

Passenger Satisfaction with Service Quality of KTM Komuter Stations at Klang Valley

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ABSTRACT

Public transportation is one of the facilities available in Malaysia. In order to encourage more people to use public transportation and thereby reduce traffic congestion, effective and efficient public transportation services are essential. Public transportation in Malaysia, including KTM Komuter, has various challenges to operate and is, therefore, unable to provide the level of service that customers desire. This study aims to improve the service quality of KTM Komuter stations in the Klang Valley by proposing areas of concern determined based on the satisfaction of KTM Komuter passengers with the facilities provided. Therefore, five dimensions have been identified based on the SERVQUAL model: Reliability, Assurance, Tangible, Empathy, and Responsiveness. A questionnaire survey was conducted among the passengers of the KTM Komuter at three selected stations: Putra Station, Bank Negara Station, and Kuala Lumpur Station. These stations were selected based on major interchange stations at Klang Valley. The level of satisfaction with the service quality of KTM Komuter stations was then evaluated based on the responses of the 384 respondents on a given 5-point Likert scale. Findings showed that the level of passengers' satisfaction with Reliability and Tangible is the most needed for improvement. Further, this study highlighted KTM Komuter services that necessary and needed improvement with the support of the Government of Malaysia namely the Ministry of Transport (MOT), Agensi Pengangkutan Awam Darat (SPAD), and Keretapi Tanah Melayu Berhad (KTMB) management team.

Keywords: Satisfaction, Service quality, SERVQUAL, KTM Komuter

INTRODUCTION

These days, public transportation is an important mode of transportation in the development of the country, especially in urban areas which to solve traffic congestion, especially during peak hours, which also reduces air pollution, and to reduces limited parking problems due to the increase of the population and number of vehicles (Hasmita & Radzuan, 2018). Several rail routes have been established as Malaysia's public transportation system has grown. However, unlike in developed countries, individuals in developing countries like Malaysia have less desire in using public transportation because it is nearly less reliable and offers lower-quality services (Borhan, Ibrahim, Syamsunur, & Rahmat, 2017).

The rail transportation user tends to choose a private vehicle as transport for daily use because of the lack of facilities at the rail stations (Mohd, Mohd, Bilal, & Mohd, 2019). The level of service is not satisfactory making it impossible to meet consumer expectations and needs (Ibrahim, Borhan, Muhd, & Ismail, 2020). Besides, service provided by commuter rail frequently receives several complaints from customers about the quality of services such as the ticketing system and cleanliness issues (Hakimi, Borhan, Zakaria, & Zainal, 2019), the underuse of the park-and-ride facilities at railway stations (Ibrahim, Hamid, & Daud, 2019), and

small stations are underequipped and unable to shield passengers from the external environment (Thanaraju, Mentaza Khan, Sivanathan, & Juhari, 2019). The increase in tickets price and competition from further expansion by MRT and LRT lines also affect the reduction of the number of passengers using KTM Komuter services (Ong, Poon, & Jurit, 2018). For effective operation of the transportation system, measuring the satisfaction level of passengers can identify the areas needed for improvement in the quality of service. This study concentrates on Keretapi Tanah Melayu Komuter (KTM), one of Malaysia's oldest rail-based public transportation systems, which is run by Keretapi Tanah Melayu Berhad (KTMB).

This study aims to establish factors that can improve the service quality of KTM Komuter stations at Klang Valley. Hence, this study seeks to empirically determine the demographic characteristics of the KTM Komuter passengers at Klang valley and determine the passenger satisfaction with the service quality of KTM Komuter station facilities. The paper began with an overview of commuter rail and KTM Komuter in Malaysia, followed by reviews of customer satisfaction and service quality dimensions. Then, data collection is discussed. This study deliberates the dimensions of service quality based on the SERVQUAL model to measure the level of passenger satisfaction with service quality. Finally, the paper concludes the results and implications for management and policymakers to improve the KTM Komuter facilities for its passengers.

LITERATURE REVIEW

Overview of Commuter Rail and KTM Komuter in Malaysia

Since the late 19th century, rail transportation has been used in Malaya to expedite the transit of the tin mining region to the port along the coast (Abd, Kassim, & Mohd, 2018). But nowadays rail transport is one of the country's most important transport modes. There are several types of rail transport in Malaysia: heavy rail, light rapid transit, monorail, airport rail link, and funicular railway line. The term "commuter rail," often known as "suburban rail," refers to a passenger rail service that connects a city's core including its outer parts, as well as commuter towns and other areas where many people commute daily (Rail System Net, 2022).

Heavy rail known as KTM Komuter is mostly used for intercity passenger and freight transport operated by Keretapi Tanah Melayu Berhad (KTMB). KTMB is Malaysia's oldest rail service provider (Bachok & Mohd, 2017). It was introduced in 1995 to offer local rail services in Kuala Lumpur and the Klang Valley's surrounding suburban areas (Nordin, Haji Mohd Masirin, Ghazali, & Azis, 2017; Mohd Yusoff, Mohd Safian, Bilal, & Mohd Yassin, 2019) and the route between Kuala Lumpur and Rawang was Malaysia's first electric train service. (Mohamad, 2003). At present, the KTM Komuter has 57 stations along 175km (Keretapi Tanah Melayu Berhad, 2018). The network consists of two cross-city routes: Batu Caves-Tampin or Pulau Sebang and Tanjung Malim-Port Klang (Mohd Yusoff, Mohd Safian, Bilal, & Mohd Yassin, 2019; Ong, Poon, & Jurit, 2018). Both lines are connected by KL Sentral station, Kuala Lumpur station, Bank Negara Station, and Putra Station which is situated in the heart of Kuala Lumpur. In addition, it consists of the shuttle service from Rawang to Rasa as well as the Sentul-Port Klang and Rawang-Seremban projections (Keretapi Tanah Melayu Berhad, 2018).

