destined place. This public transport basically operates by scheduled, can accommodate larger number of passengers where a certain amount of fee will be charged based on the distance of travel. In Malaysia, 1953 was the year where the public transport started to develop during British colonial rule, using General Transport Company name (Kamaruddin, Osman and Che Pei, 2012).

Even though the country's transport network is now diverse and developed, public transport in Malaysia always been a second choice for the citizens and majority of them prefer to use their own vehicle (Ismail, Hafezi, Nor and Ambak, 2012). This may be due to more flexible and offer an easier form of travel, where the traveller can move from one place to another at any time based on their own conveniences. However, higher number of vehicles in roads caused a higher number of accidents, increase the congestion in road and increase the air pollution (Chee and Fernandez, 2013; Jayaraman et al., 2011; Tripathi et al., 2012). Therefore, the government always encourage traveller to use public transportation in solving these issues which can avoid much undesirable impacts in future.

At present, there are a few accessible public transports in Malaysia, namely, monorail, Electric Train Service (ETS), Light Rail Transit (LRT), Mass Rail Transit (MRT), Bus Expressway Transit (BET), RapidKL Bus and Bus Rapid Transit (BRT). Bus Rapid Transit (BRT) is a public transportation system that has been introduced in Bandar Sunway, one of the cities in Malaysia in the year of 2015 (Omar, Lamin and Osman, 2017). Currently, there is only one BRT line has been built in. This BRT has a very unique image where it is flexible, rubber tired rapid transit mode that combines the stations, services, vehicles, running ways, and intelligent transportation system (ITS) elements into an integrated system (Deng and Nelson, 2012). The combination of quality of rail transit and flexibility makes the BRT become popular in many countries. It is considered as a cost-effective approach of providing a high-quality transport service.

However, questions always arise on the user's satisfaction in using the public transport and this causes the traveller to avoid using transit options. According to The Star (2012), public transports in Malaysia are not satisfying the users. For instance, there are a number of issues relating to public bus services such as limitation of facilities, the use of low quality of public bus facilities and interchanges, inconvenience fleet, dispatching low passenger trips and long waiting time. Initially, it was forecasted that the ridership will reach up to 5,200 pax per hour by 2035 (New Straits Times, 2015). However, as stated in The Star Online (2016), only few passengers used the BRT service in the seven stations line, even though many regular passengers when the service was first started. As such, it is essential to examine the effectiveness of the services offered that may affect the ridership of this BRT.

In service quality aspect, several factors such as responsiveness, reliability, assurance, empathy, and tangible facilities as well as physical appearance of the public transport provider may affect its usage. Moreover, the pricing of the ticketing also may impact the rider of the public transport. The price charged should be affordable to the users, especially for students and residents in the neighbourhood. Thus, this paper aims to examine the factors that affect the ridership of the BRT, by focusing on rider satisfaction in terms of service quality and pricing. In other words, this study examines the rider, user or passenger's satisfaction of the five dimensions of service quality (responsiveness, reliability, assurance, empathy and tangible facilities) and also pricing, on bus rapid transit (BRT).

This paper is organized as follows. In the next section, a review of the literatures that lead to the formulation of hypotheses is presented. It is followed by the research design and the findings. Finally, the discussion on the results and suggestions for future research are offered.

2. Literature Review

A. Passengers satisfaction and dissatisfaction in public transport

Customer satisfaction is currently crucial in a market-oriented business environment. It is necessary to know the satisfaction of the customer in order to measure the efficiency of public transport. According to Parahoo et al. (2014), the customer's feelings towards the public transport services are reflected in their satisfaction. On the other hand, customer dissatisfaction is also very important to take into account, as it will have an impact on the unsatisfied feelings with the product or service offered.

Friman and Fellesson (2009) investigated customer satisfaction in using public transport services in six different European cities and found that customers are comfortable with the design of bus and bus stops, safety and reliability. The enjoyment of travel by having the skills and knowledgeable staff are the characteristics that the customer is satisfied with. Other than that, travel time, punctuality, clear

information, good staff behaviour and safety are attributes of shuttle transport that satisfied the customers (Murambi and Bwisa, 2014).

