

## Determinants of Student's Satisfaction Towards Bus Service Quality in UiTM Cawangan Selangor

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**Abstract:** Bus service around the campus is essential for the movement of students to undergo academic and co-curricular activities. Student satisfaction with the quality of the bus service provided needs to be considered. Hence, this study was conducted to determine the relationship between empathy, perceived value, reliability and timeliness and also to examine the greatest predictors among all four variables towards student satisfaction with the quality of bus services at UiTM Cawangan Selangor. In total, 200 undergraduate university students took part in the research as survey respondents. The SPSS version 29 was used to analyze the data. The findings from the analysis revealed that empathy, perceived value, reliability and timeliness were found significantly correlated with student satisfaction. In addition, the reliability was highly significant in determining student satisfaction. The practical and theoretical implications of understanding the characteristics of empathy, perceived value, reliability and timeliness will make university administrators and service providers more concerned with student satisfaction to improve the quality of bus services provided. In addition, the results of this study also aim to provide insights that can be taken into action by the parties concerned in improving service delivery and the overall student experience.

**Keywords:** *Empathy, perceived value, reliability, timeliness, student's satisfaction.*

### 1. Introduction and Background

Bus service on campus is significant, mostly for students to ensure smooth mobility and enhance the overall experience. At nearly all university campuses in Malaysia, students are highly dependent on public transportation. For public universities, it is a priority for university administrators to ensure the smooth movement of students on campus as suggested by Dell'Olio et al. (2011) where "having a good infrastructure will not be complete unless it is equipped with a transport system comparable to it". Therefore, lack of quality bus services will harm students as they may not be able to attend class, will not be able to use valuable time and effort and will make them feel unsafe to ride the bus. There are also other inconveniences such as unpleasant journeys, security issues, bus service delays and bus staff not being proactive in rectifying the negative perception of bus users on campuses that provide the service (Hashim et al., 2013). In addition, several factors have been stated by Bachok et al., (2014) and Rahim et al., (2021) that interfere with the quality of bus services, namely insufficient facilities, low intersection coverage, uncomfortable fleets, travel routines that limited, and long waiting times. Indirectly, a previous study by Noh (2015) found that the increase in complaints about the quality of bus services made the use of public buses by people decrease.

According to a previous study by Nash and Mitra (2019), "a pool of more than 15, 000 students from four institutions in North America, 31% of students depend on bus service for their main method of transportation". The availability of effective and reliable bus transportation facilities can impact students' decisions on whether to continue their studies at university or stop them because a large expense allocation during the study is transportation expenses. More or less the same situation also occurs in public universities in Malaysia, for example at Universiti Teknologi MARA (UiTM). Most of the students who live on campus and off campus depend on the bus service facility. This is because rules have been set by UiTM that students who get residential college facilities "are not allowed to bring their vehicles" to reduce the risk of other issues such as related to parking spaces around the campus (Hashim et al., 2013).

Concerning the travel options of on-campus students, the relevant research was carried out by Eboli and Mazulla (2007) in the area of Calabria University in Cosenza, Italy. They use a relatively similar group of respondents who are university students who travel by bus to and from the class. The results of their study show that the important variables for bus passenger satisfaction are frequency, reliability, information,

complaints, promotion, and staff. Besides, in 2019, "a study at Universiti Putra Malaysia (UPM) showed that approximately 42% of students were satisfied with the level of bus service provided". Only a small number of 2.8% stated that they were very dissatisfied with the available services probably due to the long waiting time, "the attitude of the bus drivers and the limited number of buses"(Shukri et al., 2019). In line with the outcomes of the past study, this study has focused on four determinants that are capable of impacting student satisfaction with the bus service quality at UiTM, Selangor Branch, Puncak Alam campus. Those four determinants are empathy, perceived value, reliability and timeliness. In general, each determinant has an impact on student satisfaction. It depends on the surrounding factors that affect the level of student's acceptance of the quality of bus service provided.

