Global Business and Management Research: An International Journal
Vol. 13, No. 1 (2021)

Service Quality Attributes in Measuring Customer Satisfaction of Keretapi Tanah Melayu Berhad (KTMB) Train Stations Service in Penang

Mohamad Farhan Fitri Mohamad Nor
Graduate School of Business, Universiti Sains Malaysia, 11800 Penang, Malaysia

Noor Fareen Abdul Rahim*
Graduate School of Business, Universiti Sains Malaysia, 11800 Penang, Malaysia
Email: noorfareen@usm.my

* *Corresponding Author*

Abstract

Purpose- This study examines the relationship between service quality attributes (tangible service equipment, accessibility, service's availability, customer service responsiveness, information, environmental condition, and individual space) and customer satisfaction as well as the moderating role of security in the relationship of service quality attributes and customer satisfaction.

Design/approach- A quantitative study using a questionnaire survey was used in this study. Questionnaires were distributed to two major train stations in Penang; KTMB Butterworth Train Station and KTMB Bukit Mertajam Train Station. The partial least squares structural equation modelling (PLS-SEM) approach was used for the data analysis.

Findings: The finding shows significant effects of tangible service equipment, service's availability, customer service responsiveness, and individual space towards customer satisfaction. Accessibility, environmental condition and information show no significant influence on customer satisfaction. Security only moderates the relationship between individual space and customer satisfaction.

Research implication: This study is important in investigating the effect of service quality attributes on customer satisfaction and the moderating role of security between service quality attributes and customer satisfaction. For future research, this study should be replicated at other train stations in Malaysia to gain more in-depth and wider customer satisfaction in service quality scope.

Practical implication: The findings provide an overview of the service quality improvement aspect at the train station that can be useful for KTMB management to improve its service quality for future expansion purposes. Besides, KTMB management should include an emphasis on the importance of security concern towards customer satisfaction.

Originality/Value: This study used security as the moderating variable instead of as the independent variable.

Keywords: Service quality, train station, public transportation, security, customer satisfaction

Introduction

Transportation is important in our daily lives. A good transportation system plays a crucial role in delivering services to people. Humans need access to amenities and services central to all individuals, such as employment, education, health services, and leisure. Lack of affordability and accessibility to adequate transportation systems can leave people in social exclusion (Kenyon et al., 2002). Too many private vehicles in big cities can cause serious transport issues such as congestion, air and noise pollution, depletion of non-renewable resources, traffic accidents, and social inequity (Ahmed, Lu & Ye, 2008). The urban structure is always influenced by the means and blueprint of the transport infrastructures. Rail Train transit system is a transport infrastructure that determines suburbanisation pattern (Hayashi, 2006). The priority and timing of excellent transport infrastructures have affected the citizens' travel habits. In big cities with the development of the railway system earlier than roads, rail-based travel habits of citizens were formed in advance, resulting in avoiding excess reliance on private cars and consequent environmental problems (Hayashi, Mai & Kato, 2011). Customer satisfaction stands as a notable aspect of transportation services (Yanık et al., 2017; Kim et al., 2017). Thus, customer satisfaction is important for the provision of customer-oriented services in the transportation industry. Measuring perceptions of the services provided and determining expectations and demands for these services will help customer transportation firms increase the quality of their services (Alpu, 2015). Passenger satisfaction can be improved by considering service quality and perceived value to passengers (Irtema et al., 2018).

Customer satisfaction has been an issue of great concern to organisations and researchers alike. To further extend from a marketing perspective, one of the aspects leading to sales increment is customer satisfaction, leading to customer loyalty and repeat purchase (Makanyeza & Mumiriki 2016). Satisfied customers will lead to organisational sustainability and profitability (Radovic-Markovic et al., 2017). There are several studies on customer satisfaction related to the service quality of transport organisation. Some of the works include enhancing planning, quality management, schedule reliability, and dispatching (Eboli, & Mazzula, 2007; Fischer, Mshadoni & Kennedy, 2014; Stelxer, Englet, Horold & Mayas, 2016). Studies on different transportation modes explain the concept of loyalty focuses on the users' intentions to continue using the service, their willingness to recommend it to others, and their overall satisfaction (Van Lierop, Badami, & El-Geneidy, 2018).

Customers' loyalty depends on the level of service quality that has been demonstrated to them. A service organisation that providing transportation services needs to evaluate the services provided from customers' perspectives. Service organisation needs to sustain customer satisfaction. Service quality impact on customer satisfaction is crucial in developing marketing strategies. Thus, transport organisations need to improve their services and the environment in which their services are delivered (Awad, 2012). Furthermore, delivering high perceived overall service quality is essential for companies that intend to enhance competitive edge by differentiating themselves from competitors (Stamenkov and Dika, 2015; Chowdhary and Prakash, 2007; Wang et al., 2003). Customers prefer the quality of service in terms of the price and other cost elements that remain constant.

In Malaysia, train stations are managed by Keretapi Tanah Melayu Berhad (KTMB). KTMB is the oldest major railway operator in Peninsular Malaysia that provides important connectivity in Malaysia and is a major form of inter-city public transportation. Although the stations managed by KTMB are still at a satisfactory level in this study, some gaps need to be brought to attention concerning the service quality level at the stations. Zaid et al. (2019) researched customer

satisfaction in a case study of electric train service (ETS), and the findings obtained represent the service quality in Malaysia. However, the findings are obtained from a single train station in Perlis state only. The gap depends on a single point of measurement that may represent the understanding of the overall customer satisfaction of the train service.

Furthermore, security concerns such as property crimes involving car theft, motorcycle theft, and burglary (Azizan et al., 2016) need to be considered. It involves the safety of its customers and nearby people, which could influence customer satisfaction at the stations. In such a case, service quality plays a big role in determining the KTMB train station's services in Penang. Previous studies also showed varying findings on the relationship between service quality and customer satisfaction, for instance, in a study done by Bambale, Abd. Ghani and (2020) show that tangible was found as one of the service quality attributes that influence customer satisfaction on train service quality in Malaysia.

Contrary to Thanaraju et al. (2019), findings have shown insignificance relationship of tangibles as service quality dimension towards passengers satisfaction at KTMB railway stations within the central region of Malaysia. In another study by Mat et al.(2019), there is a significant relationship of responsiveness towards customer satisfaction in using ETS train service from Kuala Lumpur Sentral to Padang Besar, Perlis. On the contrary, Adenan (2018) found that responsiveness has an insignificant relationship with customer satisfaction at Wakaf Baru Train Station, Kelantan. Besides, in a similar context of the study, Rajeswari and Santa Kumari (2014) found that information towards Indian Railways passenger satisfaction was insignificant, in contrast with Machado et al. (2018), showing a significant role towards customer satisfaction in railway transportation. Thus, security is introduced as a moderator on the relationship between service quality and customer satisfaction.

The motivation of this study is to understand the factors affecting users' satisfaction among the train users, and it may help train service providers to plan and design attractive and marketable rail transport within the context of train stations in Penang state that managed by KTMB. The service quality attributes used in this research consist of tangible service equipment, accessibility, service availability, customer service responsiveness, information, environmental condition, and individual space. The reason for selecting these seven service quality attributes is based on the importance of public transportation in Penang for the mobility of its citizens and drives regional economic growth. The service quality attributes such as tangibles service equipment, accessibility, service's availability, and customer service responsiveness are established attributes that have been used in major public transportation research (Rajeswari & Santa Kumari, 2014; Choocharukul et al., 2013; Miranda et al., 2018; Adenan, 2018), airports (Ali et al., 2015) and buses (Kasiri et al., 2017; Hadiuzzman et al., 2017). The inclusion of information as service quality attributes also needs to be considered one of the criteria for the satisfaction of public transport users and the improvement of train station facilities. The same goes for environmental conditions because travellers care about travel comfort and are more environmentally conscious (Choocharukul et al., 2013). Thus, environmental condition is also used as one of the criteria for public transport in assessing user satisfaction. Individual spaces are also considered vital for public transport users since it is an important factor influencing passengers' experiences in public transport and is related to overall comfort and safety (van Lierop, Badami, & El-Geneidy, 2018). Besides, it will expose the train service providers to different service quality points that can be used for service improvement using all these service quality attributes. Therefore, this research study examines the relationship between service quality attributes comprising tangible service equipment, accessibility, service availability, customer service responsiveness, information, environmental

condition, and individual space towards customer satisfaction at KTMB train stations in Penang. Besides, this study also aimed to examine the moderating role of security in between the relationship of service quality attributes and customer satisfaction at KTMB train stations in Penang.

Literature Review

Customer Satisfaction

Customer satisfaction is always an ambiguous component. For example, a certain product or service may satisfy one customer, while another customer may not be satisfied with the product or service. Hence, to enhance the customer's satisfaction, the factors that influence customer satisfaction must be investigated (Boo, 2017). Satisfying customer is one of the fundamental goals that service organisations seek due to the long-term benefits of satisfied customers, such as positive word of mouth, customer loyalty, and sustainable profitability (Greenwell et al., 2002; Liu & Jang, 2009). Customer satisfaction can be defined as "a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance or outcome with his/her expectations" (Kotler & Keller, 2009). It is deduced that customer satisfaction is an essential element in measuring the difference between desired expectation and real outcome by the customer when using a particular service or bought a product. Some definitions emphasise the comparison of what customers want, either in the form of goals or wishes, with what they get and depend solely on the subjective evaluation of the customer. It is the customers who create the satisfaction criteria, and it is also they who conduct the relevant comparisons. From this perspective, customer satisfaction is a subjective value, which depends on the feelings of a particular customer (Suchánek & Králová, 2018). In another definition, customer satisfaction is the customer's psychological reaction concerning his or her prior experience with the comparison between expected and perceived performance (Chang, Wang, & Yang, 2009). Besides, as services continue to grow and world markets become more competitive, the importance of customer satisfaction will also increase (Anderson et al.,1997).

The application of customer services is widely used based on hospitality, manufacturing, banking, education, and many other fields. However, it has become critical for users to benefit from their time and resource to move from one destination to another destination from a public transportation perspective. The transportation facility has been constructed for a specific purpose and should serve its customers to meet their expectations. Evaluation of the service provided by the facility can be measured by customer satisfaction (Friman and Fellesson, 2009; Allen et al., 2020). Customer satisfaction is a fundamental measure of quality improvement and helps in designing and implementing appropriate strategies related to public transport (Eboli and Mazzulla, 2007; De Ona et al., 2013; Abreu e Silva and Bazrafshan, 2013; Harmer et al., 2014)

Abenoza et al. (2017) defined customer satisfaction as the function of the operator's image, travellers' expectations, the perceived quality of service, and the perceived price-quality ratio. The scope of the definition mentioned by Abenoza et al. (2017) is spanning a broad sense of traveller's experience of using public transportation. For example, De Oña et al. (2016) views that customer satisfaction is measured by users' evaluation of the overall service. At the same time, Lois et al. (2018) view customer satisfaction with public transport services as the difference between the quality level implicitly or explicitly demanded by the customer and the quality perceived by the user, which is influenced mainly by their personal experience with the service. De Oña et al. (2015) denoted eight attributes in the service quality of public transportation: tangible service equipment, accessibility, availability of the service, information, security, customer service, individual space,

and environmental pollution. However, this study placed security as one of the attributes and established it as moderating factor in the customer satisfaction for the train station's service scope.

