CHAPTER II

REVIEW OF LITERATURE

The introduction and research design of the study used in this research are presented in the first chapter. This chapter presents the review of literature for Passengers’ Perception towards Service Quality in Transport Corporation in India and Abroad.

2.1 INTRODUCTION

The review of literature is a mirror of earlier studies in the same area of the study which enriches the researcher, and helps him identify the gaps for future research. In the recent years, one can find many research works being carried out in India on bus transport. The present study is an attempt to review of literature available, so that an insight into the bus transport sector is obtained. Like any researcher, sufficient effort is taken to understand earlier researches on bus transport sector.

Ramnadham, V.V. (1955)\(^1\) in his book “Nationalised Road Services in Hyderabad” made a study about the operations of the Road Transport Department for the period of 20 years from 1932 to 1952, and is related to the aspects of pricing, rail-road coordination, organization structure and finance.

\(^1\) Ramnadham, V.V. 1955, “Nationalised Road Services in Hyderabad” Orient Publishing Co. Madaras
Walters, A.A. (1979)² in his research report “Cost and Scale of Bus Services” has challenged the conventional belief that large buses in large organisations are the best arrangement to produce optimum frequencies in urban road passenger transport. He has surveyed a number of cities in developing countries (Philippines, Malaysia, Thailand and Argentina) where there is some freedom for private operators to enter the industry, and observed that minibus services are often appropriate, giving the best frequencies and speed and suitably low average waiting time. He has also observed that throughout the cities surveyed, the municipal or nationalised bus concerns always have higher costs, and concluded that the best institutional organisation is not the large firm but the small firm, often the owner/driver.

Charles Feible and Walters (1980)³ have undertaken a research project for the World Bank on “Ownership and Efficiency in Urban Buses”. With the purpose of comparing the cost of services of privately owned buses with that of Nationalised companies in three cities of developing countries, viz., Kolkatta, Bangkok and Istanbul. One of their significant findings is that the private operators are able to ply their services at only 50 to 60 per cent of the cost of running the same service by government owned concerns. It is also observed that the quality of private bus services is not markedly inferior and usually superior to the public bus operators.

³ Charles Feible and Walters “Ownership and Efficiency in Urban Buses” World Bank
Carapeties C. (1984)⁴ in their study conducted for World Bank on “The Supply and Quality of Rural Transport Services in Developing Countries – A Comparative Review”, have identified, reviewed and analysed various factors that influence the supply and quality of transport services in rural areas of developing countries. The data collected for the study were based on a series of short filed surveys in India, Indonesia, Philippines, Sri Lanka, Sierra Leone and Tunisa During 1981 and the first half of 1982. The study has revealed the need for new perspectives in planning rural transport investment which requires a better understanding of the real transport needs and problems of small farmers. These needs are often for personal travel and for moving small loads over relatively short distances.


Jegadish Gandhi (1989)⁶ in this paper “State Transport Undertakings in Southern States- A Comparative Study” has presented a comparative

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**Sudarsanam Padam, (1990)**\(^7\) in his article on “Bus Transport in India-the Structure, Management and Performance of Road Transport Corporations,” has examined the impact of the organization structure of the selected Road Transport Corporation on its performance and has suggested suitable modifications in its structure so as to improve its performance.

**Hanumantha Rao, (1990)**\(^8\) in his paper “Nationalised Passenger Road Transport in India-A Perspective” has discussed the role of STUs as a public enterprise and stated that the SRTUs should have long-term perspective plans in the changing context of policy prescription. His recommendations include diagnostic studies for major loss-making SRTUs and commissioning of study projects on comparative transport operations in private vs. public sector.

**Anand Swaroop Behra, (1991)**\(^9\) carried out a study on “Methodologies for Augmentation of Bus Services on Existing Routes in STUs.” He has suggested two models to work out augmentation of buses in SRTUs – one based on adequacy criteria and the other on break-down concept, and argues

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that a balance has to be achieved between the two while finalising the plans of augmentation.

John G Gunaseelan, (1992)\textsuperscript{10} in his study “Performance of a Public Passenger Road Transportation Corporation: A Comparative study of Passenger Satisfaction with Private Sector in North Arcot Region”, evaluated the performance of Pudukottai Azhagiri Transport Corporation (PATC) based on certain aspects like physical, financial, personal management and social performance. The study also made an attempt to compare the level of passenger satisfaction with PATC and private buses in North Arcot Region through a newly evolved “Passenger Satisfaction Scale”

Gundam Rajeswari, (1998)\textsuperscript{11} in her book on “Public Sector Performance of State Road Transport Corporation”, has examined the performance of Andhra Pradesh State Transport Corporation (APSRTC) both at the state and regional levels. She has described the organisational set up of the corporation along with its various features like capital investment and staffing, and has also examined both financial and social performance using indicators like cost per kilometer, earning per kilometer, load factor and arrived at gross margins for the survey period 1965-85.


Ramamoorthy, K. and Ponnuraj, S. (2001)\textsuperscript{12} have suggested in this study, *Passenger Perception of Omnibus Services – An Analysis*, That the omnibus operators constantly endeavour to improve the quality of their services. They aim at passenger comforts and keep their buses clean. Since their buses are well maintained, breakdowns rarely occur. They patronize the public and their services are good.