Overview of Customer Satisfaction and Service Quality

Customer satisfaction is essential for service providers to understand which service attributes offer value and promote satisfaction and which only fulfill basic criteria and minimum dissatisfactions, and which do both (Ying Peng, et al., 2008). Meanwhile, satisfaction in public transport is defined as the passenger's overall experience with its services whether met or exceed passenger expectation or not (Hakimi Ibrahim, Borhan, Zakaria, & Zainal, 2019; Bachok & Mohd Zin, 2017). While according to research by Farooq, Salam, Fayolle, Jaafar, & Ayupp (2018) and Chia & Abdul Hamid (2021) stated that the total level of customer satisfaction is a key indicator of how happy or unsatisfied a consumer was with their purchase experience. In addition, research by Yilmaz & Ari (2017) focused on the relationship between service quality and customer satisfaction, both corporate image and service quality had a substantial impact on customer satisfaction, which encouraged passenger loyalty towards high-speed rail in Turkey. An organization satisfied with employees will also generate more money, spend less money, and satisfy customers (Fields, Abdullah, Musisi, & Mitchley, 2021). Dianawati, Hanif, & Maicptaani (2019) stated that the enhancement of information facilities enhancement and

maintenance as well as the completion of facilities information are ways to increase the quality of service. In order to improve service quality and boost customer satisfaction, the commuter must be able to develop and implement high-priority technical requirements (Dianawati, Hanif, & Maiciptaani, 2019) as well as their loyalty towards commuter rail (Hakimi, Borhan, Zakaria, & Zainal, 2019).

Dimensions of Service Quality

The name SERVQUAL model was simplified and given by Parasuraman, Zeithaml, & Berry (1988) which reduced to five elements only: reliability, assurance, tangibles, empathy, and responsiveness. Several researchers have offered lists of assessment techniques for service quality; for example, the model by Gronroos (1984), but the ones that are most well-known are SERVQUAL model's five elements which are reliability, assurance, tangibles, empathy, and responsiveness (Luke & Heyns, 2020; Vanniarajan & Stephen, 2008) are the characteristics that customers use to assess the quality of the service.

Reliability

Reliability demonstrates the railway's capacity to deliver on its promises (Yuda Bakti, Rakhmawati, Sumaedi, & Damayanti, 2020). Reliability is the capacity or potential of parts, goods, or systems to carry out a specific task without error for a predetermined amount of time or under predetermined circumstances (Meng, Wang, Jia, & Li, 2020). The transportation center with a few facilities, including signs, timetables, and other things (Kamarudin & Sinniah, 2021) with reliable and accurate information is essential for ensuring overall passenger satisfaction with public transportation. Furthermore, Van Lierop, Badami, & El-Geneidy (2018) and Yuda Bakti, Rakhmawati, Sumaedi, & Damayanti (2020) discussed that for increasing passenger satisfaction and luring new customers to rail-based transportation, it is obvious that accurate and up-to-date information about train schedules and routes is crucial. Other facilities with the aim of entertainment, such as WiFi, music, and air conditioning systems (Mugion, Toni, Raharjo, Pietro, & Sebatu, 2018).

Assurance

One of the most important considerations when choosing commuter train service is safety (Nugraha, 2019). The level of safety reflects the railway's capacity to offer secure transportation (Yuda Bakti, Rakhmawati, Sumaedi, & Damayanti, 2020). Thus, to guarantee that the services will be provided without error while disabled people change levels in a rail station, a train station should have handrails on stairs and ramps, as well as pedestrian facilities like lifts and ramps, and the lifts should be kept in good condition (Metropolitan Transportation Authority, 2022).

Tangible

The highest positive impact on a railway station's level of service is cleanliness (Aydin, Celik, & Gumus, 2015). Ghosh, Ojha, & Geetika (2017) and Palacin (2018) shared the same overview on the importance of the cleanliness maintenance service and facilities service availability at the rail station. This is also agreed by Kamarudin & Sinniah (2021) and Minhans, Chatterjee, & Popli (2020), that the primary characteristics that will be valued in the physical condition are cleanliness. Also, the primary factor in choosing commuter train service is comfort (Nugraha, 2019) where comfort is related to physical condition, whereas comfort is experienced by the passengers themselves Kamarudin & Sinniah (2021). Based on research by Minhans, Chatterjee, & Popli (2020), seats are the one of factors that customers take into account when it comes to comfort and physical conditions. Lighting in stations is found to be important which is also related to safety (Deniz, 2019), and is found to be one most essential characteristic affecting safety in stations.

Empathy

Giving everyone equal access is what is meant by accessibility because, without the ability to access services and facilities, people with disabilities will never be fully included (Sallehuddin, Ramli, Mohamad, & Ismail, 2015). Researchers also stated that a great, effective, and manageable transportation system depends heavily on accessibility. Those who are incapable rely more on public transportation and less on private transportation (Jansuwan, Christensen, & Chen, 2013). The inadequate ticketing system, especially during rush hour, has increased waiting times and total travel time even after contactless cards were introduced (Khalid, Bachok, Osman, & Ibrahim, 2014). The service provider should find a way to lower prices or enhance the level of

service offered to customers so that the cost is not perceived as a problem (Isikli, Aydin, Celik, & Gumus, 2017). Thus, Nugraha (2019) found that fares also is the key attribute of choosing commuter train service. Kindness, politeness, and customer care are considered to be staff behaviors (Grzanic, J., 2007). He added that it may be connected to employee engagement, namely when employees engage with consumers and demonstrate empathy.

Responsiveness

The level of customer satisfaction will probably depend on how well the team in charge of operating or managing the rail system connects with passengers of public rail transit (Ibrahim, Borhan, Muhd, & Ismail, 2020). Fang, et al., (2020) found that instead of displaying annoyance or rudeness to the passengers, the train staff and the train drivers are supposed to conduct themselves in a pleasant and well-mannered manner. Ghosh, Ojha, & Geetika (2017) assessed the relative importance of staff availability on time, adequate reaction times to passenger inquiries, and staff service for customer demands in the context of rail transportation.