Beirao and Cabral (2007) investigated the dissatisfying factors of public transport passengers. Passengers argued that the time was wasted due to long waiting time, long walking time, overload and unreliability, lack of comfort and time uncertainty. Gatersleben and Uzzell (2007) also found that delays and waiting times in public transport have led riders to show some negative attitude. It also causes passengers to be more stressful due to inconsistency and unpredictability of public transport, which makes them spend a lot of time on travel.

It is important to note that there are so many variables that may affect the satisfaction and dissatisfaction of the consumers. However, the scope of this study is focusing on the service quality model (SERVQUAL) and pricing towards the passenger's satisfaction in using the public transport.

B. Service quality

Service quality is used to determine the effectiveness of the services provided. Service quality is the key to customer satisfaction and eventual loyalty (Lovelock and Wirtz, 2004). The rise of loyal riders, loyal staff and increase the profit of provider are the sign of good quality. Service quality is referred to as the gap between consumers' expectation on the service and the delivery of service by the service provider. If there is a deviation between the delivery of service and the consumers' expectation, then the service is deemed unsatisfactory (Theresia and Bangun, 2017). According to Parasuraman et al. (1988), the degree and direction of difference between the customers' service perception and expectation is considered as quality. There are five dimensions of service quality which are responsiveness, reliability, assurance, empathy and tangible (Parasuraman et al., 1988).

Responsiveness

Responsiveness is providing a prompt service and have the willingness to help the customers (Budiono, 2009). According to Hoffman and Bateson (2006), responsiveness refers to the commitment shown by service providers in providing services in a timely manner consistently. This responsiveness dimension is mainly about responding to the customers' complaints, inquiries, problems and questions.

Studies conducted by Gronroos (1984), Zineldin (2005) and Zheng and Jiaqing (2007) proved that by improving the responsiveness of the services provided, the customers are satisfied and it helps the reputation and profit of the businesses. It means that responsiveness is one of the significant attributes of service quality that influence consumer satisfaction. However, Oyeobu et al. (2014) stated otherwise. A negative relationship is found between responsiveness and customer satisfaction.

Even though previous studies show mixed results regarding the relationship between responsiveness and satisfaction, this quality should be maintained and made a priority in the eyes of passengers. The staff willingness to assist and provide prompt response to the passengers' demands are the main attributes for customer satisfaction (Radam et al., 2014). Thus, the following hypothesis is further suggested:

H1: Responsiveness of BRT has a significant positive relationship with passengers' satisfaction

Reliability

According to service quality model, reliability is one of the main elements that influenced the quality of services. Reliability is defined as the ability of performing the services reliably and accurately

(Nutsugbodo, 2013). In order for the service or product to survive in a long term, the performance and reliability of the service or product need to be improved. Cavana et al. (2007) also added that customers are more satisfied when the reliability and convenience attributes of the public transportation increases.

Reliability can be measured by travel time (Li et al., 2010), frequency of the services provided (Phoebe, 2017), the punctuality of the services (Murambi and Bwisa, 2014) and also on giving the information about delayed services (Friman, 2004). All these items are significant in affecting customer satisfaction. Oyeobu et al. (2014) found that reliability dimension has a strong effect on customer satisfaction in using Nigeria public transport. Barabino et al. (2012) also found that the most important attributes in measuring the service quality of urban bus transport are on board safety, bus reliability, cleanliness and frequency.
In a research conducted by Friman and Edvardsson (2003), attributes that involved in the service quality of public transportation are reliability, simplicity, design, and employee behaviour. Furthermore, few researchers also stated that the dimensions like reliability, frequency, comfort, information, driver behaviour and cleanliness are those key factors for passengers' satisfaction in the public transport (Bates et al., 2001; Beirao and Cabral, 2007; Hensher et al., 2003). As such, the following hypothesis is suggested:

