Addis Ababa University
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"Factors Affecting Quality of Public Transport Services: (Evidences from Anbessa and Sheger Public Transport service Enterprises, Addis Ababa)"

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Master of Science in Management

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College of Business and Economics, Addis Ababa

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Date

Jun 14, 2019

DECLARATION

I declare that the thesis entitled "Factors Affecting Quality of Public Transport Services:(Evidences from Sheger and Anbessa Public Transport service Enterprises, Addis Ababa)**"** is a record of independent research work carried by me under the supervision and guidance ofDr. Yitbarek Takele (Associate Professor). This is the original work and is submitted for examination with my approval as a thesis.

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Research title **"Factors Affecting Quality of Public Transport Services: (Evidences from Sheger and Anbessa Public Transport service Enterprises, Addis Ababa)"** prepared by Kagnew Abate Ketema submitted in partial fulfillment of the requirements for the degree of **Master of Science in Management** complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

Approval of Board of Examiners

___________________	________________	_______________
Advisor	Signature	Date
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Internal Examiner	Signature	Date
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External Examiner	Signature	Date

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Abstract

The research aims to identify the major factors that affecting the quality of public transport service in Addis Ababa city, the largest and one of the fastest growing cities. Providing and improving the public transport service is extremely important to meet the demand of the rapidly growing mass mobility resulting from high population growth and galloping urbanization in and around the city. The important role played by this mode of transport due to its flexibility, accessibility, and affordability. However, numerous researches indicated that in all the parameters of the operational performance, the PTS sector operates below the international standard and has deficiency to meet the expected level of service quality. This paper attempts to assess the factors that affecting the Quality of PTS of the city by evidence of Anbessa and Sheger mass transport enterprises and customers. The research is done based on primary and secondary data accordingly; a questionnaire was distributed and has been administered to 374 respondents. Guided interviews with both enterprises management staffs' and finally the data was collected on sight observation. Both descriptive and inferential analytical techniques were used. The data were analyzed using structural equation modeling. The findings indicate that the in dependent variables (assurance, responsiveness, reliability and value co-creation are reliable and the factors(Reliability)were statistically significant in customer perceived quality of public transport service quality, also the finding indicate that there is still the need for more effort to improve the quality of service delivered by the enterprises. The recommendation and suggestions of this research would serve as a basis to reinforce the customer perceived quality service of public transport beyond providing service. It can also provide insight to the enterprises to understand the key factors that affecting the PTS quality and asses its service delivering performances. The study contributes to public transport service quality improvement preparation and is value to the enterprises as well as authorities in public transport sectors.

Key words: Public transport, mass transport, service Quality.

List of Acronyms

AACG	Addis Ababa City Government
AACRTB	Addis Ababa City Road and Transport Bureau
ACBSE	Anbessa City Bus service Enterprise
AMOS	Analysis of moment structures
CDP	City Development Plan
CFA	Confirmatory factor analysis
CFI	Comparative fit index
EFA	Exploratory factor analysis
ENUTP	Ethiopian National urban transport policy
ERA	Ethiopian rod authority
ERC	Ethiopia Railway Corporation
FA	Factor analysis
FDRE	Federal Democratic Republic of Ethiopia
GOF	Goodness of fit indices
IDAPAD	International Development Association Project Appraisal Document
LRT	Light Rail Transit
MI	Modification index
MTS	Mass Transport Service
PCFI	Parsimony comparative fit index
PMTS	Public Mass Transport system
PNFI	Parsimony normed fit index
PTS	Public Transport Service
RMR	Root Mean Residual
RMSEA	Root Mean Square Error of Approximation

SEM	Structural equation modeling
SMC	Squared multiple correlations
SPSS	Statistical Package for Social Sciences
STCBE	Sheger Transport City Bus Enterprise
TLI	Tucker-Lewis index
UN	United Nations
UNECA	United Nations' Economic Commission for Africa
VIF	Variance inflation factor
WB	World Bank

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Chapter one

1. Introduction

1.1 Background

Addis Ababa is growing tremendously. The urbanization of the city has brought different mobility challenges. Mobility growth and transport projects shape cities, and hence the future urban form of Addis Ababa hugely depends on the policies of its decision makers (AACG, 2013). Like all Ethiopian public policies, the transport sector policies are supposed to reconcile "pro-poor" and market oriented approaches (G. Mintesinot, S. Takano, 2007).

Although it is acknowledged that PTS is the backbone of rapidly growing city development and mobility, the urban transport sector has been neglected for a long time, and hence urban development policies are relatively recent. Over the last few decade, the sector received due emphasis and has now become part of the essential data on urban development. The urban transport sector is also considered as a major challenge growth, the fight for poverty, and sustainable development (Johan Holmgren, 2013). In terms of mobility, urbanization and urban sprawl generate both growing needs and new needs with a Quality mass transport through improving and expanding access to transit services.

However, the existing responses made are very inadequate despite the unmet ever growing demand for urban mobility. Urban sprawl and the concentration of citizens create serious challenges. That so mobility is crucial and it is social-increasing urban mobility need longer distances, and difficulties in accessing the city-and economic-congestion, a negative impact on business and attractiveness, thereby resulting, a deteriorated mass transport service quality (ClélieNallet, 2018).

An efficient public transport system is critical for urban development. Yet cities in developing countries are characterized by high-density urban areas and poor public transport, as well as lack of proper roads, parking facilities, road user discipline, and control of land use, environmental pollution, congestion, and a host of urban transport related problems (N. Fuhimiko 2008). In this regard, it is indicated that, even though Addis Ababa has become among the ten largest rapidly growing largest cities in sub-Saharan Africa, the city's public transport service is characterized by increased traffic congestion, declining attractiveness of road based public transport, increased high costs of travel and journey times, high levels of road accidents, and increased high levels of road vehicle high exhaust emissions (Fantahun T., 2017).

According to the last assessment of the modal split in Addis in 2006, 44% of journeys involve non-motorized transport, 47% by public transport, and 9% by private care (Rahel, A., 2017). Therefore, recognizing the fact that the MT system is the predominant mode of transport in the city, along with the continuing challenges the urban transport sector faces, the need for assessing the problems which hinder the firm's performance efficiency calls an urgent attention. Thus, this research study attempts to find out the factors that affect the PTS and provide problem solving approaches which contribute to increased service quality.

1.2 Statement of the Problem

In cities of developing countries like Ethiopia, road passenger transport is recognized to be the predominant mode of transportation which facilitates the movement of people and parcels. The important role played by this mode of transport is due to its flexibility, accessibility, and affordability (B. Eshetie, B. Birhanie, K. Daniel, 2013). Rapid urbanization, increased income levels, and even fostering the relative growth in motorization have created an urgent need for expanded, more effective, efficient, and safer urban transport systems(AACRTB, 2016). Providing and improving urban public transport service is becoming highly indispensable to meet the demand of the rapidly growing mass mobility due to high population growth and galloping urbanization in and around the city.

Addis Ababa is growing tremendously. It has been undergoing spectacular changes in all sectors, and hence the decision makers are facing enormous challenges. The major modes of public transportation in the city are Anbessa bus and mini-bus taxis. In addition, alliance bus enterprises, higher midi-buses saloon taxis, and the light rail transit which started operating recently are serving the city. Yet, these providers are hardly able to cope with the public demand for transportation. Thus, residents of Addis Ababa have to face great inconveniencies, as well as additional costs to the daily trips to their destinations (Tilahun, M, 2014). Already at crisis levels, worsening urban congestion, deteriorating mass transport service quality, ever rising road accidents, continue to be the major problems the city mass transport sector faces (AACG, 2015).

The increasing population size and physical expansion of the city contribute to the demand of public transport in the city. Social and economic purpose trips also contribute to the increase in the demand (T. Vli Wessling, 2008). However, the existing PTS system could not meet the demand expectation (B. Eshetie, B. Birhanie, K. Daniel, 2013). Moreover, the insufficient finance for investment by the government and the limited participation of the private sector in the service has also contributed for the deficiency of transport supply and reduced service quality. Indeed, despite the low level of motorization, the inadequate infrastructure, the low capacity of modes of transport, poor traffic regulations, and lack of coordinated networks create severe jams in major roads of the city. It is increasingly difficult to get to your workplace in the large, sub-Saharan cities (Clelie Nallet, 2018).

The Addis Ababa City road and transport authority (2016) explained that the existing public transport system of the city is critically in adequate to provide quality service to the existing travel demand. The city's authority also noted that districts situated on the further out areas are less and less connected and integrated with the rest of the city which accentuates the marginalization of the poorest people by creating spaces devoid of adequate public structure. The lack of transport options connecting these districts to the rest of the city creates immobility and therefore isolation, with the result of reproducing or re-enforcing social-spatial inequalities. However, lack of infrastructure is not only at fault. The inadequate supply is also reflected in the problem of the cost of transport. The issue of accessibility to the existing transport supply, of the cost of transport, and of the population's financial capacity is crucial (UN, 2016).

According to the city road transport bureau report (2016), the city's current mass transport sector is characterized by imbalance of demand and supply, presence of old , poorly maintained and pollutant vehicles, poor technological utilization in the sector, traffic congestions mainly resulting from poor infrastructure, and capacity and rent seeking and good governance problems. And hence, there is an urgent need to improve the public transport sector so as to meet the level of service quality required as well as attract more passengers in the future.

1.3 Research Questions

A. What are the existing major challenges in the contemporary practice of MTS which affect customer's perceived quality?
B. What are the services attributes which need to be improved?

C. What types of modes of service provisions practiced in the firms and how compatible and competent these practices are towards the current and future challenges of MTS delivery?

1.4 Objectives of the Study

The general objective of this research is to Identify and find out major challenges that affecting the quality of PTSs in Addis Ababa City.

The study also covers the following specific objectives:

a. Identify the service quality dimensions of MTS that influence customer perceived quality of PTS.
b. Determine the service attributes that must be improved in the future.
c. Measure the degree of satisfaction towards the service.

1.5 Delimitation of the Study

The study is delimited to “Anbessa” and “Sheger” mass transport enterprises The researcher chose “Anbessa” mass transport enterprise and sheger because both operators dominate the public transport market for long having much experience in the sector, so that its believed that studies conducted in such in such firms would give a clear picture of how the city’s MTS is operated and “Sheger” public transport enterprise is selected for the study who joined the business in recent years. Thus, taking into consideration how will the enterprise contributes to the city’s shortage of public transport and competitiveness, the writer believes would represent the newly involved private MTS enterprises best.

1.6 Limitation of the Study

The likely limitations of this study are:

- ❖ It was difficult to get adequate data and information.
- ❖ Lack of collaboration and willingness from the concerned bodies in collecting and providing data.

1.7 Significance of the Study

The study envisages to provide relevant information for governmental, non-governmental organizations and policy makers about the existing operational trends of the public transport sector in Addis Ababa, which helps them for taking appropriate intervention, development strategies and to minimize shortage of aggregate data for further research and policy making endeavors.

Moreover, the findings of the study may serve as a springboard for decision makers and for those who have a keen interest in such area of study.

1.8 Organization of the Study

The final study paper comprises five major sections. The first chapter is the introduction part which provide readers with the background information for the research explaining the significance and rational underlying the study and the anticipated outcomes. The second chapter deals with the presentation and description of available theories and the previous findings from related studies conducted by other researchers.

Chapter three explains the overall research design and the related justifications or underlying assumptions. Chapter four, i.e. the Data Analysis and presentation section, deals with the analysis of data gathered from the study respondents and the visual information made by the student researcher.

The final chapter (chapter five) explains the major findings of the study, the conclusion part and the recommendations made on the basis of the finding.

Chapter Two

2. Literature Review

2.1 Introduction

The chapter is structured along several themes, First section of the study is theoretical literature review, explains, the general concepts and definition of service quality and follows its discussion with concepts, definitions, and components of service quality justification of the model used are discussed. Second, Empirical review of the literature discusses works which have been forwarded by previous researchers with related to relationships between components of customer perceived quality of service, Theory and their constructs are discussed to develop a research model to help investigate factors affecting customer perceived quality service of public transport in Addis Ababa, Ethiopia

2.2 Theoretical Review

Transport plays a vital role in the development of the modern era as an integral part of the socio-economic and political structure of the country/city. As modernization and urbanization processes accelerate, the importance of this sector in providing accessibility and mobility reaches higher levels (Johan Holmgrem, 2013).

Urban transport is an integral part of human life. Transport theory stresses strongly that whatever the mode will be, it should primarily consider the human aspect, i.e. safety, livability, economy, satisfaction, etc. (W. Onael, 2013). This gives every individual the right to choose the services that he/she desires.

2.2.1 Service

Services are a series of processes that leads to an outcome, which will solve customers' problems (Gronroos, 2000). Moreover, the customer often actively participates in the process. Also Kotler (2000) defines service as any act or performance that one can offer to another that is essentially intangible and does not result in the ownership of anything. Its products may or may not be tied to a physical product.

2.2.1.1 Measures of Service Quality

Service quality is more difficult to measure than the quality of goods. The service quality perception depends on intangible differences between products and intangible expectations customers have on those products (Tripathi, 2011). The traditional approach pays more attention on service quality perception which is a comparison of consumer expectations with actual performance (Johan Holmgren, 2013).

Gronroos (2000) used a two-dimension model of service quality (technical and functional quality) to describe and measure the service quality (perez et al., 2007). Subsequently, he indicated seven specific dimensions on which service (Gronroos, 2000).

2.2.1.2 Dimensions of Service Quality

According to Silvestro (2005), the only criteria that count in evaluating service quality are those defined by the customer. Zeithaml and Berry established 10 service quality dimensions that customers use to judge the quality of service offered in 1984. The ten dimensions are not necessarily independent to each other. There could be some overlap between categories. Parasureamanetel. (2000), in further study, combined the ten determinants into five dimensions of quality: tangibles, reliability, responsiveness, assurance (including competence, courtesy, credibility, and security), and empathy (including access, communication and understanding). The five dimensions were found relevant for various business services.

- **Reliability**

Reliability is a key dimension that customers can evaluate the quality between they received and what the provider promised during the delivery process (e.g. service provision, problem resolution and pricing) (Bebko, 2000). In view of this, all firms need to be aware of customer expectations of reliability.

- **Responsiveness**

Zeithmal et al. (2006) suggest that service providers should be active and voluntary to help their customers and provide prompt service. This dimension demands that the service provider should be more flexible in solving their customers’ problems and requests. Firms even should have a capacity to customize services for dealing with their customers’ special needs.

- **Assurance**

For Landrum et al.(2007) assurance refers to "employees" knowledge and courtesy and the ability of the firm and its employees to inspire trust and confidence". This dime sum consists of four original determinants, namely, competence, courtesy, credibility, and security.

- **Empathy**

The basic target of the dimension is to afford more facilities for the current or potential customers and enhance the service capacity through personalized or customized service. Zeithmal (2006) describe empathy as the caring, individualized attention that the firm provides its customers.

- **Tangibles**

Tangibles are related to the appearance of physical facilities, equipment's, personnel, and communication materials. Service companies are likely to use tangibles to enhance their image and convey quality service to customers.

2.2.1.3 SERVQUAL (SERVICES QUALITY) MODEL

Over the past two decades, numerous researchers attempt to create models in measuring service quality for survival and success of service companies: One of the most influential model is the SERVQUAL measure, which was originally developed in 1985 by parasuraman. Such measurement theory is essentially based on the "GAP model" of service quality (Laudrum, et. Al., 2007), which facilitates quantification of the gap between customers' expectations of a service and their perceptions of the actual service delivered.

- **Every gap in SERVQUAL has a unique role as follows**:

Basically, the service quality model was derived from the magnitude and direction of five gaps as follows (Zeithaml et al. 1990):

Gap 1 (Understanding): the difference between consumer expectations and management perceptions of consumer expectations.

This gap will appear when the company does not know or do not understand what is expected by consumers. Leaders of the service provider may fail to understand what forms of service so that consumers can be expected to provide good quality service.

Gap 2 (Service Standards): the difference between management perceptions of consumer expectations and service quality specifications. This gap occurs when the head of service provider know what consumers want but cannot or do not want to develop a system that consumer willingness to disclose. This gap can occur for several reasons, namely: commitment to quality service that is less, the lack of perceptions about the likelihood that occurred, the lack of standardization of the task, and there is no goal setting.

Gap 3 (Service Performance): the difference between service quality specifications and the service actually delivered. This gap occurs when a service provider needs to understand that consumers should be given as well as to understand the service quality specifications, but employees cannot or do not deliver the service quality specifications. This gap occurs when consumers interact with the employees.