## 2. Literature Review

### Student's satisfaction

"Satisfaction is defined as the happy feeling felt by an individual when something experienced fulfills his desires and needs. In other words, it is a state of mind experienced by a person based on the performance or results of something that meets his expectations" (Venkateswarlu et al., 2020). As previous studies have said, the efficiency of a service can be evaluated based on customer satisfaction. Thus, if they have received the desired service and have met their expectations, customers will continue to use the service. "The greater the difficulty in assessing service quality, the greater the difficulty in measuring satisfaction" (Sann & Siripipattaworn, 2024). The importance of quality aspects to customer loyalty or customer satisfaction will be directly or indirectly affected (Wilkins et al., 2007).

A study by Yang and Ding (2018) found that "students prioritize reliability and on-time service for campus commuting, which if there are delays and overcrowding will affect the decrease in satisfaction levels. The study emphasizes that student satisfaction and perception of bus service quality can increase if these aspects are improved." In general, study themes on public transport and the level of customer satisfaction concerning mobility have been carried out extensively (Faulk & Hicks, 2010; Nash, 1992). It can be explained by investigating certain indicators "of the quality of the product or service itself" (Stefano, 2015).

### Empathy

Empathy generally refers "to being able to precisely perceive the emotional state of others and includes the residue that this competency has on the individual" (Spreng et al., 2009). In addition, empathy is the ability to sense a person's feelings and interpret what that person is thinking or feeling and why (Dorrington, 2020). As previous studies have said, empathy is an important determinant in increasing customer satisfaction. Customer satisfaction can be detected if they feel understood and appreciated through empathy. It has been supported by Sabir et al., (2014) where empathy is more closely related to customer satisfaction than other aspects.

Besides, when service employees show empathy, higher satisfaction can be felt by customers because it is likely to meet their emotional needs (Rogers & Farber, 2023). By incorporating empathy into the evaluation of bus service quality and student satisfaction, bus operators and university administrators can create a student-centered transportation system that meets the emotional and practical needs of students, ultimately contributing to a positive campus environment.

### Perceived Value

Perceived value is how a customer sees the benefits and value of a product. Based on the research done by Sann & Siripipattaworn (2024), explains that perceived value refers to the amount of utility received by consumers as a result of using the product or service at the price they have paid. The perceived value of brands relating to quality, price and social dimensions that have a positive impact on consumer expectations (Fazal-e-Hasan et al., 2018). "Perceived value is known by terms of value (Monroe, 1990; Zeithaml, 1988) "or customer value (Buts & Goodstein, 1997). Moreover, perceived value involves an inconsistency between the received benefits and sacrifices.

McDougall and Levesque (2000), define perceived value as "the results or benefits customers receive about total costs which include the price paid plus other costs associated with the purchase". "The benefits include customer's preferred value. The sacrifices include monetary and non-monetary such as time, alternative goods

or alternative brands and self-experiences to sacrifices” (Dodds et al., 1991). In the context of bus service quality, perceived value can become a major difficulty, especially in university transportation services where student satisfaction and value perceptions are critical.

### **Reliability**

On reliability, as stated by Parasuraman et al., (1988), relates to the capability to provide services as assured and precisely. According to McKnight et al. (1986), reliability is defined as the capability to offer transportation services with consistency and punctuality. Therefore, reliability is an important factor for customers. “Improving the reliability of bus service has the potential to increase the attractiveness of public transit to current and prospective riders” (Chen et al., 2009).

In addition, a positive relationship between reliability and student satisfaction was stated by Abu-Rumman and Qawasmeh (2022). The university administrators need to understand more about the reliability of the service to create a better service policy for the entire campus. In a study conducted by Ojo et al. (2015), they examined student satisfaction with campus shuttle bus services using the QUALBUS approach and found that reliability was the only factor that had a significant relationship with student satisfaction with campus shuttle bus services.