Vijayarani, K. (2001)\textsuperscript{13} research report entitled “Absenteeism among Transport Employees Causes and Effects with Reference to TNSTC, Kumbakonam Division-I”, the causes and effects of absenteeism among transport employees. Analysis of singale State Transport Undertaking (STUs) gives a new insight into the nature of a specific organisational problem which largely affects labour and training cost. Hence, a great deal of importance is attached to the understanding of absenteeism and its contributing factors that have an appeal for the researcher to take up this study. The study focuses attention on the magnitude of the aspects mentioned above.

Somayajulu, G. (2003)\textsuperscript{14} in his article, “Customer Value Management - A Key to Success in Public Transport Services” state that deregulation and increased competition are reshaping the Indian passenger transport services


industry. Formerly dominant and comfortable public transport operators have been shaken into unparalleled change by these developments and have plunged them into deep crises. STUs who could decide what, where, and how much of their services have seen their power have found themselves suddenly shifting over into the hands of the customers.

**Pradeep Singh Kharola, (2004)** in his article, “The High Capacity Urban Bus: Pre-requisites and Advantages,” shows that the modern urban bus has been conspicuous by its absence on the Indian roads. The high cost of such a bus has been the inhibiting factor for its introduction in India. It is not the cost of the system which has to be looked at in isolation, but it is the total cost of the system which is pertinent. This paper seeks to analyse the necessity of the modern high capacity bus and goes on to identify the prerequisites of introduction of such a bus.

**Piet Rietveld, (2005)** observed in the study entitled “Six Reasons Why Supply-oriented Indicators Systematically Overestimate Service Quality in Public Transport” the study reveals the systematic overestimate of quality as experienced by travellers in public transport. They cite an example of a train with an average occupation rate for seats being 50 per cent, where, nevertheless, the occupation rate observed by travellers is much higher when

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some parts of the trajectory are busy. Similar examples are discussed for waiting times at stops, probabilities of arriving in time, probabilities of getting a connection and walking distances to bus stops. They concluded that the mean inter-arrival time between buses gives an overly favourable impression of the time that travellers have to wait at stops. As soon as there is unreliability, implying a certain variance in inter-arrival times, the mean waiting time is higher than half of the mean inter-arrival time of the buses.

**Martin Schiefelbusch, (2005)** article has treated out “Citizens’ Involvement and the Representation of Passenger Interests in Public Transport: Dimensions of a Long-neglected Area of Transport Planning and Policy with Case Studies from Germany” and studied that the public transport is dominated by monopoly conditions and there is a strong political influence on the service provided. The traditional position of its users has also been weak where private enterprise plays a greater role. The paper analyses users’ role in this sector and proposes to allocate their interests to the political, planning, provision and customer service levels. They conclude by identifying the various facets of user interests in public transport and the characteristic relations between operators and customers in this market.

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Harun al-Rasyid, S. (2005)¹⁸ brought out a study on, “The Competition of Passenger Transport Modes along Jakarta-Bandung Corridor.” Jakarta - Bandung corridor served around 78.3 millions passengers in 2004, and is one of the most crowded passenger transportation in Indonesia. The distance is about 180 kms and the modal split has been dominated by road i.e. 95.8 per cent, meanwhile railroad and air modes serve only 4.17 per cent and 0.064 per cent, respectively. In the near future, the existing unconnected expressway between the two metropolitans will be fully connected. Using stated preference data, this paper examines the competition between the land transport modes i.e. rail and road.

Chadrasekhar, B.P. (2005)¹⁹ in his article, “Urban Public Transportation – Commuter Perception on APSRTC Bus Services” has observed that bus transport is and would continue to be a predominant mode of Transport System. It is therefore essential to improve its efficiency and promote its patronage. In this direction, an understanding of commuter’s perceptions about the quality of bus service and their level of satisfaction would go a long way in bringing about necessary improvement.

Kai-Chieh Hu and William Jen, (2006)\textsuperscript{20} in this article titled “Passengers’ Perceived Service Quality of City Buses in Taipei: Scale Development and Measurement” churchill’s paradigm and a focus group interview were combined into a multistage scale development procedure. Based on the procedure, Taipei city buses were selected as the example, for which a service quality scale was developed. The final scale contains four dimensions and 20 items. These four dimensions are ‘interaction with passengers’, ‘tangible service equipment’, ‘convenience of service’ and ‘operating management support’. the city bus system remains one of the main mass transit systems in the Taipei metropolitan area. The Taipei city bus operators include one government agency and 14 private companies (five of these companies had fewer than three routes during the investigating period). They operate a total of 264 routes; have more than 2000 stops and over 1.7 million passengers use the bus system every day.

Laura Eboli and Gabriella Mazzulla, (2006)\textsuperscript{21} carried out a study on “Performance Indicators for an Objective Measure of Public Transport Service Quality” and studied that the measurement of transit performance represents a very useful tool for ensuring continuous increase of the quality of the delivered


transit services, and for allocating resources among competing transit agencies. Transit service quality can be evaluated by subjective measures based on passengers’ perceptions, and objective measures represented by disaggregate performance measures expressed as numerical values, which must be compared with fixed standards or past performances. They conclude that service quality measure in general represents an essential tool for focusing transit agencies on their strategic goals of improving the delivered transit services. The scientific literature provides an extensive collection of measures for evaluating transit service quality. This research work has focused on the objective indicators. We retain that these indicators provide a quite reliable and realistic measure of the quality levels of a service. In fact, these measures, compared to the subjective indicators based on customers’ perceptions, have the advantage of giving clearer and less biased information. However, sometimes there can be the difficulty of objectively measuring some more qualitative aspects and the risk of using not appropriate standards or target values.