Service Quality (SERVQUAL)

Service quality has been studied in various researches. One of the approaches in determining service quality is applying the Service Quality (SERVQUAL) model (Lemon & Verhoef, 2016). They argued that there is no agreement on an enthusiastic approach to evaluating all aspects of service quality and customer experience. The basic SERVQUAL model includes five service quality dimensions that account for the customer expectation of service and the customer perception of actual service quality. The five dimensions are reliability, assurances, tangibles, empathy, and responsiveness. Subsequently, the measurement scales were developed by Parasuraman et al. (1988).

SERVQUAL has been used to measure customer satisfaction in the context studied. Furthermore, the measurement of service quality has been previously studied in the same context of railway service but in different locations and applications. The service quality model was initiated by Parasuraman et al. (1985) to measure the customers' feeling for service quality that contain seven original dimensions: reliability, responsiveness, competence, access courtesy, communication, credibility, security, understanding the customer and tangibles. The model was further evolved by Parasuraman et al. (1988) to measure the customers' feeling for service quality by forming five dimensions that include reliability, responsiveness, assurance, empathy and tangibility. The reduction of the attributes due to assurance and empathy contains seven original dimensions; communication, credibility, security, competence, courtesy, understanding/knowing customers, and access that did not remain distinguished (Parasuraman et al.,1988). Thus making SERVQUAL with only five prominent features; reliability, responsiveness, assurance, empathy.

These dimensions are also widely used in different landscape within public transportation research, such as railways (Rajeswari & Santa Kumari, 2014; Thanaraju et al., 2019; Zaid et al., 2019; Choocharukul et al., 2013; Miranda et al., 2018; Adenan, 2018), airports (Ali et al., 2015; Farooq et al., 2018) and buses (Abenoza et al. 2017; Jomnonkwao & Ratanavaraha, 2016; Kasiri et al.,2017; Hadiuzzman et al., 2017) to determine customer satisfaction level based on the service quality dimensions. Besides, there are also modified service quality dimensions introduced to gauge different service quality dimensions. For instance, in research on bus transportation, De Oña et al. (2013) used service, comfort, personnel as determinants to assess customer satisfaction, while Morton et al. (2016) studied convenience, cabin environment and ease of use determinants for service quality towards customer satisfaction. Within the scope of railways, Ghosh et al. (2017) research's indicates platform infrastructure, catering facility, passenger washroom amenities, staff interaction and security as a dimension for service quality in Kanpur, India. Meanwhile, Ibrahim et al. (2019) emphasise commuter service dimension spanning both station and commuter aspect comprising environmental condition, ticket counter, ticket price, waiting area, travel information, punctuality, security, staff appearance and parking accessibility. Sze-siong and Aksan (2018) studied user satisfaction of rapid mass transit by considering physical facility, information system, safety, ticketing and responsiveness, and effect of different genders toward trip purpose. Givoni and Rietveld (2007) researched the accessibility to the train station by the travellers, which considers the profile of the access and emergence modes on commuting to railway stations and general perception of the quality facility of the train station as a measurement for traveller satisfaction. De Oña et al. (2015) emphasised tangible service equipment, accessibility, availability of the service, customer service, security, information, environmental pollution, and individual

space as determinants for customer satisfaction LRT services in Seville, Spain. Based on previous research, the service quality dimensions are useful for measuring customer satisfaction in which different dimensions are applied based on the type of service operated.

Tangible Service Equipment

Tangibility or 'physical quality' refers to services, such as the appearance, equipment, staff, advertising material, and other physical characteristics used for rendering services (Marić, Marinković, Marić & Dimitrovsk, 2016). Tangible service equipment is described as tangible elements that include the appearance of the physical facilities, tools and equipment, personnel, communication materials, and other physical features used to provide the service to the customers in the service facility (Santos, 2002). The tangible service equipment also includes the physical condition of the service provided, such as seat space, seating comfort, car equipment, meal service, the comfort of air conditioning, noise insulation in the car, in-train entertainment services, and car cleanness (Chou et al., 2014). The importance of tangible service equipment is vital since it contributes to the comfort and hospitality of the customer who uses the service. Research obtained from Santos (2002) and Chou et al. (2014) are spanning through public transportation scope in measuring service quality in using railway transportation services. These attributes are essential for customer satisfaction, whereas comfort is considered the most significant factor (Abenoza et al.,2017). It applies to both frequent and non-frequent users of train services. According to De Oña et al. (2015), the tangible service equipment related to a train station is the cleanliness of the stations, lighting in stations, temperature, and ventilation system in the stations.

In Penang's perspective, this tangible service equipment is significant for the user that uses train service as their main mode of commuting for daily work. Besides, public transportation is also considered an alternative to overcome traffic issues for congestion reduction, increase the coverage of distances, and improve the mobility levels among the users (Ponrahono et al., 2015). Based on the past studies, tangible services equipment has a significant relationship with customer satisfaction. Thus, H1 has been developed as follows:

H1: Tangible services equipment has a positive and significant relationship with customer satisfaction.

Accessibility

From the perspective of urban rail systems, service accessibility refers to the ease to reach destination stations. It is indicated by how convenient destinations to be reached. For example, 'last train service accessibility' is described as a binary indicator of whether passengers who use the last train at their origin stations can reach their destinations in this study. Toward the closure of daily service, some destinations may become inaccessible for the last train service. Passengers on last trains have to abandon their itineraries in the urban rail network and adopt other travel means to reach their intended destinations. Therefore, the last train service accessibility is regarded as one of the major concern to passengers at nights. The last train service accessibility should be given due attention as the main drive to improve service quality (Chen, Mao, Bai, Ho, & Li, 2019).

Accessibility is an important feature of service quality attributes towards customer satisfaction on KTMB train station service quality. Abenoza et al. (2017) described that accessibility as proximity or availability to public transportation affects customer satisfaction and public transportation frequency. The accessibility is vital for the user so that the facility and amenities provided by the

service provided can be utilised with comfort. In other literature, accessibility is the key to customer satisfaction. One of the aspects considered is access to train stations or platforms, train carriages, accessibility of the booking process, accessibility of ticketing counter or vending machines (Palacin, 2018). It is useful for a user to have entry points to the facilities provided by the train service provider at the station. Besides, accessibility of a station can be a factor or attribute in determining whether the railway is chosen or not as a travel alternative by the users (Givoni & Rietveld, 2007). In addition to the accessibility aspect, it is empirical that low satisfaction ratings mean an under the expectation of user's service requirements and urgent improvements.

The other common aspects of accessibility at the train station also covering the physical road access to the station area, platform, parking lot, easy access for the disabled person, senior citizens and children. Besides, distance to the train station considered as important. This aspect includes; access alongside an enhanced car park and ride, carpool and ride access and improved management of passenger drop-off/pickup for children and ride users would lead to cost reduction to access train stations and thus, increasing customer loyalty (Habib et al., 2019). The attributes mentioned above on accessibility are also described in De Oña et al. (2015). It includes attributes mentioned by Palacin (2018) and Habib et al. (2019) with the functionality of elevators and escalators and access to other transportation modes to consider customer satisfaction loyalty of user in a train service station. It includes accessibility for the cargo placement at the station, car park space, walking distance, and road surface condition. Thus, the hypothesis has been developed as follows:

H2: Accessibility has a positive and significant relationship with customer satisfaction.

Service's Availability

Service availability is important in determining customer satisfaction service quality. Services in public transportation are important for users' behavioural intentions in using public transportation like trains. For example, selected amenities in India railway service scope as part of service quality performance includes catering, drinking water facilities, washrooms, and other passenger amenities are part of the main customer concern at the train station. The cleanliness and hygienic maintenance service, and food and beverage services are the main concern for customer satisfaction at the train station (Ghosh et al., 2017). Since availability can also include technical and organisational aspects, it can provide infrastructure managers with a single indicator of railways' overall performance. Specifically, availability indicators in railways can be used to study performance over time (trending) and benchmark railway lines, sections, and items (systems, subsystems, and components). Availability indicators also complement indicators based on train movements, such as train delay, as availability is unaffected by timetable slack (Stenstrom, Parida & Kumar, 2016).

De Oña et al. (2015) highlights the attributes of service availability such as the number of trains trips per day, waiting time on the platform, speed of the trip, service operating hours, service regularity (interruptions caused by breakdown or incidents), punctuality, the proximity of stops to origin or destination. Service availability is also prioritised as one of the top factors determining customer satisfaction on the service quality of public transportation. Palacin (2018) mentioned that there is a significant impact on customer satisfaction from trains' availability. Through tickets, staff on trains and punctuality and reliability are considered positive and with significant levels of customer satisfaction in using the train in the UK context.

De Oña et al. (2015), Ghosh et al. (2017) and Palacin (2018) share the same overview on the service availability of the trains station on tangible service availability and extend the view by

underscoring the cleanliness maintenance service and amenities service availability at the trains station. In the Penang context, service availability is considered important since it serves many users in the state. The service availability is also important for the disabled person, older adult, and children to use the service available at the train station to make them comfortable, which can also contribute to customer satisfaction. Thus, the hypothesis has been developed as follows:

H3: Service's availability has a positive and significant relationship with customer satisfaction.

Customer Services Responsiveness

Responsiveness is defined as the willingness of a service provider to assist their consumers in performing the service promptly and swiftly (Parasuraman et al., 1988). It includes the ability to maintain speed and quality of service during times of shifting demand and service employees' willingness to help with consumers' personalised needs (Qin & Prybutok, 2009). The importance of responsiveness in influencing customer satisfaction has been determined in several contexts such as retail and internet banking (Johnston, 1995; Jun & Cai, 2001), life insurance (Ramamoorthy et al.,2018), the railway industry (Miranda et al., 2018) and tourism (Fick and Ritchie, 1991). Customer service responsiveness can be described as an act or measures taken by the service provider to engage with customers who face issues or problem or information inquiring they are currently experiencing. Pehrsson (2014) described customer responsiveness as value-adding activities such as solving customers' problems, building relationships with customers and customise the product offering. Van Lierop et al. (2018) described the approach used to deal with customer complaints associated with customer satisfaction, loyalty and service provider ability to handle customer complaints responsively and efficiently with professionalism.