Gap 4 (Communications): the difference between service delivery and what is communicated about the service to consumers. This is because what the service provider promised to the consumer through the external communication media was not appropriate. While the promise delivered by the service provider hopes will improve the consumer as well as this is used as a standard of quality service which must be received by the consumer. The service provider cannot deliver the service that has been promised through the external communication media.

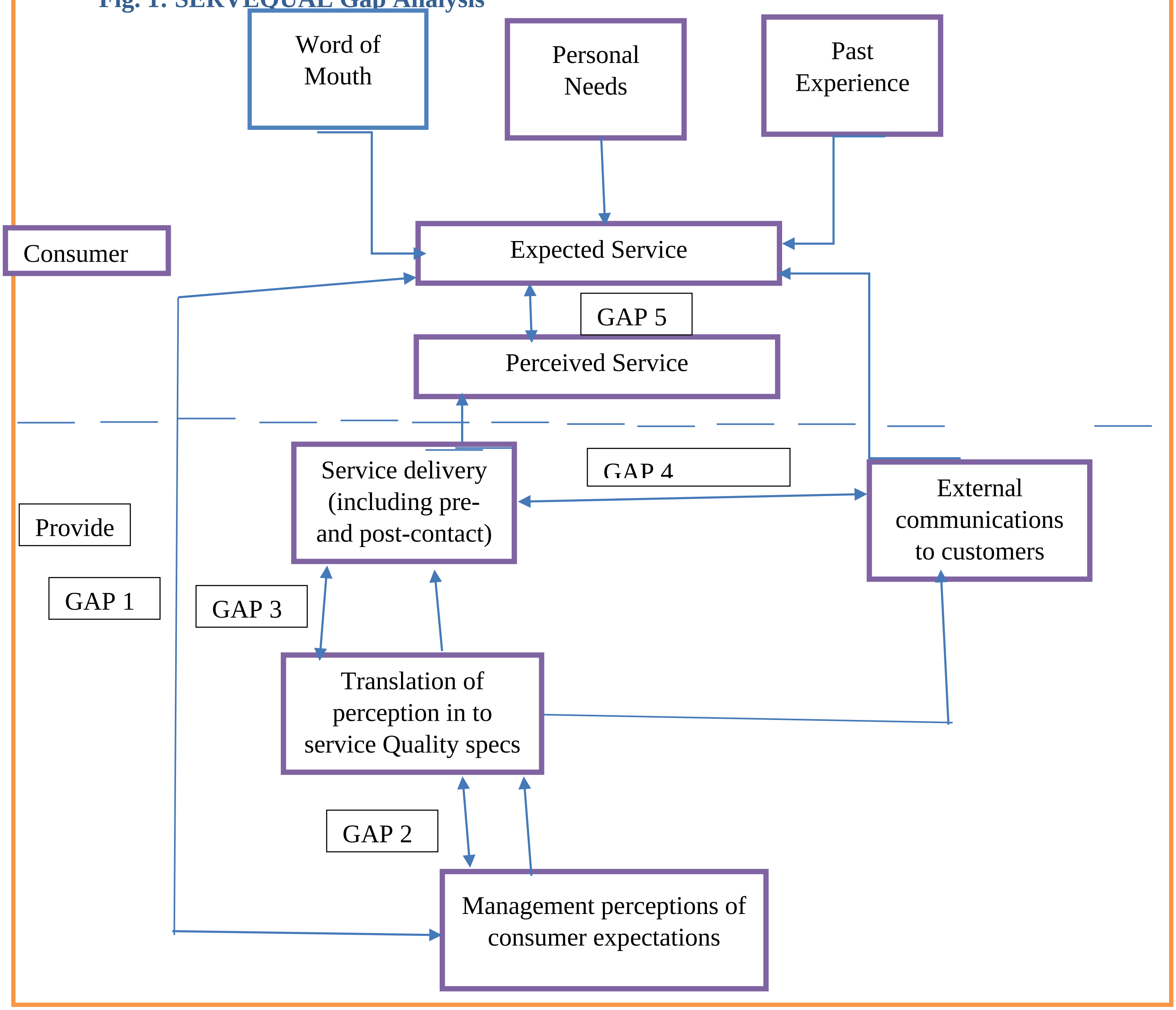
Gap 5 (Service Quality): the difference between customer expectations of service quality and customer perceptions of the organization’s performance. This gap shows the difference of quality between the expected with what is received.

Quality is expected to hope that consumers will be received from the company. Service received is what consumers feel when they receive services from the company. When consumers get more than they expected then the consumers feel satisfied, but if the consumers received less than they

- **Gap 1:** Difference between customer expectations and management perceptions of consumer expectations.

- **Gap 2:** Difference between management perceptions of customer expectations and service quality expectation's.
- **Gap 3:** Difference between service quality specifications and the actual service delivered.
- **Gap 4:** Difference between service delivery and what is communicated about the service to the consumer.
- **Gap 5:** Difference between consumer expectations and perceptions.

Fig. 1: SERVEQUAL Gap Analysis



Source: Parasuraman et.al. 1985

Based on the Service Quality Model, gap 2 or service standards gaps occur due to differences between management perceptions of consumer expectations and service quality specifications. The design of service standards aims to find out what benchmark the quality of service standard that is applied by the management service providers. If the management does not have service standards, so they need to do the design standard of service quality. The design of service standards aims to find out what causes the gaps occur.

Further in gap 3, the role in standard delivery of the service also must be paid attention to. The service standard was made as the guide in the operation of a service that was the realization from hope of the consumer on this service. If this consumer expectation was different from the application of the service standard, then the matter that possibly happened furthermore was the emergence complained from the consumer on dissatisfaction of the services that was given.

2.2.2 Impact of quality of service on the modal share of public transport

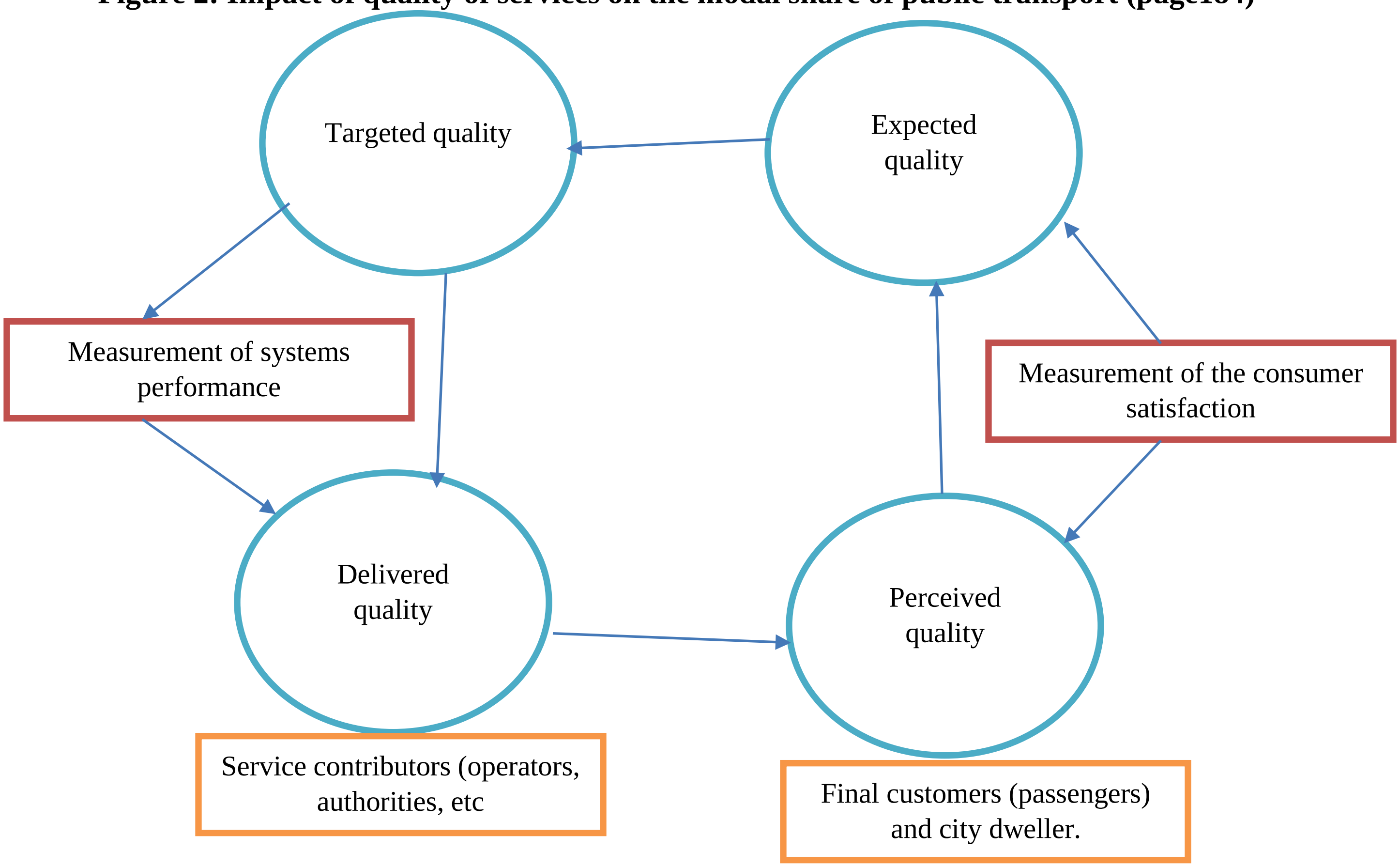
It is not easy to define quality of transport in a simple and brief definition, due to the fact that it is a relative term which depends on the correlation between the following three elements: objectives means and results. Particularly on the subject of public transport, the objectives are not always clear, hence the results depend on the user's perception and the service provision can be considered in a satisfactory level only few of the times. George (2012) in this regard pointed out that users form their perspective having regular or periodic contact with the urban public transport area shape and evolve on a daily basis their opinion regarding the delivered services.

They often fail to prioritize in order to importance the difference between the offered, on the part of urban transport service providers, and perceived, form a user-customer's perspective, service quality is important.

Despite the absence of a clear identification of individual components that compose the concept of "service quality of urban transport", such as the quality of services involve different dynamics and possess different interpretation, as it may express either the existing or the desired condition both from the users perspective and from the perspective of urban transport service providers. Thus, the following concepts are distinguished in terms of quality of service (Barabino B., Dieana E., 2013).

- **<u>Expected service Quality</u>** which is defined as the level of quality expected by the customer and can be defined in terms of anticipated expectations.
- **<u>Targeted service Quality,</u>** which regards the level of quality that the provider aims to provide to passengers. It depends on the level of quality expected by the passengers, the internal and external dependencies (internal and external environment), the financial constraints and the competitors' performance.
- **<u>Delivered service quality:</u>** which expresses the level of quality that is offered on a daily basis to users?
- **<u>Perceived service quality,</u>** which refers to the level of quality as perceived by the passengers during their movements. However, the way passengers perceive service quality depends on their previous personal experience with the service or with relevant services and of all information received for the service.

Figure 2: Impact of quality of services on the modal share of public transport (page184)

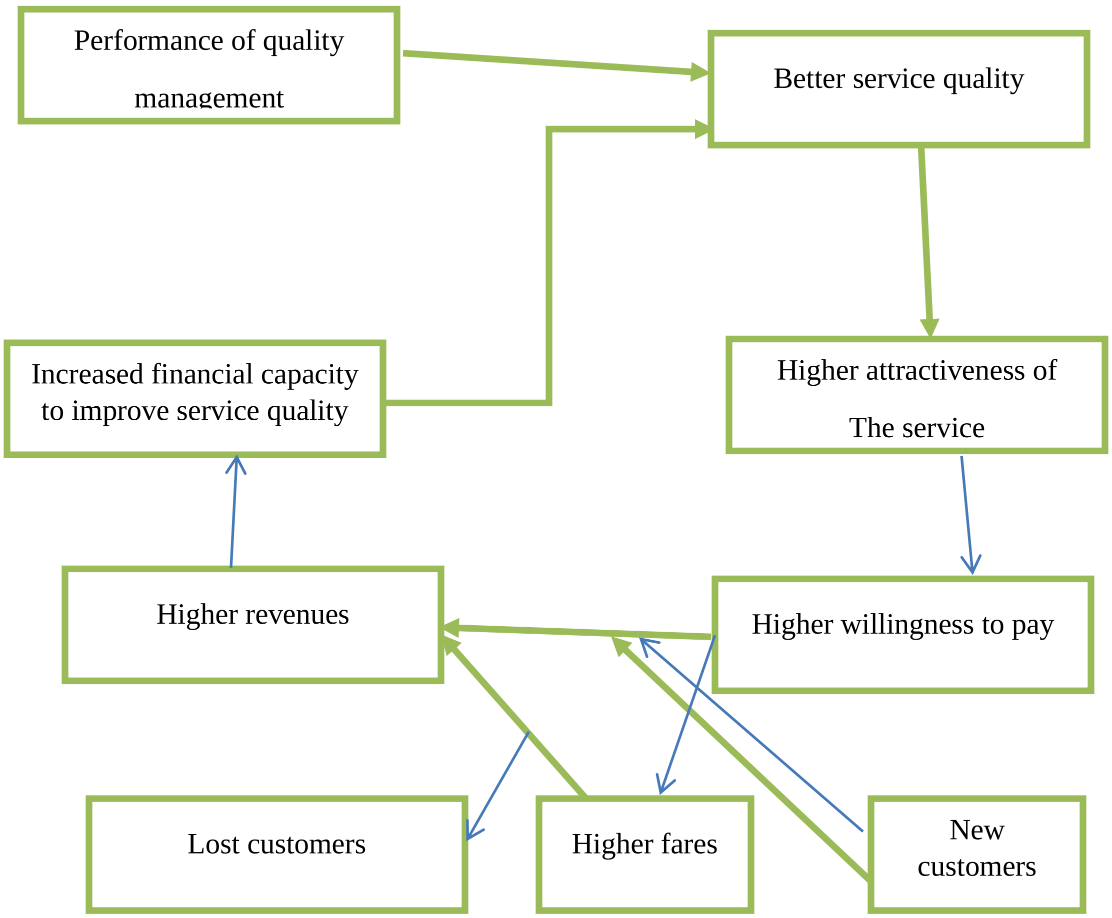


The assessment of service quality is supported by four main pillars that interact: expected, perceived, targeted, and delivered quality.

Source: QUATTRO, 2008.(page 184)

The effective management of the quality of the services offered in the field of urban transport is fundamental to the attractiveness of services, the improvement of efficiency and effectiveness of companies, the revenue growth, the attraction of traffic volume, without underestimating the importance of urban transport on quality of life and the environment (QUATTRO, 2008).

Figure 3: The effect of service quality in the attractive of urban transports.(page184)



Source: QUATTRO (2008)(page184)

2.2.3 Factors Affecting satisfaction in public transport

Enhancing the quality of service of public transport it often positioned as a strategy which can pull passengers towards using bus transit. It is agreeable that high consumer satisfaction rate contributes significantly to consume loyalty to the service provider. Thus, service providers need to strive to achieve the maximum user satisfaction with services, products, and purchases. According to Shiau and Luo (2012), consumer satisfaction helps companies to establish long-term relationships with consumers. Also the success of public transport system hugely depends on the number of passengers which the system is able to attract and retain (panlasova pavlina, 2014). To this view, the quality of offered services becomes the basic of maximum importance.

Public transport operations may be affected by the overall service quality. Services like frequency, punctuality, cleanliness of vehicles, proximity, speed, fare, accessibility and safety of transport, information, and other factors can influence users' satisfaction (Jonson and Clark, 2005). Antonucci, L. (2014) applied in his study an explorative factorial analysis and a structural equation model and found out that passengers are too sensitive to the level of service organization and to the way the service is delivered. It means that punctuality, regularity and short waiting time are very important factors determining customers'' satisfaction. George Botzoris (2012) also asserts that the safety and reliability of buses, the level of comfort and cleanliness, the professionalism and courtesy of staff, and safe driving also had a big weight to determine the level of customer satisfaction.

Moreover, Mouwen (2015) focused on customer view on public transport and also on the drivers of customer satisfaction with public transport service. And it was found that the overall satisfaction with public city transport service is influenced the most by service attributes such as on time performance, travel speed and service frequency, followed by personnel attributes (drivers' behavior) and vehicle cleanliness.

Quality of service represents an important concept in understanding the ways in which customers' appraise service provision. This appraisal can interact with other concepts relating to service provision such as customer satisfaction, retention and behavioral intention.