**Gabriella Mazzulla, and Laura Emboli, (2006)**\(^{22}\) in this study entitled “A Service Quality Experimental Measure for Public Transport” revealed that importance of service quality attributes for public transport is established by importance value calculation. Attribute weights (IV) are calculated by a specific empirical procedure in which a rate is assigned to each attribute

according to the preferences of passengers. Finally, a Service Quality Index (SQI) for measuring the effectiveness of supplied services is calculated according to the main service quality attributes and their weights. This index can be useful to planners to choose more appropriate public transport agencies. Furthermore, it can be used by transport agencies to improve supplied service regarding more convenient service quality attributes. A perceived level of each attribute was asked the users. From the results, it is deduced that the actual public transport service used by students to reach the campus is satisfactory because SQI has a value higher than 60, on a scale from 1 to 100. SQI can be useful to planners to choose more appropriate public transport agencies and to improve supplied service regarding suitable service quality attributes.

Yuan-Chih Huang, (2006)\textsuperscript{23} in his article titled “Using Importance-Performance Analysis in Evaluating Taiwan Medium and Long Distance National Highway Passenger Transportation Service Quality” they revealed the relationship among customers’ characteristics, customers’ travelling characteristics and service quality Service quality includes two levels:- first, importance degree of service quality, namely customers’ expected service quality; second, satisfaction degree of service quality, namely customers’ perceived service quality. They suggest that the strategies of the enterprises

in their resource allocation should be changed from “quadrant 4 - over-emphasized to quadrant 2 - improvement reinforcement area”. Hence, the resources used for reinforcing the air-conditioning effect, vehicle interior illumination, ticket purchase convenience should be lessened, and the resources should be applied for improvement of vehicle interiors, noise pollution, vehicle washroom sanitation, station waiting lounge cleanliness, ticket price structure, and driver’s travelling habits.

Tri Basuki, (2006) in the study entitled, “Safety and Security Improvement in Public Transportation Based on Public Perception in Developing Countries,” have derived from Paratransit users and drivers, as well as that of non-users and civil servants concerning safety and security in public transportation. The perception of the parties involved was used to develop an improvement agenda. Using the factor analysis, the ranking of importance for each factor can be revealed. It is revealed that the user proves to be the most important party involved in safety and security aspects. The understanding and awareness of both users and drivers on road safety and security is the most important variable in improving safety and security, which can be reached by training and education.

Jiun-Hung Lin, (2007)\textsuperscript{25} have observed in the study entitled “Assessing Asymmetric Response Effect of Behavioral Intention to Service Quality in an Integrated Psychological Decision-Making Process Model of Intercity Bus Passengers: a case of Taiwan” they that in this model, the relationship between behavioural intention and service quality is a non-smooth function based on the theory of loss aversion. The expectation service quality in the SERVQUAL model proposed by Parasuraman, Zeithaml, and Berry (PZB) serves as a reference point. This model can be applied to analyse the effect of non-smooth response of behavioural intention to service quality in a traveller psychological decision-making process model. Intercity travel among cities in Taiwan is used as an empirical example. Data were gathered in cities in Taiwan via a questionnaire survey, and the model was tested using path analysis performed by LISREL. The empirical result shows that all causal relationships are statistically significant. Service quality loss influences repurchase intention more than does service quality gain. Finally, this study concludes by discussing managerial implications and suggesting directions for future research.

Manuel Sa, (2007)\textsuperscript{26} article has treated the “Effects of Service Quality Dimensions on Behavioural Purchase Intentions- A study in Public-Sector Transport” and reveals that service quality is identified by five distinctive


streams of research in the field. The study also contributes from a methodological perspective by offering a measurement scale for service quality in the public-sector transport industry. Finally, the study contributes to studies of perceived service quality by providing an aggregated ordered logit model, and by confirming the link between service quality and behavioural intention in a public-sector context. From an empirical perspective, the present study has adapted the SERVPERF scale to the context of public transport, specifically bus transport. In doing so, the study provides a reliable and valid instrument of measurement of service quality in this industry.

Laura Eboli, and Gabriella Mazzulla, (2007)\textsuperscript{27} article in the titled “Service Quality Attributes Affecting Customer Satisfaction for Bus Transit,” have revealed that measuring customer satisfaction in public transport is proposed. Specifically, a structural equation model is formulated to explore the impact of the relationship between global customer satisfaction and service quality attributes. The public transport service analysed is the bus service habitually used by the student of University Calabria reach the campus from the urban area of Cosenza (southern Italy). To calibrate the model, some data collected in a survey addressed to a sample of students were used. The proposed model can be useful both to transport agencies and planners to

analyse the correlation between service quality attributes and identify the more convenient attributes for improving the supplied service. Findings revealed that structural equation model has been proposed to show the relationship between passenger satisfaction on bus services and the attributes of the services supplied. Although SEM methodology is well known and widely applied in several fields of research, presently there are not many practical applications in public transport, and specifically for measuring customer satisfaction. In this research we have applied this methodology on the basis of needs and expectations expressed by customers of a bus service.

Graham Currie, (2007)\textsuperscript{28} studied have “A New Approach to Evaluating on-Road Public Transport Priority Projects: Balancing the Demand for Limited Road-Space”, and have observed that the public transport priority schemes, road management authorities have few tools to evaluate the impacts of these schemes on all road users. This paper describes a methodology developed in Melbourne, Australia, to assist the road management authority, Vic Roads, evaluate trade-offs in the use of its limited road-space for new bus and tram priority projects. The approach employs traffic micro-simulation modelling to assess road-space reallocation impacts and travel behaviour modelling to assess changes in travel patterns, and a social cost benefit framework to evaluate impacts.

