



ASSESSING CUSTOMER SATISFACTION IN RAIL TRANSPORTATION: A CASE STUDY OF MALAYSIA'S PUBLIC TRANSPORT SYSTEM

Shahril Mokhtar¹
Kamarul Azman Khamis
Rusdi Omar

Received 20.05.2023.
Accepted 09.09.2023.
UDC – 005.336.3

Keywords:

*Customer satisfaction,
Rail transportation, Service quality,
Malaysia, Public transport system*

ABSTRACT

Rail transportation plays a crucial role in facilitating efficient and sustainable urban development, particularly in densely populated areas. This study aims to evaluate customer satisfaction with the public transport system in Malaysia, with a focus on rail transportation. The research examines various factors that influence customer satisfaction, including service quality, punctuality, convenience, safety, and cleanliness. The study utilizes a mixed-methods approach, combining secondary data analysis and primary data collection. Secondary data analysis involves a comprehensive review of existing literature, including academic papers, government reports, and industry publications. Primary data is collected through a structured questionnaire administered to a sample of rail transport users in the Klang Valley region. The findings highlight the importance of service quality in shaping customer satisfaction. Factors such as reliable and punctual train arrivals, convenient and comfortable facilities, and a clean and safe environment emerge as key determinants of customer satisfaction. The study also identifies areas for improvement, including enhancing the efficiency of ticketing systems, increasing seating capacity during peak hours, and addressing cleanliness issues at stations and on trains. The research findings have implications for policymakers, transport authorities, and rail operators. By understanding the factors that influence customer satisfaction, stakeholders can design strategies to enhance the quality of rail transportation services. Improving customer satisfaction levels can lead to increased ridership, reduced road congestion, and a more sustainable transport system. The findings can also inform future infrastructure development plans and guide decision-making processes in the public transport sector. Overall, this study contributes to the growing body of knowledge on customer satisfaction in rail transportation and provides valuable insights for improving the quality and effectiveness of Malaysia's public transport system, specifically in the context of rail transportation.



© 2023 Published by Faculty of Engineering

¹ Corresponding author: Shahril Mokhtar
Email: shahril_mokhtar@gsgg.uum.edu.my

1. INTRODUCTION

The train is one of the modes of transportation that can carry passengers with a large capacity at one time. The existence of a transport system in an area, facilitates the movement of people from one place to another (Yin et al 2017). The passage of time brought many changes in railway transportation including in terms of the system to move the train, the structure of the building material of the train, the speed of the train, the control system of the train signal, and repairing the train. This progress led to the evolution of developed countries such as Japan, China, Korea, France and Germany competing to create trains with advanced technology and high speed. Globally, the rate of urbanization is increasing. This change can be seen in cities in Malaysia where the rate increased from 51% in 1985 to 71% in 2010 and is projected to reach 80% in 2030. Besides, migration to cities is largely due to job opportunities and a higher standard of living. This trend creates the need for sustainable urban development to provide the necessary infrastructure development and facilities. It also ensures the sustainable use of carbon resources.

In the late 19th century, rail transport in Malaysia has existed when the British introduced it in Malaya for their economic interests to speed up the transport of tin ore from mining areas to ports along the coast. Due to the speed of development in this era of globalization, Malaysia have taken an action by renewing the national rail transport system by creating various types of rail transport systems including Kereta Api Tanah Melayu (KTM) Komuter, Light Rail Transit (LRT), Monorail, Ekpress Rail Link (ERL), and Mass Rapid Transit (MRT).

During the presentation of the 10th Malaysia Plan (2011-2015) in June 2010, Malaysian Prime Minister Datuk Seri Najib Razak, announced that the government was studying the MRT proposal for the Klang Valley. This MRT project is one of the initial projects launched for the Klang Valley National Economic Area under the Economic Transformation Program. This new MRT system is seen as a solution to improve and expand Kuala Lumpur's backward and insufficient public transport coverage and to develop the Klang Valley area on par with a developed city. These new routes are expected to increase the use of the rail-oriented transit network from 15 km per million people in 2010 to 40 km per million people once completed. The proposal also envisages a fivefold increase in the number of train passengers, in line with the government's target to increase the use of public transport in the Klang Valley by 40% in 2020 from 18% in 2009.