Besides, the airline service quality concept can also be applicable in train station service quality since one of the service quality attributes is the customer service responsiveness of the service provider personnel. It refers to the quality of service provided by service providers' staff spanning throughout their attitude and behaviour towards customer service (Farooq et al.,2018). Besides, empathy in service quality also an integral part of customer satisfaction (Farooq et al.,2018). Customer service responsiveness is also important in dealing with foreign tourists, disabled persons, children, and other customers from many places. It is related to Penang's public transportation sector, whereas foreign citizens work in many companies throughout the state. Thus, the hypothesis has been developed as follows:

H4: Customer service responsiveness has a positive and significant relationship with customer satisfaction

Information

The information available on public transport is important for informing potential travellers about their options. Information is also essential for informing public transport users before their trips about the timings and options available to them, as well as to help users anticipate or overcome disruptions during their travel. Users may also require information on reaching their ultimate destination after arriving at their final bus stop or railway station, particularly where a trip is not part of their routine. Network maps and timetables were also mandatory at all railway stations (Mulley, Clifton, Balbontin, & Ma, 2017). Palacin (2018) describes that providing information on the trip timetable, price, and delays directly impacts customer satisfaction in using train service in the public transportation context. This indicated information plays a crucial part in customer

satisfaction. It is used to notify the customer of the current situation of the public transportation they want to use or currently use. According to De Oña et al. (2015), the attributes for information are recent, precise, and reliable information in both stations and trains. Besides, price, operating hours, stops, and delays; clear and simplified signboard with information and directions in stations; and information available through other communication technologies (internet, phone, and mobile applications).

Clear signage of direction and time table allows the users to get more information on their directions and time to boarding into trains and disembark from the train for other transportation modes for easier mobilisation. Information quality displayed affect user satisfaction with the service provided (Athmay et al., 2017). Moreover, information displayed for the user needs to be reliable because it requires them to depend on detailed and clear information to make decisions while using the service (Chen,2015). Thus, information is important for train services.

Additionally, trust in the service provider is one of the keys to customer satisfaction. In contrast, trust toward service provider on the latest update, either through website or noticeboard, is significantly associated with information quality because evaluating how timely, valid, and accurate information can depend on the level of trustworthiness (Chen,2015). It directly influences customer satisfaction and loyalty on using train service, and its station as well. Thus, the hypothesis has been developed as follows:

H5: Information has a positive and significant relationship with customer satisfaction

Environmental Condition

In general, environmental conditions are states or characteristics of the surroundings at a particular time, including air, water, and noise level. The environmental condition influences the movement and behaviour of the user in public transportation. For instance, this is evident when a hazy condition in Malaysia in September 2019 causing its citizen to be more cautious and take necessary steps to avoid health issues resulting from the conditions. Customer satisfaction and environmental matter are highlighted as consumers are willing to actively support companies committed to cause-related marketing, environmentally-friendly practices, or ethics (Yeo et al., 2015).

Besides, the user is of all ages, especially for the elders, and environmental conditions would affect elderly satisfaction using railway services (Kuo & Tang, 2013). Besides, congestion remains one of the most prevalent transport problems in major cities, and the environmental benefits of train transportation cannot be ignored. Still, consumers must feel better off using public transport rather than using their private cars in improving public transport (Mogaji & Erkan, 2019). Thus, the hypothesis has been developed as follows:

H6: Environmental condition has a positive and significant relationship with customer satisfaction

Individual Spaces

For economic benefits, activity space inside the vehicle is usually designed to be just enough, while the rated number of passengers is quite large. For instance, the train car interior consists of many passenger seats and a narrow aisle in the middle, whose width is insufficient to allow two passengers to walk side-by-side. Such a seat aisle, which is a kind of bottleneck, restricts the movement direction of passengers but limits the pedestrian flow rate (Guo, Huang & Wong, 2012). Individual space or personal space relates to the safety and comfort space between the customers and surroundings. It is also related to the crowd surrounding that affected the personal space at the

station or when onboarding the public transit. Besides, it also an important factor in influencing passengers' experiences in public transport and is related to overall comfort and safety (van Lierop et al., 2018). Besides, enough space for seating at stations is also considered essential. It influences the customer's satisfaction (Mouwen & Rietveld, 2013) and the good seat available at the platform side (Machado et al., 2018). Along with the comfort of the individual space, it is likely more useful for the service provider to concentrate on loyalty retention among all users. It serves to reflect how individuals experience public transport (van Lierop et al., 2018).

It is worth knowing that the elders and disabled person also considered a customer who uses public transportation with special amnesties to accommodate them. Furthermore, individual spaces also related to customer satisfaction on service quality provided by the service provider at the station. The station comfort is essential for passengers since they feel comfortable and relaxed before train departures, especially for long-hour journeys (Aydin et al., 2015). In addition to the disabled person and elders, the provision of enough spaces for mobility also needed, such as stepless entrances (low floor, kneeling facility), handrails, priority seating facilities (in the front part), real-time audible information and wheelchair space (Shrestha et al., 2017). The comfort and enough space is a matter of concern among the user, and customer satisfaction is often related to loyalty. Therefore it is important to understand factors that increase satisfaction among public transport users (van Lierop et al., 2018). Thus, the hypothesis has been developed as follows:

H7: Individual spaces have a positive and significant relationship with customer satisfaction.

Security

Transportation security has been the subject of various studies. Researchers emphasise that security perceptions and a good assessment of information are important predictors of customers' behaviour (Kim, Schmöcker, Yu & Choi (2018). Security is the main concern related to threats against people and properties. In this context of the study, it also includes safety as freedom from the impacts of accidents, for example, vehicle accidents, safe interchange environments, preventing slips and trips (Beecroft & Pangbourne, 2015). In the business world, the security factor in considering the movement and environment changes is now prioritised to maintain the customer's confidence and trust, especially in public transportation. Parasuraman et al. (1985) expressed security as the freedom from danger, risk, or doubt where it compromises physical safety, financial security, and confidentiality. In a study done by Machado et al. (2018), security is an attribute in customer satisfaction towards public transportation across different topologies. It comprises a sense of security against theft and aggression in stations and vehicles, a sense of security against accidents while travelling (crash/vehicle derailment), and a sense of security against slipping, falling, and accidents at vehicle doors and escalators. A similar concept is applied when security involves a stable, relatively predictable environment in which an individual or group may pursue its ends without disruption, harm, or fear of such disturbance or injury (Brooks, 2010) and make security a critical point for customer satisfaction. Şimşekoğlu et al. (2015) researched on role of attitudes, transport priorities, and car use habits for travel mode use and intentions to use Norwegian public transportation. It is found that priority of safety and security were positive predictors of intentions to use public transportation. In other literature, Potoglou et al. (2010) yields the importance of security infrastructure improvement and identifies areas of concern concerning privacy and freedom of travel within the UK railways. Fan et al. (2016) also highlighted the security aspect that affects the waiting time perception at the railway stations within the context of

the US city of Minneapolis. Besides, the security matters for railway stations should be addressed to other transportation modes, such as airports and maritime ports (Gromule et al., 2017).

Moderating role of Security

Moon et al. (2017) researched customer satisfaction and behavioural intention in the scope of airport atmosphere and regards security as moderating role, which showing little moderating influence on customer satisfaction and behavioural intention. Besides, Choocharukul et al. (2013) revealed cleanliness and safety as the factor that moderates customer satisfaction among car-shift users in Bangkok MRT stations. It is worth knowing that the station or terminal is one of the most visible indicators of the service quality of a public transportation provider. It also includes friendly security and control system (Farooq et al., 2018) because security gives assurance to a customer from exposed to any threats or risk during at vicinity of the station. It is applicable for the elders and disabled person. The implication of security concern is observed through series of incidents.

An obvious example is evident through a system failure incident at Kuala Lumpur International Airport (KLIA). The failure of the disrupted connection has affected several airport systems such as wireless connection, flight information display system, check-in-counters, baggage handling systems due to network equipment failure (MAHB, 2019). The incident triggered discomfort and dissatisfaction among the airline traveller at KLIA when the event took place. In another case, it was reported that an incident happened in an MRT station in Kuala Lumpur when a female victim was assaulted by a male assailant in a lift at the parking lot and suffered multiple injuries and lost her personal belongings while the assailant escaped (Yong & Carvalho, 2019). In other incidents, the KTMB Bukit Mertajam train station waiting room was damaged when a strong wind crashed down a large glass panel at midnight (Chern, 2018). The flood also reportedly occurred at nearby villages outside the affected area and the train station's main entrance (Dermawan, 2018). A similar case also happened on the rail transit system when service disruption at the Kelana Jaya LRT service affects the Kelana Jaya route, causing complaints from travellers to call for the train operator to introduce a more efficient announcement system to inform commuters (BERNAMA, 2018). This incident is evidence of security matter affected all aspect of service qualities for the customer satisfaction at the train station. A study by Clemes, Gan, Kao, and Choong (2011) also proved that security, as the most significant dimension of perceived service quality, has a major impact on satisfaction. Thus, the hypothesis has been developed as follows:

H8: Security moderates the relationship between tangible services equipment and customer satisfaction.

H9: Security moderates the relationship between accessibility and customer satisfaction.

H10: Security moderates the relationship between service's availability and customer satisfaction.

H11: Security moderates the relationship between customer service's responsiveness and customer satisfaction.

H12: Security moderates the relationship between information and customer satisfaction.

H13: Security moderates the relationship between environmental condition and customer satisfaction.

H14: Security moderates the relationship between individual spaces and customer satisfaction.

Conceptual Framework

This study is based from the SERVQUAL Model. The seven dimensions of the service quality are the independent variables, while customer satisfaction is the dependent variables. As mentioned in the previous discussion, security is the moderating variables between SERVQUAL diensions and customer satisfaction. The following figure 1 is the conceptual framework based from the previous discussions.

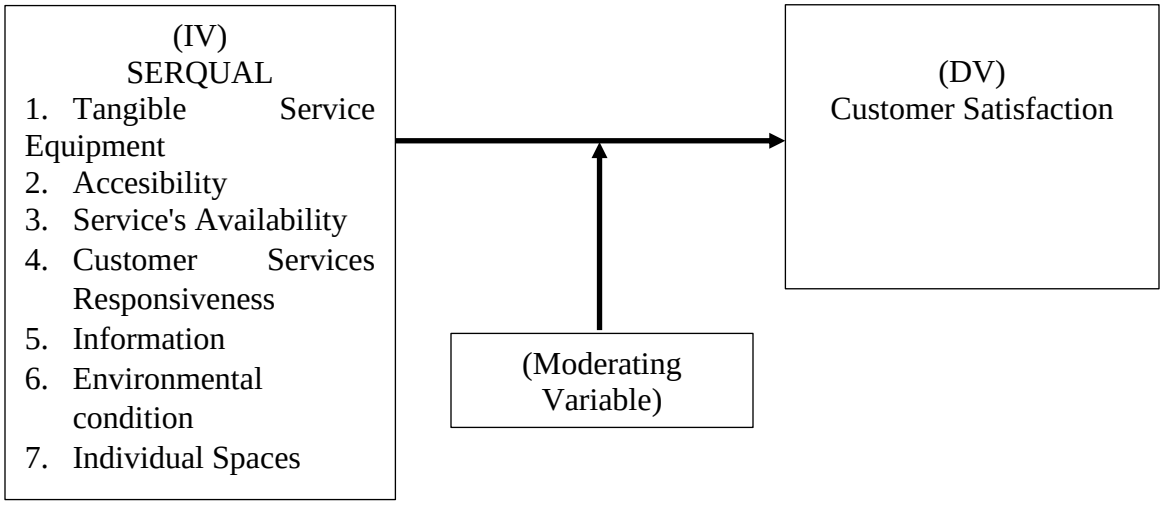

Figure 1: Conceptual Framework

Methodology

Research Samples

A simple random sampling method was used in this study. The sample size for the study is determined through G-Power software. The sample size for this study is identified through 14 predictors with an error probability of 0.95 condition, which leads to a minimum of 199 sample size needed for the study. The unit of analysis for this study is individual. The target group for data collection is KTMB passengers using commuter service, electric train services, or any person within the train station perimeter comprising the waiting room, seats, pickup point, and parking lots. In Malaysia's state of Penang, public transportation is significantly important to its citizen. These transportation services are also an important part of Penang since it becomes an important hub for major industries such as semiconductors, technologies, and business services. The type of public transportation available in Penang is air transport, land transport, and maritime transport. Keretapi Tanah Melayu Berhad (KTMB) has been handling main transportation services such as cargo and passengers transportation using railway across major cities in Malaysia Peninsular for decades. In Malaysia, electric rail service is the secondary transportation service after the commuter service in Kuala Lumpur. Recently, the role of KTMB as a train service provider in Malaysia has been increased since the introduction of electric train services (ETS) in July 2015 (Zaid et al., 2019) for intercity travel in high-speed travel. According to Shashikant Chopade and Kumar Sharma (2013), high-speed rail can be defined as the rail running at and above 150 km per hour. The ETS routes start from Padang Besar, Perlis to Gemas, Negeri Sembilan. In Penang, there