Jens Karsten, (2007)\textsuperscript{29} in his article titled “Passengers, Consumers, and Travellers: The Rise of Passenger Rights in EC Transport Law and its Repercussions for Community Consumer Law and Policy,” have revealed that EC transport law is set to be complemented by a series of Regulations giving rights to passengers for almost every mode of transport. These Regulations not only give transport law a distinct consumer dimension but also add new elements to European private law. This paper attempts to provide a horizontal, or intermodal survey of these regulations adopted and proposed. It is argued that passenger law, although originating separately and remaining a sector distinct from other fields of law, has become part of a wider, three-stranded notion of European consumer policy deserving due attention as the force most dynamically expanding the area of community law of contracts and of torts. The paper points out to the elements of consumer contract law and the law on travel and tourism related to passenger transport and elaborate on the basics of finding a common notion of the key terms like “passenger” and “damage” for community law. It concludes with some points for further reflection.

Yannis Tyrinopoulos, and Georgia Aifadopoulou, (2008)\textsuperscript{30} carried out a study on “A Complete Methodology for the Quality Control of Passenger Services in the Public Transport Business” and observed that the quality of the


services provided to the passengers is synonymous with a wide range of characteristics of the transportation system, such as safety, on-time performance, accessibility, efficiency, and many others. Today, more and more public transport operators and associated bodies (e.g. ministries and supervising organisations) worldwide invest in quality control programs in order to assess and improve the services provided to the passengers. The public transport operators mentioned earlier gave HIT the opportunity to establish a strong knowledge record and base in the field of quality control programs in the public transport business that could be applied to other transportation areas as well, such as short sea shipping, inter modal urban transport, and interurban bus transportation.

**Todd Litman, (2008)**\(^{31}\) study entitled on “Valuing Transit Service Quality Improvements” have investigated the value of transit travelers on qualitative factors such as comfort and convenience, and practical ways to incorporate these factors into transport planning and project evaluation. Conventional evaluation practices generally assign the same time value regardless of travel conditions, and so undervalue comfort and convenience impacts. More comprehensive analysis of transit service quality tends to expand the range of potential transit improvement options, and justify more

investments in transit service quality improvements. Current transport evaluation methods tend to focus on quantitative factors such as speed and price, and undervalue qualitative factors such as comfort, convenience and reliability. As a result, cost-effective transit improvement strategies are overlooked and undervalued, resulting in underinvestment in transit service quality improvements, making transit less attractive related to automobile travel.

Kesavan, N. (2008)\textsuperscript{32} research report entitled “A Study On Human Resources Management Practices in The Tamil Nadu State Transport Corporation-With Reference to Villupram Division-I”, the human resources management in transport sector undertaking is gaining importance in recent years, because of the vast improvement in the measures and value of services and increase in employee strength, which call for managing a number of issues on the selection of right personal, training process, and rapport of employees irrespective of the chain of command. The Human Resources Management mainly centre on employee development for improved performance and is basically a viewpoint shared by management and labour.

Bishnol, (2008)\textsuperscript{33} in their study titled, “Efficiency of Haryana State Roadways: A Data Envelopment Analysis,” measured the relative performance of twenty depots of Haryana State Road Transport for the year 2006-07. The study identified the relatively efficient and inefficient depots, set benchmarks for the relative inefficient depots and suggested alternative actions that would make inefficient depots improve their efficiency. The study also measured the scale-size effect on the relative efficiency at depot level. The study used total staff, fuel consumption and fleet strength (number of buses) as inputs and passenger kilometres as output.

Mohan, S. (2008)\textsuperscript{34} conducted research on “Fleet Management of Tamil Nadu State Transport Corporation,” and revealed that analysis of the identified problems would help to propose possible solutions and suggestions. This research paper focuses on three aspects of fleet management viz., fleet composition, test for equality of proportion, and fleet utilization. They conclude that the fleet management of the selected TNSTC highlights that the number of town buses is high when compared to mofussil buses. The proportion of the town buses, mofussil buses and condemned buses to total fleet are not the same over the years. But the proportion of spare buses to total fleet has been the same over the years. The TNSTC selected for the study has


utilised 94-96 per cent of its fleet. In accordance with the depreciation policy of
the selected TNSTC, the over-aged buses have to be replaced in time, which
will lead to higher utilisation.

Shiralashetti, and Hugar, S.S (2008) 35 carried out a study on
“Passengers’ Satisfaction towards Karnataka State Road Transport Corporation
in Gadag District: An Empirical Study”, and observed that the Producing goods
and services have no meaning without selling them to the ultimate consumers.
However, selling of goods and services is not an easy job, particularly during
the post liberalisation period. Further, marketing has evolved from the
production concept to marketing and societal concept. Therefore, the sellers of
goods and services have to give due importance to the pillars of marketing and
societal marketing concepts, viz, consumers' stated and unstated needs,
consumer satisfaction, profitability and integrated marketing. Since, the
consumer is the king in the marketing of goods, services and ideas, the sellers
have to identify the stated and unstated needs of the consumers and try
delivering the products to satisfy the consumer at higher levels. The consumers
are said to be satisfied only when they feel positive towards the products,
otherwise they are said to dissatisfied. The KSRTC, being a service industry in
the competitive era, needs to provide quality services at competitive rates, to

35 Shiralashetti and Hugar, S.S. 2008, “Passenger Satisfaction towards Karnataka State Road Transport
Corporation in Gadag District: An Empirical Study”, The Icfai University Journal of Services
survive in this present scenario. The study concluded that owing to the above said factors, passenger satisfaction towards the overall services of the KSRTC is negative in the study area.