2. LITERATURE REVIEW

Public transport is a very vital service to the community. This service makes it easier for residents, especially those who do not have private transport, to transfer

goods and information from one place to another (Too & Earl 2010). Various types of public transport services provided to the community consisting of road-based and track-based transport. According to Noor et al. (2016), public transport based on roads are taxis, stop-and-go buses, chartered buses, express buses and minibuses.

Transportation is one of the infrastructures in the communication system in the world (Dimitrakopoulos, & Demestichas 2010). Transport services act as a spatial link, an intermediary for the exchange of goods or information and it is also considered as the driving force and income for some communities. The development of a place is closely related to the transportation system. In Malaysia, the public transport system is the most important aspect of the communication system for both urban and rural communities (Tahir, Malek & Ibrahim 2016).

Haliza (2017) said that as a country that is increasingly developed, the communication system in a country should have efficiency and progress in terms of services and also the technology used. In order to attract the public's interest, the Malaysian government has tried to make various reforms and new strategies to further improve the quality of public transport services (Alam Siddiquee 2006). Meanwhile, public transport plays an important role in the progress of travel and community movement (Ceder 2021). The transportation system plays a role as a solution to the problems of traffic congestion, road accidents, travel time, and pollution. It is because, nowadays society is more dependent on private vehicles. However, the use of public transport in Malaysia is still at low level (Shariff 2013).

In addition, this public transport service is said to be one of the alternatives to help and overcome the problem of traffic congestion especially in urban areas. Therefore, this service should be increased to help reduce road congestion and road accident cases (Maziah, Siti Syuhada & Muhammad Firdaus, 2016). Mass Rapid Transit (MRT) is a public transport system that has three main criteria which is mass, rapid and transit. MRT is a large transport that is able to transport passengers in large numbers with high frequency and speed. This MRT can be distinguished from other bus transport because it has a specific road and travels using rails. Rail travel is not interrupted by other public transport. Thus, it can arrive at the appointed time (Jasmi et al., 2021).

Abdul and Syed (1990) explained that the rail transport system or known as the train transport system is a public transport system that is different from the road transport system where it has a special route in the form of a track and requires all equipment such as stations, signs and some that can guarantee safety to its users. According to Siti (2008), a train consists of several tracked vehicles that can move together to carry cargo or passengers from one place to another through a certain route. This rail transport service is suitable for long or medium

trips. It can be used effectively regardless of urban or sub urban areas because it is specially designed for various purposes and is environmentally friendly.

According to Akabal et al. 2017, rail transport system is a network that is often used by the community because of its fast, easy, safe, clean characteristics and is one of the low-cost alternatives to air and road vehicles. In addition, its comprehensive network makes it easy for people to go to a specific destination. Therefore, due to the high demand in the use of this system, it is a great responsibility for each operator to ensure that the operation of their rail services runs well and satisfactorily to meet the needs and comfort of users. Besides, Bhattacharya and Sen 2003 suggests that companies that really understand how consumers respond to external attributes, prices and different advertising approaches have a great advantage over their competitors. Whereas, Mowen and Minor (2001) mentioned that the understanding of consumers and the process of using goods that will produce many benefits including helping consumers make decisions, as basic knowledge in analyzing consumers, helping to make rules and helping consumers make more accurate decisions.

Loudon and Bitta (1994), also stated that each person always tries to choose the output of goods or services that he thinks can provide maximum satisfaction in evaluating the production of goods or services. In fact, consumers emphasize the value of a set of attributes offered by the production of the good or service rather than the good or service itself. The value of each attribute is called utility. Consumer perception is also defined as the study of purchasing units (buying units) and the exchange process involving the acquisition and disposal of goods, services, experiences and ideas. The American Marketing Association, as modified Martin and Morich, 2011, defines consumer behavior as a dynamic interaction between cognitive influences, behavior and events around us, that is, humans who perform aspects of exchange in their lives.