The quest for service quality has been an essential component in service providing firms like transportation. Service quality and customer satisfaction nowadays received considerable attention and is widely applied by mass transportation service enterprises. This attention is primarily driven by marketing sciences, aimed at understanding how the desires and choices of the customers could be fulfilled and be catered for through the application of efficient management processes (C.K, parahalad, Ramaswamy, V., 2014).

This understanding was considered to represent an important issue in developing policies to improve customer satisfaction and retention to implement strategies aimed at producing a competitive advantage in the service industry. Efforts to generate such understanding of quality service tended to focus on how this concept is perceived by customers, with these perceptions covering both the functional delivery of the service, such as interactions with personnel, the technical outcomes of the service, such as transit times in the transport sector (Yorgos Voukas, 2013).

As a whole, the provision of personal mobility by transport service providers represents a substantial aspect of the transport sector. In Ethiopia, the principal modes of public transport include buses, mini-bus taxis, midi-buses, cabins, and motorized tricycles. Thus, understanding the perceptions of transit customer's to quality of service can be of paramount importance to service providers in both retaining the already existing customers and attracting new customers form other providers or transport modes.

Scharge, M. (1995) explains that the customer-focused service providers assign resources and has a constant commitment to being responsive to internal and external customers'. The key to moving flam providing good customer service to an outstanding customer service is to understand what customers want and need. Customers need to be understood, feel that their opinions, wants and needs are worth hastening to and acting upon. In situations where it is not possible to provide your customers with what they want how you treat them in trying to solve their issue will go a long way toward how they perceive customer service at your workplace (Joshi, R., 2014).

2.2.4 Co-creation in value creation

Co-creation is defined in as function of interaction between customer and organization. These interactions are direct and essential to succeed in managing value creation (Grönroos & Voima 2012, 1-2).Co-creation as a dialogical interaction, which creates something new or unique. Where else, co-production is communicational interaction and is based on exchange of knowledge or resources.

Customers' role has changed in service innovation. Customer role has shifted towards co-producer. These views see importance in direct interaction between customer and organization and further, customer participation in service production process. Customers who are deeply involved with co-production are more likely to address service failures but at the same time co-production could led to higher customer satisfaction and adds value to the production. (Chen et al.2011, 1333.) Organizations are able to implement these innovations rapidly to their product lines or service offerings because innovations are not tied to geographical nor time constraints (Desouza & etal 2008, 42). Payne and colleagues (2008) defines co-creation as strategic options for creating value. Co-creation could arise from joint inventiveness, co-design or shared production. Co-creation opportunities are related to nature of the industry firm is operating in.

2.2.5 Customers perception of service quality

Enhancing the quality of service of public transport is often positioned as a strategy which can pull passengers towards using bus transit on a regular basis. Perceptions of quality of service tend to vary across socio economic cohorts. George Botzoris (2012) explained that perceptions of service convenience are central in evaluations of overall customer satisfaction with the service. Public transport users often associate quality service issues relating to convenience, cabin environment and ease of use to perceived quality of service (Joshi, R. 2014).

Scharge, M. (1995) argues that the overall quality of PTS very much depends on the economy and state of development of the city and/or the country. Often a traveler has to take a combination of transport modes to combination of transport modes to complete a journey. Connection and smooth transfer between modes through the use of integrated stations is an important factor for the customer's to regard as an efficient transport system.

Measuring and monitoring the quality of supplied services is fundamental for guaranteeing to the service users good levels of quality service and a continuous improvement of the service characteristics. It is considered that the customer's points of view to be the most relevant for transit service quality, being the customers are real users of the service (c.K. Prahalad, Ramaswamy, V., 2014). In most cases, service quality has been generally evaluated based on customers' perception and expectations about the service.

While service quality is measured from the customer perspective, recognizing the perception of the clients about each factor characterizing the nature of service provision is important.

2.2.6 Customer satisfaction and service quality

Customer satisfaction is the result of consumer's assessment of services, based on their perception of service delivery with their prior expectations (jonson and Clark, 2005). The level of satisfaction of customer's depends on their perceptions and expectations of the service. Customer's satisfaction occurred when the requirements of customers are exactly fulfilled by the service, that is, to satisfy customer's, service providers are required to deliver services that can at least meet or exceed their expectations. If customers perception of the actual service is below their expectation, service gap is likely to happen and satisfaction level is rated as poor (Baron and Harris, 2003).

Satisfaction is one of the primary key factors which influence customers loyalty to a large often tends to visit the same service provider. Hence, in order to achieve customer satisfaction, service providers are essentially required to have a better understanding of customers' expectations and periodically assess their level of satisfaction (George Botzoris, 2012). As cited by (C.K. parahaland and Ramaswamy V.2014), gaining competitive advantage for a service or generation dependent up on the level of customers' satisfaction.

Customer satisfaction is the backbone of service organization and by fulfilling customers' needs the organization earns more than money. To satisfy customer's' needs, it is indispensable for service providers to have a thorough understanding of their customers' expectations. Customers today have more choices than ever before, but they seem dissatisfied. Firms invest in greater service variety but are less able to differentiate themselves (Barabino, B., Dieama, E., 2013).

For palmer and Coll (1995), quality can only be defined by customers and occurs when the organizations goods and services coincide with the specifications that satisfy customers' needs. It is also noted that service quality is an antecedent of customers' satisfaction and satisfaction in turn has greater effect on customers purchase intentions (Yorgus Voukas, 2013).The overall passengers' satisfaction.

2.2.7 Customers perception of service quality

Enhancing the quality of service of public transport is often positioned as a strategy which can pull passengers towards using bus transit on a regular basis. Perceptions of quality of service tend to vary across socio economic cohorts. George Botzoris (2012) explained that perceptions of service convenience are central in evaluations of overall customer satisfaction with the service. Public transport users often associate quality service issues relating to convenience, cabin environment and ease of use to perceived quality of service (Joshi, R. 2014).

Scharge, M. (1995) argues that the overall quality of PTS very much depends on the economy and state of development of the city and/or the country. Often a traveler has to take a combination of transport modes to combination of transport modes to complete a journey. Connection and smooth transfer between modes through the use of integrated stations is an important factor for the customer's to regard as an efficient transport system.

Measuring and monitoring the quality of supplied services is fundamental for guaranteeing to the service users good levels of quality service and a continuous improvement of the service characteristics. It is considered that the customer's' point of view to be the most relevant for transit service quality, being the customer's the real users of the service (c.K. Prahalad, Ramaswamy, V., 2014). In most cases, service quality has been generally evaluated based on customer's' perception and expectations about the service.

While service quality is measured from the customer perspective, recognizing the perception of the clients about each factor characterizing the nature of service provision is important.

2.2.8 urban transport Challenges in meeting service quality

Urban transportation service provision is complex In order to evolve an effective and the nature of complexity. The complexity exists both within the organization and the environment in which the service provider operates. As the external environment impacts the transport system to a longer extent, it is imperative for the external environment to be examined properly. (C.K., Parahaland, Ramaswamy, V., 2014). Likewise, the internal sub-system needs to be fully appreciated. For this reason adopting an appropriate and well-informed approach turns out to be a pre-requisite for improving the mass transport system service quality.

P. Samuel, Sebnatu (2009) pointed out that providing mass transportation service which is adequate and appropriate is an eminent challenge almost all cities of the world encounter. Cities will always have a new problem which arises from the nature of the transport system. Obviously, cities in developing countries are strictly dependent on the road transport, system, and the ever increasing number of population (rural-urban migration) and motorized vehicles, along with poor and inadequate road transport infra-structures has caused a tremendous social and economic problems.

Private owned buses, minibus taxis, and motorized tricycles, and government owned public bus services are the predominant modes of urban mass transport systems in Addis Ababa city. Private operators dominated the public transport market. Improvements made over the past decades in road structure, deregulation of tariffs, removal of restrictions in the importation of motor vehicles, and the elimination of transport related barriers have provided an incentive for private sector involvement in the public transport business (ERA, 2010).

This has increased the level of competition among mass transport service providers and hence, reduced earnings. On the other side of the coin, there arises a challenge among them towards seeking and improving other dimensions regarding quality public transport service aimed at attracting public transport users. Besides, despite the progresses made on the public transport sector over the past years, the city's public transport system is typically characterized by high density urban areas, inadequate and poor public transport system, as well as lack of pooper roads, parking facilities, road user discipline control of land use, environmental pollution, congestion, accidents, and a host of urban transport related factors (AACG, 2015).

Land transportation is the principal means of transit mode in large cities of the developing world and the needs are increasing. One of the problems of urban transport system is the uncontrolled number of private vehicles. Buses as urban public transportation are become the right choice to overcome the problem. Bus rapid transit is a fast, convenient, secure and punctual, urban population continues to increases enormously in line with the increase in the economy. This resulted in the transportation need. Road transport in town's cities is increasing, and this has caused the movement of vehicular traffic to increase rapidly, resulting in a web of urban transport related problems (Antono Damayanto and Faizal Kenedy, 2018).

One of the major problems the urban transport system faces is traffic congestion. Shiall and Luo (2012), the significant increase of private vehicles is among the major causes of urban traffic congestion. In urban areas, nowadays, many consider private cars not as a matter of option, but as a matter of necessity. This is due to aspects of time schedule, comfort, and security (mouwen, 2015). Thus, in order to overcome such newly emerging challenges, there is an urgent need for improving he quantity and quality of urban public transport system.

To make urban public transport service more attractive and thereby reduce car use, cities as well as public transport companies should be keen to ensure a highly quality of service on the public transport system, amongst others, by implementing the following measures.

1. Widening and simplifying he urban public transport network, e.g. by:
   - Redesigning the network layout,
   - Enhancing the frequency and operating hours,
   - Introducing demand-responsive transport service, etc…
2. Modernizing the road transport infrastructures (especially at intermodal interchanges) and making the entire voyage by public transport more comfortable, e.g. by:
   - installing high quality waiting facilities (seats, shelters, convenient services)
   - Easing access to stations (e.g. pedestrian and bicycle paths, signs, redesigning of surrounding space)
   - Modernizing rolling stock to adjust it to requirements of potential customers by enhancing accessibility.
   - Improving driver training for smooth and energy efficient driving.
3. Enhancing the accessibility for all persons, especially for people with special needs, e.g. by:
   - Implementing different information tools
   - Ensuring the physical accessibility of waiting facilities and vehicles
4. Improving safety and security of stations, at stops, and on the vehicles for passengers and drivers, as well as for infrastructural equipment, e.g. by:
   - Creating safer conditions at stations and their surroundings
   - Safety and security trainings, as well as awareness raising for drivers and passengers.

2.3 Empirical Literature Review

2.3.1 Overview

Providing transport service which is adequate appropriate is the challenge that almost all cities of the world encounter. Cities will always have a new problem which mainly arise from poor transport system. In general, large cities in developing countries are highly dependent on the road transport (P., sammuel, s.)

The Addis Ababa city road and Transport explained that the existing public transport system of Addis Ababa is critically inadequate to provide efficient service to the existing travel demand (AACRTB, 2016). The increasing demand for urban mobility cannot be supported by the existing equipment and infrastructure. Worse, there exist an ever increasing disparity between the increase in demand for mesas transport resulting from urban development and the limited resources (WB, 2015).

The urban transport sector in Africa has been neglected for a long time. Urban development policies are relatively recent. In sup- Saharan Africa, transport has now become part of the essential data on urban development. It is also considered as a major challenge hindering growth, the fight against poverty, and sustainable development (clelie, N., 2018). This gradual interest has been driven by growing mobility needs related to major demographic changes.

African cities are becoming increasingly populous and spread out and are undergoing rapid and acute changes. At the same time, countries of the region are aspiring to make their capitals showcases of professed economic dynamism and modernity (Antonio, E, Andres,G. 2012). Urban sprawl and the concentration of citizens create serious challenges. That of mobility is crucial and it is social-increasing urban mobility needs, longer distances and defaulting in accessing the city-and economic-congestion, a negative impact on business and attractiveness (Clelie, N. 2018)

Interims of mobility, urbanization and urban sprawl generate both growing needs and new needs with a mass transport with longer travelling distances. However, the responses provided with regard to service quality provision are very inadequate, and exacerbated by the unmet ever growing demand for urban mobility. While every city is unique, cities most often face common challenges. Despite this fact, no specific solution fits all cities because local circumstances vary along cities (DIMTS, 2014).

2.3.2 Addis Ababa City Profile

Addis Ababa the Administrative and financial capital of Ethiopia is experiencing continued growth and change. Economically, the city is transforming from a predominantly administrative and service center in to an industrial and financials Centre (G.Mintesnot, S. Takano, 2007).

Addis Ababa city, the Federal capital of Ethiopia, is asserting itself as an international metropolis and as a center of economic growth, is also a showcase and a driver of the country's economic "success" (B. Eshetie, B. Birhanu, K. Daniel, 2013). Ethiopia's economic growth is indeed in urban areas particularly in the capital. Addis Ababa experienced a substantial increase in the number of its inhabitants which increased eightfold between 1960 and 2008 (M. Yonas, 2018)., the rate of urban sprawl is better than that of the population growth.

Fast growing large cities require strong coverage of rapid transit networks to ensure they remain competitive, and that local communities have a healthy environment, vibrant urban economy, and an equitable high quality of life for all residents. Many cities-especially those with growing populations, income; and/or large infrastructure deficits-have not, however, built rapid transit at the scale and rate needed to meet mobility needs (Walter Hook and Collin Hughes, 2012).

Despite this, research findings in this regard reveal that, regardless of the improvements made over the past decades in the service sector, the city of Addis Ababa could not be able to build rapid quality transit at the scale and at the rate necessary to meet the transport needs o growing populations. The city is typically characterized by high-density urban area and poor public transport, as well as lack of proper roads, parking facilities, road user discipline, and control of land use, resulting in pollution, congestion, accident's, and a host of other transportation related problems (DIMTS, 2014).

It is true that Addis Ababa is one of the fastest growing cities in Africa. However, a closer look at available data shows that the city has a markedly low vehicle ownership per capital. Meanwhile, the private car ownership level in the city is significantly higher than the national average (Clelie, N., 2018).

Table 1: Registered vehicles in Ethiopia since 8 July 2016

Total number of legally registered vehicles in Ethiopia since 8 July 2016	
Region	Total number of vehicles
Addis Ababa	447669
Amahara	47036
Diredawa	16951
Tigray	28332
Oromia	88047
SNNPR	54090
Afar	4592
Somali	10678
Gambella	788
Benshangul-Gumuz	4600
Hareri	5643
Total	708416

Source: the federal government transport Authority, 2017

The city transport authority bureau's report above shows that more than 80% of the national vehicle fleet is registered in Addis Ababa. M. Tilahun, F. (2014) noted that Addis Ababa city is a political counter where the federal Government, Oromia Regional state government, and various regional and international organizations such as united nation's economic commission of Africa and African Union (AU). It is also the Economic center of Ethiopia where most financial and commercial institutions and about 85 percent of manufacturing industries are located.

Coupled with the city rapid growth characterized by horizontal massive expansion resulting in the rapid conversion of land from rural to urban uses and the ever increasing population size makes the demand of quality public transport highly critical to meet the frequent mobility needs of the inhabitants of the city.

2.3.3 Current transport patronage

Similar to the cities of most developing countries, road transport is the predominant mode of transport in Addis Ababa city. As part of the federal government's proactive urban modernization policy endeavors, Addis Ababa introduced the first light rail transit (LRT) in sub-Saharan Africa, in September 2015(Clelie, N, 2018). Looking beyond communication and anecdote, the introduction of this train-raising the issue of mobility in cities which are changing very quickly-is at the heart of the issues of social and economic changes on the continent, and particularly in urban development.

Despite this, road transport continues to be the major means of transport in the city. Private and public buses, mini-buses, and motorized tricycles are highly exploited modes of mass transport by the city inhabitants. Private operators dominate the public transport market. Inspite of the ongoing endeavors made by the government to improve the public transport service sector, mass transport service in Addis Ababa city is characterized by the low level of motorization, inadequate infrastructure, low capacity modes of transport, poor traffic regulations, congestions, and improper management of the sector (H. Kassahun, 2017)

According to Clelive (2018) the increasing demand for urban mobility could not be supported by the existing equipment and infrastructure, which is also often in poor condition. Consequently, this results in increased traffic congestion. The inhabitants of Addis Ababa constantly complain that, despite a number of urban transport service related problems, it is increasingly difficult to get to your workplace in time (AACG, 2013).

The Addis Ababa city planning project office (AACPPO), with regard to mobility in the city, indicated that the modal share of public transport accounts more than 40% of the total, whereas private cars and other means of transport share is less than 5% (2010). The city office report also showed that non-motorized (walking) accounts more than 55% of the total. In compare's on with 13 major cities in Africa, Kumar, A., Barret F. (2008) described that public transport accounts of date city of Addis Ababa inhabitants. Regarding to mass transport service, Jane (2012) also reports that the number of large bus seats in in Addis Ababa is 6 per 1000 compassed to 30-40 in other developing regions.