Alphonsus Nwachukwu Ali, (2010) study entitled “An Assessment of the Quality of Intraurban Bus Services in the City of Enugu, Enugu State, Nigeria” revealed that the three Local Government Areas that make up the city in conjunction with the state government should construct new urban link roads and maintain the old ones especially in the peripheries to enhance accessibility, partnership with private bus operators to increase the number of buses in circulation and relocation of some socio-economic facilities from the city centre to the city peripheries to spread demand for and services of buses in the city. They found that these components varied from one centre to another, indicating variations in the quality of service of level-of-service of mass transit bus in different parts of the city of Enugu. A central area was also identified where bus commuters enjoy the shortest waiting time for bus, shortest walking distance to the nearest bus stops and the highest bus service frequency, indication an area with the highest quality of bus services in the city.

Kai-Chieh Hu, (2010)\textsuperscript{37} in his article on “Evaluating City Bus Service Based on Zone of Tolerance of Expectation and Normalized Importance,” conducted a dual purpose research. The first is to propose a model for evaluating service quality based on the zone of tolerance of expectation (ZSQ). The second is to build an analytical framework for prioritising attributes (NIZSQ, normalised importance–ZSQ analysis) through a quadrant analysis based on ZSQ and normalised importance. Enhancing service quality is crucial for managers of bus companies. They must know how to define the priority of attributes that need to be improved based on customers’ expectations, especially since they are under the constraint of limited resources. This study proposed an analytic framework for evaluating and prioritising the service attribute from the viewpoint of ZOT of expectation and importance, referred to as ZSQ and NIZSQ analysis. Taipei city bus service was taken as an example. The result showed that there is a significant difference between perceived service and expected service by passengers. According to the results of the ZSQ and NIZSQ analysis, bus driver behaviour and dealing with complaints should be improved urgently.

Claudia Carvalho, (2010)\textsuperscript{38} conducted research on “Towards a Conceptual Model for Assessing the Quality of Public Services” and revealed


\textsuperscript{38}Claudia Carvalho, 2010, “Towards a Conceptual Model for Assessing the Quality of Public Services”, Int Rev Public Nonprofit Mark, pp.69–86
that contribute to a better understanding of the determinants of public service quality. Firstly, it explores the relationships that develop during the public service encounter between the citizen, the public organisation and society. Secondly, citizen satisfaction and dissatisfaction with public services are both investigated. Furthermore, the paper emphasises the importance of managing emotions in public services. The combination of attribute based measures and incident analysis is the most significant methodological contribution, and is likely to be very useful to understand how citizens’ perceptions are created. Besides, a dyadic approach can be used, considering both users’ and civil servants’ viewpoints. A great variety of data can be collected to be used in multiple ways, qualitatively and quantitatively, in order to get as much information as possible.

Shu-Mei Wanga, (2010) 39 in his article entitled “Stakeholder Perspective on Urban Transport System Service Quality” proposes an instrument based on SERVQUAL for measuring urban transport service quality from a stakeholder perspective. The proposed instrument is developed and tested through exploratory and confirmatory factor analyses. The gaps between stakeholder expectations and actual received and the gaps associated with stakeholders’ expectations and the perceptions of these expectations by professionals are examined. Importance-performance analysis is used to

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construct a service attribute evaluation map for determining resource allocation to improve service quality. The application is illustrated through an empirical study to discuss the managerial implications in the Taipei metropolitan area. Findings revealed that the service level provided by professionals based on their perceptions of user expectations cannot achieve stakeholder expectations of targets. This highlights the importance of collaborative planning, specifically through consensus building, for incorporating stakeholder information into the process of decision-making so that public sector organisations can provide appropriate levels of service in response to stakeholder needs.

**Zaherawati Zakaria, (2010)** carried out a study on “Service Quality of Malaysian Public Transports: A Case Study in Malaysia,” which reveals the service quality problems that should be identified and solved by focusing on service quality dimensions in public transports. The result of this study providing relevant information for service quality must be improvised in this rural areas public transportation. The results from this research also help to know the level of expectation perception of Lembah Bujang residents about service of public transports delivered. This research to identifies the relationship between service quality in term of tangible dimensions (cleanliness/ comfortableness of physical facilities) toward public transportation in Lembah Bujang area and to identify the relationship between

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service quality in term of reliability dimensions (punctuality/ frequencies) towards public transportation in Lembah Bujang area. They concluded that first, second and third objective which are to identify the relationships between service quality and user perception in term of tangible, reliability and responsiveness of public transports which is buses and taxis in Lembah Bujang area, Kedah have been answered. This research can serve as a guideline to the other service quality dimension which is the heart of SERVQUAL model of Service Quality. Future research should also focus on other service quality dimension which is empathy and assurance in SERVQUAL model of Service Quality.

Murray, D. (2010)⁴¹ in this article titled “Attitudes towards Public Transport in New Zealand”, revealed that attitudes toward PT of drivers living in or near New Zealand’s three largest cities (Auckland, Wellington, and Christchurch). These attitudes are characterised as a form of prejudice towards PT, in that prejudiced attitudes may affect PT readership. The reason for this characterisation is to enable PT attitudes to be examined under a different conceptual framework. Additional factors that may be related to PT attitudes, and therefore may alter any region-based differences, will also be included in the analyses. Findings revealed that the original difference between Christchurch and Auckland was greater than the original difference between

Christchurch and Wellington, but this was not the case. The original mean difference between Auckland and Christchurch was only marginally smaller than the Wellington-Christchurch difference, and this was reflected in the Cohen’s d values.

