

**SERVICE QUALITY OF RAILWAY TRANSPORTATION IN SRI LANKA:  
TOURISTS' PERSPECTIVE WITH SPECIAL REFERENCE TO COLOMBO –  
BADULLA TRAIN SERVICE**

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**ABSTRACT**

Tourism is one of the blooming industries in Sri Lanka which is recorded as the third foreign earning source. The literature proves that the driven force of tourism industry is transportation modes available in the host country where public transportation services are the one of popular modes to travel around country. Therefore, this research headed to the public land transportation service in Sri Lanka. The pilot survey identified that train service is much popular among tourists to travel for some destinations; hence, the study was conducted with special reference to Colombo-Badulla train service. Providing a better service for customers is the most appropriate way to attract them for the so-called service. Thus, this study was conducted to investigate the service quality of the train service in Sri Lanka from tourists' perspective. Survey method was used to collect data from tourists and 271 questionnaires were collected. The results of the mean analysis identified the most and the least important factors of service quality as empathy and reliability respectively. Thus, time has come for service providers and the government to establish appropriate strategies to increase the service quality of the train service in most important aspects to attract more tourists to the railway service and to increase their satisfaction.

**Keywords:** *Customer Satisfaction, Public Transportation Service, Service Quality, Tourism Industry*

**1 INTRODUCTION**

The scenic beauty, rich cultural heritage, diverse landscapes, substantial wildlife, and toasty climate provide immense value to "The Pearl of the Indian Ocean" to be a world ranked tourist destination. Although there were ups and downs in Sri Lankan tourism industry in recent decades, particularly between 2003 to 2009 because of the natural disasters like tsunami and destructive war, at present, Sri Lankan tourism industry has made a remarkable recovery

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and it is becoming one of the fastest growing and dynamic industries in the country (Fernando, Bandara, & Smith, 2016). According to Annual Statistical Report of Sri Lanka Tourism (2016), the tourism industry still retains its rank in the third by recording 12.4% of foreign exchange earnings to the economy. With the growth, the industry creates new employment opportunities by providing solutions for the unemployment rate in the country. According to statistics, one job can be created for every five arrivals of tourists (*Annual Statistical Report of Sri Lanka Tourism 2016*), therefore, the tourism industry makes a huge impact on the Sri Lankan economy. When considering the tourism industry, one important aspect is the ability of tourists to travel around the country and transportation availability (Nutsugbodo, Amenumey, & Mensah, 2018) where tourists' are using public transportation services in the host country due to the high prices of special tourists' transportation services (Lumsdon, Downward, & Rhoden, 2006; Nutsugbodo et al., 2018). Public transportation defines as the use of shared, and often state-operated or contracted, bus, ferry, tram and train transport available for use by the general public including tourists to move around an area, excluding transport on city tour buses (Le-Klähn, Roosen, Gerike, & Hall, 2015). Tourists may expect a satisfied transport service because they may not visit the country again if they have not experienced the expected quality. Thus, to address this issue, the concept of quality should be taken for consideration by operators to meet the quality expectation of tourists. In Sri Lanka, based on the shreds of evidence it can be witnessed that the majority of tourists are using railway service rather than buses when they travel long distances and they like to experience the scenic beauty of the country.

According to the current literature, several authors have directed their studies to measure the service quality in public land transportation service in different contexts. Nutsugbodo et al., (2018) stated that these have focused on modeling destination choices, exploring the dimensions of tourists' mobility, as well as determinants of their movement patterns. In most of the cases existing studies are focused generally to the public transportation service quality while some are specially conducted for measure the service quality of public bus services in the perspectives in local passengers (Bajada & Titheridge, 2017; Barabino, Deiana, & Tilocca, 2012; Hensher, 2013; Hu & Jen, 2006; Sam, Hamidu, & Daniels., 2017). Further, some other authors have conducted their studies regarding the railway service quality also in local passengers perspective (Chou, Lu, & Chang, 2014; Kim, Chung, Park, & Choi, 2017; Maruvada & Bellamkonda, 2010). However, there are only handful of studies have been conducted with the perspective of tourists regarding service quality in public transportation services as a whole in the contexts of Ghana, and Germany (Le-Klähn et al., 2015; Le-Klähna & Michael, 2014; Nutsugbodo et al., 2018). Additionally, there can be seen a significant contribution to the literature from European region countries like London (Bajada & Titheridge, 2017), Italy