According to Siali et al. 2018, reliability is the ability to accurately perform the promised service. The reliability dimension focuses on the ability of service organization staff to keep promises through providing quality services to customers. Elements such as being able to solve customer problems and provide services as promised, is the main measure in the delivery of quality services. Public transport such as KTM Komuter is integrated with the highway network around the outskirts of the Klang Valley to make it easier for young executives working in the Klang Valley to commute around the clock. (R. Rofiei, N. M. Tawil, I. M. S. Usman, 2013). Chang et al.. 2021, also mentioned that the increase in population increases traffic congestion. However, the public is seen as less fond of using public transport because they have to hustle and bustle at peak times. It is due to facing less efficient services such as

cancellation of train schedules, frequent delays and difficulty in getting public transport. The efficiency of public transport services starting from the ticket counter, in addition to fast service, good information, ease of booking, choice of routes and punctuality, failed to be used as an important indicator to entice users to continue using public transport.

Mohamad Tahar (2008) found that among the elements in the perspective of physical evidence are modern equipment, current skills and reading materials. According to Lopez-Valpuesta and Casas-Albala 2023 there are several problems that affect the level of customer satisfaction, including excessive passenger intake, passenger entry and exit rules in trains, unsystematic services and insufficient existing carriages. Passengers also do not line up and push each other to enter the train. In addition, the condition of the train is so crowded that some passengers have to wait for the next three trains to arrive at the station. The level of cleanliness in the station space and also the KTM commuter train is unsatisfactory when compared to other light rail transit such as Star-LRT, Putra-LRT and Monorail. The next study conducted by Hamid, Peck-Leong and Mokhlas 2017 found that the waiting seats at the KTM Komuter station are quite limited because some users have to stand while waiting for the arrival of the KTM Komuter and this situation is particularly noticeable during weekends and festive seasons. The number of users at this time is much more than other days. The punctuality of train arrivals is a very important element in providing service to transit rail transport passengers for every rail system management company around the world. Train arrival delays in the transit rail transport network have an impact on every operation of the rail system, resulting in a decrease in the percentage of applicability of the rail operation system.

Terminology and definition of accuracy and delay of train arrivals are different according to the transport management company of the rail system for each country and also different according to the type of transit rail system. The KTM rail delay effectiveness report in 2015 shows that the factors that contribute to train delays are such as freeway, train disagreement, station delays, crew problems, EMU set failure, locomotive failure, coach damage, electrification system, warning and encryption system and communication system. The punctuality of train arrivals is very important in developed countries and it is also one of the elements in providing effective service. People choose train as a means of transportation and they expect to reach their destination as scheduled. However, when the train arrives not according to the schedule, it will cause disappointment to the passengers and cause the inconvenience of being on the station with a long waiting time. According to Zeithaml and Parasuraman 2004, "users are the sole evaluators of service quality" and the user's perception of service

quality depends on the gap that exists between what the user expects or hopes for and what is actually received (Johnson & Mathews 1997). Consumers will evaluate the service as bad if it does not achieve what they expect (Oliver, 1993). Therefore, it is very important for a company to know what consumers expect from the products and services offered and design how to deliver their services according to consumer expectations (Khare et al. 2016). For Ali et al. 2017 service quality can be categorized into two components, namely functional and technical.

Past studies suggest that service quality is a very important element that can influence the level of user satisfaction and encourage positive behavioral intentions among users in various service sectors such as public transport (Morton, Caulfield & Anable 2016). This is because user satisfaction with the quality of the service received can lead to the intention to continue using the service, convey positive information and recommend the service to others (Falamarzi et al., 2021). According to Philip Kotler and Kevin Lane Keller quoted from the book *Marketing Management* says that customer satisfaction is a person's happy or disappointed feeling that appears after comparing the results of the product thought against the expected output. Kotler states that customer satisfaction is a person feeling after comparing the results he feels compared to his expectations, whereas Wilkie defines customer satisfaction as an emotional response to the evaluation of the experience of using a product or service.