are five stations operated by KTMB to cater for passengers and cargo transportation from Penang to other states and vice versa.

Initially, 273 respondents were randomly approached at the Butterworth Train Station and Bukit Mertajam Train Station, the two major transportation hubs in Penang. Out of 273 respondents approached, two respondents did not return the questionnaires given, and 23 respondents returned the questionnaire with incomplete answers, making the valid questionnaires received is 248. Thus, 248 completed questionnaires received were used as valid samples for further analysis.

Research Design

The questionnaire is adapted from De Oña et al. (2015), which consisted of 37 questions within nine attributes or dimensions. Since the scope of the study is limited to train station, some questions related to in-vehicle train experiences are exempted from the questionnaire intended for this study. In this study, the total number of items in the questionnaire is 43 questions. It consists of eight questions in Section A focusing on the respondents' background, 27 questions in Section B focusing on service quality attributes, four questions in Section C focusing on the security consideration, and four questions in Section D, focusing on customer satisfaction. The level of measurement for the variables will be based on the Likert scale that consists of the lowest level and highest level of supporting the statement in the questionnaire.The scales ranging from (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree). The data collection duration started in mid-February 2020 and ended in mid-March 2020 due to the COVID19 virus outbreak worldwide.

Data analysis method

First, descriptive analysis was used to break down respondents' characteristics to understand respondents' distribution better. IBM SPSS software (Version 22) was used for data entry and preliminary analysis, while Smart PLS (Version 3.2) was used to test the measurement and structural model. Factor loading, average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha were used to test the indicator, convergent and reliability validity, while Heterotrait-Monntrait (HTMT) ratio was used to test the discriminant validity. Convergent validity is important to confirm the degree of confidence the study has that its indicators measure a trait. In contrast, discriminant validity is the degree to which different traits are unrelated in the model. The bootstrapping procedure was also used in this study to identify accuracy, variance, confidence intervals, and prediction errors to sample estimates in terms of bias, variance, confidence intervals, and prediction errors. Finally, structural equation modelling (SEM) was used to test the hypotheses.

Results

Demographics findings

Concerning sample demographic profile, the total number of respondents recorded is 248 persons, and Table 1 summarises respondent characteristics. Based on Table 1 in terms of gender, most of the respondents approached are female, making up almost half of the total respondents and forming a percentage of 8.06% against the male respondents. In term of ages, most of the respondents are age between 20-29 years old and form half of the total respondents, while the age cluster with the least amount percentage is 50-59 years old with 3.23%. The difference in percentage recorded between the two age clusters is 46.77%. For marital status, most of the respondents recorded has been identified as single that form more than two-thirds majority from total respondents.

In contrast, the divorced respondent obtained the lowest percentage recorded of 0.81%. The married respondents form 25.00% out of the total respondents recorded. For nationality background, it recorded that Malaysian citizen formed 93.15% while non-Malaysians formed 6.85%, which led to a percentage difference of 86.30%. Besides, in term of ethnicity among Malaysian citizens, about 68.55% are among the Malays, followed by Indians (12.10%) and Others (1.21%).In terms of the highest education background, most of the respondents hold a Diploma/Technical School or equivalent qualification, of which 47.58% of total respondents recorded. There is also a substantial percentage of respondents who possess bachelor degrees. The percentage recorded is 31.85%, which form the second largest group of respondents in educational background. The demographic background has also shown that most respondents made 54.44% of the respondents involved in the profession's research. The professional group respondents with the lowest percentage recorded were others (0.81%). For the monthly income, most of the respondents having income less than RM 2,000. They were followed by monthly income between RM 2,000 to RM 3,999 with a percentage of 21.77%. The group with monthly income between RM 8,000 to RM 9,999 formed 1.21% of total respondents.

Table 1: Summary of Demographic Background

General Characteristics	Sub-Characteristics	Frequency	Percentage (%)
Gender	Male	114	45.97%
	Female	**134**	**54.03%**
Age	18- 19 years	58	23.39%
	20-29 years	**124**	**50.00%**
	30-39 years	32	12.90%
	40-49 years	11	4.44%
	50-59 years	8	3.23%
	60 years and above	15	6.05%
Marital Status	**Single**	**184**	**74.19%**
	Married	62	25.00%
	Divorced	2	0.81%
Nationality	**Malaysian**	**231**	**93.15%**
	Non-Malaysian	17	6.85%
Ethnicity	Non-Malaysian	17	6.85%
	Malay	**170**	**68.55%**
	Chinese	28	11.29%
	Indian	30	12.10%
	Others	3	1.21%
Highest Education Background	PhD/Doctoral Degree	2	0.81%
	Master Degree	15	6.05%
	Bachelor Degree/Professional Degree	79	31.85%
	Diploma/Technical School or Equivalent	**118**	**47.58%**
	Secondary School	31	12.50%

	Primary School	3	1.21%
Profession	Self-employed	25	10.08%
	Government Sector Employee	14	5.65%
	Private Sector Employee	47	18.95%
	Retired	18	7.26%
	Student	**135**	**54.44%**
	Not Working/Unemployed	7	2.82%
	Others	2	0.81%
Monthly Income	**Less than RM 2,000**	**156**	**62.90%**
	RM 2,000-RM 3,999	54	21.77%
	RM 4,000-RM 5,999	21	8.47%
	RM 6,000-RM 7,999	7	2.82%
	RM 8,000-RM 9,999	3	1.21%
	RM 10,000 and above	7	2.82%

Validity and reliability analysis for measurement scales

For the validity and reliability of the research instrument, the independent variables as shown in Table 2 summarised the value for the Cronbach Alpha, Composite Reliability and Average Variance Extract.

Table 2: The summary of validity and reliability for measurement scales

Type of Variable	Dimensions	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Independent Variables	Tangible Service Equipment (TSE)	0.844	0.889	0.617
	Accessibility (ACC)	0.804	0.864	0.561
	Service Availability (SVA)	0.838	0.892	0.674
	Customer Service Responsiveness (CSR)	0.859	0.905	0.705
	Environment (ENV)	0.945	0.965	0.902
	Information (INF)	0.862	0.916	0.784
	Individual Space (ISP)	0.865	0.937	0.881
Moderating Variable	Security (SEC)	0.901	0.931	0.771
Dependent Variable	Customer Service (CS)	0.907	0.935	0.783

The Cronbach Alpha value required for measurement is to obtain at least 0.7 or higher, while the composite reliability threshold was set to obtain a value of at least 0.7 and above. In this research, the composite reliability obtained ranges from between 0.864 to 0.965, showing higher than 0.7. Average Variance Extract (AVE) is accounted into calculation in which the mean-variance extracted for the items loading on a construct with a recommended value of, at least, 0.5 or higher. Overall, the value stated for Cronbach Alpha, Composite Reliability, and Average Variance extracted for all involved variables are above the threshold, respectively, showing satisfactory conditions. The results of the HTMT ratio recorded were ranging from 0.471 to 0.781, indicating that the items measured are distinct from each other and create discriminant validity.

Mean scores, standard deviation and variance for service quality attributes, security and customer satisfaction

Based on the data gathered from distributed questionnaires, there is 34 item related to service quality attributes, security and customer satisfaction. The items within service quality attributes included are tangible service equipment (5), accessibility (5), service availability (4), customer service responsiveness (4), information (3), environmental condition (3) and individual space (2) as well as security (4) and customer satisfaction (4). The summary of the mean score is tabulated in Table 3.

Table 3: Mean and standard deviation for each item of the variables

Attributes	Code	Items	N	Mean	Std. Deviation	Variance
Tangible Service Equipment (TSE)	B1_TSE	Cleanliness of the station.	248	3.6855	0.78824	0.621
	B2_TSE	Lightings/luminaries installed in the station.	248	3.7460	0.77144	0.595
	B3_TSE	Temperature in the station.	248	3.1855	0.96805	0.937
	B4_TSE	Ventilation system in the station.	248	3.3831	0.91015	0.828
	B5_TSE	Restroom/toilet facilities in the station.	248	3.4516	0.96375	0.929
Accessibility (ACC)	B6_ACC	Access for disabled persons and senior citizens to station	248	3.5605	0.96726	0.936
	B7_ACC	Access to station from street and parking lot.	248	3.4194	0.98241	0.965
	B8_ACC	Operation of elevators and/or escalators.	248	3.4516	0.88948	0.791
	B9_ACC	Condition of the ticket counter.	248	3.6169	0.87384	0.764
	B10_ACC	Access to other transportation modes (e.g taxi,bus ,etc.).	248	3.7177	0.88679	0.786
Service's Availability (SVA)	B11_SVA	Operating hours of the service.	248	3.7177	0.88679	0.786
	B12_SVA	Regularity of the service (absence of interruptions due to breakdown or incidents).	248	3.5242	0.84378	0.712
	B13_SVA	Number of trains available per day	248	3.5242	0.97303	0.947
	B14_SVA	Waiting time on the platform.	248	3.5121	0.93507	0.874
Customer Service Responsiveness (CSR)	B16_CSR	Effectiveness of KTMB staffs in handling users' daily issues.	248	3.7339	0.86412	0.747
	B17_CSR	Performance of the KTMB customer service (offices, website, contact by phone, and deal with issues).	248	3.5161	0.88151	0.777
	B18_CSR	Courtesy of KTMB staffs.	248	3.6210	0.77504	0.601
	B19_CSR	Appearance of KTMB staffs.	248	3.7661	0.82579	0.682
Information (INF)	B20_INF	Reliable information in stations (price, operating hours).	248	3.7823	0.85424	0.730
	B21_INF	Notice boards and directions in stations.	248	3.7339	0.89632	0.803
	B22_INF	Information available at the station through other communication technologies (internet, phone, and mobile applications).	248	3.6734	0.91445	0.836
Environmental Condition (ENV)	B23_ENV	Noise level at the station.	248	3.5081	0.95651	0.915
	B24_ENV	Noise level at the platform.	248	3.5282	0.98532	0.971
	B25_ENV	Vibration level at the station.	248	3.5121	0.94797	0.899
Individual Space (ISP)	B26_ISP	Seat availability in stations and on platforms.	248	3.3589	1.10768	1.227
	B27_ISP	Seat comfort in stations and on platforms.	248	3.4758	1.03356	1.068
Security (SEC)	C1_SEC	Sense of security against theft and aggression at the station.	248	3.5242	0.93049	0.866
	C2_SEC	Sense of security against accident while travelling at the station.	248	3.5806	0.87333	0.763
	C3_SEC	Sense of security against slipping and accidents	248	3.5282	0.92601	0.857
	C4_SEC	Signage of emergency exit and extinguishers at the station.	248	3.7500	0.91877	0.844
	D1_CS	The service level at the station is satisfied.	248	3.7903	0.84196	0.709