H2: Reliability of BRT has a significant positive relationship with passenger's satisfaction

Assurance

Assurance is defined by the employees' knowledge, courteousness, and the way they experience trust and confidence (Nutsugbodo, 2013). There are four determinants of assurance dimensions which are safety, efficiency, credibility and courtesy (Azani et al., 2017). According to Korale et al. (2015), assurance also includes the firm's competence, the operations security and the courtesy extended to the customers. Apart from that, the knowledge and communication skills of the workers also categorized as assurance dimension which influence the consumer satisfaction in a service (Wijaya, 2009). Friman et al. (2019) also added that safety factor as one of the important dimensions in evaluating customer satisfaction of a service.

In a research conducted by Rajeswari and Kumari (2014), assurance dimension has a significant effect on customer satisfaction. By having assurance, it influences the customer to become loyal and remain to use the service provided in the future. Besides that, when the bus gives assurance on the cleanliness, move on time, road worth and mechanically serviced, then it will encourage the customer to use the bus service again (Mudenda and Guga, 2017). Assurance dimension has a significant effect in the service quality for India railway services (Prasad and Shekar, 2010), Spain local bus service (Perez et al., 2007) and in airline passenger (Abdullah et al., 2012). Thus, below hypothesis is further suggested:

H3: Assurance of BRT has a significant positive relationship with passenger's satisfaction

Empathy

Empathy is defined as the individualized attention to customers which includes communication and understanding the customers (Etgar and Fuchs, 2009). According to Vanniarajan and Stephen (2008), one of the service quality attributes in public transportation services is empathy. Sabir et al. (2013)'s study on transport services for Daewoo Express in Pakistan, showed that compared to other dimensions, empathy is the most significant attribute to the customer satisfaction. It is also true in a study on TransJakarta public transportation (Sudaryanto and Kartikasari, 2007), that revealed empathy as the

highest service quality needed compared to other dimensions. However, research conducted by Oyeobu et al. (2014), discovered that a mild relationship between empathy and also customer satisfaction was found by achieving only 40% of the total success of the service. Mudenda and Guga (2017) also found that empathy shows less significant to customer satisfaction.

It can be seen that there are mixed results relating to the relationship between empathy and customer satisfaction. However, as Zeithaml and Bitner (2006) states, the customer always wants their needs to be met. In order to satisfy the customer, the service providers need to understand, feel the importance of customers and share the feelings of passenger. Thus, the following hypothesis is suggested:

H4: Empathy of BRT has a significant positive relationship with passengers' satisfaction

Tangibility

Tangibility is the physical facilities, the equipment and even the employee's physical presence in a facility. The two types of tangibility are physical goods and supports. Physical support is defined as the helpfulness of the employee in service production, while physical products are defined as goods that are used during process and production services (Nor, 2013).

According to Berry et al. (1990), tangibility dimension gives the first impression to the passengers and it would be measured first, before other dimensions of service quality. Jun (2012) and Mudenda and Guga (2017) concluded that tangibility is more dominant attributes and also most important attributes in assessing the customer satisfaction with public transportation. However, Nkyami (2016) found otherwise. The study reported that tangibility variable does not affect customer service in the intercity public transports.

Since tangibility dimension is a visible aspect of the services that can be seen and sensed by the customers, its existence may affect the service quality of a provider as a whole. As such, the following hypothesis is suggested:

H5: Tangibility of BRT has a significant positive relationship with passengers' satisfaction

Pricing

Price is the amount of money acquired for the purchase a product or service. The price level should always suit the customer's buying power (Ngadino et al., 2017). Therefore, in order to sustain in the market for the long term, a company needs to offer the best price in order to meet the quality and expectation of the consumer.

Normally, perception of a product or service is influenced by the price. Consumers always use the price factor to determine the quality of products or services. People tend to assume that if the price is expensive, then the quality of the product or services is good.