METHODOLOGY

This study aims to assess user satisfaction with the service quality of one of KTMB’s services, the KTM Komuter stations in the Klang Valley. In addition to the KTM Komuter, KTMB offers three other services: the Electric Train Service (ETS), KTM Intercity, and KTM Kargo. With the exception of KTM Kargo, which provides cargo services, the KTM Komuter, ETS, and KTM Intercity cater to passengers, each serving different purposes. The KTM Komuter is a local rail service and is widely used by passengers for daily commutes, especially on weekdays, due to its comprehensive timetable. KTM Intercity, connects the southern and eastern regions of Peninsular Malaysia, as well as Singapore and Thailand, offering intercity rail services. Meanwhile, the ETS is an intercity rail service, known for its higher speed and greater convenience (Keretapi Tanah Melayu Berhad, 2018). As the KTM Komuter is the busiest service and primarily used for daily commuting, this study focuses exclusively on it, excluding the other services, to ensure more specific and relevant outcomes.

Multiple-choice questionnaires were distributed among passengers of KTM Komuter at three selected stations: Putra Station, Bank Negara Station, and Kuala Lumpur Station. The rationale for selecting these stations is based on major interchange stations as shown in Figure 1. However, KL Sentral Station is not included in this study as the result might be different as it serves as the main transportation hub for various public transit lines. Putra KTM Komuter Station is partly named for the neighboring Putra World Trade Centre. The Seremban Route and the Port Klang Line use the station as part of a shared KTM Komuter railway line. As for the Bank Negara KTM Komuter Station, this train station in the heart of Kuala Lumpur has the name of the Central Bank of Malaysia's head office located nearby. The station is at Jalan Dato' Onn. It is part of a KTM Komuter rail line that the Port Klang Line and the Seremban Line use. While the Kuala Lumpur KTM station is a train station on Jalan Sultan Hishamuddin, part of Damansara Road. The station is near the similarly designed Railway Administration Building, the National Mosque, and the Dayabumi Complex. This station served as an interchange station between KTM Komuter lines.

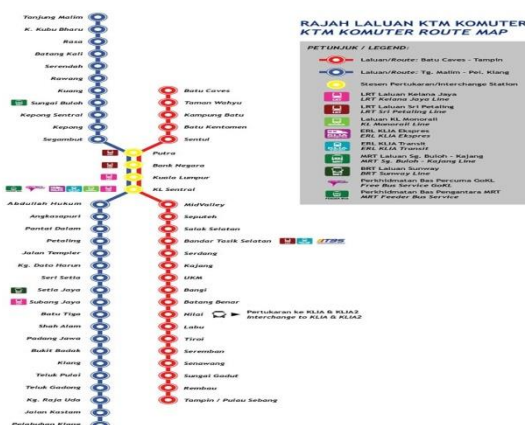


Fig. 1 Route Map for the KTM Komuter service in Klang Valley

Questionnaire

The questionnaire was divided into two major parts: demographic questions and content questions. The demographic questions sought factual information on the socio-demographic and travelling patterns of the respondents. Meanwhile, the content questions measured the respondents' satisfaction level with the service quality of station facilities provided by the KTM Komuter at the three selected stations. Five SERVQUAL dimensions and 52 items were asked, and the responses were scored on the five-Likert scale ranging from 1, "strongly dissatisfied," to 5 "strongly satisfied". This study also sought respondents' feedback on the improvement of the facilities. The open-ended question requires to indicate one aspect that highly required KTM Komuter's attention.

Survey Administration and Data Analysis

The selected respondents are KTM Komuter passengers or any person within the parameters of the train station. Questionnaires were distributed to the respondents using online survey forms with Google Survey links, and the researcher also invited the respondents to scan a QR code. The researcher at the train stations distributed the survey, and respondents had to scan a QR code to complete it, whether they were waiting for commuters or traveling in the commuter. As a result, 384 respondents were successfully recruited.

Quantitative analysis is associated with the deductive approach. It uses data to test the theory, which measures the variables numerically and accurately, and analyses data using various statistical techniques (Saunders et al., 2016). As for this study, the returned questionnaires were analyzed via a parametric analysis using Statistical Package for the Social Sciences (SPSS) Version 28.

Prior to the primary data analysis, a reliability test was conducted. According to Saunders et al. (2016), a reliability test measures the internal consistency of a set of valid questionnaire items and the construct's redundancy. This consistency involves correlating the responses to the questions in the questionnaires. The results suggested very good internal consistency reliability for this sample. As a rule of thumb, the established measures should have a Cronbach alpha coefficient of 0.70 or more (Hair et al., 2019). Therefore, based on the reliability statistics calculated for the questionnaire, the value of Cronbach's Alpha is 0.90, which exceeds threshold values greater than 0.70. The reliability level of the data is at a good level, and it is firmly reliable for the 52 questions.

RESULTS AND DISCUSSIONS

Demographic Information of Respondents

The respondents' profiles were examined as part of the data analysis. The goal of analyzing the respondents' demographic information was to better comprehend and define their characters, such as their profession, travel frequency, and type of ticket service as shown in Table 1. By referring to Table 1, it shows that more than half of the respondents are female (56.3 percent) and the majority of the respondents are from age 26-35 years old (51.8 percent). This result is important in order to know the respondents' range of age that are using KTM Komuter in their daily life.

Meanwhile, there are 106 of the respondents (27.6 percent) work in the private sector and most of the respondents travel every day (41.9 percent) by using KTM Komuter. The type of ticket service also has been asked in this survey. This is to measure what facilities that respondents are using in order to purchase their ticket for KTM Komuter. The below table shows that most of the respondents (83.1 percent) are using Touch n' Go card/MyKad.