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(Barabino et al., 2012; Cascetta & Carteni, 2014), Spain (Bordagaray, Olio, Ibeas, & Cecín, 2014; Oña, Oña, Eboli, Forciniti, & Mazzulla, 2016) by measuring service quality with reference to local commuters' attitudes behaviours and preferences. Also previous authors have been conducted the similar studies in the context of Portugal (Beira & Cabral, 2007) generally for public transportation services, Australia (Hensher, 2013) for buses in local commuter perspective, and NewZealand specially for railway service in local passenger perspective (Cavana Corbett, & Lo, 2007).

Contrary in Asian region also backed the literature with several studies conducted in India, Taiwan, Korea, Indonesia, Oman and etc. (Gupta & Datta, 2016; Hu & Jen, 2006). In the Sri Lankan context service quality has been wisely measured in many industries such as banking, apparel, hospitals, public libraries, educational institutes etc. but, there is a scant of literature in the Sri Lankan context regarding the service quality of public land transportation. In addition, relative to other countries, Sri Lanka still have not understand the importance of public transportation for tourism industry even the industry has raised the head in the country. As a result, the area gives a fresh insight for researchers about this contextual gap to direct their studies towards the so-called area. According to Parasuraman et al., (1988) service quality has become a significant differentiator and the most powerful competitive weapon which many service organizations possess. Therefore, it becomes essential to measure the importance of service in order to identify the potential strengths and weaknesses of public systems to increase the service in most important areas (Beira & Cabral, 2007). Hence, the main objective of the study was to investigate the most important service quality dimensions perceive by tourists' in railway transportation service in Sri Lanka.

## **2 LITERATURE REVIEW**

Tourism plays an important role in the economy of many countries and gives several economic and social benefits on the communities such as providing employment and business opportunities, economic diversification, and multiplier effect (Le-Klähna & Michael, 2014). The most important aspect of tourism is the ability of tourists to travel around various attractive destination areas (Dickinson & Robbins, 2008), otherwise the tourism would be not existing (Le-Klahn, Michael, & Gerike, 2014). Therefore, public transportation is defined as transportation by a conveyance that provides continuing general or special transportation to the public; excluding school buses, charter and sightseeing service and it includes various modes such as buses, subways, rail, trolleys and ferry boats (Tran & Kleiner, 2005). Further as noted by Ranawana and Hewage, (2015) public transport is a shared passenger transport service which is available for use of the general public for the purpose of traveling from an origin to a destination. Hence, to promote public transportation among

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tourists, the service should be demand-oriented and should provide a superior quality to the customers, since the customer satisfaction is a key success factor to the business.

Further, in the context of public transport services, passengers' satisfaction can be defined as a passenger's favorable/unfavorable feeling resulting from his/her appraisal on the discrepancy between overall performances of public transport services with his/her expectation (Sumaedi et al., 2016). In this era of Total Quality Assurance, every organization tries to define and manage service quality. Service quality is an abstract concept that is hard to be defined, and in practice, often interchangeably used with satisfaction (Oña et al., 2016) and also described as a form of attitude, related but not equivalent to satisfaction (Parasuraman et al., 1988) which results from the comparison of expectations with performance (Bolton and Drew, as cited in Cronin & Taylor, 1992). Research on service quality has been done from various aspects for a very long time, thus sufficient research has been contributed by many scholars who are prominent in the field like Parasuraman et al., (1988) , developed the SERVQUAL model with five dimensions which explains the expectation – performance gap and Cronin and Taylor, (1992) developed the SERVPERF model with the same five dimensions but only considering the performance of the service.