However, in a research conducted by Foster (2018), price determine the customer satisfaction, in which, by offering a good service quality at a lower price, it can attract and satisfy consumers. Khaled and Rania (2013) disclosed that the major effect on the customer satisfaction of the bus service in Qatar, is the ticket pricing. In addition, Ngadino et al. (2017) find that the customer satisfaction increases when the price is better. Susanti (2019) also added that when the higher price is charged, lower level of loyalty

in the use of public transport shown by passengers due to dissatisfied passengers. Thus, the following hypothesis is suggested:

H6: Pricing of BRT has a significant positive relationship with passengers' satisfaction

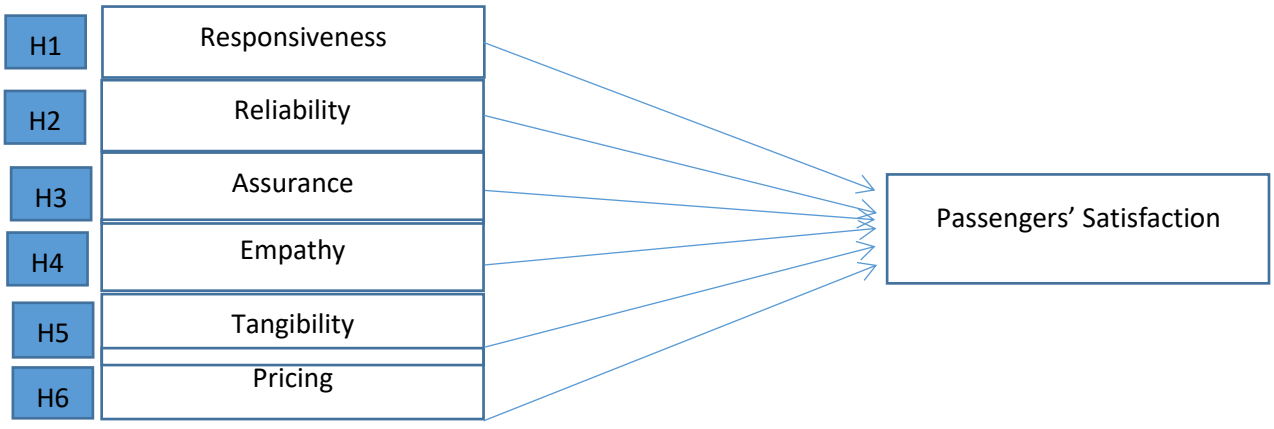
3. Research Design

The service quality model or SERVQUAL model was developed by Parasuraman et al. (1988). The service quality experienced by the customers can be captured and measured using this SERVQUAL model. Many previous researchers used this SERVQUAL model to determine customer satisfaction in public transport. This SERVQUAL model has been applied in a number of countries such as Russia (Mikhaylov et al., 2012), Ghana (Aidoo et al., 2013), India (Randheer et al., 2011), Nigeria (Adeniran and Fadare, 2018), and United States (Kilbourne et al., 2004). Other than that, SERVQUAL has also been used in many different service sectors such as public transport (Aidoo et al., 2013), internet (Eriksson and Friman, 2007), airline (Simpson, 2000), and retail banking (Krishnamurthy et al., 2010).

In addition, price of service is also one of the significant influential variables on customer satisfaction. Price has been categorized as a functional factor and plays a stronger influence on the overall customer satisfaction in public transport (Budiono, 2009, Johnson and Karlay, 2018). According to Ismail et al. (2006), the price of service directly influences the service quality. Khan and Fasih (2014) and Bedi (2010) also stated that for people with lower income, price is the most important issue when it comes to customer satisfaction and service quality. This clearly explained that pricing of public transports is very crucial to determine the passenger satisfaction. Since pricing is the significant factor in measuring the quality of a service, pricing variable is added to this model. Figure 1 shows that framework for this study.

The main interest of this study is about passengers' satisfaction level with the service quality and price that are offered by BRT services in Bandar Sunway, Malaysia. Five dimensions of service quality together with pricing are used to assess the customer satisfaction.