Table 1 Data Collection – Demographic Information

Code	Variables	Items	Frequency	Percentage (%)
A1	Gender	Male	168	43.8

		Female		216	56.3
			Total	384	100.0
A2	Age	Less than 25 years		116	30.2
		26-35		199	51.8
		36-45		49	12.8
		46-55		8	2.1
		56-60		11	2.9
		More than 60 years		1	0.3
			Total	384	100.0
A3	Profession	Government Sector		78	20.3
		Private Sector		106	27.6
		Self-employed		93	24.2
		Retired		9	2.3
		Student		96	25.0
		Unemployed		2	0.5
			Total	384	100.0
A4	Travel Frequency by using KTM Komuter	Once a month		111	28.9
		Once a week		107	27.9
		Once a day		5	1.3
		Everyday		161	41.9
			Total	384	100.0
A6	Type of Ticket Service	Touch 'n Go Card/MyKad		319	83.1
		KTMB Card		49	12.8
		Ticket Vending Machine (TVM)		11	2.9
		Cash at Counter		5	1.3
			Total	384	100.0

Meanwhile, Figure 2 shows that multiple choice is used to examine respondents' purpose of travelling by KTM Komuter. Five choices were given: work, study, leisure, health, and spiritual. Out of 384 respondents, most use KTM Komuter for work (60.8 percent). As for Figure 3, the 'KTM Komuter Visited' question employed a multiple choice considering the three selected stations: Putra Station, Bank Negara Station, and Kuala Lumpur Station. As a result, out of 384 respondents, the majority of the respondents visited/stopped at Kuala Lumpur Station (73.4 percent) compared to Bank Negara Station and Putra Station where (64.1 percent) and (30.2 percent) respectively.

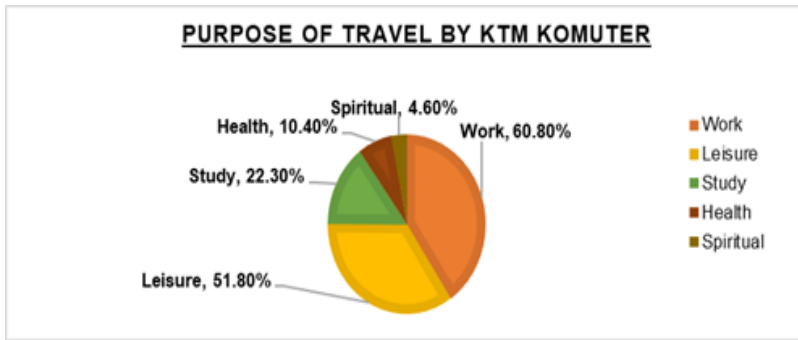


Fig. 2 Purpose of Travel by KTM Komuter

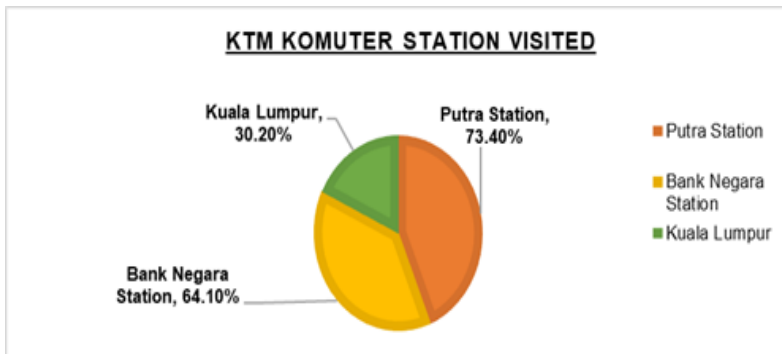


Fig. 3 KTM Komuter Visited

Service Quality Dimension

The respondents' profiles were examined as part of the data analysis. The goal of analyzing the respondents' demographic information was to better comprehend and define their characters, such as their profession, travel frequency, and type of ticket service as shown in Table 1. By referring to Table 1, it shows that more than half of the respondents are female (56.3 percent) and the majority of the respondents are from age 26-35 years old (51.8 percent). This result is important in order to know the respondents' range of age that are using KTM Komuter in their daily life.

Table 2 Data Collection – Passenger Satisfaction Level

Service Quality	Putra Station		Bank Negara Station		Kuala Lumpur Station	
	Mean	SD	Mean	SD	Mean	SD
Reliability	2.62	0.65	2.57	0.48	2.66	0.57
Assurance	2.84	0.56	2.82	0.53	3.04	0.61
Tangible	2.66	0.57	2.62	0.45	2.70	0.58
Empathy	3.01	0.61	3.03	0.51	3.10	0.54
Responsiveness	3.25	0.67	3.30	0.52	3.29	0.63
Average Mean	2.88		2.87		2.96	
Total Mean	2.90					

The total mean score for the five dimensions of service quality is 2.90. As a result, Kuala Lumpur Station recorded the highest average satisfaction score (M = 2.96), while the lowest average satisfaction score (M = 2.87) was recorded by Bank Negara Station. For the various items, the highest score (M = 2.66, SD = 0.57) for "Reliability" was recorded by Kuala Lumpur Station, while Kuala Lumpur again recorded the highest score (M

= 3.04, SD = 0.61), (M = 2.70, SD = 0.58), and (M = 3.10, SD = 0.54) for “Assurance”, “Tangible”, and “Empathy” respectively. Lastly, for “Responsiveness”, Bank Negara Station recorded the highest score (M = 3.30, SD = 0.52). A more detailed examination of each dimension item is presented in Table 3.

Table 3 Data Collection – Passenger Satisfaction for each Dimension

Question	Statement	Putra Station		Bank Negara Station		Kuala Lumpur Station	
		Mean	SD	Mean	SD	Mean	SD
RELIABILITY							
B1A	Notice boards and signage are easy to understand and follow	2.50	0.87	2.41	0.72	2.61	0.89
B1B	Clear directions in the KTM Komuter station	2.69	0.88	2.60	0.77	2.88	0.89
B1C	Price and operating hours are clearly stated at the station	2.97	0.99	3.08	0.92	2.79	0.92
B1D	A strong Wi-Fi signal was provided in the station	2.34	0.72	2.26	0.58	2.29	0.69
B1E	Announcements are made clear and understandable	2.97	0.98	3.09	0.90	2.81	0.91
B1F	The accessibility of KTMB information (service interruption and commuter schedule/routes) through a mobile application	2.84	0.87	2.77	0.82	3.03	0.89
B1G	The availability of music and advertisement on the station	2.38	0.75	2.30	0.60	2.39	0.74
Average Mean		2.67		2.64		2.69	
ASSURANCE							
B2A	The safety of the environment in the station	2.84	0.78	2.78	0.77	3.10	0.81
B2B	The safety of passengers while waiting for commuters to arrive	3.35	0.78	3.47	0.65	3.34	0.76
B2C	The security patrolling within the station	2.49	0.75	2.52	0.72	2.79	0.83
B2D	The functioning of signage of the emergency exit at the station	3.28	0.72	3.43	0.67	3.28	0.74
B2E	The availability and condition of fire extinguishers in the station	2.86	0.78	2.78	0.77	3.08	0.78
B2F	The availability of handrails on stairs and ramps to ease people to commute	2.86	0.82	2.77	0.77	3.12	0.82
B2G	The condition of lifts to ease disabled people and senior citizen	2.68	0.75	2.62	0.69	2.83	0.80

