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## THE RELATIONSHIP BETWEEN SERVICE QUALITY, PERCEIVED VALUE, SATISFACTION AND BEHAVIOURAL INTENTIONS IN RAIL TRANSIT INDUSTRY

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### Abstract:

Much has been written about service quality, perceived value and its impacts on satisfaction and behavioural intentions. However, little research on this perspective has been carried out in public rail transit settings in Malaysia. The aim of this study is to investigate the relationship between service quality, perceived value, satisfaction, and behavioural intentions of Mass Rapid Transit (MRT) passengers in Klang Valley, Malaysia. A survey method via structured questionnaire was employed and analysis was performed using Statistical Package of Social Science (SPSS). Perceived value for money and service quality are found to be important predictors of satisfaction and behavioural intentions among MRT passengers. Thus, the findings lend support to the means end chain theory. This study also includes a discussion, conclusions, implications, and limitations of the study.

### Keywords:

Service Quality, Perceived Value, Satisfaction, Behavioural Intentions, Mass Rapid Transit (MRT).

### Introduction

Traffic congestion, which was made worse by the increase in the use of private vehicles, has become a significant social issue, especially in urban areas. Traffic congestion not only

burden the society but also cause air pollution and noise pollution which affected the health and quality of life in the urban area. To address this problem and promote economic, social, and sustainable mobility in the major city, many nations, including Malaysia, has been encouraged to keep promoting modal shift from private vehicles to public transportation (Irtema et al., 2018). Public transport is an important support system towards sustainable transport in the city (Kwan et al., 2018). However, according to Almselati, Rahmat, and Jaafar (2011) and Bachok et al., (2021), Malaysia's use of public transportation is still comparatively low when compared to its neighbouring Asian nations. Besides that, past study also claimed that people are forced to use private vehicles because the current demand for public transportation cannot be met (Schneider et al., 2013).

The most current urban rail system, known as Mass Rapid Transit, is one of the public transportation options that still has a low rate of use (MRT). Although Prasarana Malaysia Bhd statistics indicated that there were approximately 64 million MRT service users in 2019, it was stated that despite the availability of affordable tickets, the number of MRT users is still below the target (malaymail, 2019). Therefore, it is crucial to comprehend the variables that affect MRT passengers' behaviour in the future after using MRT services. This is because a rise in MRT ridership is not only viewed as a key factor in a company's long-term financial performance but may also assist the government in recovering costs or generating a return on investment (malaymail, 2019).

Recent studies on public transportation indicate that quality of service and customer satisfaction are constantly considered when predicting how transit passengers will behave (de Ona et al., 2016; van Lierop & El-Geneidy, 2016). Most earlier studies have demonstrated the link between high service quality and customer satisfaction, which in turn influences consumers' future behaviour (Jen, Tu, & Lu, 2011). This makes the notion of perceived service quality and satisfaction a crucial one that will influence behavioural intentions of transit users. Previous studies also have shown that perceived value may predict behavioural intentions more accurately than either satisfaction or product quality (Petrick, 2004). Thus, in addition to service quality, perceived value is also considered in this study as having an impact on people's decision to switch from private vehicles to public transportation.

Although prior research has addressed substantial relationship in the quality of service and perceived value to satisfaction and behavioural intentions, the precise nature of the linkages that exist between these variables continue to be a crucial unresolved topic, especially in the context of MRT. Therefore, the main purpose of this study is to study the behavioural intentions of MRT passengers in Malaysia with the influence of perceived service quality, value, and satisfaction. The findings ought to be useful in assisting public transit agencies, marketers and government agencies in developing policies and strategies to satisfy passengers needs and enhance their reliance on public transportation.

## **Literature Review**

### ***Theoretical Background and Hypotheses***

User decision or intentions to use MRT can be explained by means-end chain theory proposed by Zeithaml (1998). The key idea of this theory is that people have goals in mind and utilise the characteristics of goods and services as a tool to bring about those goals (Gardial et al., 1994; Gutman, 1982). Additionally, based on this theory, it is also claimed

that perceived value is that directly influence satisfaction and behavioural intentions. Therefore, based on this theory, this study examines MRT users' perception on service quality, perceived value and its influence on consumer satisfaction and future intentions.