Figure 1. Theoretical model



From the research framework, passenger satisfaction is a dependent variable, while SERVQUAL dimensions, consist of responsiveness, reliability, assurance, empathy and tangibility together with pricing, are independent variables. The hypotheses for the model are as follows:

H1: Responsiveness of BRT has a significant positive relationship with passengers' satisfaction
H2: Reliability of BRT has a significant positive relationship with passengers' satisfaction
H3: Assurance of BRT has a significant positive relationship with passengers' satisfaction
H4: Empathy of BRT has a significant positive relationship with passengers' satisfaction
H5: Tangibility of BRT has a significant positive relationship with passengers' satisfaction
H6: Pricing of BRT has a significant positive relationship with passengers' satisfaction

A. Research design

Data was collected by the distribution of the self-rating questionnaire, to the public who have experienced using the BRT service. Respondents were asked about their level of satisfaction with BRT services using SERVQUAL dimensions, which are responsiveness, reliability, assurance, tangibility and empathy and one additional variable of pricing. Data was analysed using SPSS.

B. Measurement of variable

The questionnaire was divided into three parts; (1) Items that measure service quality dimensions and pricing; (2) Overall satisfaction measurement; and (3) Demographic variables such as gender, nationality, age group, employment status and income. The questionnaire was adapted based on the previous research. All questions are in Likert scales and anchored in 1 (strongly disagree) to 5 (strongly agree).

Responsiveness

Responsiveness refers to the willingness to help customer queries and provide services whenever needed. The instrument consists of a five-item scale. This instrument was adapted from Muthupandian and Vijayakumar (2012) and Ojo and Suleman (2014).

Reliability

Reliability refers to the ability to perform the intended services adequately and dependably.
It is measured using four-item scale adapted from Ojo and Suleman (2014) and Cavana et al. (2007).

Assurance

Assurance refers to the ability of the employees to convey trust and confidence to the users as the validation of services provided. The five-item of assurance were adapted from Ojo and Suleman (2014), Perez et al. (2007) and Cavana et al. (2007).

Empathy

Empathy refers to the ability to care and give attention to customers. The instrument consists of a five-item scale and was adapted from Perez et al. (2007), Ojo and Suleman (2014), Cavana et al. (2007) and Muthupandian and Vijayakumar (2012).

Tangibility

Tangibility refers to the physical facilities, equipment and also the physical appearance of the employee. The five-item of instruments were adapted from Cavana et al. (2007) and Khurshid et al. (2012).

Pricing

Pricing is the amount of money acquired to purchase a product or service. It is measured using five-item scale adapted from Matzler et al. (2006).

Satisfaction

Satisfaction is related to the fulfilment of customer's expectations through the evaluation of the product or service provided. The five-item of instruments were adapted from Khurshid et al. (2012).

C. Pilot test

Prior to the distribution of the questionnaire, a pilot test was conducted to measure the validity and reliability of the questionnaire. This pilot study is very important for the improvement of questionnaire. About 30 respondents were selected for the pilot study. The Cronbach's Alpha result in this pilot study is 0.934, which pass the reliability and normality test, which is greater than 0.7.

4. Results

215 respondents were approached and data were successfully collected. Normality test is used to check if the data is normally distributed. In this study, the majority of skewness and kurtosis values are between -1 and +1, therefore normal distribution can be assumed (Hair et al., 1998).

A. Descriptive statistics

Table 1 shows the descriptive statistics of the respondents. Overall, 68 of the respondents are males (32%) and 147 of them are females (68%). Majority of the respondents are Malaysian (81%) and most of the respondents are in the age of 21-30 years old (59%), followed by the age range of 31-40 years old (28%) and 15-20 years old (8%). 47% of the respondents are working as professionals, followed by 44% who are students, while the income earned mostly are from RM2001-RM4000 range (46%), followed by 23% respondents who have no income which is believed to be the students. Details of the descriptive statistics is shown in Table 1.