Table 2: Shares of various modes of urban transport in use in African cities

Shares of various modes of urban transport in use in African cities (5)				
City	Large bus	Minibus	Taxi	Private car
Abidjan	11	19	29	18
Accra	10	52	9	13
Addis Ababa	35	20	5	7
Bamako	1	10	5	19
Conakry	1	14	6	1
Dakar	3	73	6	11
Darussalam	0	61	1	10
Doula	10	-	12	2
Kampala	0	41	-	35
Kigali	1	75	10	10
Lagos	10	75	5	5
Nairobi	7	29	15	-
Average	7	30	8	12

Source: kumar A, Barret, F. 2008.Urban Transport in Africa, AICD.

Today the public transport system of the city of Addis Ababa which mainly consists of the city bus and shared taxi continues to face significant challenges hugely affecting mass transport service quality. A study conducted by AACG (2015) pointed out the following to be the major challenges hindering the performance efficiency of the city's public transport service sector.

- Continued spatial growth of the city horizontally or urban sprawl is becoming a major cause for the increase of travel distances. This phenomenon discourages people form resorting to non-motorized transport modes such as walking and cycling and calls the need to an increased demand for quality public transport.
- The demand for efficient public transport services in Addis Ababa I s growing at a rapid rate due to the ever increasing population. This is apparent from the mismatch b/n the estimated growth of need and the reality, i.e., the growth rate of transportation was

estimated to show an increase of 45,000 trips per year. However, the current reality shows that the growth rate is 64,300 per year (ORAAMP, 2010).

- Inadequate and low quality of public transport service and lack of hierarchical highway, roads and streets which result in public transport poor performance and hence high rise in traffic accidents. Such negative consequences are more exacerbated by the absence of proper non-motorized mode of transport infrastructures.

The major modes of public transportation in the city include taxis, higher midi-bus, and saloon taxis. Currently, the modalities of public transport mobility in Addis Ababa are limited to the road transport that mainly accommodates 10,000 white and blue minibus taxis with a passenger seat of 12 people of most, about 460 higher midi-buses with 22-27 seats. 744 Anbessa city buses (both rigid and arculated) which exhaustively carry 30-60 people seated and 70-100 standing, and Alliance buses which accommodated 40 seated and 60 hangers (Anbessa Enterprise (2018); sheger transport Enterprise (2018); Fekadu Kassa (2013)).

Moreover, 366 supplementary vehicles, and about 6500 saloon taxis is seats 4-25 operate on a regular basis. Motorized tricycles (commonly known as Bajaj) are also employed at the peripherals of the city.

Yet, the above mentioned transport service providers are hardly able to cope with the burdens of the city's transport demand. As a result, the residents of Addis Ababa had to face great inconveniences, as well as additional costs to the daily trips to their respective destinations.

As mentioned earlier, urban transport in Addis Ababa is carried out by a mixture of ownership structures, of which public and private operators are predominantly viewed as business contenders. The modes of urban transport system In the city falls in two major categories namely motorized and non-motorized On-motorized modes of transport mainly include walking and bicycle riding which account an estimate of 43 percent (T. Fantahun, 2012).

2.3.4 Anbessa city bus service Enterprise

The history of mass transportation service in the city of Addis Ababa dates back to the end of the colonial Italian invasion. According to the recorded documents obtained in the enterprise, this firm was established in 1935, following the invading Italian army was defeated and driven out of Ethiopia, by collecting the surrendered was vehicles and spare parts. In 1952, the firm was recognized as Share Company and began to operate in a new way with a total of ten buses, in four major routes each containing to two buses.

In 1952, the share company was owned by the government. Currently it is named as Anbessa city bus service enterprise (ACBSE) (B. Eshetie, 2013). And its operations are financially subsidized by the AACGA. The enterprise has a monopoly exclusive right to provide transportation service responsibly to serve the public through improving /upgrading its performance efficiency capacity over the years. ACBSE is recognized to be the pioneer of public transportation service firm and was the only means of mass transport service for a couple of decades, until the federal government made interventions to involve private owned mass transport vehicles in the sector.

Presently, the enterprise has large coverage in and around the city despite the financial and operational improvements the enterprise encounters to scale up its service, the enterprise is hampered by numerous challenges failing to meet the demand expectations and satisfy the needs of its customers (K. Fekady, 2013). The enterprise leaves much to be desired and remains long to go.

As a sole government owned enterprise, study findings conducted on the overall operational performance shows that the enterprise's performance is inadequate. In all the parameters of the operational performance, the firm operates under the international standard and could not recover its operational cost from the traffic revenue (B. Eshete, 2013). Moreover, despite the ongoing endeavors made for the company remain competitive in the world behind to ensure the expected quality transport service to withhold its customers and attract more passengers in the quarter (AACG, 2014).

Notwithstanding the efforts made, the short run interventions could not address the high demand rather created high congestion in the mixed traffic system (Afric-Trans, 2010). The long run interventions, namely the light rail transit, cannot fully substitute the bus transport service, and expansion of city roads and the number of buses could not address the problem without efficient utilization and scheduling of buses.

Currently, the ACBSE operates with a total of 887. Based on the recent data obtained from the enterprise, there are 607 rigid and 137 articulated buses a total of 744 buses actively operating in three depots namely. 'yeka', shegolie' and 'mekanisa',on terminals of legahar, merkato, piazza, and megenagna on May 2019. Out of 744 buses 323 buses are new and recently inter in the service the other 143 buses stop to give service in miner technical problem.

Table 3: ACBSE owned buses currently operating in the city

ACBSE owned buses currently operating in the city			
Service center	Bus type	Number of buses	total number of buses
Yeka	DAF	58	184
	Bishoftu (locally assembled)	71	
	Arculated	55	
Shegole	DAF	42	139
	Rigid (unbending)	61	
	Arculated	36	
Mekanisa	DAF	18	98
	Rigid	34	
	Arculated	46	
	Total		311

Source: ACBSE; May, 2019.

Out of the total 744 busses, 323 of them new buses purchased recently. In addition to this, there exist 143 off service buses parked in garage for repair and maintenance. The enterprise currently runs 112 routes, dispatching from legahar, merkato, piazza, and megenagna terminals. Besides, there are about 1640 check points where passengers get the service.

Regarding human power, the enterprise has 7747 technical and management staff. During the 15 hours working time (from 6:15am -10:00Pm), the enterprise’s buses collectively cover a total distance of 54000 kms daily serving an average of 1.5 million passengers.

Although there are new buses in the enterprise, the operational fleet still include many old buses serving 10 years and above. This has affected the performance efficiency of the enterprises, escalating fuel expense and a decreased revenue. For this reason, the enterprise is operating at a loss even before tax (ACBSE, 2014).

2.3.5 Sheger Mass Transport Enterprise

In response to the government’s policy shift to establish an institution providing fast and accessible quality transport service, sheger public Transport enterprise was legally engaged in the business in May, 2016. The enterprise engaged in the business with a total of 270 technical and administrative staff and began operating in two routes (from Mixico to shiro meda and jemo). Today the enterprise owned 321 buses and give service on megenaga, piazz and mexeco stations through 49 Ruts. In May 15, 2019 Out of 321 buses 217 buses are on service for the other 104 buses stop to give service in miner technical problem.

In less than three years’ time in the business, the enterprise has achieved a tremendous progress both financially and operationally and marked a rapid advancement in terms of human resource, passenger uptake capacity and number of fleets.

Sheger public transport enterprise began operating the service with a total number of 10 buses. Currently, the firm has 321 buses of which 217 of them are actively operating on a daily basis. The remaining 104 buses are expected to get back to work after having a minor maintenance and repair.

With regard to human resources, the Sheger mass transport service enterprise is currently providing its services with a total of 135 employees (1294 percent and 54 contractual). According to the enterprises’ June, 2018 special edition to operate with its maximum capacity were 3625), the existing number of staff is limited to 1358. The reasons for this were lack of budget constraints to find competent employees in the job market, skilled and experienced staff turnover (especially high level management staff and bus drivers), and management related problems. Despite this, the enterprise’s contribution towards relieving the ever growing mass transport demand by the city’s inhabitants is imminent.

Table 4: Sheger Mass transport service enterprise human resource in 2016 (during establishment)

No	Type of employees	No of staff		
		Male	Female	Total
1	Administrative staff	45	22	67
2	Bus Drivers	171	1	172
3	Ticketer	11	20	31
	Total	227	43	270

Source: sheger digest, special edition: June, 2018.

Table 5: Sheger Mass transport service enterprise human resource in 2018 (June, 2018).

No	Type of employees	No of staff			Total human power required	Human power gap
		Male	Female	Total		
1	Administrative staff	165	82	247	3625	2278
2	Bus Drivers	554	2	556		
3	Ticketers	235	309	544		
	Total	954	393	1347	3625	2278

Source: Sheger Digest, special edition. June, 2018

Table 6: Sheger mass transport service enterprise human resource education background

No	Education level	Male	Female	Total
1	Master's Degree	12	1	13
2	First degree	60	25	85
3	Diploma	74	43	117
4	Level (1, 2, 3, 4…)	39	27	76
5	Certificate	53	20	73
6	Grades 10-12	706	277	983
	Total	954	393	1347

Source: sheger digest, special Edition. June 2018.

As shown in the above tables (table 1, 2 and 3), there is a sharp increase in the number of staff size while compassed to the number of employees during establishment. Likewise, the increased human and material resources enabled the enterprise to scale up its operational performance and expand its service coverage.

In terms of ender distribution, more than 70 percent of the enterprise's staff is males. Decides, 215 employees of the total 1347 are at diploma and above education level.

2.3.6 Existing Complaints on the sector regarding quality of PTS.

Complaint behavior is an important phenomenon for both service scholars and managers and must be understood because of its impact on the customer's perceptions of the service experience. Knowledge about complaint behavior gives the service provider valuable insight into many areas such as identifying common service problems, improving service design and delivery, understanding the customer's perceived service quality and helping strategic planning (Tronvoll 2008). Rust et al. (1996) and Tax and Brown (1998) argue that dissatisfied customers should be encouraged to complain because if a customer is unhappy but does not complain, the provider risk losing the customer. Learning about the customer complaint behavior process will consequently help companies to serve customers correctly and prevent an unfavorable service experience.

Complains and problems raised by different stakeholders In line to Anbessa & sheger city bus service enterprises during interviews and field observation regarding to provide quality services to its customer and in order for the enterprise to make quality service successfully.

2.3.6.1 Complains and problems raised by different stakeholders in line to Anbessa city bus enterprises.

2.3.6.1.1 The Ideas& Complains raised by the Anbessa city bus Transport enterprise Drivers

- As the vehicles that are delivery service has quality problems and as they have got technical problems frequently and most of the time this vehicles go through maintenance as result the vehicles could not provide the necessary service as much as it's expected from the enterprise.
- Most of the enterprise vehicle has shortage of spare parts and the lack of manuals and process of sending nonfunctional spar part of the vehicle to china to find the right replacement of this spare part, sometimes there is an incident In which the required spare parts cannot be found within the process this has caused a major impacts on the service delivery.
- The benefits that the employee of the company entitled are not cover will.
- As there are several number of good governance problem this has made the enterprise vehicles not to deliver service properly.
- Using the vehicles with technical problems to be engaged on service delivery process.
- The institution failure to engage professional employees on the sector this prohibited the enterprise not to improve the serves deliver to its customer and the challenges that I have link with property administration this limited the enterprise not to able to provide quality services to its customer.
- The hygiene and the cleanness of vehicle itself made the customer no to be satisfied with the service they receive from the enterprise.
- The vehicles of the enterprise unbalanced load and the absence of standard work has exposed the passenger to different kinds of problem and affected the quality service of the enterprise.
- Even if Anbessa Transportation enterprise to its vehicle to Tulu Dimetu town the decision of The Anbessa enterprise to charge its customer 6 birr while Sheger bus is charging 5 birr for

its customer this made the customer not to be satisfied with the enterprise service this has impacted the reputation of Anbessa transportation enterprise.

- The decision of the enterprise to deploy the vehicles to the line where there are less passengers by making adjustment on the price , this created gap on the process of deliver service to the passenger. This indicates not giving priority to customer rather it shows only focusing on implementing the enterprise order.
- When one bus returns back from the place where to the assigned before resuming to the next line and not to make the bus idle for sometimes the buses are instructed to be assigned to unnecessary to this decision is given without making the necessary investigation and as it does not in to consideration the existing problem of the company thus it affect the desirable out come and it also create waste of fuels generally, such kind of mal administration made the sociality that are in the challenge of transportation service and it became the property waste of the institution.
- When we have requested for deploying of the buses earlier we have told that this will affected the customer that wait on line on their time not to get the service.

2.3.6.1.2 **The suggestion and complain raised by customers on Anbessa city bus Transportation enterprise**.

- The problem of the vehicle shortage
- Not finding the company service in all line
- Overloading beyond the vehicle caring capacity
- The clients stated that we are getting exposed to different theft due to lack of the company service in terms of the inspected standard
- Unbalanced service between number of clients and the vehicle assigned
- Getting hassle not to get the service on time
- Facing difficulties during aboard and exit
- Getting service by over used and with the vehicles with detonated conditions
- Since the company deploys vehicles with poor quality most of the time there is the bus break down along the way
- When they faced technical problems on their journey the clients are challenged

    * Waiting till replacement bus arrives

* Not to get their payment refund back
* Not to reach to the clients planned destiny
* And the clients are forced to cover the rest of the distance on foot
* Being exposed to additional expenses

- Since some of the ticket providing operators have ethical problem they mistreat their clients and they are not willing full to explain the clients the direction of the journey.
- Some of the company drivers stops after they have passed the right terminal and they also let customer to be aboard at wrong place, this has created waste of time on the client.
- There is no service that put in to consideration people with the disability.

2.3.6.1.3 The ideas raised by the management on Anbessa city bus Transport enterprise.

- The frequent change of the company management and the gap of Experience exchange between the senior and junior staff has created information gap, the senior management lack of initiation to inform the law how and the important information to the new staff has created problem.
- Staff assigned on important position is assigned on their qualification but their faithfulness or political issues.
- Not implementing the updated transport administration system
- Implementing outdated system that has been implemented for a longer period of time, the assigning department and generally the transportation management are not conducted by educated man power the assignment of position is only through previous work experiences and the length of period of time the staff has served within the company.
- Whenever the company assigns a staff on a given position it only considers the No of years the employee has served this has play significant role not to establish better working system, not organizing educated employees.
- The service delivery line is mixed with the tax line and not planning the specific line for assignment of the bus.
- Spare part problems,
- The property administration system being out dated as a result there are a number of property purchased by the company finance but remained idle, the exposure of this property

to wastage, the delays of returning the vehicles with the technical problem after maintenance.

- The lack of quality of the purchased vehicles, requirement problems,
- Unnecessary Interference of deferent organs.
- The support being given by the concerned body have never been solution for the existing problem rather It is the affecting the institution

2.3.6.2 Complains and problems raised by different stakeholders In line to Sheger city bus enterprise.

2.3.6.2.1 The Sheger bus management has raised the following obstacles that are putting presser on the enterprise while delivering quality service to its customer.