### ***The Influence of Service Quality on Satisfaction and Behavioural Intentions***

One of the most frequently acknowledged impressions that has been applied to various service businesses is perceived service quality (Sirimongol, 2022). Service quality can be defined as "the overall evaluation of a specific service firm that results from comparing the firm's performance with the customer's generally expectations and perceptions of how firms in that industry should perform" (Parasuraman, Zeithaml, & Berry, 1988). According to Grönroos (1984), service quality denotes the outcome of an evaluation process where the consumer compares his/her expectations with the quality of service that he/she receives. If performance expectations are not met, quality is thought to be low.

Functional and technical quality are the two components that make up service quality (Grönroos, 1984). The behaviour of service people, service delivery speed, and staff expertise are all factors in functional quality. Technical quality, on the other hand, is linked to the outcome of the services received. These two elements are extremely important to a business, and previous research has shown that they have a considerable impact on consumer perceptions of service quality (Kasiri et al., 2017).

Many studies have demonstrated that perceptions of service quality influence acceptability of public transportation use, and that there is a significant link between perceived public transportation service quality, customer satisfaction, and future behaviour (Morton et al., 2016; Chou et al. 2014; de Ona et al., 2015; Irtema et al, 2018; Borhan et al, 2014). Particularly, de Ona et al. (2016) conducted a study to examine the influence of service quality and customer satisfaction on transit passengers' behavioural intentions in Spain. Based on a sample of 3,211 light rail transit (LRT) user, the study found a positive influence of LRT service quality on satisfaction and future intentions. Therefore, the following hypotheses are proposed:

H1: Service quality has a positive relationship with satisfaction

H2: Service quality has a positive relationship with behavioural intentions

### ***The Influence of Perceived Value on Satisfaction and Behavioural Intentions***

Another significant factor to predict customer satisfaction and behavioural intentions is perceived value. Parasuraman et al. (1988) defines perceived value as a consumer's total judgement of a product/net service's worth based on perceptions of what is received and what is supplied. In other words, perceived value is the consequence of a comparative assessment of an offering's benefits and expenses.

Many researchers have established a positive relationship between perceived value, satisfaction, and behavioural intentions. Some studies on this relationship were conducted by Wu, Cheng, and Ai (2016) who investigated the influence of perceived value on satisfaction and behavioural intentions of exhibition's attendees and Tam (2004) on restaurants customers in Hong Kong. These studies found that perceived value has a positive and significant impact on customer satisfaction and behavioural intentions. Similarly, present study also showed that perceived value is significantly related with satisfaction (Uzir et al., 2021) and behavioural

intentions (Molinillo et al. 2021). In the context of public transport, Lai, and Chen (2011) disclosed that customer who experience public transportation positively have a greater degree of perceived value and satisfaction, which results in a positive behaviour intention to continue using it. As a result, the study believes that perceived value is what drives customers' satisfaction and future behaviour and hypothesize that:

H3: Perceived value has a positive relationship with satisfaction

H4: Perceived value has a positive relationship with behavioural intentions.

### ***The Influence of Satisfaction on Behavioural Intentions***

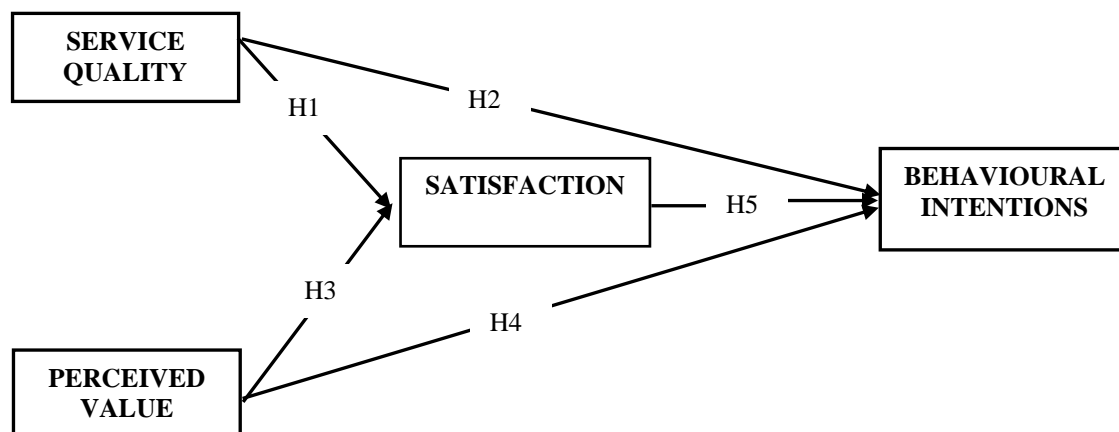
Customers' satisfaction is an important antecedent that affects their future behaviour. Based on review of past studies, satisfied customers are more loyal to the firm (Harazneh et al. 2020), increase repeat purchase, provide positive word of mouth (Goh & Okumus, 2020), which in turn generates future revenue and returns for the business (Othman & Harun, 2021). Dissatisfied customer, on the other hand are more likely to spread negative feedback to others, switch to other company and stop purchase the product or stop using the service from the same company (Zeithaml et al., 1996).