David, A. Hensher, (2010)⁴² in his article on “Passenger Experience with Quality-Enhanced Bus Service: the Tyne and Wear ‘Superoute’ Services” investigate the role that enhanced service quality introduced into a deregulated market has in improving the experience of bus travel by a sample of passengers in the Tyne and Wear area of England. A generalised ordered choice (GOC) model that accounts for preference heterogeneity through random parameters, as well as heteroscedasticity in unobserved variance, and random parameterisation of thresholds, is implemented to identify sources of influence on the overall experience of bus travel in the presence and absence of the quality-enhanced treatment of service. The GOC model is contrasted with a standard ordered logit model, and the marginal effects associated with the preferred GOC model are derived for each influencing attribute, taking into account the various ways in which each influence contributes to the utility associated with each level of bus experience. They conclude that the service attributes which deliver additional utility and drive the responses of passengers to perceive a better overall experience. The empirical findings provide evidence

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to support the role of quality enhancement in bus provision in increasing the positive experience of travelling by bus towards very good and away from poor experience. Importantly too, the findings identify particular factors that enhance satisfaction (frequency and personal security) and target groups which are particularly affected (commuters and older people). Overall the empirical findings suggest that the greatest potential gain in establishing a more positive experience would be achieved by first increasing frequency and next by enhancing personal security on the bus.

Rita, S. and Ganesan, V. (2010)\(^{43}\) in his article title “Assessment of QOS for Public Bus Transport System - A SERVQUAL Based Kano Approach”, and studied the examines the impact of Quality of Service (Quos) provided by the Metropolitan Transport Corporation Ltd on passengers and investigates the prominent dimensional structure of Satisfaction for the MTC public bus transport using a collection of service attributes. This research work is done through two models, SERVQUAL and Kano, for measuring and classifying service attributes. The service gaps are identified through passengers' expectations and the perceived quality of the bus transportation system. This research study uses the one dimensional SERVQUAL scale and two dimensional Kano quality model to categorize public bus transportation system's service quality elements and understand the demands of the users or

attributes of bus transport system service elements, but also suggest the quality elements that can best increase user's satisfaction and elements that can better decrease user's dissatisfaction. This result is beneficial for the MTC bus transport service planners to justify their activities when they devote a significant portion of their organizational resources to the general public.

**Mane Kiran Harishchandra, (2010)**

in his article “Commuters Satisfaction-with Reference to Services Provided by Maharashtra State Road Transport Corporation - A Case Study”, During the course of the study, it was also found that the employees working in this section, themselves were not satisfied with the salaries, allowances and amenities provided to them as well as the long working hours and stress level etc, which the top management of the Maharashtra State Road Transport Corporation should look into, in order to combat the competition from the private section.


in this study entitled “Quality Management in Passenger Transport Services an Application of Servqual Model to APSRTC”, revealed that services quality management is one of the serious challenges for services companies world over. Consumer assessment of services revolves around the quality functionality. This study

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concluded that the corporation has a long way to reach the position of excellence form the existing position. There is a need to improve significantly in all quality management system towards continual improvements. The key areas particularly are responsiveness in case of Volvo services.

**Gunu, Umar, (2011)**\(^{46}\) conducted research on “A Consumer Focused Study of Transport Service Quality: a Case Study of Selected State Transport Corporations in Nigeria”, in which they conclude that if transport corporations in Nigeria put their customers at centre stage, it will help them create a culture that is appropriately responsive to customers. This will ensure that they get the “basics” right because exploiting new opportunities will require a company to build on existing capabilities. The stronger these capabilities the more other profitable opportunities a company is likely to have. High quality of service can only come from a solid foundation of knowing one’s customers and how they choose, and delivering consistently whatever it is that matters most to them.

**Kokku Randheer, (2011)**\(^{47}\) in thesis study entitled “Measuring Commuters’ Perception on Service Quality Using SERVQUAL in Public Transportation”, examined the commuters’ perception on service quality

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offered by the public transport services of twin cities of Hyderabad and Secunderabad, India. The SERVQUAL scale is administered to measure the commuters’ perception on service quality. A survey was conducted among the commuters who were regularly availing public transport services for travelling. They found that to be the most important dimension, but this study reported it in reverse. Comparison of means of dimensions indicates that responsiveness assurance, reliability, culture and empathy form the order. The research reveals that the expectations of the commuters in terms of service quality are delivered by the public transport services. In this competitive global business environment, the consumer expectations are ever increasing, the service providers can meet the expectations only if they are sensitive to customer issues.

**Noorfakhriah Yaakub, and Madzlan Napiah, (2011)**[^1] conducted research on “Quality of Service and Passengers’ Perception – A Review on Bus Service in Kota Bharu”, and they revealed that Quality of Service is a very important measure for public transportation service in Malaysia since its service performance is low than other developed countries. A questionnaire survey on public bus passengers in Kota Bharu, Kelantan reveals that the passengers are not satisfied with the city bus service provided due to lack of punctuality (60.5per cent respondents) and low in frequency (67.7per cent).

Using this information, a study is carried out on the public bus service in Kota Bharu to review the way this service is operated, and to check whether the passenger’s claims are true. They found that the city bus service in Kelantan consists of six routes covering service area of 30.92 square kilometers (area of about 8 per cent of Kota Bharu population). The total number of public bus passengers in Kota Bharu is unidentified and should be determined in future study. The frequency level of service for the city bus network is graded as loss indicating service is available during the hour.