- Not working within the enterprise own offices and working within leased building.
- Lack of enough maintenance service area
- The enterprise lack of fuel station, terminals , vehicle cleaning place
- Lack of place of boarding and unloading
- Lack of proper skill in line with the proper transport administration as a result the occurrence of different problems.
- Lack of adequate and shortage spare parts
- Not having specified and fixed schedule and not implementing according to their designed program.
- Being exposure to frequent vehicle accident.
- The officers assigned by the main for deployment absence from their work place, lack of ethics,
- As there is drivers turnover there is drivers abandoning their job, using this job as transition to other work,
- The drivers stoppage/ hiding of their activities during peak season
- As this is the newly established institution the absence of completed rules and regulation and the taking different measures, the weakness of this regulations in terms of protecting and safeguarding the employees right , absence of clear work details,

2.3.6.2.2 The suggestion and complain raised on Sheger mass Transportation enterprise by customers.

- Since they miss the right terminal we could not get the necessary service,
- Delays bus
- They sell ticket from the bus window and they left us without returning our payments,
- We are not getting services at mid-day from 12:00 - 2:00 and during the night from 7:00,
- The ticket selling conductors do not provide us change
- Both drivers and conductors lack ethics, they insult, mistreat and intimidate us,
- Sometimes they chew chat/ghat while on duty this can expose us to accident,
- The ticket conductors 2 seat while they can leave one for the client,
- Providing that both drivers and conductors are not around the bus takes long time before start the journey,
- They charge us beyond the assigned payment limit,
- They delays in the morning,
- There is high volume of music which disturb the clients and they are not cooperative to put down the volume,
- The buses stays idle for a longer period of time,
- The bus leave us even if there is available seat,
- Driving slowly on purpose and affect us not to reach to our destiny on time,
- The controlling officers are not available on the place they are assigned to,
- Due to high number of passengers and existence of several lines a number of the bus should be increase,
- We demand for opening of new line,
- The drivers should not collect payments on the behalf of conductors,
- We demand to minimize the gap between two terminal,
- The bus has lack hygiene
- The bus put Christian faith song and Islamic Menzuma which is making the bus church or Mosque and they put incenses stick,

2.3.6.2.3 The Ideas raised by the Sheger mass Transport enterprise Drivers regarding to give quality service for its customers

Let hold a discussion on the problem with high management,

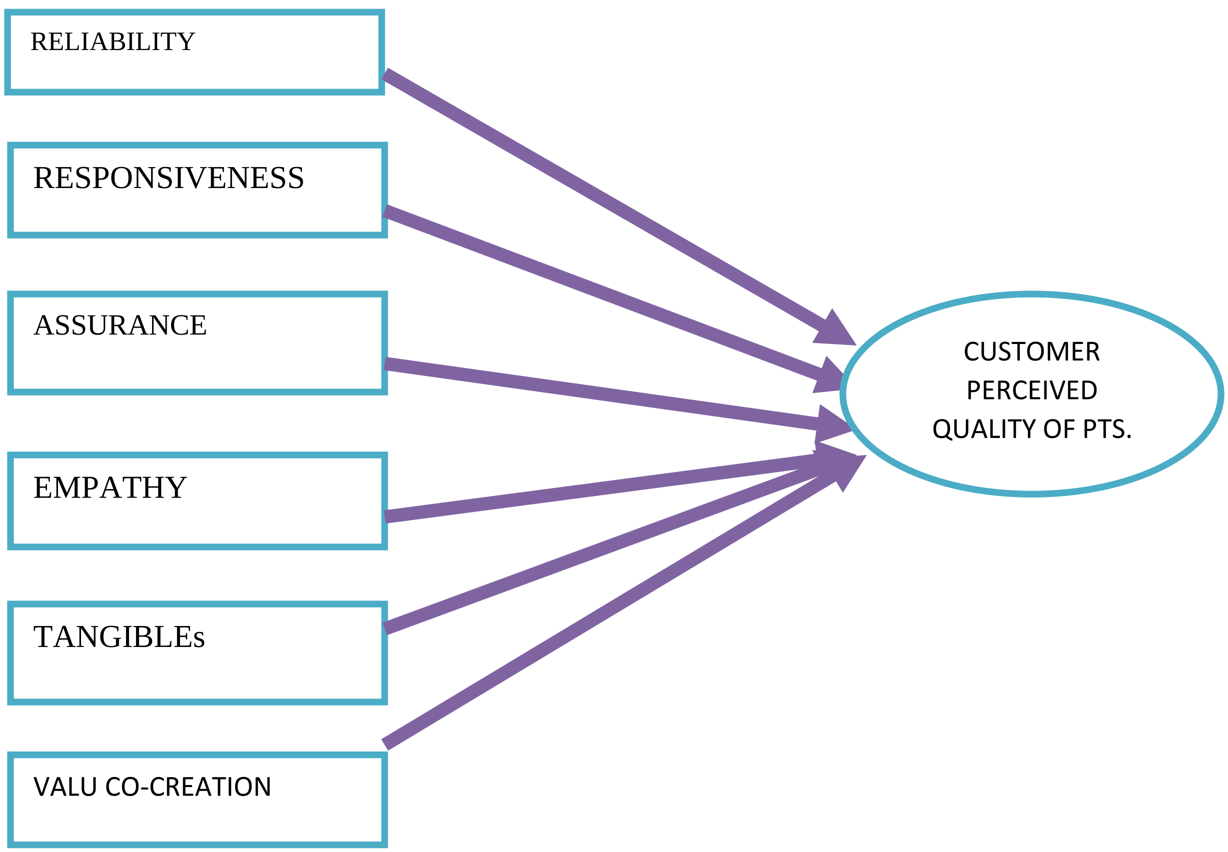
- The management should take proper measure on the challenges and problems,
- Since the vehicles we drive lacks proper spare parts for this reason we are forced to terminate our work, we also have to wait for a longer period of time till our bus get mentioned,
- The enterprise do not provide us the required benefits we are not paid for overtime works , there is a shortage of hygiene materials and work uniforms,
- Even if the bus should take only 70 passengers in accordance to the company standard a boarding more than 120 passengers exposed the vehicles for huge pressure and prohibited the vehicles not to provide quality services and problem has been observed du e to long period of service
- We do not have proper protection and guarantee as we exposed to clients intimidation by pistol sometime there are clients that motivated to involve in fight with us there are some clients that commits unnecessary acts by being intoxicated with alcohol drinks, this decreases or motivation and initiation not to discharge our service with integrity and diligently.
- There is huge problem parking, this has created us not to delivery our services on time

2.4 Conceptual Framework and Hypothesis Development

Based on the existing theories and ideas in the literature, the research formulated an inclusive research framework.

2.4.1 Conceptual Framework

Figure 4: conceptual framework showing relationships between variables



Source: - Self extracted based on the literature review.

N.B Items (RELIABILITY, RESPONSIVENESS, ASSURANCE, EMPATHY andTANGIBLEs) Are the original constructs of SERVEQUAL.

2.4.2 Hypothesis Development

Hypothesis testing is about testing to see whether the stated hypothesis is acceptable or not. During our hypothesis testing, we want to gather as much data as we can so that we can prove our hypothesis one way or another. There is a proper four-step method in performing a proper hypothesis test:

1. Write the hypothesis
2. Create an analysis plan
3. Analyze the data
4. Interpret the results

Structural equation modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs. This method is preferred by the researcher because it estimates the multiple and interrelated dependence in a single analysis. In this analysis, two types of variables are used endogenous variables and exogenous variables. Endogenous variables are equivalent to dependent variables and are equal to the independent variable.

This study uses the five major construct of SERVQUAL model five dimensions of service quality are namely, reliability, responsiveness, assurance, empathy, and Tangibles as the most significant factors for an explanation of the rate of service quality (Sadiq Sohail and Shanmugham, 2003). Additionally, the researcher modified this model by introducing one relevant factor: value co-creation to investigate its effect on the customer perceived quality of public transport service the proposed research framework of the study Hear under

H1: There is positive relationship between Reliability and Customer Perceived Quality of

Public transport service.

H2: There is positive relationship between Responsiveness and Customer Perceived

Quality of Public transport service.

H3: There is positive relationship between Assurance and Customer Perceived

Quality of Public transport service.

H4: There is positive relationship between Empathy and Customer Perceived

Quality of Public transport service.

H5: There is positive relationship between Tangibles and Customer Perceived Quality of Public transport service.

H6: There is positive relationship between Value Co-Creation and Customer Perceived Quality of Public transport service.

Chapter Three

3. Research Methodology

3.1 Introduction

In this chapter the research methodology which is used for this study are discussed. Topics of coverage in this chapter include research design, population and data type source, sampling design, and data collection method, data collection instruments, data analysis and presentation method, finally validity and reliability and ethical consideration are included.

Research methodology is a way to systematically solve the research problem as well as understood as a science of studying how research is done scientifically (Kotharie, 2004). Research methods may be understood as all those methods/techniques that are used for conducting of research.

3.2 Research Purpose

Research can be categorized into different types depending on the nature of the purpose or research problem .The purpose of the academic research can be exploratory (ambiguous problem), descriptive (aware of problem), or explanatory (clearly defined problem) (Yin, 1994; Zikmund, 2000). Saunders et al. (2000) argue that more than one purpose can be employed in a study Yin (1994) highlights that the boundaries between the categories are not always clear.

Exploratory Research; the name implies, the primary objective of exploratory research is to explore a problem to provide insights into and comprehension for more precise investigation. It focuses on the discovery of ideas and thoughts. The exploratory research design is suitable for studies which are flexible enough to provide an opportunity for considering all the aspects of the problem exploratory research is one which aims at providing insights into and an understanding of the problem faced by the researcher.

Descriptive Research; by the term descriptive research, we mean a type of conclusive research study which is concerned with describing the characteristics of a particular individual or group. It includes research related to specific predictions, features or functions of person or group, the narration of facts, etc. Descriptive Research concentrates on formulating the research objective, designing methods for the collection of data, selection of the sample, data collection, processing, and analysis, reporting the results. The descriptive research aims at obtaining complete and accurate information for the study, the method adopted must be carefully planned. The researcher should precisely define what he wants to measure? How does he want to measure? He should clearly define the population under study. It uses methods like quantitative analysis of secondary data, surveys, panels, observations, interviews, questionnaires, etc.

Explanatory Research; is conducted for a problem which was not well researched before, demands priorities, generates operational definitions and provides a better-researched model. It is actually a type of research design which focuses on explaining the aspects of your study in a detailed manner. The emphasis of explanatory researches is on studying a problem or a phenomenon in order to establish causal relationship among variables (Saunders et al., 2000). Explanatory research is sometimes referred to as causal research (Zikmund, 2000) the research question reveal that on this study is both descriptive and explanatory type.

3.3 Research Design

The main purpose of this study is to identify the major factors which affect the quality service of public transport in the city. To serve this purpose, descriptive and explanatory researches approachesare used. Both primary and secondary data are employed for the study. To this effect, the primary data mainly was collected from public offices, transport enterprises selected for the study and mass transport users of Addis Ababa residents. And secondary data gathered from published and unpublished articles, soft copies from internet and offices.

A Field observation was obtained as well as informal discussions also are made with relevant people around the study area to get additional information. Both quantitative and qualitative approaches used for the study.

The researcher chose these mass transport enterprises because highly exploited modes of transportation in the city and hoped would support an argument for typicality. The research involves an explanatory research studying the casual of one variable over the other.

3.4 Data Source

Basically there are two sources of information used for research purposes – primary and secondary sources. Primary sources are those in which require to conduct a new survey for gathering information at different levels with regard to the inquiry. Secondary sources are those which are made available or have been collected for other research purposes (Adams, Khan, Raeside, and white, 2007).

3.5 Study Area/Organization

The Scope of the Study, Population is Enclosed PTS Service Users of Addis Ababa City Especially Customers of Anbesa and Sheger City Bus Transport Enterprises in Addis Ababa, Ethiopia. Anbesa And Sheger Both Are A State-Owned Institution Established In 1935 And 2007 Ec. respectively Anbesa, The State-Owned Bus Operator in the City, Until In The Resent Time It Is The Only Formal Urban Public Transport Company In Addis Ababa.

3.6 Target population

The Study Target Populations Were Anbesa And Sheger PTS Users In The City Of Addis Ababa That Expected More Than 1 Million. Customers Are Targeted Because customers are Are The primary Stockholders In The Public Transport Service; Therefore PTS Users Of Anbesa And Sheger In Addis Ababa City Would Be Considered As Sample Frame Of Current Research .

3.7 Sampling Methods and Sample Size

A sampling method is a procedure for selecting sample members from a population. Three common sampling methods are: simple random sampling , stratified sampling , and cluster sampling By using appropriate sampling techniques which best suites the purpose and situation, sampling has been performed to select representative sample from sampling unit from the total users of public transport service population. This study used multistage sampling techniques to reach at the specific 384 respondents.

3.7.1 Sample Size Determination

Sampling is a statistical process of selecting few representatives from the population, on the basis of which the characteristics of the total population can be determined. Determining sample size is a very important issue because samples that are too large may waste time, resources and money, while samples that are too small may lead to inaccurate results. On this study the Sample size Of the Respondent and the number of ruts that customer selected has been determined by using the following techniques and the detail is presented as follows.

3.7.2 Sample Size

A method developed by Carvalho (1984) has been used to determine the bus ruts sample size. This sampling technique has been used by; (Kerima, 2016; Abraham, 2017) while determining sample size of Anbesa & Sheger city bus transport enterprises depots & ruts. The researcher has received the data's from the enterprises January 2019. The Data Attached In the Appendix Part.

Table 7: Number of Depots and Number of routes in Addis Ababa City.

No.	Name of the enterprise	Name of Terminals	Number of routes in each Terminals	Proportion(in percentage)
1	ANBESA city bus transport enterprise	1. Merkato	42	34%
		2. Minilik	13	10%
		3. Megenagna	42	34%
		4. Lagahare	27	22%
		Total	124	100%
2	SHEGER city bus transport enterprise	1. Piazza	23	47%
		2.Mexico	16	33%
		3.Megenagna	10	20%
		Total	**49**	**100%**

Source: Anbesa & Sheger City Bus Enterprises January 2019.

After determining the appropriate number of sample routes from each depot, Decide the Proportion (in percentage) Customers' Sample Size.

A sample size is the total number of data points collected in a study Identifying sample size is Key to determining whether data accurately reflects the population as a whole. A larger sample size generally means greater accuracy. Sample size determination is an important element in any survey research. According to Israel (2009), there are four strategies to determine sample size – using a census for small population, using the sample size of similar studies, using published tables like the table of Krejcie and Morgan (1970), or using formulas to calculate a sample size. For instance, Krejcie and Morgan (1970), using a formula, came up with a table for sample size determination. According to them, for a population greater than 1,000,000 and confidence level of 95%, the sample size should be 384. According to Hair, Anderson, Tatham, and Black (1998) a sample size between 200 and 400 is usually acceptable as critical sample size for attitude studies.

The formula below is used to determine the sample size:

$$no = \frac{N}{1 + N(e^2)}$$

Where = no is the sample size

N= is the population size, and

e = is the level of precision or sampling error.

Table 8: Number of Sample PTS- Customers of Anebesa and Sheger PTS service routes.

Source: ANEBESA and SHEGER City bus transport enterprises data January, 2019.

No.	Name of the enterprises	Name of Terminals	Number of routes in each Terminals	Proportion (in percentage)	No of Proportion of sample PTS users in each routes	No of sample PTS users from each routes
1	Anbessa	MERKATO	42	34%	65	2
		MINILIK	13	10%	20	2
		MEGENAGNA	42	34%	65	2
		LAGAHARE	27	22%	42	2
		TOTAL	124	100%	192	-
2	Sheger	PIAZZA	23	47%	90	4
		MEXICO	16	33%	63	4
		MEGENAGNA	10	20%	39	4
		TOTAL	49	100%	192	-
		Cumulative Total	173		384	

Finally, it was used to collect data from the sample of 384 customers/respondents. Thus, in the selected terminals and routes questionnaire was distributed to customers on a walk in basis i.e. questionnaire is given to a customer on terminals, bus stations and participate on the tripe where customers are gone until the expected number of sample from the selected route has been satisfied.

3.8 Data Collection Method

The data collection was one of the important stages in the research activity and was carried out after the researcher was finished made the design of the research in accordance with the problem that will be researched. In this thesis both primary and secondary data were used.

3.8.1 Primary Data Collection

A questionnaire was designed for sampled customers of Anbesa and Segere city bus transport enterprise in the Addis Ababa city the questions asked concerned the respondents' opinions about public transport services quality. The primary data for the analysis will be obtained in three major ways: First Questionnaire surveys This will be conducted on subjects, 384 in number, Here, special emphasis will be given to the particular times of the day when sample is taken, i.e. survey will be conducted both in on and off peak hours. The structured questionnaire to be prepared in general will have three parts; The background profile (the socio-economic characteristics of the respondents), service and travel behavior related, and a set of questions aimed at getting brief feedback about the current status of mass transport service. Second the way of data collection in-depth interviews it is mainly a discussion made with the mass transport enterprise higher, middle and lower level management and relevant governmental office staff aimed at obtaining the contexts in which such transport modes operate thirdlyon site observation. The respondents stated whether they agreed or disagreed with different statements about public transport attributes. Altogether, 44 attributes were rated.

The questionnaire was developed based on previous empirical literature and its consistency is tested using Cronbach Alpha. Closed ended questionnaires were used for the study. The close-ended questions were developed on a five point Likert scales ranging from 1 (strongly agree) to 5strongly disagree). The questionnaire began with an introductory statement, which specified the purpose of the research as purely academic. Respondents were encouraged to be objective in their responses since they were assured of confidentiality.