Average Mean		2.91	2.91			3.07	
TANGIBLE							
B3A	The cleanliness of the station	3.18	0.72	3.34	0.63	3.14	0.72
B3B	Enough seats in the seating area in the station	2.39	0.73	2.36	0.62	2.41	0.72
B3C	Well-illuminated circulating area and sufficient provision for drop off/by at drop area	2.97	0.82	2.99	0.78	3.10	0.79
B3D	The condition of the ticket vending machine and the top-up machine at the station	2.53	0.77	2.39	0.62	2.58	0.83
B3E	The condition of toilet facilities in the station	2.48	0.75	2.38	0.61	2.53	0.73
B3F	The sufficient lighting in the station	2.47	0.81	2.36	0.66	2.56	0.85
B3G	The availability of entertainment at the station	2.63	0.92	2.53	0.80	2.60	0.86
Average Mean		2.66	2.62			2.70	
EMPATHY							
B4A	Easy access for disabled persons and senior citizens to the station	3.05	0.84	3.09	0.80	3.08	0.82
B4B	The KTM Komuter station is connected to the main road/street which is easy for drop-by/off passengers	3.18	0.89	3.25	0.78	3.28	0.76
B4C	The condition of the ticket counter/ticket vending machine	2.59	0.85	2.49	0.72	2.60	0.81
B4D	The reasonable price of the ticket for KTM Komuter	3.09	0.85	3.13	0.78	3.18	0.79
B4E	The KTMB staff frequently communicates with passengers in case of any problems or delays	2.83	0.81	2.86	0.79	3.04	0.78
B4F	The KTMB staff has a positive attitude toward its passengers	3.34	0.79	3.36	0.75	3.42	0.72
Average Mean		3.01	3.03			3.10	
RESPONSIVENESS							
B5A	The KTMB customer service	3.42	0.80	3.45	0.71	3.38	0.73
B5B	The effectiveness of KTMB staff in handling passengers' daily issues	2.87	0.84	2.93	0.80	3.03	0.79
B5C	KMTB staffs are customer friendly	3.45	0.80	3.53	0.73	3.44	0.75
Average Mean		3.25	3.30			3.28	

Improvement Needed in KTM Komuter Service Quality

Multiple answers are identified from respondents on the suggestion to improve the quality of service provided at KTM Komuter stations as follows in Figure 4. The results are classified into four groups; Facilities Provided, Environment, Cleanliness, and KTMB Staff/Management.

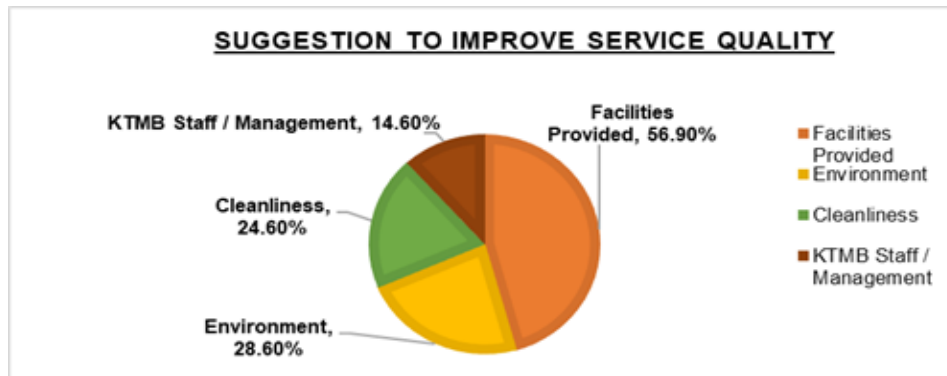


Fig. 4 Data Collection – Suggestion to Improve Service Quality

Out of 384 respondents, the majority of the respondents are suggested to improve on Facilities Provided 56.9 percent then followed by Environment, Cleanliness, and KTMB Staff/Management with 28.6 percent, 24.6 percent, and 14.6 percent respectively.

DISCUSSION

Service Quality Dimension

The result is in line with the research by Vanniarajan & Stephen (2008) where Reliability, Assurance, Empathy, Tangibles, and Responsiveness are the characteristics that customers use to assess the quality of the service. As a result, this study was found to be consistent with the previous research where passengers were unsatisfied with the service quality provided by the KTM in terms of Reliability and Tangible in stations as shown below.

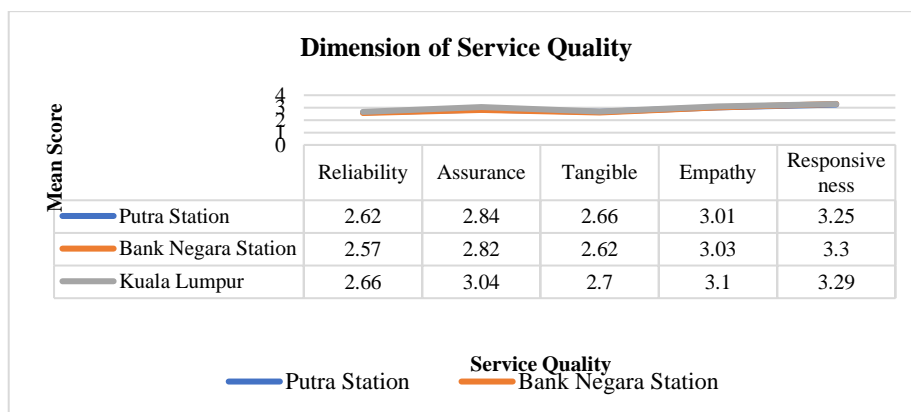


Fig. 5 Discussion – Satisfaction Level of Service Quality

Reliable and accurate information is important in order to ensure overall passenger satisfaction with public transportation (Kamarudin & Sinniah, 2021). As a result, passengers’ satisfaction with Reliability in this survey is low compared to other dimensions at three stations because passengers felt that they were not informed when a train was delayed.