**Ioannis Psarros, (2011)** 49 conducted research on “An Empirical Investigation of Passenger Wait Time Perceptions Using Hazard-Based Duration Models”, and they revealed that bus stops heavily affects traveler attitude towards public transportation and therefore is an important element for consideration when planning and operating a bus system. Furthermore, what passengers perceive as waiting time is often quite different from their actual waiting time at a bus stop. In this context, we present an empirical investigation of actual and perceived waiting times at bus stops for the case of a large bus network, using hazard-based duration models. The analysis is based on a questionnaire survey undertaken at bus stops of the Athens, Greece, and bus network. They conclude perceived value practically dictates rider discomfort and preference towards bus services. In this context, this paper focused on

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investigating the effects of various factors on perceived waiting time using appropriate hazard-based duration models. The use of duration models was dictated by the nature of the problem at hand, which fits the underlying theoretical rationale behind using these models. Results indicated that age, trip purpose, and trip time period seem to have an impact on that perception, with older individuals, work trips, and education trips being factors that increase perceived waiting time and lead to an overestimation of actual waiting, while perceived waiting time decreases during morning time periods.

**Todd Litman, (2011)** carried out a study on “Valuing Transit Service Quality Improvements”, and revealed that investigates the value travelers place on qualitative factors such as comfort and convenience, and practical ways to incorporate these factors into travel time values for planning and project evaluation. Conventional evaluation practices generally assign the same time value regardless of travel conditions, and so undervalue comfort and convenience impacts. They found that providing real-time vehicle arrival signs at eight university campus bus stops provided anxiety reduction and mode shift benefits conservatively estimated to be worth more than a million dollars annually (Fries, Dunning and Chowdhury 2011). User surveys in Brussels, Belgium indicate 90 per cent satisfaction, resulting in a 6 per cent public transport ridership increase on the lines equipped with these displays.

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Birmingham, UK residents rated real-time transit user information the single best way to encourage shifts from driving to public transit, more important than improved bus shelters or low floor vehicles. Ridership increased 30 per cent after introduction of various service improvements on a demonstration route, including real time information displays. They conclude that transit service quality, including reduced crowding, increased service frequency, nicer waiting areas and better user information. Because discretionary passengers (people who have the option of driving) tend to be particularly sensitive to service quality, these strategies often increase transit ridership and reduce automobile traffic.

William Jen, (2011)\(^{51}\) in thesis study entitled on “Managing Passenger Behavioral Intention: an Integrated Framework for Service Quality, Satisfaction, Perceived Value, and Switching Barriers” selected coach industry as this research subject. The empirical results, as hypothesised, show that all causal relationships are statistically significant and perceived value as the most important predictor of satisfaction and passengers behavioural intention. In conclusion, the managerial implications and suggestions for future research are discussed. Findings revealed that passengers are indeed more likely to stay with current coach companies when the trouble of switching providers increases, e.g., when switching costs increase and or the attractiveness of alternatives

decreases. Therefore, the optimal strategy for coach companies is to both provide value-added service to customers and to increase switching costs. For example, in order to reduce alternative attractiveness, companies could develop differential or customised services that cannot be made available through other firms. Coach companies can also adopt some marketing strategies to impose higher switching costs such as loyalty programs, which passengers may lose some benefits when they switch to other coach companies.

Sezhian, M. (2011)\textsuperscript{52} research work titled, “Ranking of A Public Sector Passenger Bus Transport Company Using Principal Component Analysis: A Case Study” The public sector passenger transport has been crucial sector for transportation of people in developing countries like India. But there is less emphasis on customer expectations in this sector. This study aims at evaluating the customer expectations of this service sector in India. A questionnaire containing eighteen quality characteristics was administered to various customers of three bus depots of one division of a state road transport undertaking (SRTU) in south India.


towards public transportation and therefore is an important element for consideration when planning and operating a bus system. Furthermore, what passengers perceive as waiting time is often quite different from their actual waiting time at a bus stop. In this context, we present an empirical investigation of actual and perceived waiting times at bus stops for the case of a large bus network, using hazard-based duration models.

Assothi, T. (2011)\textsuperscript{54} in his study entitled “Operational Performance of Tamilnadu State Transport Corporation-with Reference to Kumbakonam Region”, the present study is undertaken to find out the trends in operational efficiency and financial performance of the TNSTC (K) Ltd., and compare its operational efficiency with that of other transport corporations located in Tamil Nadu and in other States. Macro studies would be useful in understanding the board trends of an industry but an in depth micro study of this kind has a chance of being directly useful not only to the organisation under study, but also to other similar organisations in the country and to the state governments.

Sai Kumar, K. (2011)\textsuperscript{55} studied in the title of “Quality of Services in State Transport Corporations: A Study of APSRTC”, the quality of services offered by the Andhra Pradesh State Road Transport Corporation (APSRTC). As the corporation incurred continuous losses in the past, this study highlights


whether the losses affected the quality of services offered to the travelling public. Quality of services is measured in terms of number of trips operated, regularity, breakdowns, rate of accidents, and the number of vehicles off the road. In addition, this paper also examines the quality of services offered in relation to inventory maintenance. Reveals that an increase in the trips operated with regularity is a favourable situation for the passengers to feel that the buses are available as and when they want and reach their destinations on time. Similarly, the reduction in number of breakdowns and the number of accidents demonstrate a feeling of satisfaction and safety to the passengers. Further, the reduction in the number of vehicles off the road indicates that the corporation maintained the required amount of inventory. Hence, it can be concluded that the quality of services offered by APSRTC is good and satisfactory for the travelling public.