Some authors have studied about several dimensions which influence to the quality of public transportation services commonly for bus service and railway services (Bakti & Sumaedi, 2015; Beira & Cabral, 2007; Eboli & Mazzulla, 2008; Nutsugbodo et al., 2018; Oña et al., 2016) while some other scholars investigated the factors influencing for public transportation services specially for bus (Bajada & Titheridge, 2017; Hensher, 2013; Sam et al., 2017) and railway (Chou et al., 2014; Gupta & Datta, 2012, 2010; Kim et al., 2017; Maruvada & Bellamkonda, 2010) separately. However, each service is required unique and specific methods for its evaluation and betterment (Gupta & Datta, 2012). Besides these general models, it can be seen several models developed by many authors with regard to measuring the service quality of public transportation (PT) services. Barabino et al., (2012), has modified the generic model by eliminating the dimension of Empathy in the Italian context to measure the service quality of public transportation. Moreover, Bakti and Sumaedi, (2015) determined four dimensions as comfort, tangible, personal, and reliability and titled as P-TRANSQUAL since it was not specific for a particular transportation mode. As a transportation mode specialized model Sam et al., (2017) modified the SERVQUAL model for the best fit of Bus transportation service in Ghana. In contrast to the models relating bus services, the model RAILQUAL has been developed by Maruvada and Bellamkonda, (2010) by altering the 22 statements of SERVQUAL model to match with the railway transportation service in India. Alternatively, Oña et al., (2016) head

off from the generic model and developed a new model with eight dimensions such as Availability, Accessibility, Information, Timeliness, Attention to the client, Comfort, Safety, and Environment pollution by covering vast range of consumer perception about service quality rather than previous studies. The so-called model tested in Spain by considering public transportation. In the same time, they have obtained from the model that service quality is mostly explained by aspects concerning comfort, accessibility, and timeliness, even also information, availability, and safety have relevant weights.

While reviewing more literature, Cavana et al., (2007) has developed a model to measure rail service quality in New Zealand by employing an extended version of the SERVQUAL. Cavana et al., (2007) have used this model for the study since this model has tested in limited studies and to fill the literature gap in the New Zealand context. But they have added some more dimensions to their conceptual model because of the arguments about three column model like SERVQUAL is much more service oriented and it is highly considered the humanistic perception without technical perspective (Cronin & Taylor, 1992). Since other models developed to measure rail service quality are much more industry based and mechanistic, Cavana et al., (2007) add convenience, connection and comfort dimensions to give more weight to their model. Previously the connection dimension was named as speed then after the exploratory factor analysis, it was renamed as the connection (Cavana et al., 2007). Further, this model has recorded high reliability and validity values which exceed the acceptable levels. Moreover, considering the statements of the questionnaire can be seen that those are much more relevant to Sri Lankan context in tourists view point. From this point of view, extended SERVQUAL is an instrument that could be used to fulfill the purpose of measuring perceived service quality from the tourists' perspective in Sri Lankan context.

### **3 METHODOLOGY**

The primary objective of this study is to investigate the most important service quality dimensions perceive by tourists' in railway transportation service in Sri Lanka. Therefore, the study attempts to measure the importance through a mean analysis. So, the study has been conducted in quantitative methodology and applied the survey method to collect data. According to the findings of the pilot study, most of the tourists decide their routes as Kandy, Temple of tooth then to Ella via the railway. They are greatly willing to use train service for long distance travelling due to the scenic beauty and the unique experience of a train and the cool climate. Considering on those facts, the Colombo – Badulla train service of Sri Lanka was selected as the research site, where many of the tourists travel and a sample of 400 tourists has been selected.

A self-administered questionnaire was used to collect primary data which consisted with two parts. The part A consisted of demographic information of

tourists; part B consisted of measurement scale developed by Cavana et al., (2007) regarding service quality of railway service with 37 items under eight dimensions namely: Tangibility, Reliability, Responsiveness, Assurance, Empathy, Connection, Comfort and Convenience. The scale is measured through 9-point Likert scale ranging from 1=least important to 9=highest important. The recorded reliability values for each dimension within the range of 0.74 to 0.85 which is higher than the acceptable level (0.7).

#### 4 RESULTS AND FINDINGS

From the sample of 400, only 286 questionnaires could be distributed among tourists and the analysis was done base on 252 completed questionnaires with a response rate of 88% ( $252/286*100$ ).