For passenger satisfaction level of Assurance, passengers felt dissatisfied with the service provided at the stations except for Kuala Lumpur Station. Assurance is the knowledge, courtesy, and capacity of the staff to foster confidence and trust (Safi & Alagha, 2020). Therefore, items have been asked during the survey mostly on the safety and security of the stations. This indicates that safety and security have not been taken seriously in the stations excluding Kuala Lumpur Station. Kuala Lumpur Station has a moderate level of satisfaction

may be because the station is in the building and security is available.

For the passenger satisfaction of Tangible, it can be seen that passengers are not satisfied with the Tangible dimension as shown in Figure 5. This dimension reflects the physical proof of the service (Chia & Abdul, 2021) which is the way the service's physical facilities and equipment operate (Safi & Alagha, 2020). Refer to the level of passenger satisfaction shows that the physical service at three stations needs some improvement from the KTMB management.

For passenger satisfaction level of Empathy, passengers felt that they are slightly satisfied with the service provided at the three stations. This is to be in line with what Saharul Bahari, Shamsul Rosli, Maniam, & Aziz (2017) stated when providing the greatest customer service, the practice of observing things from the perspective of the client is needed. Therefore, during the design for maintenance or improvement, the management of should try to take into account the wants and needs of the passenger and will try to provide facilities as needed (Mohd, Ghaus, Abdul, & Tan, 2020).

It shows that passengers are satisfied at the three stations for Responsiveness. This is the highest level of passenger satisfaction compared to the other five dimensions. These were referred to the assessment by Ghosh, Ojha, & Geetika (2017) where the relative importance of staff availability on time, adequate reaction times to passenger inquiries, and staff service for customer demands in the context of rail transportation.

Improvement Needed in KTM Komuter Service Quality

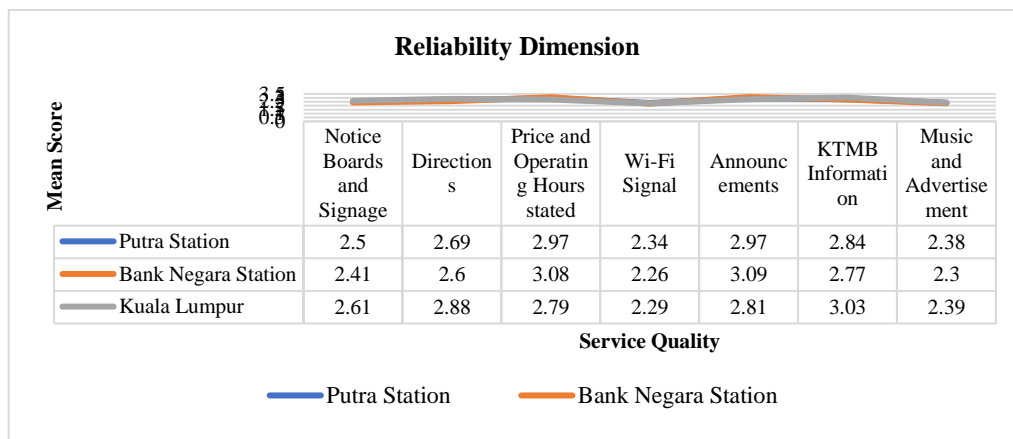


Fig. 6 Passenger Satisfaction on Reliability

From Figure 6, it can be seen that passengers are dissatisfied with the Wi-Fi signals provided in the stations. Mugion et al. (2018), stressed that other facilities with the aim of entertainment, such as Wi-Fi are important to attract passengers using public transport. Internet is one of the basic needs nowadays. It is because users may access information or news simply by visiting a website on the internet, and they can also relax with some music or a movie while they wait for other users to arrive.

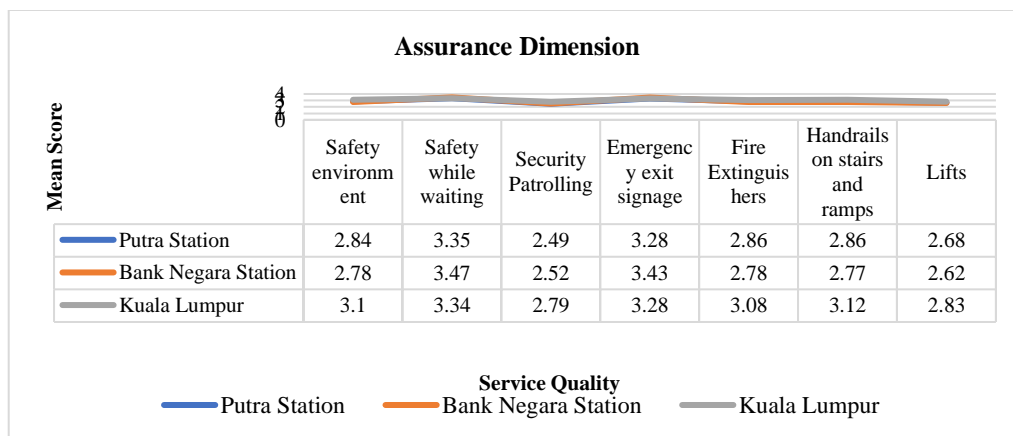


Fig. 7 Passenger Satisfaction on Assurance

Passengers are dissatisfied with the security patrolling at the three KTM Komuter as shown in Figure 7. This must comply where the railway operation must be trustworthy and personal safety during the journey and at the station (Priyadharshini & Selladurai, 2016). For the handrails on stairs and ramps, it is shown that passengers were slightly satisfied at the Kuala Lumpur Station however they were not satisfied with the Putra Station and Bank Negara Station. Therefore, a train station should have handrails on stairs and ramps, as well as pedestrian facilities like lifts and ramps (Metropolitan Transportation Authority, 2022).