Subbaih, A. and Praveen, R. (2011) brought out a study on,” A Study on Passengers’ Attitude towards the Minibus Services in Virudhunagar District.” In the modern world, minibus services played an important role in the rural and urban areas. The minibus services in being used by the people to cover short distances and they also feel that it is convenient.

Panduranga Murthy, C. and Sathyavathi, M. (2011)\textsuperscript{57} has suggested in his study “Urban Passenger Awareness of the Marketing Schemes in APSRTC - An Assessment”. This paper is the outcome of a filed survey conducted through a structured questionnaire which elicited the data from the travelling passengers of APSRTC buses. The study is undertaken to understand the present marketing practices or business strategies of APSRTC and chronic them to enable the enthusiastic sister organisations working in the similar industry to utilise them, so that the wheel need not be reinvented. The study also endeavours to find gaps if any, in the organisation and to make the required recommendations. The emergence of marketing concept in respect of services is a recent phenomenon. Let us produce what we think the market wants, and the sales department will manage to sell. This was the focus prior to the beginning of the marketing concept in the context of selling the services.

Harish, M. (2011)\textsuperscript{58} in this article “Perceptions of Road Users on Transport – A Case Study of Mysore City”. The phenomenal increase in the vehicular population creates traffic congestion, population, increase commuting time and a host of allied problems for the road users. This study aims to identify the different factors that influence the perceptions of the people with their travel characteristic/trip generation in the city. Basic statistical techniques


were used for the analysis of the data. The suggestions given by the road users have been incorporated in the study. The result shows that a higher degree of planning for haulage, planning movement of vehicles, road safety, public transport usage, commuting time and drivers conduct are all important.

Valavan Amudhan, (2011) in their study titled, “Quality Function Development in Bus Transport Sector – for Seats”. In the transportation industry, customer satisfaction is primarily dependent on providing convenient, comfortable, luxurious and affordable facilities before, during and after the journey. A lot of factors contribute and enhance the quality of service rendered to the customer.

Sik Sumadi, (2012) studied “The Empirical Study of Public Transport Passengers’ Behavioral Intentions: The Roles of Service Quality, Perceived Sacrifice, Perceived Value, and Satisfaction (Case Study: Paratransit Passengers in Jakarta, Indonesia)” and observed the public transport passengers’ behavioural intentions in Jakarta city, especially paratransit’s passengers. This paper explores the relationship between passengers’ behavioural intentions and other latent factors, including satisfaction, perceived value, perceived sacrifice, and service quality. The empirical data were drawn from 339 paratransit’s passengers using questionnaire method. Structural

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Equation Modelling technique is used to analyse the conceptualised relationship model. The empirical results reveal that perceived value and service quality significantly affect passengers’ behavioural intention.

Gajendran A. Kaliyaperumal P. (2012)\textsuperscript{61} in the study entitled, “A Study on Bus Passenger Perception and Level of Satisfaction - with Special Reference to Bus Transport Industries in Tamil Nadu”, observed that the transport business can survive without satisfying the needs of the passengers. In general, compared with other modes of transport, bus transport and its services are more indispensable, convenient and very easy to access. In certain situations, bus transport may suit with the needs of the passengers and facilitate more in all aspects. It carries the people from one place to another place to enable the people to carry out their day to day activity, business etc.

Yaaminidevi, S. and Sabitha, S. (2013)\textsuperscript{62} in this article “A Study on the Passengers Perception towards Share Auto as an Intermediate Public Transport Vehicle in Madurai City” study brings out the passengers perception of Share auto as an Intermediate public transport vehicle in Madurai city. Based on the research it was identified that Share auto is considered as an Intermediate public transport vehicle by Madurai cites as most of the passengers prefer share auto on a daily basis and consider them as an easily available mode of transport and are travelling in the share autos without safety.


Malathi, T. and Rajarajan, M. (2013)\textsuperscript{63} in this article “Passengers’ Perception and Service Quality in Bus Services in Tamilnadu” they study is to appraise the level of passenger satisfaction. The important determinants of passengers satisfaction on bus services are response on customers’ needs and prompt and solitude action. The core service quality has more influence on the passengers satisfaction among the rural respondents. Among the urban respondents, it is value added and critical service quality.

2.2 RESEARCH GAP

The previous discussion of the literature identified significant gap that will be explored in the thesis. Most of the studies in the area for passengers’ perception only. Tiny number of studies passengers’ perception and services quality in out of the country studies. But no study Passengers’ Perception towards Service Quality In Tamilnadu State Transport Corporation (Kumbakonam) Limited, Kumbakonam. Thus the researcher has explored the various studies on Passengers’ Perception towards Service Quality. The various studies of passengers’ perception towards services quality highlighted as above. The studies also revealed the user friendly technologies which help in realisation of Passengers’ Perception towards Service Quality in Tamilnadu State Transport Corporation (Kumbakonam) Limited, Kumbakonam.

2.3 SUMMARY

Thus the researcher has explored the various studies on road transport which is unique and promotes the quality of service. This quality of services enhances the passengers’ perception. The various studies of the passengers’ perception are highlighted as above. The studies also revealed the user friendly technologies which help in realisation of passengers perception. The technology TNSTC reduces the long waiting period of the customers which enhance the perception and reduce the grievances of the passengers. Thus the passengers’ perception is closely associated with the quality services provided by TNSTC to handle the passengers’ oriented problem effectively.