Satisfaction is the level of customer feeling obtained after the customer does or enjoys something. Thus, it can be understood that customer satisfaction is the difference between what the customer expects (expectation value) and the situation given by the company in an effort to meet customer expectations. In order to create customer satisfaction, the products offered by the organization must be of high quality. Quality reflects all dimensions of product offerings that produce benefits for customers. Customer satisfaction is a feeling of pleasure or disappointment that a person feels that comes from a comparison between the effect on the results of a product and his expectations, in other words satisfaction as an evaluation. Satisfied customers are customers who receive more added value from the company. Satisfying customers does not only mean providing additional products or services or systems. Customer satisfaction is a very valuable thing in order to maintain the existence of the customer for business continuity.

According to Abd Rahim & Asaad 2018, customer satisfaction is one of the business terms that means to measure the extent to which a product or service provided by the organization meets customer expectations. In other words, customer satisfaction is the part that shows the wants, needs and expectations of

customers that need to be achieved or met to create customer loyalty to the product or service offered. There is a lot of empirical evidence regarding customer satisfaction with public transport services. According to Brooks & Denoeux 2022, the problem of road congestion, especially in big cities, always haunts the community. Although there are various public transport facilities provided by the government, the number of people driving on the road has never decreased. In Malaysia, this situation occurs mainly in the city of Kuala Lumpur due to various factors such as the absence of an efficient communication system between various types of public transport, slow travel caused by congestion, and the attitude of the people who love their vehicles.

According to Bakrie, Sujanto and Rugaiyah 2019 and Sumaedi and Bakti 2013 in the service industry, core value for consumers includes not only product uniqueness but also other factors such as physical convenience, style, image, and service delivery quality. While according to Ibrahim et al. 2020. in the study conducted regarding the satisfaction of public transport, they focus on three factors of the research problem, namely the punctuality factor (arrival time), the convenience and space factor and the safety factor. There are two influencing elements in the concept of customer satisfaction which is expectations and results. Outcome is the customer's perception of what they receive after using the product. Expectations are the customer's estimate of what they will receive when they use the product. The distinguishing factor between customer satisfaction or dissatisfaction for Prof Kano is reflected by a study that explores how the concept of customer satisfaction and quality service can be described into a series of different attributes. This is important because customers can be divided between being satisfied and dissatisfied with the quality of library services they receive at the same time. However, based on this model, creativity and continuous innovation are necessary to stay ahead of the competition to satisfy customers.

3. METHODOLOGY

This study used two types of data, primary data and secondary data. Secondary data were obtained from book sources, reports, proceedings, and journals through library search methods, including government reports and related agency reports. Meanwhile, primary data were collected using a structured questionnaire through the survey method. The respondents consisted of members of the public who are MRT users in the Kuala Lumpur area. The sample size for this study was determined to be 500 respondents, selected using the convenient sampling method. The respondents were divided into men and women according to age and various backgrounds. This method helped increase sample representation and reduce sampling errors. The questionnaire was the main instrument used for data

collection, supplemented by face-to-face interviews to ensure a high response rate and accurate translation of each question. The questionnaire employed a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree," to measure respondents' agreement or disagreement with specific statements. The Likert scale provided a structured format for assessing participants' perceptions and enabled quantitative analysis of the data to identify overall trends and patterns in responses.

4. RESULTS AND DISCUSSION

Mowen and Minor (2001) mention that the understanding of consumers and the process of using goods will give benefits to the consumers. It helps consumers to make decisions, as basic knowledge in analyzing consumers, helping to make rules and helping consumers make more accurate decisions (Mohd Yusof et al., 2016). Besides, Porter and Kramer 2006 suggests that companies have a great advantage over their competitors if they really understand how consumers respond to external attributes, prices and different advertising approaches.