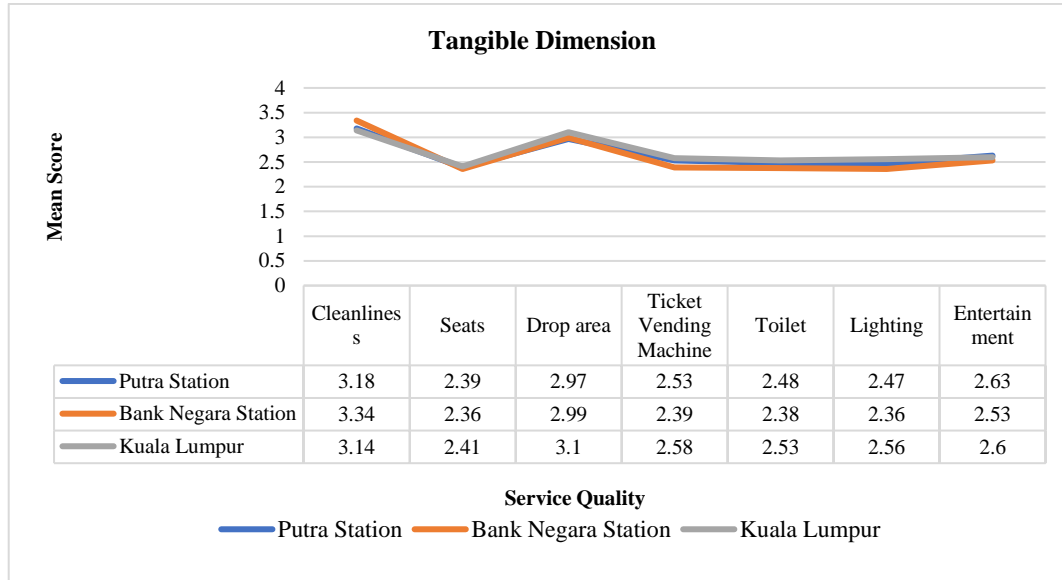


Fig. 8 Passenger Satisfaction on Tangible

As for Figure 8, it seems that passengers are not satisfied with the seats provided at the three stations. This has been stressed by Minhans et al. (2020) where seats are one of the factors that customers considered when it comes to comfort and physical conditions. Thus, it found that in three KTM Komuter stations are not enough seats or not well maintained by the management. Passengers are not comfortable while waiting for the commuter as they need to stand.

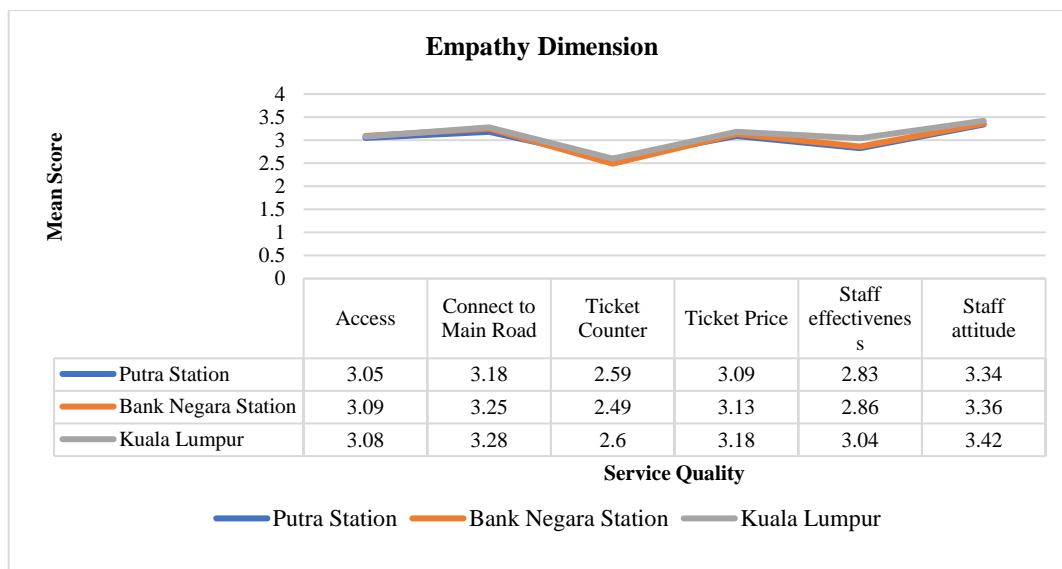


Fig. 9 Passenger Satisfaction on Empathy

The satisfaction at the ticket counter as presented in Figure 9, shows that passengers are not satisfied at the three stations. This has been discussed in the research by Hakimi, Borhan, Zakaria, & Zainal (2019) where the customers complained about delayed service when buying tickets at the counter. Therefore, the management team needs to identify the problem on the ticket counter and improve the system itself which in the end will decrease the delayed time in purchasing the ticket.