3.8.2 Secondary Data Collection

The study used secondary data that is obtained from public bus transport sector Anebesa & Sheger, city bus enterprises, from Addis Ababa Transport biro and road authority annual reports and different studies done by professionals on the field of public transport and also collected from service science literatures, articles and books.

3.9 Method of Data Analysis

After the completion of the data collection process, gathered data is edited manually, inspected and coded for analysis process. The analysis combines both qualitative and quantitative data analysis methods, since the data collected are in the form of numbers and words. In this study for analyzing the data at hand, descriptive and inferential analysis was used to see the relationships on variables by using Statistical Package for the Social Science (SPSS) and using structural equation model (SEM) Amos software used. Data analysis of the study involves several stages. First the statistical reliability of items on the questionnaire was checked using Cronbach-alpha. In the analysis process the first stage involves data screening process and tests to satisfy multivariate assumption. The purpose of this stage is to test whether the data is suitable to be used for the purpose of statistical analysis. After passing the first stage, the second stage is to do variable screening process and the third stage exploratory factor analysis to identify the underlying structure of the variables involved (Hair, Tatham, Anderson, & Black, 2006). In the fourth stage, the data is run using structural equation model (SEM). SEM is a well-known method to analyze a survey data. It is a statistical methodology that takes a confirmatory approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001) and a comprehensive statistical approach to testing hypotheses about relations among observed and latent variables (Hoyle, 1996). The measurement model is done using validity factor analysis in order to validate measurement scale of a construct (Hair et al., 2006). Variables that pass this analysis test are then applied to structural model analysis in order to examine the relationships between the endogenous variables and the exogenous variables of the study. To establish the relationship between the independent variables and the dependent variable of the study, an inferential analysis which involved multiple regressions, a coefficient of determination, and correlations analysis were involved.

Data entered into SPSS with close supervision after which data cleaning was conducted throughout the variables. Specifically, Pearson Coefficient of Correlation was use as a measure of finding correlation between the two variables (cohen, 1998) and use the multiple linear regression model that shows the impact of independent variables on its dependent variable.

3.10 Model Specification

A measurement model that define latent variables using one or more observed variables and a structure model that imputes relationship between latent variables The following model was formulated for this research in order to test the research Hypothesis.

CPQ= f (ASS, REL, TAN, EMP, RES, VCC)

$CPQ = \beta o + \beta 1 ASS + \beta 2\ REL + \beta 3\ TAN + \beta 4\ EMP + \beta 5\ RES + \beta 6\ VCC + \varepsilon$

(Where CPQ is the dependent variable of the respondents' perception of the "customer perceived quality services"; ASS, REL, TAN, EMP, RES and VCC represent the independent variables (ASS – Assurance, REL – reliability, TAN – tangibility, EMP -empathy, RES – responsiveness and VCC –value co-creation); and ε denotes the error terms. Moreover βo = intercept/constant, $\beta 1$-$\beta 6$= slope coefficients,)

3.11 Measurement of Constructs

The main goal of this study is to identify the existing challenges in the contemporary practice of PTS which affect Quality of service delivery from customer point of view. Based on extended literature review we have developed an appropriate research construct which had been validated in prior studies.

The table below describes the

Table 9: Independent variables and its measurement

Dependent Variable	Concept	Dimensions	Indicators	Scale
Customer perceived Quality of public transport Service	Conceptualized as dimensions of service quality that lead to efficient performance and passengers satisfaction	Reliability	- Providing services as expected (promised) - Dependability in handling passengers' complains and problems - Performing services right the first time - Providing services at the promised time	
		Responsiveness	- Keeping customers informed about when services will be performed. - Prompt service to customers - Willingness to help customers. - Readiness to respond to customers	
		Assurance	- Employees who instill confidence - Making customers feel safe in their transactions	
		Empathy	- Giving customers individual attention - Employees who deal with customers in care.	
		Tangibles	- Modern equipment's/vehicles - Visually appealing facilities associated with the service	
		Value co - creation	- Customer participation.	

Source: Adopted from Krishina et al, 2010 and self-extracted based on the literature review.

Table 10: Conceptual Definition of Constructs

Constructs	**Conceptual Definition**	**Number of Items**
customer perceived quality services (CPQL)	Refers to The customer's perception of the overall quality of the delivered public transport service	6
Assurance (ASSU)	Refers that including knowledge, skills, hospitality, courteous, and trustworthy nature of the contact personnel to the nature of consumer skepticism, and feel free from danger and risk.	4
Reliability (RELY)	Refers to the ability to provide services promised to the right (accurately) and the ability to be trusted (dependably), mainly to provide services in a timely manner (on time), in the same manner in accordance with the schedule that has been promised, and without making a mistake each time	5
Tangibility (TANG)	Refer that availability of physical facilities, equipment, and communication facilities and the other that can or should be in the process of services	6
Empathy (EMPA)	Refer that include attitude contact and company management to understand consumer needs and difficulties, good communication, personal attention, ease of communication or conduct in the relationship.	5
Responsiveness (RESP)	Refers that is the will or desire to help employees and provides services that consumers needed. Leaving the consumer to wait, especially without a clear base, will cause a negative impression that should not happen.	4
value co-creation (VCCR)	Refers customer's participation on public transport service quality improvement.	4

3.12 **Ethical Considerations**

The researcher tried to clearly inform to the respondents the purpose of the study is for academic purpose. In addition to this, they informed that their participation in the study was based on their consents. There was no misrepresentation or distortion of the actual data collected from respondents the researcher also not personalizes any of the response of the respondents during data presentations, analysis, and interpretation. Finally, all the materials that were used for this research are duly acknowledge.

Chapter Four

4. Data Analysis and Presentation

4.1 Introduction

The purpose of this chapter determined the way a researcher used to conduct an empirical analysis and discussion. The actual questionnaire survey data analysis according to the research methodology discussed in the previous chapter. Accordingly, descriptive analysis of respondents' profile, descriptive analysis of customer perceived quality service, this chapter is covered of 4 major sections. Section one tests non response bias, section two discusses about questionnaire pilot testing, section three is about profile of the respondents, section four assesses the quality of data, five describe about factor analysis exploratory and confirmatory factor analysis, At last, a detailed discusses about findings of empirical results.

4.2 Sample and response rate

The study uses questionnaires, interview and on sight observation to collect data the questionnaires are distributed to the customers of Anbesa and Sheger city bus enterprises and the employees of the enterprises are interviewed.

The total sample of the study was 384, out of the 400 questionnaires distributed, 384 were returned and 13 were rejected because of poor data quality 374 questionnaires were valid with sufficient amount of response rate of 93.5% Babbie (1990) suggests that response rate of 50% is adequate, 60% is good, and 70% or above is very good. Therefore, as per Babbie the response rate in this research was very good. Therefore, 374 questionnaires, which are 97.4% of the sample size, found to be valid for further statistical analysis.

The analysis of customer's data by making use SPSS and AMOS of Structural Equation Modeling and multiple regression models respectively is presented and discussed.

4.2.1 Validity

In order to ensure the validity of this study and data collection instrument, the following actions are taken:

1. Try to easy to answer the questionaries' by the respondents.
2. Try to Developing the questionnaire from the existing problems and situations.

3. A pilot survey was conducted on randomly selected 48customers by making use of the questionnaire developed for this study in order to ensure that the questionnaire is appropriate and statements are generally understandable.
4. Try to Developing the questionnaire from the related literatures and possible factors that determine to the quality of public transport service.
5. The questionnaire was translated to Amharic by using professionals.

4.2.2 Reliability

Reliability (internal consistency) analysis is used to test to what extent the separate items measure the same concept. In the reliability of the instrument can be judged by estimating how well the items that reflect the same construct yield similar results (Trochim, 2000, p. 97). Reliability is the statistical measure of the equivalence, consistency, and stability of the survey instrument (Sekaran, 2006). The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Intra class correlation coefficients can be used to compute inter-rater reliability estimates. In this research the Reliability of the data test by use Cronbach's Alpha because it is the most common measure of internal consistency. It is most commonly used on multiple Likert-scale questions in a survey questionnaire to determine if the scale is reliable (Lund Research Ltd, 2007).

In Interpreting Cronbach's Alpha, George and Malley (2003, cited in Matkar) provide the following techniques:

Table 11: Cronbach‟s alpha reliability coefficient

consistency	Excellent	Good	Acceptable	Questionable	Poor	Unacceptable
Cronbach alpha	α >0.8	0.8≤ α	0.7≤α	0.6 ≤	0.5≤α	α< 0.

In order to achieve reliability to apply Cronbach's alpha test the researcher uses a pilot study that conducted prior to the beginning of the full study. By using the respondents' responses Therefore, 48 initial questionnaires was distributed and collected from twenty ruts that public buses were departed in order to obtain some assessment related to the questions' reliability and validity. 44 usable questionnaires were returned (a response rate of 92 %.). This was an acceptable response rate according to Saunders et al. (2009) who recommended that a 30% response rate was reasonable for questionnaires delivered and collected for pilot test.

As can be seen in Table 12 shows that the measure of CPQ began with 6 items. One Item was dropped because its correlated item total correlation was below 0.35. Hence, using 5 items Cronbach alpha for CPQ was 0.829. (REL) began with 5 items, of which 1 item was dropped because their correlated item total correlations were below 0.35 as a result; Cronbach alpha for (REL) was 0.729(VCC) dropped one item for similar reason and its Cronbach alpha was 0.960.

As can be seen in Table shows that the Cronbach alpha for ASS & EMP was .872&.725respectively, Cronbach alpha for CPQ and RES were .829&.794respectively and Cronbach alpha for TAN & REL was .764&.707 and also Cronbach alpha of VCC .960respectively.

Table 12: Instrument Reliability

Instrument Reliability

Constructs	No. of items proposed	No. of items dropped	No. of items retained	Cronbach's Alpha
Customer perceived quality (CPQ)	6	1	5	.829
Responsiveness (RES)	4		4	.794
Assurance (ASS)	4		4	.872
Empathy (EMP)	5		4	.725
Tangibles (TAN)	6		6	.764
Reliability (REL)	5	1	4	.729
Value Co-Creation(VCC)	4	1	3	.960
Total Scale Reliability	34	3	31	.821

Source: Survey data, 2019

All of their items satisfied all criteria.

4.3 Descriptive analysis of the dependent and independent variables

A descriptive statistics has conducted for the dependent variable (customer perceived quality of public transport service) and independent variables' (reliability, assurance, responsiveness, tangibility, value-co creation and empathy).

4.4 Profile of the Respondent

The demographic information was included in the questionnaire in order to ensure that valid and useful results were obtained and to ensure that the respondents were fairly representative of stakeholders that is customer base. Demographics are characteristics of a population that are used in research exercise such as the one included in this dissertation (Pennsylvania State University, 2006). The study had used the frequency distribution output from the SPSS software to analyze questionnaires. There are 374 questionnaires analyzed through SPSS software. Accordingly, the result of the frequency distribution of the Personal and demographic information such as gender, age, education level, Occupation and other information's as displayed by the software is mentioned and interpreted as follows in the following table (Table 13).

Table 13: Summarizes The Demographic Profile Of The Respondents.

Variables	Categories	Frequency	Percent
Gender of Respondent	Male	221	59.1
	Female	153	40.9
	Missing		
Age of Respondent	from 15-19	37	9.9
	from 20-29	161	43.0
	from 30-39	84	22.5
	from40-49	57	15.2
	from 50-59	35	9.4
	Missing		
Educational Level of the Respondents	belowe10	38	10.2
	10 or 12 complete	78	20.9

	certificate	25	6.7
	diploma	86	23.0
	first degree	147	39.3
	Missing		
Occupation of Respondent	student	84	22.5
	government employee	138	36.9
	NGO	70	18.7
	own business	54	14.4
	daily levered	28	7.5
	Missing		
Are you permanent user of PTS	yes	274	73.3
	no	100	26.7
	Missing		
In a week how many days you use PTS	all days of the week	88	23.5
	1-5 days in a week	102	27.3
	1-2 days in a week	70	18.7
	1-3 days in a week	73	19.5
	sometimes	41	11.0
	Missing		
If not in what type of transport means Do you use	on foot	109	29.1
	on bicycle	84	22.5
	light railway	14	3.7

	taxi	15	4.0
	own car	7	1.9
	Missing	145	38.7
From your house in what distance you get bus transport access	Less than 100 m	114	30.5
	100-300m	129	34.5
	301-500 m	45	12.0
	500-1000m	64	17.1
	1 Km and above	22	5.9
	Missing		
How many time do you need to reach the bus station	Less than10 min	119	31.8
	11-20 min	149	39.7
	21-60 min	93	25
	1 hour and above	13	3.5
	Missing		
How much time do you need to wait to get the bus service?	below5 min	119	31.8
	5-10 min	149	39.8
	10-20 min	55	14.7
	21-60 min	43	11.5
	above 1 hour	8	2.1
	Missing		

Source: Survey data, 2019

As shown in table, the majority of the respondents, i.e. 221 (59.1 percent) were males, and the numbers of female study participants are153(40.9 percent).With regard to the educational background of active mass transport service fusers selected for the study, 147 (39.3 percent) reported to have a first degree education level, while 86 (23%) of them were college diploma.

The remaining 25(6.7%) and 78 (20.9%) of the respondents were having an education of certificate and 12 complete. As far as the respondents occupation is concerned, 138 (36.9%) of the study participants explained to be Government employee, whereas 84 (22.5%) of them work in student. The remaining 70(18.7%) and 54 (14.4%) replied to have engaged in NGO and Run own business works respectively. With regard to how the familiar the subjects are with mass transport service, the overwhelming majority 274 (73.3%) responded to be a regular public transport users, and the remaining 100 (26.7%) were not regular public transit users. Regular mass transport service users were also asked about how often they travel with public transport vehicles. Based on this, 102 (27.3 percent) of them respected to be city bus service users on a daily basis. While 88 (23.5%) reported to travel 1-5 days a week. And the rest 73 (19.5 percent and 70 (18.75 percent) of them testified to use mass transport about 1-2 and 1-3 days andweek respectively. Regarding mass transport service proximity, respondents were asked the estimated distance of public transport service statues from home. Many of the study participants estimated the home-bus station distance to be less than 300m. And 64(17.1percent) replied to be 100 m – 500m,45(12%) and 22 (5.9%) the respondents answered the distance to range 500m and 1kmrespectively.Regarding how long it takes for the respondents to travel on foot to the bus stations, 149(39.7 percent) of them reported to travel 10 – 20min and 119(31.8%) of them explained to walk less than 10min from home to the nearest bus stations.

4.5 Data Analysis: Assessing the Quality of Data

4.5.1 Assessing the Sample Size

The number of elements (e.g., respondents, artifacts, or cases) utilized in analysis and reflective of a greater population is known as a study’s sample size. The sample size needed to conduct statistical analyses depends on several factors, including the confidence interval, margin of error, and population size. The sample size affected the accuracy of all the statistical estimates. Many researchers suggested rules of thumb for sample size minimums which relied on the number of measured variables.

4.5.2 Assessing Common Method Bias

Common method biases can have potentially serious effects on research findings, it is important to understand their sources and when they are especially likely to be a problem. Evidence of common method bias can be obtained by examining the statistical significance of factor loadings of the method factor and comparing the variances of each observed indicator explained by its substantive construct and the method factor. Common method bias assumes that a single factor explains the majority of variance. The squared values of the method factor loadings were interpreted as the percent of indicator variance caused by method, whereas the squared loadings of substantive constructs were interpreted as the percent of indicator variance caused by substantive constructs. If the method factor loadings are insignificant and the indicators' substantive variances are substantially greater than their method variances, we can conclude that common method bias is unlikely to be a serious concern.

On This study investigated this method because of using one questionnaire to measure all constructs. The un-rotated factor analysis showed that the first factor accounted for 19.936% of the total variance. Therefore, the results suggested that there were no common variable since its value was not above 50 %.

Table 14: Total Variance Explained

Source: Survey data, 2019

Total Variance Explained									
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.180	19.936	19.936	6.180	19.936	19.936	3.587	11.571	11.571
2	3.130	10.097	30.033	3.130	10.097	30.033	3.097	9.992	21.562
3	2.958	9.541	39.574	2.958	9.541	39.574	3.014	9.724	31.286
4	2.645	8.534	48.107	2.645	8.534	48.107	2.838	9.155	40.441
5	2.316	7.472	55.580	2.316	7.472	55.580	2.536	8.182	48.623
6	1.478	4.768	60.348	1.478	4.768	60.348	2.434	7.853	56.477
7	1.118	3.606	63.954	1.118	3.606	63.954	2.318	7.478	63.954
8	.989	3.190	67.145						
9	.864	2.788	69.933						
10	.768	2.478	72.411						
11	.752	2.425	74.836						
12	.692	2.234	77.070						
13	.644	2.077	79.147						
14	.609	1.964	81.110						
15	.567	1.830	82.940						
16	.540	1.741	84.681						
17	.513	1.655	86.336						
18	.468	1.510	87.846						
19	.461	1.489	89.335						
20	.435	1.403	90.737						
21	.428	1.381	92.118						
22	.404	1.304	93.422						
23	.386	1.245	94.666						
24	.347	1.119	95.785						
25	.321	1.037	96.822						
26	.272	.876	97.698						
27	.234	.755	98.453						
28	.205	.662	99.116						
29	.175	.564	99.680						
30	.085	.275	99.955						
31	.014	.045	100.000						

Extraction Method: Principal Component Analysis.