In the public transport industry, the influence of satisfaction on future behaviour of passengers have been established. For example, study by Van Lierop and El-Geneidy (2016) in the context of Canadian transit service shows that satisfaction is positively related to passengers' intentions. Irtema et al. (2018) also was able to provide evidence that satisfaction is positively related to the behavioural intentions of public transport in Kuala Lumpur, Malaysia. Similarly, de Ona et al. (2016) claimed that passengers who are happy with light rail transit in Spain, are more likely to travel and to use again the LRT and to recommend others to use the LRT. Hence, this study considers, satisfaction determines behavioural intentions and hypothesize that:

H5: Satisfaction has a positive relationship with behavioural intentions.

### ***Research Framework***

Figure 1 shows the proposed research framework. Based on means-end chain theory, effects of service quality, perceived value to satisfaction and behavioural intentions are examined. Five main research hypotheses proposed in this study are demonstrated in the model.



**Figure 1: Proposed Research Framework**

## Methodology

The population of this study were passengers of MRT in Klang Valley, Malaysia. They were reached via online and paper-based questionnaires. This study adopted a convenience sampling for sampling the passengers from the entire population. Out of 347 received questionnaires, only 333 deemed for further analysis.

As for measurements, established validated scales were used. The assessment for service quality and satisfaction were borrowed from de Ona et al. (2016). The assessment of perceived value was developed by Chang et al. (2009) and lastly, items for behavioural intentions were adapted from Zeithaml et al. (1996). All items were measured with a 6-point Likert-scale ranging from “strongly disagree” (1) to “strongly agree” (6). To analyse the data and support proposed research framework, Statistical Package for Social Science (SPSS) was used. Using descriptive analysis, a summary of the respondents' backgrounds was created. The Pearson correlation approach is then used to ascertain the relationship between the independent and dependent variables.

## Results and Discussions

### *Respondents' Profile*

Majority of the responders were female 263 (79 percent) and mostly from Malaysia (318, 95.5 percent). Over half of the responders, or 177 (53.1%), are unmarried and between the ages of 18 and 35 (235, 70.6 percent). Additionally, the private sector accounts for most respondents (108, 32.4 percent), followed by the public sector (98, 29.4 percent).

### *Reliability Coefficient*

According to Nunally (1978), an item is considered reliable and stable if it has an alpha value greater than 0.60. The reliability level for each of the variables used in this study ranges from 0.848 to 0.973. Specifically, reported Cronbach's alpha for service quality, perceived value, satisfaction and behavioural intentions are 0.973, 0.854, 0.871 and 0.848 respectively. Based on the results, it can be concluded that all the scales were significant because their Alpha coefficients were higher than the established cut-off point.

### *Relationship between Variables*

A Pearson correlation between SQ, PV and STN as well as between SQ, PV, STN and BI towards MRT service factors are then examined. Based on Table 1, all independent variables have a positive and significant correlation with dependent variables. Particularly, SQ ( $r = 0.862$ ,  $p\text{-value} = 0.000 < 0.05$ ) and PV ( $r = 0.560$ ,  $p\text{-value} = 0.000 < 0.05$ ) have a positive and significant relationship with passenger satisfaction towards MRT. In addition, the Table also shows that SQ, PV and STN also positively related to behavioural intentions with SQ ( $r = 0.488$ ,  $p\text{-value} = 0.000 < 0.05$ ), PV ( $r = 0.574$ ,  $p\text{-value} = 0.000 < 0.05$ ) and ST ( $r = 0.423$ ,  $p\text{-value} = 0.000 < 0.05$ ). Based on the results, PV was shown to have the highest correlation with BI.