Customer Satisfaction (CS)	D2_CS	KTMB train service level is good.	248	3.8024	0.87085	0.758
	D3_CS	It is comfortable to travel by KTMB train.	248	3.8790	0.90516	0.819
	D4_CS	KTMB train service level meets my expectation.	248	3.7540	0.93080	0.866

Based on Table 3, the overall means score was recorded among all service quality attributes except customer satisfaction and security, showing a consistent mean score between 3.1855 to 3.7661. The standard deviation varied between 0.77144 to 1.10768, while the variance spans between 0.595 to 1.227.

Table 4: Factor loadings and weights

Attributes	Code	Items	Factor Loadings	Factor weights
Tangible Service Equipment (TSE)	B1_TSE	Cleanliness of the station.	0.764	0.210
	B2_TSE	Lightings/luminaries installed in the station.	0.797	0.270
	B3_TSE	Temperature in the station.	0.820	0.252
	B4_TSE	Ventilation system in the station.	0.831	0.292
	B5_TSE	Restroom/toilet facilities in the station.	0.709	0.245
Accessibility (ACC)	B6_ACC	Access for disabled persons and senior citizens to station	0.708	0.280
	B7_ACC	Access to station from street and parking lot.	0.705	0.263
	B8_ACC	Operation of elevators and/or escalators.	0.791	0.222
	B9_ACC	Condition of the ticket counter.	0.766	0.282
	B10_ACC	Access to other transportation modes (e.g. taxi, bus, etc.).	0.772	0.292
Service's Availability (SVA)	B11_SVA	Operating hours of the service.	0.819	0.299
	B12_SVA	Regularity of the service (absence of interruptions of service).	0.849	0.332
	B13_SVA	Number of trains available per day	0.781	0.278
	B14_SVA	Waiting time at the platform	0.834	0.307
Customer Service Responsiveness (CSR)	B16_CSR	Effectiveness of KTMB staffs in handling users' daily issues.	0.796	0.308
	B17_CSR	Performance of the KTMB customer service (offices, website, contact by phone, and deal with issues).	0.856	0.318
	B18_CSR	Courtesy of KTMB staffs.	0.902	0.293
	B19_CSR	Appearance of KTMB staffs.	0.800	0.273
Information (INF)	B20_INF	Reliable information in stations (price, operating hours).	0.870	0.369
	B21_INF	Notice boards and directions in stations.	0.898	0.358
	B22_INF	Information available at the station on other communication mediums (internet, phone, and mobile applications).	0.888	0.403
Environmental Condition (ENV)	B23_ENV	Noise level at the station.	0.948	0.342
	B24_ENV	Noise level at the platform.	0.944	0.353
	B25_ENV	Vibration level at the station.	0.956	0.358
Individual Space (ISP)	B26_ISP	Seat availability in stations and on platforms.	0.929	0.493
	B27_ISP	Seat comfort in stations and on platforms.	0.948	0.572
Security (SEC)	C1_SEC	Sense of security against theft and aggression at the station.	0.890	0.299
	C2_SEC	Sense of security against accident while travelling at the station.	0.873	0.270
	C3_SEC	Sense of security against slipping and accidents	0.906	0.305
	C4_SEC	Signage of emergency exit and extinguishers at the station.	0.842	0.264
Customer Satisfaction (CS)	D1_CS	The service level at the station is satisfactory.	0.881	0.284
	D2_CS	KTMB train service level is good.	0.910	0.291
	D3_CS	It is comfortable to travel by KTMB train.	0.871	0.277
	D4_CS	KTMB train service level meets my expectation.	0.876	0.279

In this study, the changes made were on the items in service quality attribute, item B15_SVA, which related to "punctuality of the service". It is removed from PLS-SEM modelling since it obtained factor loading below 0.7. The requirement was set to all items with a factor loading above 0.7 to remain in the construct to analyse the factors loadings for all items across service quality attributes security and customer satisfaction. The factor loadings obtained are varied between 0.705 to 0.956. In specific, accessibility's item B7_ACC obtain the lowest factor loading with the value of 0.705, while Environmental Condition's item B25_ENV obtain the highest factor loading with the value of 0.956. In terms of factor weights, it is recorded that the value ranges between 0.210 to 0.572, whereby Accessibility's item B1_TSE obtained 0.210 and Individual Space's item B27_ISP obtained 0.572.

Variance Internal Factor (VIF) and Regression results

Table 5: Assessment for VIF

Type of variable	Service quality Attributes	VIF Customer Satisfaction (CS)
Independent variable	Tangible Service Equipment (TSE)	2.385
	Accessibility (ACC)	2.384
	Service Availability (SVA)	1.992
	Customer Service Responsiveness (CSR)	2.451
	Information (INF)	2.069
	Environmental Condition (ENV)	2.048
	Individual Spaces (ISP)	1.976
Moderating variable	Security (SEC)	2.110

Table 6: Assessment of R-square result

	R Square	R Square Adjusted
Customer Satisfaction (CS)	0.713	0.694

In a structural model, Variance Internal Factor (VIF) in Table 5 measurement showed no potential collinearity problem. In this study, all the variables have a VIF of less than 3, showing ideal collinearity (Hair et al., 2019). Table 6 shown the calculated values of R square (R2), path coefficient and the corresponding (t-Values) by conducting a bootstrapping procedure with 500 samples. From Table 5 and Figure 2, the R square with amount of 0.713 shows 71.30% of the variance in customer satisfaction (CS) was explained by tangible service equipment, accessibility, service availability, customer service responsiveness, information, environmental condition and individual spaces as well as moderated by security on each service quality attributes mentioned.

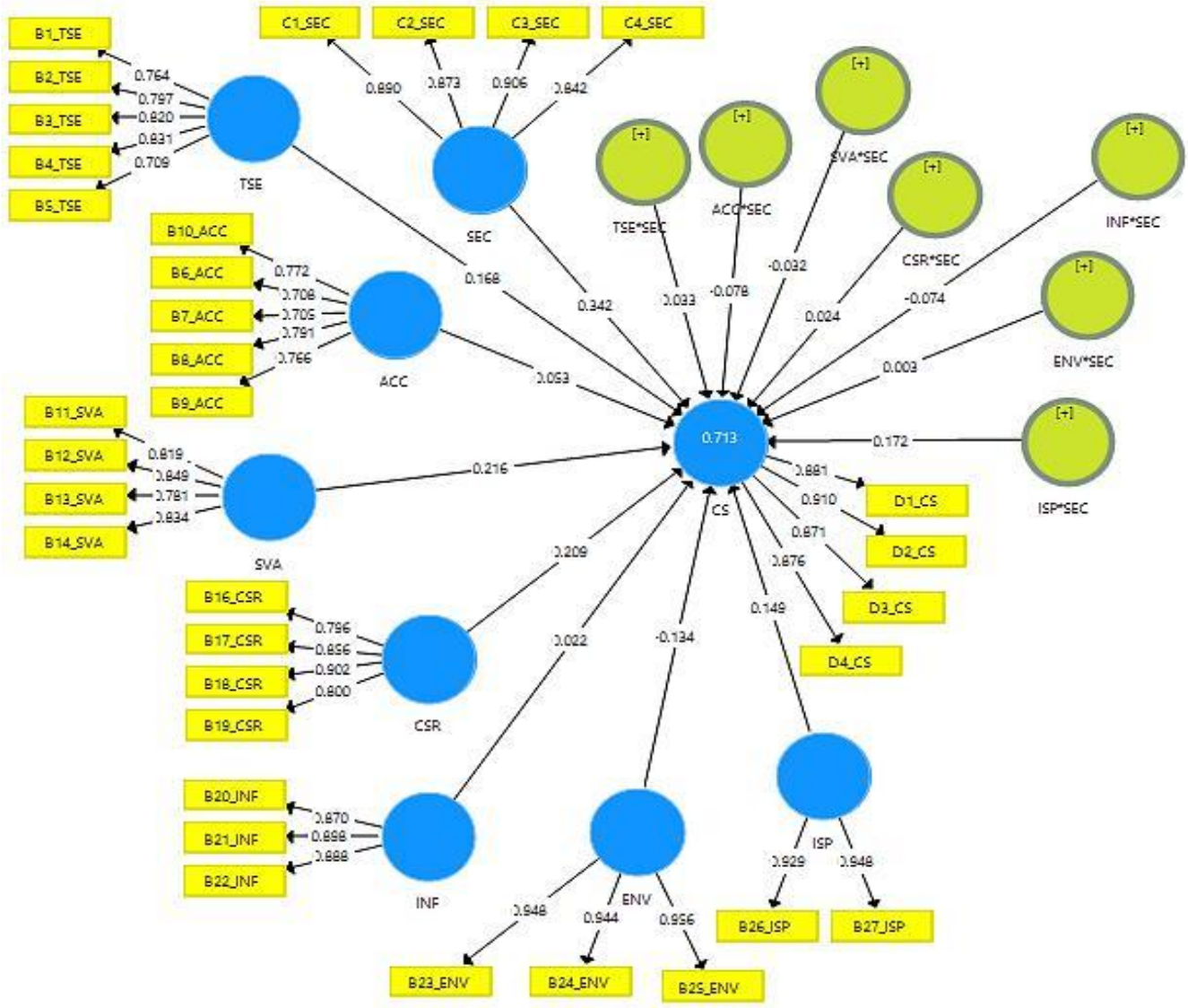

Figure 2: PLS-SEM Modelling

Hypothesis result

Table 7: Hypothesis results

Hypothesis	Relationships	Path coefficient	T Statistics	P Values	Decision
Direct relationship					
H1	TSE -> CS	0.168	3.151	0.001	Supported***
H2	ACC -> CS	0.053	0.881	0.189	Not Supported