4.5.3 Assessing Missing Data

In statistics, missing data, or missing values, occur when no data value is stored for the variable in an observation. Missing data are a common occurrence and can have a significant effect on the conclusions that can be drawn from the data.

Missing data can occur because of nonresponse: no information is provided for one or more items or for a whole unit. Although the data were collected from a probability sample, the missing data procedure was conducted for more accurate and statistically valid data, even though the findings are ignorable according to Hair et al. (1998). The reasons were; first, a probability sample approach is likely to cause missing data. Second, with likert scale rated items it is quite possible to have missing data issues, but missing data were not considered as a vital problem, especially with 10% of missing values (Coleman, 2011). On the other hand, missing data may cause the following two negatives on the research results: (1) it may produce biased estimates' and (2) it reduces the model's fit (Ahmed 2014).

Accordingly the above being stated, the result of the missing data analysis in excel sheet revealed that there were no missing data. After assuring clarity of the entered data, it precedes to the next step to assessing the Outliers.

4.5.4 Assessing Linearity Assumption

Multiple linear regression model assumptions assume there is a linear relationship between the independent variables and the dependent variables. The linearity assumption of multiple linear regressions is that the relationship between the independent variable and the dependent variable can be characterized by a straight line. Linearity assumption already linear from the equation of multiple linear regression models of the independent variables and dependent variable (Gujarat, 2004).Linearity assumption was not serious threat to the study since we can draw one straight line to approximate the observations for all independent variables against the dependent variable, customer perceived quality of PTS, and also the variance between the upper and lower cases of the observations were reasonably similar. Linearity defines the dependent variable as a linear function of the predictor (independent) variables. Standard multiple regression can only accurately estimate the relationship between dependent and independent variables if the relationships are linear in nature. As there are many instances in the social sciences where non-linear relationships occur (e.g., anxiety), it is essential to examine analyses for non- linearity. If the relationship between independent variables and the dependent variable is not linear, the results of the regression analysis will under-estimate the true relationship. This under- estimation carries two risks: increased chance of a Type II error for that independent variables, and in the case of multiple regression, an increased risk of Type I errors (over- estimation) for other independent variables that share variance with that independent variables. If linearity is violated all the estimates of the regression including regression coefficients, standard errors, and tests of statistical significance may be biased (Keith, 2006).The study conducted curve estimation for all the relationships in the model and all the relationships were sufficiently linear to be tested using a covariance based structural equation modeling algorism.

4.5.5 Assessing Multicolinearity Assumption

Multicollinearity (also collinearity) is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy. In this situation the coefficient estimates of the multiple regressions may change erratically in response to small changes in the model or the data. Multicollinearity does not reduce the predictive power or reliability of the model as a whole, at least within the sample data set; it only affects calculations regarding individual predictors the decision rule is a variable whose VIF value is greater than 10 indicates the possible existence of Multicollinearity problem. Tolerance (TOL) defined as 1/VIF, it also used by many researchers to check on the degree of collinearity. The decision rule for tolerance is a variable whose TOL value is less than 0.1 shows the possible existence of Multicollinearity problem (Gujarati, 2004). The more variables overlap (correlate) the less able researchers can separate the s of variables (Keith, 2006). If this assumption is not satisfied, autocorrelation is present. Multicollinearity can result in misleading and unusual results, inflated standard errors, reduced power of the regression coefficients that create a need for larger sample sizes (Jaccard et al., 2006; Keith, 2006).Widely used technique of identifying the existence of multicollinarity is calculating variance inflation factor (VIF) between all independent variables. The VIF is an index of the amount that the variance of each regression coefficient is increased over that with uncorrelated independent variables (Keith, 2006). This assumption can be checked with tolerance and VIF statistics (Field, 2009).

Table 15: Statistics of Multicollinearity Test

Independent Variables	Collinearity Statistics
	VIF
Reliability	1.604
Assurance	1.010
Tangibles	2.552
Empathy	2.151
Responsiveness	1.008
Value Co-Creation	1.015

Source: Survey Result (2019)

On top of using VIF to diagnosis Multicollinearity, the correlation matrix of observed variables provides the correlation coefficients between a single variable and the other variables. Therefore, the data is free from Multicollinearity problem.

4.5.6 Assessing Normality Assumption

This assumption test whether the data is well modeled by normal distribution or not. This test of normal distribution could be checked by graphical (histogram and dot plot) method of tests. The normality assumption assumes a critical role when a study is dealing with a small sample size, data less than 100 observation (Gujarati, 2004). The assumption was tested by using normal probability plot (NPP). The decision rule is, if the fitted line in the NPP is approximately a straight line, one can conclude that the variables of interest are normally distributed (Gujarati, 2004).

The study discussed five major assumptions that must be fulfilled for one to analyze data using multiple linear regression models. So, since all the five assumptions were not violated, the researcher examined the data collected by the questionnaires using correlation and multiple linear regression models.

4.6 Data Analysis: Factor Analysis

Factor analysis attempt to identify underling variables, or factors, that explain the pattern of correlation within a set of observed variables. The purpose of factor analysis is to reduce many individual items into a fewer number of dimensions in regression models. This process is used to identify latent variables or constructs. Factor analysis can be used for different purposes. Firstly, through calculating the factor loading, factor analysis can be employed for evaluating the validity of measurements. Secondly, factor analysis can be used to confirm or develop a theory through investigating the observed variables which belong to latent ones (unobserved variables). Thirdly, factor analysis is used to produce a smaller group of latent variables which consist of a larger set of observed variables (manifest variables) (Thompson, 2004; Albright and Park, 2009; Field, 2009).

Factor analyses are divided into two types. Firstly, Exploratory Factor Analysis (EFA) is described as the early stages of research to discover the interrelationships between a set of observed variables (Carrington, 2009). EFA is designed to explore the relationship between observed and latent variables when this relationship is uncertain or unknown. Therefore, it aims to determine the degree to which the observed variables are linked to their fundamental factors (latent variables). It is designed only to suggest and not to confirm groups or dimensions. Secondly, Confirmatory Factor Analysis (CFA) is a more complex set of techniques than EFA which is used to confirm specific hypotheses when the researcher knows that these measures correlate with the latent variable (Carrington, 2009). Based on a theory, the researcher suggests relationships (hypothesized structure) between the observed items and their factors which are tested statistically (Byrne, 2010).

4.6.1 Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) is one of the most commonly-reported quantitative methodologies in the social sciences, yet much of the detail regarding what happens during an EFA remains unclear. The EFA’s primary objectives are to find the factors, which consist of a set of measures; to discover the strength of the relationship between each factor and each observed measure; and to reduce a data set to a more manageable size whilst retaining as much of the original information as possible (Field, 2009). Using SPSS version 25, this study performed EFA and reliability analysis. EFA aims to obtain a set of dimensions (factors) which explain the structure of the interrelationships (correlations) between items which should relate to each other for the purpose of producing an appropriate structure model (Hair et al., 2010)..

There were, also, two SPSS generated statistical measures to evaluate the factorability of the data. These were: Kaiser-Meyer-Olkin (KMO); and Bartlett's test of Sphericity (Pallant, 2003). The KMO measure of overall sampling adequacy assesses the degree to which indicators are valid or appropriate for factor analysis. A KMO value is between 0 (Factor analysis is likely to be inappropriate) and 1 (Factor analysis yield reliable factors).Kaiser (1974) recommended that the KMO value might be excellent, great, good, middling and unacceptable (above 0.9, between 0.8 and 0.9, between 0.7 and 0.8, between 0.5 and 0.7 and less 0.5, respectively). In this study, Table 16 showed that KMO was 0.814 (great) indicating that this data was suitable for conducting factor analysis or this sample was factorable. Moreover, Bartlett's test of Sphericity tests a null hypothesis; this supposed that the population correlation matrix was an identity matrix. This test depended on the assumption of normality which was proved above. Table 16 reported that Chi-Square was 6364.147 with (df = 465, $p<0.001$) which means that variables were related to one another. Table 16 showed that KMO was 0.814 (great) indicating that this data was suitable for conducting factor analysis or this sample was factorable. Moreover, Bartlett's test of Sphericity tests a null hypothesis; this supposed that the population correlation matrix was an identity matrix. This test depended on the assumption of normality which was proved above. Table 16; reported that Chi-Square was 6364.147 with (df = 465, $p<0.001$) which means that variables were related to one another. Therefore, the study was able to continue to complete the remaining steps of the factor analysis.

Table 16: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.814
Bartlett's Test of Sphericity	Approx. Chi-Square	6364.147
	df	465
	Sig.	.000

4.6.1.1 Factor Extraction

Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. Factor extraction is concerned with finding "the smallest numbers of factors that can be used to best represent the inter-relations among the set of variables" (Pallant, 2003). The two methods for this issue are as follows.

4.6.1.2 Communalities

Communalities indicate the amount of variance in each variable that is accounted for. Initial communalities are estimates of the variance in each variable accounted for by all components or factors. For principal components extraction, this is always equal to 1.0 for correlation analyses.

Extraction communalities are estimates of the variance in each variable accounted for by the components.

The communality was interested in common variances (Field, 2009). Therefore, the communality related to how much of the variance in the variables had been explained or was accounted for by the extracted factors. For any variables, the variances can be divided into two components. These are called common variances which are shared with other variables and the unique variance which is specific to that measure. Through the common source with others, the communality estimates a part of the variance in a variable. Low communality (below .5) may lead to its variable being omitted (Thompson, 2004). In this study Principal component analysis starts with 31 variables and common factors. Initially, it assumes that all variances are common. Hence, the communalities equal 1 before extraction. The communalities after extraction represented the amount of variance in each variable which could be explained by the retained factors.

Table 17: Communalities results after adjustment

Communalities		
	Initial	Extraction
In relation to the service quality improvement of the organization, if your desire is Accepted and implemented, do you think it will help the organization to Improve the service?	1.000	.869
In relation to the service quality improvement of the organization, if your desire or Perception won't be accepted, do you think it will have an impact on the Organization service quality improvement?	1.000	.966
Do you think the service you are receiving from the enterprise fulfills the level of your expectation and satisfaction?	1.000	.959
The readiness and tendency of bus service provider employees holding their responsibility to accept complaints from customer and providing response.	1.000	.718
The integrity and readiness of the transport service employees to give solution for each complain and questions rose by clients'	1.000	.684
The cost of travel considers the capacity of all the society members. (Affordability).	1.000	.668
I think the enterprises (Anbesa & Shegere) staffs ready to Give Response for customers	1.000	.724
I think the enterprises (Anbesa & Shegere) management Consider customers' needs in their decisions	1.000	.655
I think the enterprises (Anbesa & Shegere) employees Making customers feel safe & satisfied in their service	1.000	.708
There is enough Network coverage of public transportation buses on the Route	1.000	.648
The public transportation buses arrive in the station on time	1.000	.701
The buses aboard passengers on the right time.	1.000	.716
Users It does not take long wait to get public transport service at the station	1.000	.833
The reliability of the drivers work experience, their competency of their ability to Carry out their job and their handling the vehicles in proper manner	1.000	.938
The enterprises are setting and applying the standardized system which insures the safety of the transport customer.	1.000	.865
Extraction Method: Principal Component Analysis.		

4.6.1.3 Total Variance Explained

The variance explained by the initial solution, extracted components, and rotated components is displayed. This first section of the table shows the Initial Eigenvalues. The Total column gives the eigenvalue, or amount of variance in the original variables accounted for by each component. The % of Variance column gives the ratio, expressed as a percentage, of the variance accounted for by each component to the total variance in all of the variables. The Cumulative % column gives the percentage of variance accounted for by the first n components.

Total variance sets out by using Eigen values (Kim and Mueller, 1978), the aims in determining the number of factors which explain most variances in the data. Eigen values indicate the amount of variance explained by each factor. Eigenvectors are the weights which can be used to calculate factor scores which are called loads. Initially they were 31 variables with 31 Eigen values and seven factors explained 63.954% of the variance but later on these variables were reduced in to 15 because some variables which were unrelated to any of the factors and/or have low loadings were dropped. These seven factors explained 77.676% variance using Varimax rotation to conduct this analysis. (See table 18 :).

Table 18: Total Variance Explained after adjustment

Total Variance Explained									
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.975	19.831	19.831	2.975	19.831	19.831	2.802	18.682	18.682
2	2.649	17.657	37.488	2.649	17.657	37.488	2.641	17.609	36.291
3	2.545	16.968	54.457	2.545	16.968	54.457	2.096	13.972	50.263
4	2.002	13.345	67.801	2.002	13.345	67.801	2.073	13.822	64.085
5	1.481	9.875	77.676	1.481	9.875	77.676	2.039	13.591	77.676
6	.590	3.936	81.612						
7	.518	3.456	85.068						
8	.488	3.253	88.321						
9	.471	3.140	91.461						
10	.425	2.836	94.297						
11	.321	2.141	96.438						
12	.241	1.605	98.044						
13	.188	1.252	99.296						
14	.091	.609	99.905						
15	.014	.095	100.000						
Extraction Method: Principal Component Analysis.									

4.6.2 Factor Rotation

Table 19 contains the rotated factor loadings which related to the correlations between each item and its construct. Rotations minimize the complexity of the factor loadings to make the structure simpler to interpret. Factor loading matrices are not unique, for any solution involving two or more factors there are an infinite number of orientations of the factors that explain the original data equally well. Rotation of the factor loading matrices attempts to give a solution with the best simple structure the analysis was performed in an iterative way, until factor extraction rules were met.

The researcher used the option blank (0.5) in order to let SPSS to print only the values greater than 0.5 (Field, 2005). In order to increase the significance of items to their respective factor the researcher used 0.5 as cutoff. Moreover, this technique initially the factors loaded the same row in deferent column but later they were reduced in the list value variables in communality index when two variables (VCC 1 and ASS 1)were dropped because they were unrelated to any of the factors and/or have low loadings (loadings below 0.5). The analysis was performed in an iterative way, until factor extraction rules were met.