Results depicts that the majority of the respondents were females (54%) and many of the tourists are travelling with a partner (40.5%). According to the reliability analysis result all the dimensions has recorded high reliability values than the acceptable level, (between 0.716 to 0.958). Further, the study tests the content validity by using KMO and Bartlett's test value and it was ranged from 0.665 to 0.898.

Descriptive statistics enable to describe and compare variables numerically. In accordance with results of Table 1, the highest mean showed in empathy ( $\mu=6.31$ ) indicating that it is highly important to the satisfaction of tourists. Meanwhile the lowest average value showed in reliability ( $\mu=4.17$ ) and it showed 1.9 deviation from the mean. Moreover, except comfort all the other dimensions have recorded somewhat importance which is greater than 5, the average of nine-point Likert Scale. Therefore, it can be concluded that the service providers should consider on the high importance factors to increase the service quality of the service.

**Table 2: Descriptive Statistics**

Variable	Mean Value
Tangibility	5.51
Responsiveness	6.28
Reliability	4.17
Assurance	5.54
Empathy	6.31
Comfort	4.27
Connection	5.44
Convenience	5.07

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## 5 DISCUSSION

The present study was conducted to measure the importance of service quality dimensions which influence to the customer satisfaction of railway transport service from tourist's perspective in Sri Lanka. The results of mean analysis showed the highest important ( $\mu = 6.31$ ) and least important dimensions ( $\mu = 4.17$ ). The empathy showed highest importance while the reliability showed the least importance similar to the findings of Cavana et al., (2007). By considering the indicators of empathy most of the tourists are expecting more caring fashion and understanding when they make inquiries, indicating that they highly value the assistance of people around and employees at the railway station and train. It can be seen further by analyzing the mean values of items since they all have recorded high mean value with compared to the other items. Similar to the findings of Cavana et al., (2007) the current study also showed tangibility lies in the range of somewhat important, indicating that cleanliness, overall appearance and modern appearance are not that much important for their satisfaction. It has proven by their further ideas, since most of them are visiting Sri Lanka to have new experience, they are not much concerning about the modern appearance and the neat professional appearance of the staff. They stated that this kind of appearance of the train also something new experience to them which cannot be experienced in their home countries. Moreover, responsiveness showed high mean value as a dimension and in item wise also it has recorded high importance showing that they feel important willingness to help and prompt service. Meanwhile reliability showed least importance indicating that tourists are not much concerning about providing on time train service and maintaining the frequency of train schedules. As a backdrop some of them stated that since they visit here to spend their vacation they are not hurry to go to different destinations and they have time to wait for the train while some others idea was that there should be on time train service as available in their countries.

## 6 CONCLUSION

As the main objective the researcher wanted to measure the importance of service quality dimensions, therefore the researcher conducted a mean analysis to identify the importance of service quality dimensions in tourist's perspective and thereby can be concluded that the service providers should much consider about the politeness of employees and the people rather than the other factors. Further based on their ideas it can be conclude that they value the easiness of ticketing service because tourists have stated that there is a black market of train tickets and they have to pay more to information centers to buy tickets. Because of this reason the convenience dimension was significant at this context while showing somewhat importance by mean analysis as well. Finding of the present study has shown that empathy has

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highest importance among others. The reason for that is in this phenomenon may be tourists are expecting greater caring from local people and service providers for their inquiries.

Connection also an important aspect which can increase by keeping ease of access to the railway station and ease of ticketing at the station or they can introduce new system for online ticketing thereby tourists will be able to book the tickets from their country. And also by providing much more information about the train service such as time schedules, train routes, possible destinations which can reach by the train in Sri Lanka and if they can launch website by including all the necessary information then it will be more effective for attracting tourists for our country as well as for train rides. As the most important factor the appointers should concern about the caring fashion of employees towards the tourists. Therefore, the service providers should understand the importance of tourism field as well as the importance of transportation to the enhancement of tourism field. Hence, they should much more consider about the most influential factor of service quality of train service and should take the necessary steps to improve those aspects.

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