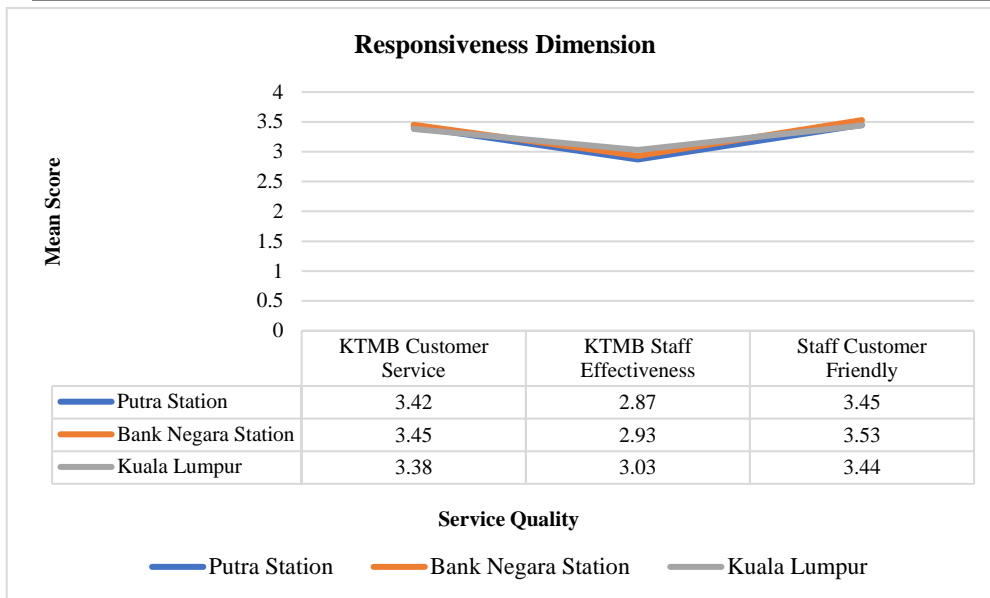


Fig. 10 Passenger Satisfaction on Responsiveness

Passengers felt that they are not really satisfied with the KTMB staff’s effectiveness except at the Kuala Lumpur Station in the area of response time and take an action on the issues complained about by passengers. This problem has been identified in the research by Priyadharshini & Selladurai (2016) where when commuters ask questions, railway workers are not always sympathetic or eager to assist. However, as described briefly on the station itself, passengers were satisfied with the KTMB staff’s effectiveness at Kuala Lumpur Station maybe because the station is bigger than two stations; Putra Station and Bank Negara Station. Therefore, the staff is more alert to the issues and complaints and reacts faster in order to serve passengers better.

From the above figures, the facilities provided need more attention for improvement and some passenger complaint about the uncomfortable conditions at the KTM Komuter station. Nevertheless, the facilities provided in the KTM Komuter station may be maintained and upgraded. If the operating management prioritizes passengers’ comfort and safety, the KTM Komuter’s facilities can be improved. As commuter services improve, more people may decide to use them as their primary mode of transportation. The data analysis demonstrated that the level of passengers’ satisfaction with the facilities provided is the same for each station. The researcher discovered that in comparison to other factors, the facilities provided require the most improvement.

The five-dimension rank scale is shown in Table 4 below. According to the rank score, Responsiveness is ranked at the top, while Reliability and Tangible are at the bottom. As a result, it indicates that both dimensions; Reliability and Tangible are critical for enhancing the service quality at KTM Komuter station facilities in the Klang Valley. The most critical items for both dimensions that need to be improved are the Wi-Fi signal and seat condition. These two items are under the facilities provided at KTM Komuter station. Thus, it is in line with the suggestion to improve the service quality in KTM Komuter station which facilities provided are needed for the improvement as shown in Table 4.

Table 4 Rank Score for Service Quality Dimensions

Service Quality	Mean	Rank
Reliability	2.62	5
Assurance	2.90	3
Tangible	2.66	4

Empathy	3.05	2
Responsiveness	3.28	1

CONCLUSION

This paper examined the satisfaction of KTM Komuter passengers with the facilities provided in the Klang Valley in order to improve the service quality of KTM Komuter stations. Further adopting a quantitative approach, a questionnaire survey was used to determine how satisfied passengers were with the facilities at three selected stations: Putra Station, Bank Negara Station, and Kuala Lumpur Station. These stations were selected based on major interchange stations at Klang Valley. The level of satisfaction with the service quality of KTM Komuter stations was then evaluated based on the responses of the 384 respondents on a given 5-point Likert scale. The five dimensions of service quality are identified based on the SERVQUAL model which are Reliability, Assurance, Tangible, Empathy, and Responsiveness. A total of 52 items were developed based on the literature review related to this study. This study reveals two dimensions of service quality identified as low namely Reliability, and Tangible, which require attention for improvement. Meanwhile, the dimension Responsiveness recorded the highest rank, followed by the dimension Empathy. Therefore, further policies should be developed to be implemented and monitored regarding railway transportation.

The Ministry of Transport should establish regulations regarding the facilities provided in KTM Komuter stations that ensure all railway industry participants not only provide facilities for commuter users but also that KTM Komuter stations meet a minimum set standard of quality and are fully equipped with all facilities. Last but not least, the Ministry of Transport should take the initiative to develop Malaysia's railway system so that it may compete aggressively on the worldwide level as one of the advanced railway systems. Besides, the Minister may be advised by APAD to approve a railway plan that will benefit station facilities and enhance KTM Komuter station facilities. Given that APAD is tasked with regulating the development and advancement of all railway projects in accordance with the Minister's mandate, it stands to reason that APAD might be able to suggest to the Minister how to enhance station facilities that require attention. APAD should also consider the experience of the facilities at the KTM Komuter station as a benchmark to design or improve the railway scheme for future development.

This study has established and identified the areas of gaps in the KTM Komuter station through the passengers' satisfaction level. As a result, the study recommends the KTMB management and maintenance team put the issue of station facilities in the KTM Komuter station top priority because doing so will improve the efficiency of KTMB's daily services. Given the low level of passenger satisfaction with the facilities provided at the KTM Komuter station, management, and the maintenance team should focus more attention and resources on the maintenance of the facilities through consistent inspection and enough funding. To guarantee a clean environment for all travelers, the toilet and surrounding stations should be cleaned at least twice daily. It is also necessary to do routine inspections of other facilities, including lighting, lifts, escalators, and air conditioning. The safety and staff behavior at the KTM Komuter station are additional facilities that need to be enhanced. In order to prevent accidents and incidents, KTMB management needs to come up with a plan of action to increase security patrolling at the station, especially at night and during peak hours. This will ultimately provide commuter users with good-quality of service.

This study used the questionnaire survey method as the primary tool of data collection to determine the level of passenger satisfaction which as a result the service quality needed at KTM Komuter station facilities for improvement are identified. This questionnaire survey was the 1st phase in exploring KTM Komuter's user perspectives on the station facilities. In the future, the data obtained from this research will be used for further research that should include the interview method with the management and staff of KTMB to acquire more detailed information on the maintenance schedule and challenges to maintain and improve the service quality of KTM Komuter station facilities. In addition, this study only focuses on the KTM Komuter station in Klang Valley. Thus, it should include KTM Komuter station in another state as there is an ETS service. It also recommends the questionnaire and interview method in order to improve the service quality of station facilities. In addition, more research is required in areas like rolling stock, inconsistent and ineffective railcar

repairs, and overhaul services, as well as the regulation and oversight of public transportation services in Malaysia in order to attract more people to travel by using KTM Komuter.

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