Based on the interviewed on the consumer's perception about the MRT, majority of the respondents said that MRT service is the best service and they are very confident with the services provided especially the safety and it solve the problem of road congestion. Besides that, the perception of safety factor influences the level of effectiveness of public transport. Majority of respondents agreed that MRT trains need to be in good condition to ensure that the train arrival time at each station is accurate for users to plan their movements to each destination well. Meanwhile, scheduled train maintenance gives users the impression that they will feel safe to ride the MRT public transport. They also think that the infrastructure and the condition of the terminal are in good condition. This can be seen when all respondents agree to this statement. The safety of the MRT terminal can be proven by the presence of security guards and closed-circuit cameras to protect the safety of users.

The prices offered by MRT are reasonable and affordable for consumers. The price issued is in accordance with the destination that has been set. MRT has set the price after taking into account the various costs that will be incurred later. The reliability factor shows that the reasonable price with the destination is agreed by all the respondents. Reasonable prices increase consumer confidence. For the findings of the effectiveness of MRT in user perception through reliability, all respondents expressed their agreement with statements related to reliability that give a positive perception to MRT. The organized travel schedule that has been issued is very helpful for users in planning their trip and the schedule that has been issued by operators makes it easier for users. Based on user

confidence related to the safety of MRT infrastructure such as tracks and terminals also adds to the reliability of MRT services. The perception from the safety point of view of users who use the MRT service is positive because the construction of the terminal and every train facility emphasizes the safety aspect. All respondents agreed by confirming that they had a good impression of the MRT transport facilities provided.

In addition, all respondents also agreed to state that their response to the punctuality of train arrivals was 95%. Quality is an issue related to perception, and because each individual has different past experiences, of course the expectations of each user are different based on different situations (Wickham & Parker 2007). The respondents value the quality from the aspects of time, cost and the service they receive. They want the quality of public services to meet their needs. All respondents that become the user of MRT have confirmed that they are satisfied with the services and at least meet their expectations. The facilities provided by the MRT service increase the trust and confidence of users to continue using this service.

User comfort is very important. It was found that the statement "exact train travel information" was agreed upon by all respondents. It was shown by the information related to the price that has been set for a destination, regular travel schedules and information related to the MRT has been shown by the operator. All respondents also agreed that the condition of the waiting area is comfortable with a large waiting area and free from the distraction of negative things. Majority of respondents agree on the statement "variety of destinations provided". There were respondents who expressed strong agreement and confidence with the destination information provided by the MRT. A good transportation system can ensure that the population and the environment are in harmony. In the era of global progress, community and economic success is closely related to efficient transportation infrastructure. Like other services, transportation is a resource that has a great impact on the economy if it is of high quality.

Furthermore, the impact of this MRT service has also been recognized internationally. The Putrajaya Line MRT has been recognized as an industry leader for the implementation of advanced digital technology in BIM and Geographic Information System (GIS) engineering design in the region and as a testament to the use of technology to improve productivity, efficiency and quality for project delivery.

5. CONCLUSION

In conclusion, MRT service have become the main choice of users around Kuala Lumpur. The MRT is always proactive in making improvements and changes to the services provided. The results of the research from the passenger interview session found that

passengers want a service that is safe, comfortable, on schedule and efficient. Therefore, the MRT should take the initiative by providing the desired service and improve all existing services in order to provide a commuter train service that can be proud of in the future. However, the problem of train delays, especially at peak times, is expected to be overcome with a new set of MRT trains from Kuala Lumpur. This train is expected to increase the number of passengers that can be carried for one-way trips. The train is equipped with several new features, including three rows of holding spaces for standing passengers, an LED information display system, facilities for persons with disabilities (OKU), four units of closed circuit cameras (CCTV) and is equipped with an open intermediate coach space in addition to the seats and standing more ergonomic.

This study chooses to discuss user perceptions of MRT services, MRT service quality and the impact of MRT service quality. There is a response from users who are not fully satisfied regarding the punctuality of train arrivals at the terminal. The effect of delays from the MRT train can be seen to affect the quality of life of local residents. But the organization has tried to improve the service from time to time. Therefore, MRT needs to ensure that their services reach user satisfaction standards so that MRT trains can be the most effective mode of transport in Kuala Lumpur in dealing with the problem of traffic congestion. If the quality of services can be improved such as user-friendly, quality, efficient and fast services as well as providing comfort to use, it increasing the satisfaction and the number of consumers using the trains. Quality and efficient services can indirectly have a positive impact on the local population in dealing with problems and improving the quality of life.