H3	SVA -> CS	0.216	3.330	0.000	Supported***
H4	CSR -> CS	0.209	3.048	0.001	Supported***
H5	INF -> CS	0.022	0.312	0.378	Not Supported
H6	ENV -> CS	-0.134	2.106	0.018	Not Supported
H7	ISP -> CS	0.149	2.614	0.005	Supported***
Moderating effect of security					
H8	TSE*SEC -> CS	0.033	0.506	0.306	Not Supported
H9	ACC*SEC ->CS	-0.078	0.881	0.189	Not Supported
H10	SVA*SEC -> CS	-0.032	0.380	0.352	Not Supported
H11	CSR*SEC -> CS	0.024	0.359	0.360	Not Supported
H12	INF*SEC -> CS	-0.074	0.997	0.160	Not Supported
H13	ENV*SEC ->CS	0.003	0.051	0.479	Not Supported
H14	ISP*SEC -> CS	0.172	2.727	0.003	Supported***

Note:***Denotes significance level at $p<0.05$(one-tailed)

In further analysis, for evaluating the significance of the relationship, the collected sample data are required for bootstrapping within smartPLS by setting the total of 500 samples for each data set. To confirm the significance of the relationships, the significant values that have been obtained from the smartPLS analysis should be below 0.05 ($p <0.05$), and the t-value should be above 1.96 to support the hypotheses of the relationship (Hair et al., 2014). Significance level at $p<0.05$ under one-tail condition is applied since the hypothesis developed has a clear direction, which is a positive and significant relationship between service quality attributes and customer satisfaction. The findings that have been established can be summarised that direct relationships between most service quality attributes affect customer satisfaction. There is a relationship of security as moderating variable in influencing customer satisfaction. In this case, the moderating effect of security involves moderation between individual space and customer satisfaction. In contrast, other hypotheses related to moderating effect of security between other service quality attributes and customer satisfaction are not supported. The significant values obtained were above 0.05 ($p >0.05$) and the t-value lower than 1.96.

Discussion

Service quality attributes such as tangible service equipment (TSE), service's availability (SVA), customer service responsiveness (CSR) and individual space (ISP) does have implications towards customer satisfaction since the p-value is below 0.05. The t-value shown are above 1.96 (one-tail), as highlighted by Hair et al. (2019). Thus, there is a significant relationship between these service quality attributes and customer satisfaction. The significant relationship is shown that the respondents consider the service mentioned above quality attributes as a form of customer satisfaction indication in utilising train station service available in Penang.

Cleanliness is one of the aspect of tangible service equipment. With the current pandemic situation, it is obviously that cleanliness is highly prioritised. Restrooms must be clean and the surroundings should be clean. Passengers at the stations feel safe when the lighting systems are proper around the station. Service availability is highly important for the respondents since their mode of travelling is train. Passengers emphasised this services to assist them with their travel or commuting. Besides that, good customer service by the station personnel is really important.

Passengers need the personnel assistance with the services available at the station. Some might be first time users at the stations, so they might lost or confused with ways around the station. Some first timers face the risk of missing their trains due to misunderstanding. Since majority of the respondents are female, they highly emphasised on individual spaces. They would be prefer seat with appropriate space so that their legs would not be touching other passengers. Ergonomically, it should also be comfortable for other users especially senior citizens. Besides, seats must be safe and KTMB should always monitor and change seats when applicable.

However, accessibility (ACC), information (INF) and environmental condition (ENV) within service quality attributes do not show any significant effect on customer satisfaction. For accessibility and information, the insignificant effect is due to the t-value obtained below 1.96 in which does not reach the threshold as recommended in Hair et al., (2019) literature. As for the environment condition, although the p-value is below 0.05, the coefficient obtains shown negative value in which contradict with hypothesis developed earlier. The insignificant value for these service quality attributes also shows no effect of these three attributes towards customer satisfaction. The service quality attributes insignificant in this study suggest that accessibility, information and environmental condition matters regarding the train station are not the main priority or primary concerns for the passengers or visitor at the train station area. Besides, as for accessibility, the demographic data also shows that half of the total respondents are ages between 20 to 29 years old. It suggests that accessibility, which associated with convenience, is not the primary determinants. Prentice & Kadan (2019) highlighted that passengers had control over their trip and proceeded more quickly through formalities.

Mahphoth et al. (2018) reveal that empathy does have an insignificant effect on customer satisfaction. Empathy comprises caring, individualised attention provided by the firm to its customers as the definition denoted by Parasuraman et al. (1988). It is revealed that insignificant effect on customer satisfaction is the same as Rajeswari and Santa Kumari (2014) findings on the Indian Railways case. One possible reason is information available on travel information throughout multiple information platforms such as schedules for future mobile application journeys. Since customer service responsiveness has shown significant relationship with customer satisfaction, it is highly understandable that passengers at the stations has been highly assists by the friendly personnel. Thus, accessibility, information and environmental condition does not matter for them. Besides, with the advance of technology and communication system, passengers or users relies on their smartphones for informations. Ghosh et al. (2017) also showed the insignificance of information to passenger satisfaction due to information technology, and large scale penetration of smartphones could lead to this unusual finding. For environmental condition, the insignificant effect obtained suggests that the passengers do not consider weather condition and surroundings as part of their attention to arrive or be at the station. It is aligned with De Oña et al. (2016) 's research finding whereby the environmental condition has the least important aspect as service quality attributes towards customer satisfaction. Besides, the impression of environmental condition at the station may not be the factor for service quality attributes despite other research shown that they will take the surrounding environment of the railway station as first impressions to determine the quality of services they received (Thanaraju et al., 2019).

The moderating effects of security in service quality attributes and customer satisfaction show that security moderates the relationship between individual space and customer satisfaction. This finding suggests that the priority of security moderating effects mostly focused on the individual space that significantly affects customer satisfaction at the train station compared to other relationships. The finding also suggests, based on the demographic overview, most respondents

consider having enough space or more clearance to feel comfortable and secured while waiting at the station. Since most of the respondents are females, it is suggested that available basic amenities such as benches and shelters significantly reduce both perceived waiting times and perceived insecurity at the train station among females (Fan et al., 2016). Besides, Şimşekoğlu et al. (2015) noted that safety and security were a positive indication of intentions to use public transportation. Individual space and security are also closely related to personal safety and privacy against the crowd at the station, whereby crowding may indicate a perception of risk to personal safety (Cox et al., 2006; Haywood et al., 2017). Furthermore, Azizan et al. (2016) quoted that overcrowding and lack of supervision are the most related safety issues in the study.

There is no sign of the moderating effect of security between tangible service equipment and customer satisfaction. The finding also suggests that tangible service equipment is a strong predictor of customer satisfaction and not affected by security. Moon et al. (2017) indicate that facility aesthetics have a significant impact on satisfaction, and in this case, facility aesthetics is comparable to tangible service equipment. Allen et al. (2018) also revealed that the service aspect relating to safety was not significant from the cleanliness station. In contrast, cleanliness at the station is one of the characteristics used for tangible service equipment.

On the other hand, moderating the effects of security in between accessibility and customer satisfaction, there is no sign of the influence of security between these two variables. The finding may also suggest that the security aspect has not been the priority for the passengers to consider when it related to access or entering the train station. Chowdhury et al. (2016) reveal that users are more likely to continue using existing public transport services despite limited alternative modes. Hadiuzzman et al. (2017) emphasised that the passengers are more concerned about the service provided than the comfort level of their trip. It suggests the reason for the insignificant influential effect of security in this relationship.

In the case of security moderating effect in the relationship between service availability and customer satisfaction, it is shown that there is no significant effect observed. It also suggests that the passengers do not consider security matters related to operating hours of the service, regularity of the service, number of trains available per day, and waiting time at the platform, leading to insignificant influence between two major variables. Prentice and Kadan (2019) highlighted that passengers had control over their trip and proceeded more quickly through formalities. Miranda et al. (2018) also reveal that convenience is not statistically significant in its multiple regression analysis. The main items for convenience mention include ticket working hours comparable in this research findings.

The same effect has been observed in the moderating role of security between customer responsiveness and customer satisfaction. It is observed that security consideration is not influential in this relationship. Instead, this suggests that the passengers may consider more responsive acts and improved performance from the staff in dealing with customer services issues. Service personnel were significant contributors to customer satisfaction (Ali et al., 2015; van Lierop et al., 2018).

In another case, there is no sign of the influence of security between these two variables for moderating effects of security in between the information and customer satisfaction. It may suggest that the security aspect is beyond consideration by the passengers in seeking information. For instance, an information signboard and another platform may be considered a standard physical feature, leading travellers to perceive the surroundings as unnoticeable (Moon et al., 2017). Zhen et al. (2018) finding reveals that searching for access travel information through the internet does not significantly influence satisfaction as local passengers are familiar with the access travel and

passengers from other cities are likely to have egressed from train stations at least once. Thanaraju et al. (2019) revealed that reliability dimensions highlighting characteristics such as information reliability matters at the train station showed negligible relationship towards customer satisfaction. In the moderating role of security in environmental conditions and customer satisfaction, it is unusual to find the insignificant influence of security between the two constructs. It may suggest that passengers have less priority on security factors related to environmental conditions at the train station, and the passenger may take preamp measures to avoid those disturbances. Although geospatial factors such as weather and environmental conditions influence the quality provided (Ponrahono et al., 2015).

Theoretical Implication

The theoretical implication from the research study suggests that in influencing customer satisfaction concerning service quality at the train station, the service qualities attributes do have a significant role and consistent with most previous studies within the context of railways that adapted the SERVQUAL model (Rajeswari & Santa Kumari, 2014; Thanaraju et al., 2019; Zaid et al., 2019; Choocharukul et al., 2013; Miranda et al., 2018; Adenan, 2018; De Oña et al.,2015). This study also provides a different outlook for observing customer satisfaction by placing security as a moderating attribute. The study shows that security concern has a moderating role with limited influence between the service quality attributes and customer satisfaction. However, it influences only one of the service quality attributes. The finding also reveals that the role of security concern as a moderating dimension influences individual space instead of all other service quality attributes.

Besides, this research also gives a new perspective on customer satisfaction. It is determined solely on the service quality attributes. It considers security as moderating role that cause a significant impact between the attributes and customer satisfaction, although with minimum effect. The study also suggests the customers at the train station give more attention to their individual space as the determinant of being safe and secured. Thus, it indicates the role of security as an influence on their customer satisfaction level.

Practical Implication

Nevertheless, as a reliable train station service operator, it is suggested for the top management to implement specific improvement on service quality to improve customer satisfaction level among the users or passengers at a train station. Security and safety in all aspects of the passengers at the station need to be considered in improving service quality and customer satisfaction. For instance, friendly accessibility from short distance parking lots and main road for all kind of customers, including those with a disability, should be prioritised accordingly. Schedules and information at reliable mobile and non-mobile platforms should be highlighted since more people can access information instantly to plan their journey. Response and performance showcased by train station staff should be improved as it reflects the image and acts as a point where passengers search for assistance if they encounter difficulties at the station. Sense of security should be considered. The customer depends on assurance of safety and security provided by the service provider to keep them secure and comfortable from any security and safety risk while they are at the train station.