### **Timeliness**

Recently, Huma et al., (2019) noted that timeliness refers to providing on schedule, whether delivering an order or conducting an activity for a service user. Service quality is the foundation that plays an important role in satisfying customers. By ensuring that the service or product is delivered promptly and directly, it can meet customer expectations, increase customer satisfaction and catalyze customer loyalty. Moreover, customers have specific expectations regarding the timeliness of bus services. Customer satisfaction tends to be higher if the bus schedule is on time and informs customers immediately if there are delays. On the other hand, dissatisfaction can occur if frequent delays and unreliable service schedules.

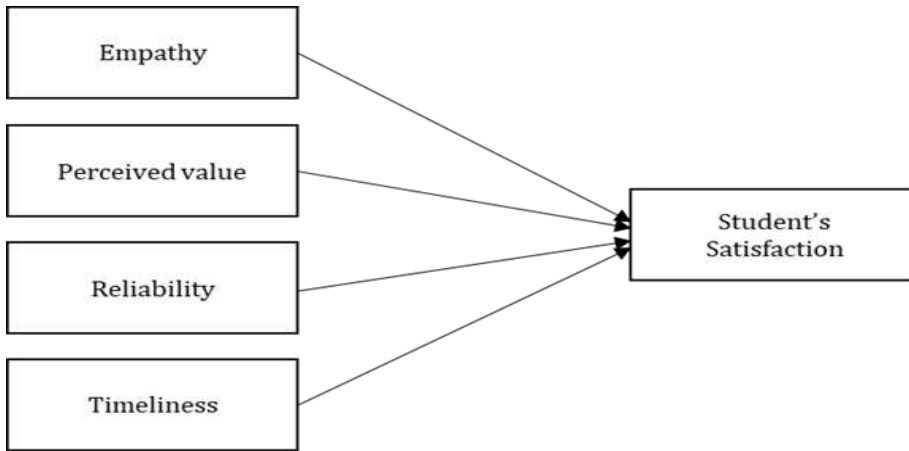
A study by Friedman and O'Neill (2019) emphasizes that punctual bus services directly influence and improve customer satisfaction and service perception. They agree that a positive image can be maintained by prioritizing on-time arrivals and departures and ensuring customers can rely on bus services for their travel needs. Wittmer and Witte (2010) have explored in their research that the relationship shows that service reliability, including timeliness, is a significant determinant of customer satisfaction in public transport.

According to Mulat (2017), the level of service or product quality is measured by assessing the user's perception. The quality of the service received by the customer can be evaluated during or after receiving the service. Different gaps in evaluation between perceived quality and what customers expect can improve existing service quality. “More interestingly, some researchers stated that studies on satisfaction with bus services are still relevant even today (Grisé & El-Geneidy, 2017; Munim & Noor, 2020; Li et al., 2021), including studies on satisfaction among students” (dos Reis Silveira et al., 2020; Eresia-Eke et al., 2020; Javid et al., 2021).

Hence, the purpose of this study was to determine the relationship between empathy, perceived value, reliability and timeliness and also to examine the greatest predictors among all four variables towards student satisfaction with the quality of bus services at UiTM Cawangan Selangor, to provide actionable insights to improve service delivery and the overall student experience. The researcher therefore stated the following hypothesis:

- H1: There is a positive relationship between empathy and student satisfaction.
- H2: There is a positive relationship between reliability and student satisfaction.
- H3: There is a positive relationship between perceived value and student satisfaction.
- H4: There is a positive relationship between timeliness and student satisfaction.

The relationship between the studied variables is depicted in Figure 1.



**Figure 1:** Conceptual Framework

### 3. Research Methodology

#### Instrument

A correlational research design was applied to the study. Data were collected via an online questionnaire from students at Universiti Teknologi MARA (UiTM) Cawangan Selangor. Four variables were used and each variable represents an essential factor in determining student’s satisfaction with bus service quality. Respondents were asked to answer to questionnaire with a total of 45 items using instruments from multiple sources, on a five-point Likert scale (from 1 to indicate strongly disagree, to 5 to indicate strongly agree).