In addition, MRT needs to increase its efforts in the element of integrity culture and improve measures as an organization in order to continue to strengthen the confidence and trust of the community. MRT can also explore several areas of commercial activity that have been identified under the new technology category, including mobile applications and e-Commerce platforms as part of the offer and improving the customer experience when using the MRT. MRT Corp can also provide rental space at MRT stations for promotional events and activities. The main attraction of the space is the large number of passengers using the MRT service. It can be suggested that MRT Corp has the opportunity to commercialize telecommunications

assets including fiber optic cables, commercial mobile telecommunication systems (CMTS), channels and holes along the MRT line.

Therefore, this study has shown that user perception through their impressions or expectations is accordingly with the quality of service offered by the MRT. Factors that affect the quality of the MRT train service are frequency, speed, reliability, comfort, safety and following the schedule. Based on the research conducted, it was found that the delay of the train service in Kuala Lumpur is at moderate level and has not reached the punctuality of arrival 100%. The factors that lead to train delays the MRT are waiting for freeway, delay at the station, trend encryption problem, trend conflict and failure of train function. The initiative taken by the train operator to overcome the problem of train delays was not completely successful, but the number of ticket sales still shows the strong sales. This shows that the MRT train service still has a prime place in the hearts of users.

5.1 Limitations and future research suggestions

The transportation system, particularly rail transport, plays a vital role in facilitating the movement of people and goods within a country. However, there are limitations and areas for future research to enhance the efficiency and effectiveness of public transport services, particularly in Malaysia. Despite efforts to improve the quality of public transport, including the introduction of various rail transport systems such as KTM Komuter, Light Rail Transit (LRT), Monorail, Ekspres Rail Link (ERL), and Mass Rapid Transit (MRT), there are still challenges to overcome. These include low levels of public transport usage, inefficient services leading to delays and cancellations, inadequate infrastructure and facilities, traffic congestion, and issues related to cleanliness and passenger comfort. Future research should focus on addressing these limitations by improving service reliability, enhancing physical evidence and passenger amenities, optimizing scheduling and punctuality, and understanding customer expectations to deliver high-quality public transport services that meet the needs and preferences of users. By addressing these limitations and conducting further research, the public transport system in Malaysia can be transformed into a more efficient, sustainable, and widely utilized mode of transportation.

References:

- Abd Rahim, A. S., & Asaad, M. N. M. (2018). The Implementation of ISO 9001: 2015 To Improve Quality of Service at Pusat Kesihatan Universiti (PKU), Universiti Utara Malaysia (UUM). *Journal of Technology and Operations Management*, 13(2), 67-77.
- Abdul, H. H., & Syed, H. S. H. (1990). *Perkhidmatan Pengangkutan Awam Relbas (Diploma thesis)*. Institut Teknologi Mara.