Table 1. Demographic statistics

Profile of respondents		Frequency	Percentage (%)
Gender	Male	68	32
	Female	147	69
	Total	215	
Nationality	Malaysian	174	81
	Non-Malaysian	41	19
	Total	215	
Age	15 -20 years old	17	8
	21-30 years old	126	59
	31- 40 years old	61	28
	41-50 years old	5	2
	51- 60 years old	4	2
	61 years old & above	2	1
	Total	215	
Employment status	Self - employment	3	1
	Wage employment	15	7

	Professional	101	47
	Student	95	44
	Others	1	1
	Total	215	
Income per month (RM)	No income	49	23
	RM2000 and below	26	12
	RM2001 - RM4000	99	46
	RM4001 - RM6000	19	9
	RM6001 and above	22	10
	Total	215	

Table 2. Minimum value, maximum value, mean and standard deviation

Variables	Mean	Standard Deviation	Minimum value	Maximum value
Responsiveness	3.71	0.76	1	5
Reliability	3.83	0.92	1	5
Assurance	3.78	0.88	1	5
Empathy	3.93	0.84	1	5
Tangibility	4.19	0.76	2	5
Pricing	3.54	0.93	1	5
Overall Satisfaction	3.74	0.88	1	5

Scale rate: 1 (strongly disagree) to 5 (strongly agree)

Table 2 shows the descriptive statistics of the variables used in this study. Overall, most of the variables scored more than average. It can be seen that tangibility variable has the highest mean value of 4.19 among the other variables in this study, followed by empathy (3.93) and reliability (3.83), while the lowest mean is pricing (3.54).

B. Correlation analysis

Correlation analysis is shown in Table 3. It shows that all variables are significantly correlated at 5% significant level. Correlation analysis is done to measure the strength of the relationship between one variable and another.

Table 3. Correlation analysis

	Responsiveness	Reliability	Assurance	Empathy	Tangibility	Pricing
Reliability	0.691*					
Assurance	0.531*	0.529*				
Empathy	0.453*	0.431*	0.693*			
Tangibility	0.321*	0.443*	0.486*	0.614*		
Pricing	0.168**	0.146**	0.322*	0.391*	0.355*	
Satisfaction	0.372*	0.441*	0.508*	0.533*	0.444*	0.563*

*****significant at 0.01
** significant at 0.05

Cronbach's alpha analysis was done according to Hair et al. (1998). Table 4 shows the Cronbach's Alpha results for each of the variable. It shows that all Cronbach's Alpha have a value of more than 0.8, which demonstrates reliable internal consistency for all variables.

Table 4. Cronbach's alpha

Variables	Cronbach's Alpha Value
Responsiveness	0.834
Reliability	0.823
Assurance	0.805
Empathy	0.804
Tangibility	0.824
Pricing	0.851
Overall Satisfaction	0.814

C. Hypothesis testing

Table 5 shows the hypotheses testing results using the regression analysis. There are 6 hypotheses examined in this study. From the Table, it can be seen that H2, H4 and H6 are supported ($p < 0.01$), while H1, H3, H5 are not supported at 5% significant level. R square score is 0.499, which means 49.9% of the variation in the dependent variable is explained by the independent variables.

Table 5 also shows that pricing is the strongest influence that affect the dependent variable of passengers' satisfaction (beta coefficient of 0.413). It is followed by reliability (coefficient=0.238), while responsiveness recorded the least influence to the dependent variable (0.015).