#### Statistical Analysis

Frequency, percentage, and continuous variables using mean and standard deviation were analyzed for categorical variables. Pearson’s Product-Moment Correlation test was performed to examine the relationship among variables and this was followed by multiple regression analysis to determine the extent to which the dependent variables influence the measured outcome. Statistical Package for the Social Sciences Software (SPSS) version 29.0 was used to analyze the data.

### 4. Results

This section presents sets of results relating to the profile of respondents, and the relationship between empathy, perceived value, reliability and timeliness towards student satisfaction.

**Profile of Respondents:** A total of 200 students joined in the survey. Most respondents were female (n = 116, 58%), studying in the 5th semester (n = 46, 23%) and from the Faculty of Business and Management. A great number of respondents were also living in the university’s arranged accommodation (n = 176, 88%).

**Table 1: Correlational Analysis (N = 200)**

|                           | <i>M</i> | <i>SD</i> | 1       | 2       | 3       | 4       | 5    |
|---------------------------|----------|-----------|---------|---------|---------|---------|------|
| 1. Empathy                | 3.62     | 0.742     | 1.00    |         |         |         |      |
| 2. Perceived value        | 4.06     | 0.718     | 0.640** | 1.00    |         |         |      |
| 3. Reliability            | 3.64     | 0.726     | 0.729** | 0.604** | 1.00    |         |      |
| 4. Timeliness             | 3.09     | 0.941     | 0.423** | 0.413** | 0.619** | 1.00    |      |
| 5. Student’s satisfaction | 3.66     | 0.720     | 0.718** | 0.607** | 0.750** | 0.465** | 1.00 |

\*\*  $p < .01$

**Correlational Analysis:** The result of the analysis suggests all independent variables scores significantly correlated with student satisfaction. Empathy and reliability showed a strong positive relationship with student satisfaction ( $r = 0.718, p < .01$ ;  $r = 0.750, p < .01$  respectively), while perceived value and timeliness were

observed to have a moderate positive relationship with student satisfaction ( $r = 0.607, p <.01; r = 0.465, p <.01$  respectively). The effect size for all correlations is according to Sekaran (2010).

**Table 2: Multiple Regression Analysis (N = 200)**

|                   | Unstandardized Coefficient |      | Standardized Coefficient | <i>t</i> | Sig   | Collinearity Statistics |       |
|-------------------|----------------------------|------|--------------------------|----------|-------|-------------------------|-------|
|                   | $\beta$                    | S.E  | <i>Beta</i>              |          |       | Tolerance               | VIF   |
| Constant          | .280                       | .199 |                          | 1.405    | .162  |                         |       |
| Empathy           | .274                       | .066 | .283                     | 4.155    | <.001 | .395                    | 2.531 |
| Perceived value   | .215                       | .068 | .214                     | 3.172    | .002  | .399                    | 2.503 |
| Reliability       | .335                       | .083 | .338                     | 4.054    | <.001 | .263                    | 3.804 |
| Timeliness        | .095                       | .049 | .124                     | 1.935    | .054  | .448                    | 2.234 |
| R <sup>2</sup>    |                            |      |                          | .644     |       |                         |       |
| adjR <sup>2</sup> |                            |      |                          | .637     |       |                         |       |
| <i>F</i>          |                            |      |                          | 88.153   |       |                         |       |
| Sig. <i>F</i>     |                            |      |                          | <.001    |       |                         |       |

Multiple regression analysis was done to determine the influence of empathy, perceived value, reliability and timeliness on student's satisfaction with bus service quality. Table 2 summarizes the results of the multiple regression analysis. Overall, the regression model is statistically significant ( $F = 88.153, p <.05$ ), and the *r*-squared value explains 64.4% of fitted data in the regression model. The analysis revealed that empathy, perceived value and reliability are significant predictors of student satisfaction. Based on the standardized beta value, reliability has the greatest influence on student satisfaction ( $\beta = .338, p <.05$ ), followed by empathy ( $\beta = .283, p <.05$ ) and perceived value ( $\beta = .214, p <.05$ ). Timeliness was found to not have significant influence towards student's satisfaction ( $\beta = .124, p >.05$ ).