**Table 1: Results of Pearson Correlation Coefficient**

		SQ	PV	ST	BI
<b>SQ</b>	Pearson Correlation	1			
	Sig. (2-tailed)				
<b>PV</b>	Pearson Correlation	.683**	1		
	Sig. (2-tailed)	0.000			
<b>STN</b>	Pearson Correlation	.862**	.560**	1	
	Sig. (2-tailed)	0.000	0.000		
<b>BI</b>	Pearson Correlation	.488**	.574**	.423**	1
	Sig. (2-tailed)	0.000	0.000	0.000	

\*\* Correlation is significant at the 0.01 level (2 tailed)

Note: SQ=Service Quality, PV=Perceived Value, STN=Satisfaction, BI=Behavioural Intentions

### ***Discussion of The Research Hypotheses***

The objective of this study is to investigate the relationship among service quality, perceived value, satisfaction, and behavioural intentions of MRT service. To achieve this objective five hypotheses were tested in this study. The summary of the result was shown in Table 2. According to the Table, all the hypotheses were supported. As for Hypotheses 1 and Hypotheses 2, the finding indicated that there is a significant relationship between perceived service quality and passenger satisfaction as well as with passenger behavioural intentions. In other words, the findings showed that quality of service such as operating hours, frequency and punctuality of the service, easy access to stations and platform from the street, easy connections with other transportation modes as well as reliable and updated information are importance to the happiness and future intentions of MRT passengers. In other words, when the passengers think that MRT provider has meet their expectation towards quality of MRT service, their satisfaction will increase. In addition, they also frequently return to using the MRT and to encourage others to do the same. These results were consistent with the result by Irtema et al. (2018) and de Ona et al. (2016) that service quality will lead to satisfaction and future intentions of public transport users.

Regarding Hypotheses 3 and Hypotheses 4, these two hypotheses also were supported. This finding was consistent with the result from Uzir et al., (2021), Molinillo et al. (2021) and Lai and Chen (2011). Based on the result of Pearson Correlation analysis, perceived value was shown to have the highest correlation with behavioural intention as compared to service quality or satisfaction. According to the findings, customers are more satisfied with service and are more likely to have good intentions when they believe that utilising the MRT was worthwhile given the money, time, and effort they invested. This view emphasises the importance of MRT provider in meeting or exceeding their client expectations in terms of perceived value and by being able to provide good value and outstanding service to them.

Finally, the relationship between passengers' satisfaction and behavioural intentions also found to be positive and significant. Therefore, Hypotheses 5 was supported. This is consistent with earlier research showing that customer's level of happiness is a reliable indicator of their likely future behaviour (Rajaguru, 2016; Van Lierop and El-Geneidy, 2016; Irtema et al., 2018; de Ona et al., 2016). This finding is empirically proven in other past studies and supported by theory.

**Table 2: Result of Research Hypotheses**

No.	Hypotheses	Result
H1	Service quality has a positive relationship with satisfaction	Supported
H2	Service quality has a positive relationship with behavioural intentions	Supported
H3	Perceived value has a positive relationship with satisfaction	Supported
H4	Perceived value has a positive relationship with behavioural intentions.	Supported
H5	Satisfaction has a positive relationship with behavioural intentions	Supported

### Conclusion and Implications

This research broadens the body of knowledge by investigating the influence of service quality and perceived value in achieving customer satisfaction and behavioural intention in MRT, public rail transit context in Malaysia. As discussed above, all the proposed hypotheses were supported, and perceived value has the greatest influence on the willingness of the passengers to using the service again and to recommend others to use MRT service, which theoretically supports means-end-chain theory.

From a managerial standpoint, the findings could assist the government in developing and putting into practise policies that will result in an effective transportation system that meets user expectations for quality through the development of better infrastructure and rail transportation services. These enhancements may in turn persuade more individuals to choose public transportation over private vehicles. The findings of this study also may be useful to management in the rail transit sector, particularly MRT providers, in determining the characteristics that consumers value most and then allocating resources or time to preserve and improve such attributes. For instance, MRT management is responsible for ensuring that the information is accurate, dependable, and easy to obtain online or access by phone. They also must keep the platform and trains clean and make sure that the train leaves and arrives at the appointed times. By doing that, it would be able to draw in new MRT users in addition to keeping the existing ones.

### Limitations and Future Research

Future research can overcome some of this study's limitations. First, the data was collected based on a cross-sectional approach, which limit the analysis of passengers' satisfaction and behavioural intentions over a period. Therefore, longitudinal research must be considered in future investigations. Second, this study merely examined the relationship among service quality, perceived value, satisfaction, and behavioural intentions. Future researchers can focus on other variables that such as subjective norms, attitude towards MRT, environmental concern perceived experience as well as testing the moderating or mediating variable in the proposed model. Considering other variables in the model not only can expand the current literature of public transit service but also can enhance the robustness of the model.

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