Table 5. Regression analysis

	Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
	B	Std error	Beta	t	Sig	Tolerance	VIF
(Constant)	1.977	1.313	-	1.505	0.134	-	-
Responsiveness	0.011	0.056	0.015	0.204	0.839	0.472	2.117
Reliability	0.284	0.087	0.238	0.325	0.001*	0.450	2.221
Assurance	0.115	0.070	0.122	1.644	0.102	0.438	2.281
Empathy	0.162	0.073	0.172	2.221	0.027*	0.400	2.498
Tangibility	0.036	0.074	0.032	0.484	0.629	0.558	1.792
Pricing	0.365	0.048	0.413	7.590	0.000*	0.815	1.227

Dependent variable: Overall satisfaction. R square = 0.499. *Significant at 5%

D. Discussion on findings

The relationship between responsiveness and passenger's satisfaction

The result shows that responsiveness does not have significant relationship on satisfaction of passengers. It may indicate that BRT passengers feel that responsiveness of employees is not an important factor in determining the satisfaction of passengers. This result can be supported by previous studies on different field. The study conducted by Hussnain et al. (2018) on banking industry in Pakistan stated that responsiveness was not a beneficial evaluator for customer satisfaction. Mudenda and Guga (2017) also found that responsiveness variable was less significant to customer satisfaction.

The insignificant results also may be due to the fact that BRT stations have now provided bus tickets purchase machines. Machines have been introduced in order to have a shorter response time compared to human beings or BRT personnel in-charge. Therefore, most passengers deal with machines rather than humans unless the machines are broken down. In addition, more passengers are now using cashless payments like Touch and Go card and e-wallet instead of buying tickets with cash.

The relationship between reliability and passenger's satisfaction

In this study, reliability variable has a positive significant relationship on passengers' satisfaction. Based on the findings, passengers are satisfied with the BRT service, for example, the arrival time of the BRT vehicle, the scheduled timetable and are able to rely on it to make it easier for them to plan their journey ahead. This result is supported by Rabiul et al. (2014), which showed that reliability is an important dimension that influences customer satisfaction in the bus transport. In addition, Fonseca et al. (2010) and Beirao and Cabral (2007) also concluded that reliability is one of the dimensions that have a greater importance for the public transport services.

The relationship between assurance and passenger's satisfaction

The results revealed that assurance does not have any significant impact on the overall satisfaction of BRT passengers. This finding can be supported by Anjalika and Priyanath (2018), that examined the service quality factors on public banks in Sri Lanka. It is found that there was no relationship between assurance and customer satisfaction.

There are two possibilities for this insignificance result, in which assurance does not become a factor for the satisfaction of BRT passengers. First, passengers may feel that the assurance provided by BRT staff at the BRT station is not significant enough to affect their satisfaction level. This means that perhaps the politeness of BRT staff, their knowledge of BRT service and their courtesy to inform passengers of any delay in the BRT service are not satisfied. Second, the level of safety expected by passengers is not provided by the BRT, making passengers less confident about the services provided and affecting their satisfaction level. Furthermore, 44% of the users are students where they might feel safe when they moved around with a group of friends. This makes them feel that assurance is not an important variable that affect their satisfaction level when they used the BRT service.

The relationship between empathy and passenger's satisfaction

The result of this study shows that empathy has a significant positive relationship on overall passengers' satisfaction of BRT. This means that the passengers are satisfied with the individualized attention given to the passengers by the BRT staff so that they can feel that they are being taken care of. The passengers can access the BRT information whenever they are needed and they are also satisfied with the operating hours of the BRT. This result can be supported by the study done by Francis and Richard (2017), where

empathy is one of the dimensions recorded as the highest influence on customer satisfaction in using rail transport in Tanzania. To coincide with this research, Sabir et al. (2013) also found that empathy as one of the important dimensions in assessing the customer satisfaction level in transport service of Daewoo Express at Pakistan. The same results are also found in Radam et al. (2014) and Vanniarajan and Stephen (2008) that support the significant findings in the relationship between empathy and satisfaction level.

The relationship between tangibility and passenger's satisfaction

The results show that tangibility has no significant effect on BRT passenger satisfaction. This finding can be supported by other researches that has been done in different field of study such as Nguyen et al. (2015) where tangibility dimension does not have a significant effect on the customer satisfaction of hotel industry in Vietnam, and Sam et al. (2013) where tangible is the variable that contributes the lowest to the customer satisfaction in banking industry.