- Akabal, F. M., Masirin, M. I. H. M., Akasah, Z. A., & Rohani, M. M. (2017, August). Review on selection and suitability of rail transit station design pertaining to public safety. In IOP Conference Series: Materials Science and Engineering (Vol. 226, No. 1, p. 012033). IOP Publishing.
- Alam Siddiquee, N. (2006). Public management reform in Malaysia: Recent initiatives and experiences. *International Journal of Public Sector Management*, 19(4), 339-358.
- Ali, F., Hussain, K., Konar, R., & Jeon, H. M. (2017). The effect of technical and functional quality on guests' perceived hotel service quality and satisfaction: A SEM-PLS analysis. *Journal of Quality Assurance in Hospitality & Tourism*, 18(3), 354-378.
- Bakrie, M., Sujanto, B., & Rugaiyah, R. (2019). The influence of service quality, institutional reputation, students' satisfaction on students' loyalty in higher education institution. *International Journal for Educational and Vocational Studies*, 1(5), 379-391.
- Bhattacharya, C. B., & Sen, S. (2003). Consumer-company identification: A framework for understanding consumers' relationships with companies. *Journal of marketing*, 67(2), 76-88.
- Brooks, L., & Denooux, G. (2022). What if you build it and they don't come? How the ghost of transit past haunts transit present. *Regional Science and Urban Economics*, 94, 103671.
- Ceder, A. (2021). Urban mobility and public transport: Future perspectives and review. *International Journal of Urban Sciences*, 25(4), 455-479.
- Chang, Y. S., Jo, S. J., Lee, Y. T., & Lee, Y. (2021). Population density or populations size. Which factor determines urban traffic congestion?. *Sustainability*, 13(8), 4280.
- Dimitrakopoulos, G., & Demestichas, P. (2010). Intelligent transportation systems. *IEEE Vehicular Technology Magazine*, 5(1), 77-84.
- Falamarzi, I. A. A. M., Udin, M. B. M., & Siam, M. R. A. (2021). Critical factors of crisis escalation between customers and front-line security besides moderation of organizational culture at Dubai International Airport. *International Journal of Entrepreneurship*, 25(Special Issue 1). Retrieved from www.scopus.com.
- Haliza Abdul Rahman. (2017). Menerap Unsur Kelestarian Dalam Sektor Pengangkutan Darat Di Malaysia. *Malaysian Journal of Environmental Management*, 16(1), 75-83.
- Hamid, N. A., Peck-Leong, T., & Mokhlas, H. (2017). Factors Predicting the Desire to Walk among Pedestrian Rail Commuters within Transit-oriented Development Areas. *The International Journal of Interdisciplinary Social and Community Studies*, 11(4), 63.
- Ibrahim, A. N. H., Borhan, M. N., Md Yusoff, N. I., & Ismail, A. (2020). Rail-based public transport service quality and user satisfaction—a literature review. *Promet-Traffic&Transportation*, 32(3), 423-435.
- Jasmi, M. I. H. M. A., Udin, M. B. M., & Siam, M. R. A. (2021). Impact of awareness, readiness, control, response, and technology usage on crisis management of drones threats in Dubai International Airport. *International Journal of Entrepreneurship*, 25(Special Issue 1). Retrieved from www.scopus.com.
- Johnson, C., & Mathews, B. P. (1997). The influence of experience on service expectations. *International Journal of Service Industry Management*, 8(4), 290-305.
- Khare, A., Khare, A., Mukherjee, S., & Goyal, T. (2016). Do consumer shopping styles influence consumer attitudes toward services offered by shopping websites?. *Journal of International Consumer Marketing*, 28(1), 28-41.
- Lopez-Valpuesta, L., & Casas-Albala, D. (2023). Has passenger satisfaction at airports changed with the onset of COVID-19? The case of Seville Airport (Spain). *Journal of Air Transport Management*, 108, 102361.
- Loudon, D., & Bitta, A. J. (1994). *Personal influence and diffusion of innovations*. In: *Consumer behavior*. 3rd. ed. Nova York: McGraw-Hill, p. 322-349.
- Martin, N., & Morich, K. (2011). Unconscious mental processes in consumer choice: Toward a new model of consumer behavior. *Journal of Brand Management*, 18(7), 483-505.
- Maziah Osman, Siti Syuhada Abd Rahman, & Muhammad Firdaus Muhammad Sabri. (2016). Kepuasan Terhadap Kualiti Perkhidmatan KTM Komuter di Lembah Klang. Proceeding of the 2nd International Conference on Economics & Banking, 24-25 Mei.
- Mohamad Tahar, E. (2008). *Expectation and perception of postgraduate students for service quality in UTM* (Doctoral dissertation, Universiti Teknologi Malaysia).
- Mohd Yusof, M. S., Romle, A. R., Udin, M. M., Mohd Kamal, M. K. A., & Azri Azmi, M. A. (2016). The origin of oil plunge in political economy and aftermath on the oil price. *International Journal of Economics and Financial Issues*, 6(3), 125-129. Retrieved from www.scopus.com.
- Morton, C., Caulfield, B., & Anable, J. (2016). Customer perceptions of quality of service in public transport: Evidence for bus transit in Scotland. *Case Studies on Transport Policy*, 4(3), 199-207.