Conclusion and Future Research

In summary, it is observed that there are significant relationships between the service quality attributes and customer satisfaction. Besides, in term of security moderating effects, there is

minimal influence found within this study. It can be concluded that the passengers at the train station consider more on the service quality attributes rather than the moderating effects of security in between service quality attributes and customer satisfaction. It indicates that the passengers' security consideration at the train station on each service quality attributes as a secondary option. Still, security matters should be viewed as the critical point to achieve an excellent customer satisfaction level and showcase better service quality. Since the technology evolves and the ridership rate increases, a sense of security should be prioritised in every aspect. It will create awareness for the passengers and the train service operator such as KTMB. For further research, this study also opens up a new frontier, including other states in Malaysia, to gain a more in-depth and wider scope of customer satisfaction and service quality to analyse train station service quality better.

References

Abreu e Silva, J., & Bazrafshan, H. (2013). User satisfaction of intermodal transfer facilities in Lisbon, Portugal: analysis with structural equations modeling. *Transportation research record*, *2350*(1), 102-110.

Abenoza, R. F., Cats, O., & Susilo, Y. O. (2017). Travel satisfaction with public transport: Determinants, user classes, regional disparities and their evolution. *Transportation Research Part A: Policy and Practice*, *95*, 64–84.

Adenan, M. F. Bin. (2018). Impact Customer Satisfaction Towards Quality Service for Delivery Process at Railway Station in Malaysia. *Journal of Marketing and Information Systems*, *1*(1), 15–20**.**

Ahmed, Q. I., Lu, H., & Ye, S. (2008). Urban transportation and equity: A case study of Beijing and Karachi. *Transportation Research Part A: Policy and Practice*, *42*(1), 125-139.

Ali, F., Dey, B. L., & Filieri, R. (2015). An assessment of service quality and resulting customer satisfaction in Pakistan international airlines: Findings from foreigners and overseas Pakistani customers. *International Journal of Quality and Reliability Management*, *32*(5), 486–502

Allen, J., Eboli, L., Mazzulla, G., & de Dios Ortúzar, J. (2020). Effect of critical incidents on public transport satisfaction and loyalty: an Ordinal Probit SEM- MIMIC approach. *Transportation*, *47*(2), 827-863.

Alpu, O. (2015). A methodology for evaluating satisfaction with high-speed train services: A case study in Turkey. *Transport Policy*, *44*, 151-157.

Anderson, E. W., Fornell, C., & Rust, R. T. (1997). Customer satisfaction, productivity, and profitability: Differences between goods and services. *Marketing Science*, *16*(2), 129–145.

Athmay, A. A. A. A., Fantazy, K., & Kumar, V. (2017). E-government adoption and user's satisfaction: an empirical investigation. *EuroMed Journal of Business, 11*(1), 57-83

Awad, B. A. A. A. G. (2012). The relationships between service quality, satisfaction, and behavioral intentions of Malaysian spa center customers. *International Journal of Business and Social Science, 3*(1), 198-205.

Aydin, N., Celik, E., & Gumus, A. T. (2015). A hierarchical customer satisfaction framework for evaluating rail transit systems of Istanbul. *Transportation Research Part A: Policy and Practice*, *77*, 61–81.

Azizan, F. A., Mohamed, N. F., Rahman, Z. A., & Aziz, N. A. (2016, October). Statistical

evaluation of commuters' perception on safety and crime rate: A study among women passengers of KTM Komuter in Kuala Lumpur. In *AIP Conference Proceedings* (Vol. 1774, No. 1, p. 030019). AIP Publishing LLC.

Bambale, S. A., Ghani, M. B. A., & Ado, A. B. (2020). How Service Quality Affects Customer Satisfaction: A Study of Malaysian Electric Train Service (ETS). *Journal of International Business and Management*, *3*(2), 01-07.

Beecroft, M., & Pangbourne, K. (2015). Future prospects for personal security in travel by public transport. *Transportation Planning and Technology*, *38*(1), 131–148.

BERNAMA. (2018). LRT operator told to hold media conference on delays. Retrieved November 2, 2019, from http://bernama.com/en/news.php?id=1648556

Boo, H. V. (2017). Service Environment of Restaurants: Findings from the youth customers. *Journal of ASIAN behavioural studies*, *2*(2), 67-77.

Brooks, D. J. (2010). What is security: Definition through knowledge categorisation. *Security Journal*, *23*(3), 225–239.

Chang, H. H., Wang, Y. H., & Yang, W. Y. (2009). The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value. *Total Quality Management*, *20*(4), 423-443.

Chen, Y., Mao, B., Bai, Y., Ho, T. K., & Li, Z. (2019). Timetable synchronisation of last trains for urban rail networks with maximum accessibility. *Transportation Research Part C: Emerging Technologies*, *99*, 110-129.

Chern, L. T. (2018). Two-hour storm causes havoc in Penang. *The Star Online*, pp. 2018–2019. Retrieved from https://www.thestar.com.my/news/nation/2018/05/29/two-hour-storm-causes-havoc-in-penang/

Choocharukul, K., & Sriroongvikrai, K. (2013). Multivariate analysis of customer satisfaction: a case study of Bangkok's mass rapid transit (MRT) passengers. *Journal of the Eastern Asia Society for Transportation Studies*, *10*, 1258-1269.

Chou, P. F., Lu, C. S., & Chang, Y. H. (2014). Effects of service quality and customer satisfaction on customer loyalty in high-speed rail services in Taiwan. *Transportmetrica A: Transport Science*, *10*(10), 917-945.

Chowdhury, S., Zhai, K., & Khan, A. (2016). The effects of access and accessibility on public transport users' Attitudes. *Journal of Public Transportation*, *19*(1), 97–113.

Chowdhary, N., & Prakash, M. (2007). Prioritizing service quality dimensions. *Managing Service Quality: An International Journal*, *17*(5), 493–509.

Chung-Wei Kuo; Mei-Ling Tang. (2013). Relationships among service quality, corporate image, customer satisfaction, and behavioral intention for the elderly in high-speed rail services. *Journal of Advanced Transportation*, *47*(October 2011), 667–678.

Churchill, G. A., & Surprenant, C. (1982). An Investigation into the determinants of Customer satisfaction. *Journal of Marketing Research*, *19*(4), 491–504.

Clemes, M. D., Gan, C., & Ren, M. (2011). Synthesising the effects of service quality, value, and customer satisfaction on behavioral intentions in the motel industry: An empirical analysis. *Journal of Hospitality & Tourism Research*, *35*(4), 530-568.

Cox, T., Houdmont, J., & Griffiths, A. (2006). Rail passenger crowding, stress, health and safety in Britain. *Transportation Research Part A: Policy and Practice*, *40*(3), 244–258.

De Oña, J., De Oña, R., Eboli, L., Forciniti, C., & Mazzulla, G. (2016). Transit passengers' behavioural intentions: the influence of service quality and customer satisfaction. *Transportmetrica A: Transport Science*, *12*(5), 385–412.

De Oña, R., MacHado, J. L., & De Oña, J. (2015). Perceived service quality, customer satisfaction, and behavioral intentions structural equation model for the Metro of Seville, Spain. *Transportation Research Record*, *2538*, 76–85.

De Oña, J., De Oña, R., Eboli, L., & Mazzulla, G. (2013). Perceived service quality in bus transit service: A structural equation approach. *Transport Policy*, *29*, 219–226.

Dermawan, A. (2018). Heavy rain, strong wind wreak havoc in parts of Penang. *The New Straits Times*. Retrieved from https://www2.nst.com.my/news/nation/2018/05/374369/heavy-rain-strong-wind-wreak- havoc-parts-penang-nsttv.

Eboli, L., & Mazzulla, G. (2007). Service quality attributes affecting customer satisfaction for bus transit. *Journal of public transportation*, *10*(3), 21-34.

Fan, Y., Guthrie, A., & Levinson, D. (2016). Waiting time perceptions at transit stops and stations: Effects of basic amenities, gender, and security. *Transportation Research Part A: Policy and Practice*, *88*, 251–264.

Farooq, M. S., Salam, M., Fayolle, A., Jaafar, N., & Ayupp, K. (2018). Impact of service quality on customer satisfaction in Malaysia airlines: A PLS-SEM approach. *Journal of Air Transport Management*, *67*(September 2017), 169–180.

Fick, G.R. and Ritchie, J.R. (1991), Measuring service quality in the travel and tourism industry, *Journal of Travel Research, Vol. 30*(2), 2-9.

Fischer, J. M., Smith, M., & Kennedy, A. A. (2014). Why and how to use customer opinions: a quality-of-life and customer satisfaction-oriented foundation for performance-based decision-making. *Transport Reviews*, *34*(1), 86-101.

Friman, M., & Fellesson, M. (2009). Service supply and customer satisfaction in public transportation: The quality paradox. *Journal of Public transportation*, *12*(4), 57-69.

Ghosh, P., Ojha, M. K., & Geetika. (2017). Determining passenger satisfaction out of platform-based amenities: A study of Kanpur Central Railway Station. *Transport Policy*, *60*(June), 108–118.

Givoni, M., & Rietveld, P. (2007). The access journey to the railway station and its role in passengers' satisfaction with rail travel. *Transport Policy*, *14*(5), 357–365.

Greenwell, T. C., Fink, J. S., & Pastore, D. L. (2002). Assessing the influence of the physical sports facility on customer satisfaction within the context of the service experience. *Sport Management Review*, *5*(2), 129-148.

Gromule, V., Yatskiv, I., & Pěpulis, J. (2017). Safety and Security of Passenger Terminal: The Case Study of Riga International Coach Terminal. *Procedia Engineering*, *178*, 147–154.

Guo, R. Y., Huang, H. J., & Wong, S. C. (2012). Route choice in pedestrian evacuation under conditions of good and zero visibility: Experimental and simulation results. *Transportation research part B: methodological*, *46*(6), 669-686.

Habib, K. N., Hasnine, M. S., & El-Assi, W. (2019). The role of station accessibility, multimodal competitions and contextual variables in retaining customer base of urban commuter rails. *Case Studies on Transport Policy*, *7*(2), 404–413.

Hadiuzzman, M., Das, T., Hasnat, M. M., Hossain, S., & Rafee Musabbir, S. (2017). Structural equation modeling of user satisfaction of bus transit service quality based on stated preferences and latent variables. *Transportation Planning and Technology*, *40*(3), 257-277.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). The Results of PLS-SEM Article information. *European Business Review*, *31*(1), 2–24.

Harmer, C., Millard, K., Palmer, D., Ubbels, B., Monzon, A., & Hernández, S. (2014, April). What makes a successful urban interchange?: Results from an evidence review. In *Transport Research Arena (TRA) 5th Conference: Transport Solutions from Research to DeploymentEuropean CommissionConference of European Directors of Roads (CEDR) European Road Transport Research Advisory Council (ERTRAC) WATERBORNE TPEuropean Rail Research Advisory Council (ERRAC) Institut Francais des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux (IFSTTAR) Ministère de l'Écologie, du Développement Durable et de l'Énergie*.