### Discussion

Focusing on quality aspects has become very important because this will affect customer satisfaction directly or indirectly (Stefano, 2015). The present study aimed to determine the relationship between empathy, perceived value, reliability and timeliness and also to examine the greatest predictors among all four variables towards student satisfaction with the bus service quality at UiTM Cawangan Selangor to provide actionable insights for enhancing service delivery and overall student experience. The outcome of the study denotes that all four variables are significantly correlated with student satisfaction. Empathy and reliability have a strong relationship with student satisfaction, which can make students feel secure and comfortable while using the bus service. In addition, the bus driver's efficiency in ensuring the physical condition of the bus is safe and providing a reliable service can directly increase student satisfaction with the dependability of the service. While perceived value and timeliness have a moderate positive relationship towards student satisfaction.

Overall, the findings support all hypotheses for this study. This is by the famous research by Parasuraman et al. (1988) recommended that "service quality is an important aspect affecting customer satisfaction, consisting of five dimensions: assurance, empathy, reliability, responsiveness and tangibles". Those dimensions are equally vital. The statement has also been supported by Shamsudin et al., (2020) where organizations that offer products or services cannot only focus on one dimension to receive good customer satisfaction.

This study's findings also revealed that empathy, perceived value and reliability are significant predictors of student satisfaction. Unlike the others, the result showed that timeliness was found to not significantly influence student satisfaction. This is in contrast with the latest study (San & Siripipattaworn, 2024). This may be because the students have many times experienced delays with the bus service and the time taken to travel between each stop is quite late and time-consuming. Despite that, reliability appeared to be a key determinant of student satisfaction compared to the other two predictors. As previously described (Parasuraman et al., 1988), "of the five determinants of service quality, reliability commonly appeared as the most important determinant, based on both direct measures of relative importance" (Zeithaml et al., 1990). This is consistent with Abu-Rumman and Qawasmeh (2022), who found that reliability has a strong relationship and affects customer satisfaction. However, in research conducted by Kwortnik and Thompson (2023), empathy has been

proven to be the main component that can meet customer satisfaction based on service experience management. They also said that empathy is a critical determinant in delivering high-quality service experiences that achieve or beyond customer expectations, thereby increasing overall customer satisfaction. In this study, students found that the bus service provided is very reliable including the physical condition of the bus which is good and rarely breaks down, the bus is always there even during bad weather conditions as well as the bus driver has good driving ability. Overall bus service is stable and reliable for the students. Thus, providing dependable service is a key factor in service quality.

## 5. Conclusion

The findings of this study demonstrate that empathy, perceived value, reliability and timeliness were significantly correlated with student satisfaction. According to the results, three determinants have a real effect on student satisfaction, namely, reliability, empathy and perceived value; however, timeliness does not. Although findings revealed that the students are satisfied with the current services, the fundamental issues such as quality services need to be improved to bear the existing passengers. As a result, will reduce traffic and parking problems on campus and create well-being amongst the university population. Therefore, it is recommended to university administrators and service providers, that any deficiencies related to the quality of bus services should be addressed to assist students in ensuring their smooth movement on campus throughout the academic year. The university administrator also should impose a policy for a green and sustainable campus. Bus service providers also need to ensure that safety and comfort when students use the service are improved based on the latest automotive technology and current market services. Other than that, further research should consider other determinants as independent variables and explore alternative methods, such as interviews or direct observation, to triangulate the study findings for future research. This will help expand the study further and make it possible to generalize the findings.

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