- Mowen, J. C., & Minor, M., (2001). *Consumer behaviour: A framework* (2nd edition) Upper Saddle River, New Jersey: Prentice-Hall.
- Noor, H. M., Marzuki, M., Mapjabil, J., & Eboy, O. V. (2016). Keberkesanan Perkhidmatan Bas Mini di Kota Kinabalu Sabah. *Geografia: Malaysian Journal of Society and Space*, 12(12), 50-62.
- Oliver, R. L. (1993). Cognitive, affective, and attribute bases of the satisfaction response. *Journal of consumer research*, 20(3), 418-430.
- Porter, M. E., & Kramer, M. R. (2006). The link between competitive advantage and corporate social responsibility. *Harvard business review*, 84(12), 78-92.
- Rofiei, R., Tawil, N. M., & Usman, I. M. S. (2013). Pembangunan Kerangka Konsep Rumah Mampu Milik Bertanah Di Pinggir Bandar Bagi Golongan Eksekutif Muda Di Lembah Klang. *Journal of Design+ Built*, 6.
- Shariff Umar. (2013). Impak Infrastruktur Pengangkutan Darat Ke Atas Pertumbuhan Ekonomi di Malaysia. In Dasar Awam Dalam Era Transformasi Ekonomi: Cabaran dan Halatuju. Persidangan Kebangsaan Ekonomi Malaysia ke VIII (PERKEM VIII), Johor Bahru, 7-9 Jun.
- Siali, F., Wen, A. W. S., & Hajazi, M. U. A. (2018). Booming of online shopping in Malaysia: Do customers satisfy with parcel delivery service. *International Journal of Academic Research in Business and Social Sciences*, 8(12), 415-436.
- Siti Faridah Mohd Sunif. (2011). *Perkhidmatan Pengangkutan Awam Di Malaysia*. Ijazah Sarjana Muda Tesis. Fakulti Pendidikan, Universiti Teknologi Malaysia.
- Sumaedi S. & Bakti, IGMY (2013). An analysis of library customer loyalty – The role of service quality and customer satisfaction, a case study in Indonesia. *Library Management*, 34(6/7), 397-414.
- Tahir, Z., Malek, J. A., & Ibrahim, M. A. (2016). Developing smart ICT in rural communities in Malaysia through the establishment of telecenters. *e-Bangi*, 11(1), 227-242.
- Too, L., & Earl, G. (2010). Public transport service quality and sustainable development: a community stakeholder perspective. *Sustainable development*, 18(1), 51-61.
- Wickham, M., & Parker, M. (2007). Reconceptualising organisational role theory for contemporary organisational contexts. *Journal of Managerial Psychology*, 22(5), 440-464.
- Yin, J., Tang, T., Yang, L., Xun, J., Huang, Y., & Gao, Z. (2017). Research and development of automatic train operation for railway transportation systems: A survey. *Transportation Research Part C: Emerging Technologies*, 85, 548-572.
- Zeithaml, V. A., & Parasuraman, A. (2004). *Service quality*. Cambridge, MA.

Sharil Mokhtar

Ghazali Shafie Graduate School of
Government, Universiti Utara Malaysia
Sintok, Kedah
Malaysia.
shahril_mokhtar@gsgg.uum.edu.my

Kamarul Azman Khamis

Ghazali Shafie Graduate School of
Government, Universiti Utara Malaysia
Sintok, Kedah
Malaysia.
kazman@uum.edu.my
ORCID 0000-0002-0609-383X

Rusdi Omar

Ghazali Shafie Graduate School of
Government, Universiti Utara Malaysia
Sintok, Kedah.
Malaysia.
rusdiomar@uum.edu.my
ORCID 0000-0003-3972-7461