Hayashi, Y., Mai, X., & Kato, H. (2011). The role of rail transport for sustainable urban transport. In *Transport Moving to Climate Intelligence* (pp. 161-174). Springer, New York, NY.

Hayashi Y (2006) No regret land-use and transport strategies to meet future stages of economic development, urbanisation and auto mobilization. *Reg Dev Dialogue 27*(1), 135–146

Haywood, L., Koning, M., & Monchambert, G. (2017). Crowding in public transport: Who cares and why? *Transportation Research Part A: Policy and Practice*, *100*, 215–227.

Ibrahim, Borhan, Zakaria, & Zainal. (2019). Effectiveness of Commuter Rail Service Toward Passenger's Satisfaction: a Case Study from Kuala Lumpur, Malaysia. *International Journal of Engineering and Technology*, *8*(1.2), 50–55.

Irtema, H.I.M., Ismail, A., Borhan, M.N., Das, A.M., Alshetwi, A.B.Z., 2018. Case study of the behavioural intentions of public transportation passengers in Kuala Lumpur. *Case Studies on Transport Policy 6*(4), 462–474.

Jomnonkwao, S., & Ratanavaraha, V. (2016). Measurement modelling of the perceived service quality of a sightseeing bus service: An application of hierarchical confirmatory factor analysis. *Transport Policy*, *45*(2010), 240–252.

Johnston, R. (1995). The determinants of service quality: satisfiers and dissatisfiers. *International Journal of Service Industry Management*., *6*(5), 53-71.

Jun, M., and Cai, S. (2001). The key determinants of internet banking service quality: a content Analysis. *International Journal of Bank Marketing*, *19*(7), 276-291.

Kasiri, L. A., Guan Cheng, K. T., Sambasivan, M., & Sidin, S. M. (2017). Integration of standardisation and customisation: Impact on service quality, customer satisfaction, and loyalty. *Journal of Retailing and Consumer Services*, *35*(June 2016), 91–97.

Kenyon, S., Lyons, G., & Rafferty, J. (2002). Transport and social exclusion: investigating the possibility of promoting inclusion through virtual mobility. *Journal of Transport Geography*, *10*(3), 207-219.

Kim, J., Schmöcker, J. D., Yu, J. W., & Choi, J. Y. (2018). Service quality evaluation for urban rail transfer facilities with Rasch analysis. *Travel Behaviour and Society*, *13*(2018), 26-35.

Kim, S. H., Chung, J. H., Park, S., & Choi, K. (2017). Analysis of user satisfaction to promote public transportation: A pattern-recognition approach focusing on out-of-vehicle time. *International Journal of Sustainable Transportation*, *11*(8), 582-592.

Kotler, P., Keller, K.L., 2009. Marketing management (13th end). New Jersey: Pearson Education Inc, Upper Saddle River: NJ.

Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, *80*(6), 69-96.

Liu, Y., Jang, S., 2009. Perceptions of Chinese restaurants in the US: what affects customer satisfaction and behavioral intentions? *Int. J. Hosp. Manag. 28* (3), 338–348.

Lois, D., Monzón, A., & Hernández, S. (2018). Analysis of satisfaction factors at urban transport interchanges: Measuring travellers' attitudes to information, security and waiting. *Transport Policy*, *67*(April), 49–56.

Machado, J. L., de Oña, R., Diez-Mesa, F., & de Oña, J. (2018). Finding service quality improvement opportunities across different typologies of public transit customers. *Transportmetrica A: Transport Science*, *14*(9), 761–783.

MAHB. (2019). Temporary System Disruption At KL International Airport. In *Malaysia Airports Holdings Berhad (MAHB) Media Centre*. Retrieved from https://www.malaysiaairports.com.my/media-centre/news/temporary-system-disruption-kl-international-airport

Makanyeza, C., & Mumiriki, D. (2016). Are all customers really the same? Comparing service quality and satisfaction between residential and business telecommunications customers. *Acta Commercii*, *16*(1), 1-10.

Marić, D., Marinković, V., Marić, R., & Dimitrovski, D. (2016). Analysis of tangible and intangible hotel service quality components. *Industrija*, *44*(1), 7-25.

Mat, A., Bahry, N. S., Kori, N. L., Munir, Z. A., & Daud, N. M. (2019). The influence of service quality and passenger satisfaction towards Electric Train Services (ETS): A PLS-SEM approach. *Foundations of Management*, *11*(1), 57–64.

Miranda, S., Tavares, P., & Queiró, R. (2018). Perceived service quality and customer satisfaction: A fuzzy set QCA approach in the railway sector. *Journal of Business Research*, *89*(July), 371–377.

Mogaji, E., & Erkan, I. (2019). Insight into consumer experience on UK train transportation services. *Travel Behaviour and Society*, *14*(September 2018), 21–33.

Moon, H., Yoon, H. J., & Han, H. (2017). The effect of airport atmospherics on satisfaction and behavioral intentions: testing the moderating role of perceived safety. *Journal of Travel and Tourism Marketing*, *34*(6), 749–763.

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.

Mouwen, A., & Rietveld, P. (2013). Does competitive tendering improve customer satisfaction with public transport? A case study for the Netherlands. *Transportation Research Part A: Policy and Practice*, *51*, 29–45.

Mulley, C., Clifton, G. T., Balbontin, C., & Ma, L. (2017). Information for travelling: Awareness and usage of the various sources of information available to public transport users in NSW. *Transportation Research Part A: Policy and Practice*, *101*, 111-132

Palacin, R. (2018). *Railway Passenger Satisfaction : How good is good ?* Retrieved from https://www.womblebonddickinson.com/sites/default/files/2018-02/Railway passenger satisfaction.pdf

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, *49*(4).,41-50

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing and Consumer Services*, *64*(1), 12–40.

Pehrsson, A. (2014). Firms' customer responsiveness and performance: The moderating roles of dyadic competition and firm's age. *Journal of Business and Industrial Marketing*, *29*(1), 34–44.

Ponrahono, Z., Bachok, S., Osman, M. M., Ibrahim, M., Abdullah, M. F., & Abdullah, A. (2015). Assessing the urban and rural stage bus services disparities in Peninsula Malaysia. *Planning Malaysia*, *13*, 65–84.

Potoglou, D., Robinson, N., Kim, C. W., Burge, P., & Warnes, R. (2010). Quantifying individuals' trade-offs between privacy, liberty and security: The case of rail travel in the UK. *Transportation Research Part A: Policy and Practice*, *44*(3), 169–181.

Qin, H., & Prybutok, V. R. (2009). Service quality, customer satisfaction, and behavioral intentions in fast-food restaurants. *International Journal of Quality and Service Sciences*., *1*(1), 78-95.

Radović-Marković, M., Shoaib Farooq, M., & Marković, D. (2017). Strengthening the resilience of small and medium-sized enterprises. *Review of applied socio-economic research*, 345-356.

Rajeswari, V., & Santa Kumari, K. (2014). Satisfaction and Service Quality in Indian Railways -A Study on Passenger Perspective. *IOSR Journal of Economics and Finance*, *4*(1), 2321–5933.

Ramamoorthy, R., Gunasekaran, A., Roy, M., Rai, B. K., & Senthilkumar, S. A. (2018). Service quality and its impact on customers' behavioural intentions and satisfaction: an empirical study of the Indian life insurance sector. *Total Quality Management & Business Excellence*, *29*(7-8), 834-847.

Santos, J. (2002). From intangibility to tangibility on service quality perceptions: a comparison study between consumers and service providers in four service industries. *Managing Service Quality: An International Journal*, *12*(5), 292–302.

Stenström, C., Parida, A., & Kumar, U. (2016). Measuring and monitoring operational availability of rail infrastructure. *Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit*, *230*(5), 1457-1468.

Shashikant Chopade, S., & Kumar Sharma, P. (2013). High-Speed Trains. *International Journal of Modern Engineering Research (IJMER)*, *3*(2), 1161–1166.

Shrestha, B. P., Millonig, A., Hounsell, N. B., & McDonald, M. (2017). Review of Public Transport Needs of Older People in European Context. *Journal of Population Ageing*, *10*(4), 343–361.

Şimşekoğlu, Ö., Nordfjærn, T., & Rundmo, T. (2015). The role of attitudes, transport priorities, and car use habit for travel mode use and intentions to use public transportation in an urban Norwegian public. *Transport Policy*, *42*, 113–120.

Stamenkov, G., & Dika, Z. (2015). A sustainable e-service quality model. *Journal of Service Theory and Practice*, *25*(4), 414-442.

Stelzer, A., Englert, F., Hörold, S., & Mayas, C. (2016). Improving service quality in public transportation systems using automated customer feedback. *Transportation Research Part E: Logistics and Transportation Review*, *89*, 259-271.

Suchánek, P., & Králová, M. (2018). Customer satisfaction and different evaluation of it by companies. *Economic Research-Ekonomska Istraživanja, 31*(1), 1330–1350

Sze-siong, C., & Aksan, A. (2018). Users' Satisfaction with Mass Rapid Transit and the Effect of Different Genders and Trip Purposes. *International Journal of Academic Research in Business and Social Sciences*, *8*(15), 131–145.

Thanaraju, P., Khan, P. A. M., Sivanathan, S., & Juhari, N. H. (2019). Passengers' satisfaction towards railway facilities (RAILQUAL in the central region. *International Journal of Recent Technology and Engineering*, *8*(2 Special Issue), 561–571.

Van Lierop, D., Badami, M. G., & El-Geneidy, A. M. (2018). What influences satisfaction and loyalty in public transport? A review of the literature. *Transport Reviews*, *38*(1), 52–72.

Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: an empirical study. *International journal of service industry management*, *14*(5), 501-519.

Yanık, S., Aktas, E., & Topcu, Y. I. (2017). Traveler satisfaction in rapid rail systems: The case of Istanbul metro. *International Journal of Sustainable Transportation*, *11*(9), 642-658.

Yeo, G. T., Thai, V. V., & Roh, S. Y. (2015). An Analysis of Port Service Quality and Customer Satisfaction: The Case of Korean Container Ports. *Asian Journal of Shipping and Logistics*, *31*(4), 437–447.

Yong, Y., & Carvalho, M. (2019). Fear factor at the train stations. *The Star Online*. Retrieved from https://www.thestar.com.my/news/nation/2019/03/01/fear-factor-at-the-train-stations-commuters-cry-foul-over-cctvs-not-being-displayed-live-or-monitore

Zaid, M.Z., Jamaludin, M.S., Bambale, S.A., & Ismail, M.A. (2017) How service quality affects the customer satisfaction: Case study of electric train service (ETS*). In: Symposium on Technology Management & Logistics (STML–Go Green) 2016, 6th - 7th December 2016, Universiti Utara Malaysia, Sintok, Malaysia.*