The insignificant relationship between tangible and passenger's satisfaction in this study may be due to that the BRT has just been constructed in recent years, therefore all the facilities and equipment are still new and in a good condition. This makes the BRT passengers to not focus or concern too much on the tangibility factor in determining their satisfaction. Hence, tangibility is not treated as an important factor that affect the satisfaction level for the BRT passengers in this study.

The relationship between pricing and passenger's satisfaction

Pricing shows a significant positive relationship on overall passengers' satisfaction of BRT. Most of the passengers are satisfied of what they pay for the service and agreed that the price and quality meet their needs. All the communication related to changes of the ticketing price have been communicated properly and timely. This result is supported by the previous study of Korale et al. (2015) where prices have a significant relationship to customer satisfaction among the SJ's traveller in Sweden public transportation. Gao et al. (2016) also revealed that ticket price is very important in determining the customer satisfaction of public transit. Johnson and Karlay (2018) also stated that the most influential variables on customer satisfaction is the price of service. Price has been categorized as functional factor in a study by Budiono (2009) and stated that it plays a stronger influence on the overall customer satisfaction in Indonesia public transportation. Another analysis in Maha et al. (2014) study, mentioned that price is the most important variable that provide a general satisfaction in public transport.

5. Conclusions

This study examined the relationship between five service quality dimension and pricing, and passenger's satisfaction. Based on the results, three dimensions (reliability, empath and pricing) have significant positive relationship with passenger's satisfaction of BRT. On the other hand, the other three dimensions (responsiveness, assurance and tangibility) have no significant relationship towards the BRT passengers' satisfaction. From this study, it also reveals that pricing is the most important dimension that need to be focused on by BRT provider.

Theoretical implications

This study contributes to the existing literature by providing empirical evidence that affect passenger's satisfaction in using BRT service. Theoretically, this research has been able to move forward the literature concerning to the impact of not only service quality, using the SERVQUAL model, but also to include pricing variable in the framework to examine their impacts on satisfaction, from the perspective of BRT users. It may provide meaningful source of reference for future studies that examine the effect of service quality and pricing on satisfaction.

Managerial implications

Based on the results, it is very essential for the BRT authority to know which dimensions of service quality that their passengers value the most. This is to make sure that the organization know specifically on which dimensions of their service are important, lack or good at. Thus, the BRT authority can focus more in improving the service quality which will generate better satisfaction of BRT services. When the passengers are satisfied, they tend to use the service as their main transport system, and this could decrease the traffic around Bandar Sunway during the peak period.

Moreover, pricing is found to be the most significant factor that influences the passenger's satisfaction of BRT. Therefore, the BRT authority may consider to provide some discounted ticket price and some travel passbook for BRT user especially for those who are a resident of Bandar Sunway. This will encourage more Bandar Sunway residents to use this BRT service at their convenience time.

It is also very important for the BRT authority to keep on track on the dissatisfaction and satisfaction of their service especially on any dissatisfaction factors so that it can be transformed into satisfaction. Better BRT system and services can be built up in other cities like Bandar Sunway which will ease the residents around to travel. This results also can be used as a benchmark to improve the other public transport services in Malaysia such as LRT and MRT. It is also expected that the contributions of this study encourage service companies to connect with the customers. Service industries must aware of the quality dimensions to deliver quality service, meet the customer needs and maximize the customer satisfaction.

Limitations and future studies

This study is limited to only a small number of respondents which is 215. Bandar Sunway is a highly populated city. Future studies should consider to involve more respondents or larger population so that result will be more significant and valid. This study is also limited to BRT public transport, the other public transport in Malaysia also needs to be studied on the service quality. However, the results of this study are very beneficial for the future researchers who are interested to study public transport service in Malaysia. Future studies may compare the service quality and price among all the available public transport in Malaysia.

This study is hoped to have contributed some useful information to the researchers, BRT authority and future studies in BRT service.

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