The analysis was performed in an iterative way, until factor extraction rules were met (the detail information put in appendix part) the first factor there are three items representing RESP on the second factor there are threeitems of RELY. Under the third factor there are three questions of ASSU and the Forth factor there arethreeitems of VCCR and the dependent variable CPQL 3 question. In summary, the EFA results five factors namely RELY, ASSU, RESP, VCCR and CPQL consisting of 3, 3, 3, 3and 3 questions respectively.The measurement model task begins with the final outputs of exploratory factor analysis which consists of latent variables with their respective indicators (observed variables) which are shown in the table 19 below Table 19Rotated Factor Loadings

Table 19: Proposed Latent variables and Indicators for EFA

Rotated Component Matrix[a]					
	Component				
	VCCR	**ASSU**	**RELY**	**RESP**	**CPQL**
In relation to the service quality improvement of the organization, if your desire or Perception won't be accepted, do you think it will have an impact on the Organization service quality improvement?	.982				
Do you think the service you are receiving from the enterprise fulfills the level of your expectation and satisfaction?	.978				
In relation to the service quality improvement of the organization, if your desire is Accepted and implemented, do you think it will help the organization to Improve the service?	.931				
The reliability of the drivers work experience, their competency of their ability to Carry out their job and their handling the vehicles in proper manner		.968			
The enterprises are setting and applying the standardized system which insures the safety of the transport customer.		.930			

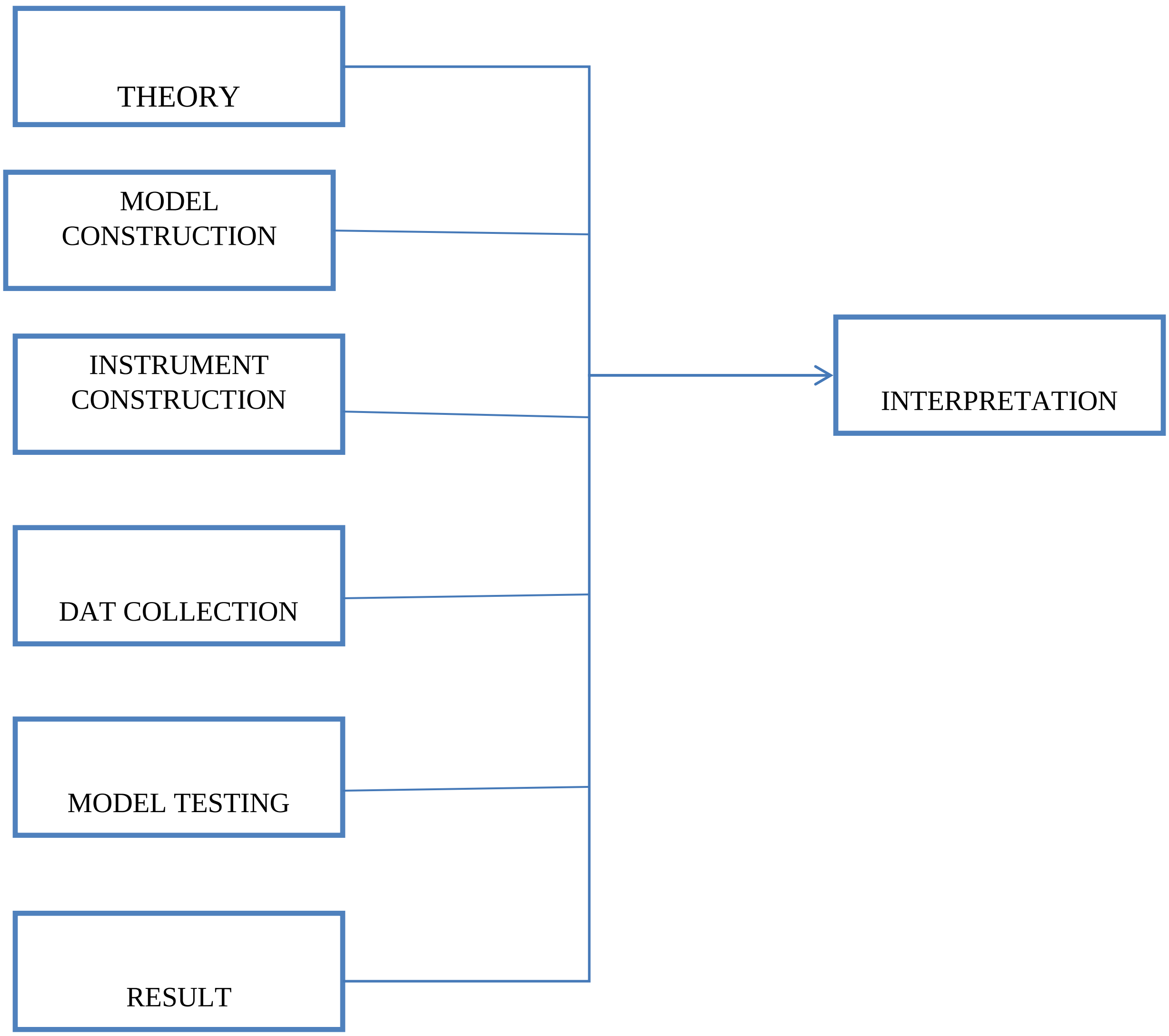
Users It does not take long wait to get public transport service at the station		.910			
The public transportation buses arrive in the station on time			.830		
The buses aboard passengers on the right time.			.819		
There is enough Network coverage of public transportation buses on the Route			.800		
The readiness and tendency of bus service provider employees holding their responsibility to accept complaints from customer and providing response.				.845	
The integrity and readiness of the transport service employees to give solution for each complain and questions rose by clients'				.826	
The cost of travel considers the capacity of all the society members. (Affordability).				.811	
I think the enterprises (Anbesa & Shegere) staffs ready to Give Response for customers					.842
I think the enterprises (Anbesa & Shegere) management Consider customers' needs in their decisions					.800
I think the enterprises (Anbesa & Shegere) employees Making customers feel safe & satisfied in their service					.790
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 5 iterations.					

4.6.3 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a multivariate statistical procedure that is used to test how well the measured variables represent the number of constructs. Confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) are similar techniques, but in exploratory factor analysis (EFA), data is simply explored and provides information about the numbers of factors required to represent the data. In exploratory factor analysis, all measured variables are related to every latent variable. But in confirmatory factor analysis (CFA), researchers can specify the number of factors required in the data and which measured variable is related to which latent variable. Factor analysis and hypotheses are tested in the same analysis, hence providing a more rigorous analysis of the proposed research model (Gefen et al, 2000).After identifying the underlying structure using exploratory factor analysis with a method of principal component analysis, confirmatory factor analysis (CFA) through structural equation modeling (SEM) was used to assess construct validity through model fit indices (Tabachnick and Fidell, 2007). CFA demands the presence of a theoretical framework, and an a priori theory based assumption that defines how each variable loads on each factor and vice versa (Byrne 2001). CFA examines the link between factors and their measured variables. Hence, CFA represents what is termed a measurement model (Byrne, 2001). The measurement model is then evaluated for its 'goodness of fit 'to the sample data by statistical means (Byrne, 2001).

Structural equation modeling (SEM) is defined as "a statistical method that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon". This theory represents "causal" processes which generate observations on multiple variables (Byrne, 2010). SEM aims to test the relationships between one or more independent and dependent variables by assessing the extent to which the hypothetical constructs are suitable or fit with the obtained data. These variables may be measured (manifest or observed) or latent. The observed variable, such as income, heart rate or weight, is measured directly whilst the latent variable is not measured directly but through two or more observed variables, for instance, buying behavior or personality (Kline, 2005). In achieving the results, a SEM analysis has many stages (see Figure 5).

Figure 5: The basic approach to performing a SEM analysis.



When researches have complex relationships with multi-dimensions, SEM can test all these relationships simultaneously. SEM is considered to be the only statistical technique to perform this analysis (Hair et al, 2010). SEM is used to test a theory. SEM cannot work properly without prior knowledge. This means that a conceptual framework or relationships between variables must be built based on an extensive literature review (Tabachnick and Fidell, 2001).

SEM employs CFA rather than an exploratory approach to data analysis, and enables better inferential analysis (Hair et al, 2006). Secondly, although hypothesis testing is difficult in most multivariate techniques, SEM offers a less difficult means to test research hypotheses, and enables the analysis of relationships between dependent variables (Kline, 2005). Thirdly, SEM enables explicit estimates of error variance parameters, which is not possible in traditional multivariate techniques (Holmes-Smith, 2007; Kline, 2005).

4.6.3.1 Measurement Model

The measurement model represents the theory that specifies how measured variables come together to represent the theory. A measurement model is employed to evaluate construct validity in terms of convergent and discriminant validity to discover the extent to which the measures have adequate internal consistency by conducting the necessary tests and the acceptance levels for goodness of fit. The main purpose of using SEM to assess the measurement model is to find the most parsimonious model which is well fitting and valid. The full structural model will then only be valid and reliable when the measurement model is based on theory and well defined constructs, so that the subsequent structural model is based on a solid theoretical foundation (Paschke, 2009).

4.6.3.1.1 Construct Validity

Construct validity means that a test designed to measure a particular construct is actually measuring that construct. The construct validity focuses on the measurement of individual constructs. Two construct validity assessments convergent and discriminant was tested. The tests were undertaken for the full measurement model (Lewis et al, 2005).

Once the factor structure underlying each of the theorized research constructs was determined through EFA, it was necessary to assess construct validity further through CFA before assessing the structural model and testing the research hypotheses (Byrne, 2010; Hair et al, 2010). A critical consideration in using the CFA is sample size. A sample size above 200 is generally considered ‘good’ (Hair et al, 2010). Since the valid sample size for this study is 374, it meets the requirement. Construct validity assesses the extent to which a set of measured items actually reflect the underlying factor model that those items are designed to measure (Hair et al, 2010).

4.6.3.1.2 Convergent Validity

Convergent Validity is a sub-type of construct validity. Convergent validity takes two measures that are supposed to be measuring the same construct and shows that they are related. Convergent validity measures whether items of the same variable or construct measure the same thing and, therefore, reveal correlations to each other. In CFA, convergent validity measures whether items of the same latent factor share a proportion of variance (Hair et al, 2006). Convergent validity is, therefore, a direct measure of the extent of the relationship between an observed variable and a latent construct. According to Holmes- Smith (2007), convergent validity is achieved when this relationship, represented by factor loadings, is significantly different from zero. To assess the statistical significance of the factor loading, critical ratios and p-values were calculated for each factor loading. Critical ratios outside the -1.96 to +1.96 z-value range and p-values below $p<0.05$ indicate factor loadings that are significantly different from zero. This statistical test of the significant factor loading is the key criterion in assessing factor validity (Holmes-Smith, 2007).

Furthermore, regression weights, standardized regression weights and squared multiple correlations (SMC) can be calculated to assess convergent validity. Standardized regression weights should be above 0.5, with values of above 0.7 optimal (Hair et al, 2006). SMC are squared standardized factor loadings and represent the extent to which a measured variable's variance is explained by a latent factor (Hair et al, 2006). SMC can also be used to assess item reliability. An SMC between 0.3 and 0.5 indicates that the item is a weak but adequate measure of the construct (Holmes-Smith, 2007). An SMC of 0.5 calculates to a standardized loading of 0.7, which indicates that the item reflects the construct very well (Hair et al, 2006; HolmesSmith, 2007).

In sum, convergent validity is assessed through a variety of measures: firstly, with standardized regression loadings of higher than 0.5 (Hair et al, 2006); secondly, with significant p-values (at 95% confidence interval) (Anderson and Gerbing, 1988; Hair et al, 2006) and critical ratios outside the -1.96 to +1.96 z-range; and finally, SMC values below 0.4 are considered not to hold convergent validity. SMC values between 0.4 and .05 were scrutinized and accepted if all other convergent validity measures were well above the recommended thresholds. SMC above 0.5 were accepted. The standardized factor loadings, the critical ratio, p-value and SMC of each item are displayed for the measurement model.

4.6.3.1.3 Discriminant validity

Discriminant validity shows that two measures that are not supposed to be related are in fact, unrelated. Discriminant validity measures to what extent latent variables differ from each other.

In contrast to convergent validity, which is a measure within latent variables, discriminant validity is a measure between variables. Discriminant validity can be assessed based on correlations between different constructs. High correlations (above 0.8 or 0.9) between constructs indicate a lack of discriminant validity (Holmes-Smith 2007). In addition to model fit statistics, discriminant validity measures will be presented for the measurement model.

4.6.3.1.4 Nomo logical Validity

Nomo logical Validity is a statistical term that refers to a "nonlogical" necessity or a law of nature. It is a form of construct validity that requires a comparison of at least two constructs and that those constructs have a possible linkage Defined by Cornbrash L. J. & Meehl, P. E. (1955). This is the set of relationships between constructs and between consequent measures. The relationships between constructs should be reflected in the relationships between measures or observations. It is a form of construct validity which assess the overall model validity. In this research both our convergent and discriminatory validity is established, therefore, the researcher assumes that the model does not violate Nomo logical validity.

4.6.3.1.5 Goodness of Fit

Goodness of Fit indices indicate how well the model reflects the data There are various GOF indicators, although usually only a couple of which are reported. Generally GOF indicators can be grouped into three categories: absolute measures, incremental measures and parsimonious fit measures. To ensure rigor in the empirical assessment, as suggested in the literature (Ho, 2006; Kline, 2005) multiple GOF indices are used. The literature is divided over the amount of fit indices that should be reported (e.g. Kline (2005) suggests at least four), which fit indices are most appropriate, as well as the acceptable cut-off threshold (Hair et al, 2006; Kline, 2005).

Table 20: An Illustration of Recommended Cut off Values of Indices from AMOS.

<table>
<tr><th>Category</th><th>Indices with Abbreviation</th><th>Definition</th><th>Cut off values</th><th>References</th></tr>
<tr><td rowspan="5">Chi-Square</td><td>Chi square (x2)</td><td>Difference between observed and estimated covariance matrices</td><td rowspan="3">p-value of >.05</td><td rowspan="3">Abdul Razak and Abduh (2012)</td></tr>
<tr><td>Degrees of freedom (df)</td><td>Covariance in the observed matrix less the number of estimated coefficients</td></tr>
<tr><td>Probability statistic (p)</td><td>Probability that the observed and estimated covariance matrices are actually equal</td></tr>
<tr><td rowspan="2">Normed chi-square (x2 /df)</td><td rowspan="2">Ration of chi-square to degrees of freedom for a model</td><td>≤0.3</td><td>Kline,1998</td></tr>
<tr><td>< 5</td><td>Schreiber et al. 2006</td></tr>
<tr><td rowspan="6">Absolute Fit measures</td><td rowspan="2">Goodness of fit index (GFI)</td><td rowspan="2">Measure indicating how well a model reproduces the variance/covariance matrices of the observed Sample</td><td>≥0.90</td><td>Matsunaga,2010</td></tr>
<tr><td>>0.85</td><td>Abdul Razak and Abduh (2012)</td></tr>
<tr><td rowspan="2">Root mean square error of approximation (RMSEA)</td><td rowspan="2">Badness-of-fit index measuring how well a model fits a population taking into account both model complexity and sample size</td><td><0.10</td><td>Matsunaga,2010</td></tr>
<tr><td><0.08</td><td>Abdul Razak and Abduh (2012)</td></tr>
<tr><td rowspan="2">Root mean square residual (RMR)</td><td rowspan="2">Represents the average residual value derived from the fitting of the variance–covariance matrix for the hypothesized model</td><td><0.05</td><td>Hair et al ,1988</td></tr>
<tr><td><1.00</td><td>Schreiber et al., 2006</td></tr>
<tr><td rowspan="3">Incremental fit</td><td>Normed fit index (NFI)</td><td rowspan="3">Assesses how well a specified model fits relative to some alternative baseline model (often a null model that assumes all observed variables are uncorrelated)</td><td rowspan="3">Values >= .90 and sample size</td><td rowspan="3">Hair et al, (2010)</td></tr>
<tr><td>Comparative fit index (CFI)</td></tr>
<tr><td>Tucker-Lewis index (TLI)</td></tr>
<tr><td>Parsimony fit indices</td><td>Parsimony comparative fit index (PCFI)</td><td>Evaluates the parsimony ratio of the model compared to the GOF such as CFI and NFI</td><td>Values >= .5</td><td>Hair et al, (2010)</td></tr>
</table>

Source: Hair et al, (2010)

Model Re-specification Considerations: A model is said to be correctly specified when it reproduces the sample covariance matrix well. When instances of specification error are noticed, the critical ratios (t-values), the squared multiple correlations (SMC) values, the standardized residuals and the modification indices (MI) were examined to re-specify the model. SMC values should be greater than 0.5. Standardized residual covariance should also be less than the benchmark value of |4| but preferably less than |2.58| (Hair et al, 2010). A large residual covariance between any two measurement items indicates that the association between these two items is not accounted for sufficiently by the model. This suggests a problem with one or both of the measurement items. A standardized residual value of |2| indicates that a particular covariance is not well reproduced by the hypothesized model (at $\alpha = 0.05$ significance level) and a standardized residual value of |4| relates to $\alpha = 0.001$ significance level. When a consistent pattern of large standardized residuals is associated with either a single item or several of the items within the factor, the necessary re-specification was made to account for this association between the variables, such as by dropping an item and re-running the measurement model (Hair et al, 2010).

MI also suggests a potential source of model re-specification. A MI is calculated for each non free parameter and represents a possible decrease in X2 if the parameter is freely able to be estimated in the re-specified model. A chi-square of 3.84 with one degree of freedom has a p = 0.05 and a MI value greater than |4| suggests that the chi-square could be significantly reduced if the corresponding parameter were estimated. Based on this guideline, this study examined the measurement items that reveal high MI; that is, above |4| (Byrne, 2010; Hair et al, 2010), and made appropriate re-specification to the model

The measurement model task begins with the final outputs of exploratory factor analysis which consists of latent variables with their respective indicators (observed variables) which are shown in the table 21 below full measurement model.

Table 21: Proposed Latent variables and Indicators for EFA

No.	Latent variables (unobserved variables)	Indicators (observed variables)		
1	Customer perceived quality (CPQL)	cpq1	cpq2	cpq3
2	Assurance (ASSU)	ass2	ass3	ass4
3	Responsiveness	Res1	Res2	Res3
4	Value Co-Creation(VCCR)	Vcc2	Vcc3	Vcc4
5	Reliability (RELY)	Rel1	Rel2	Rel3

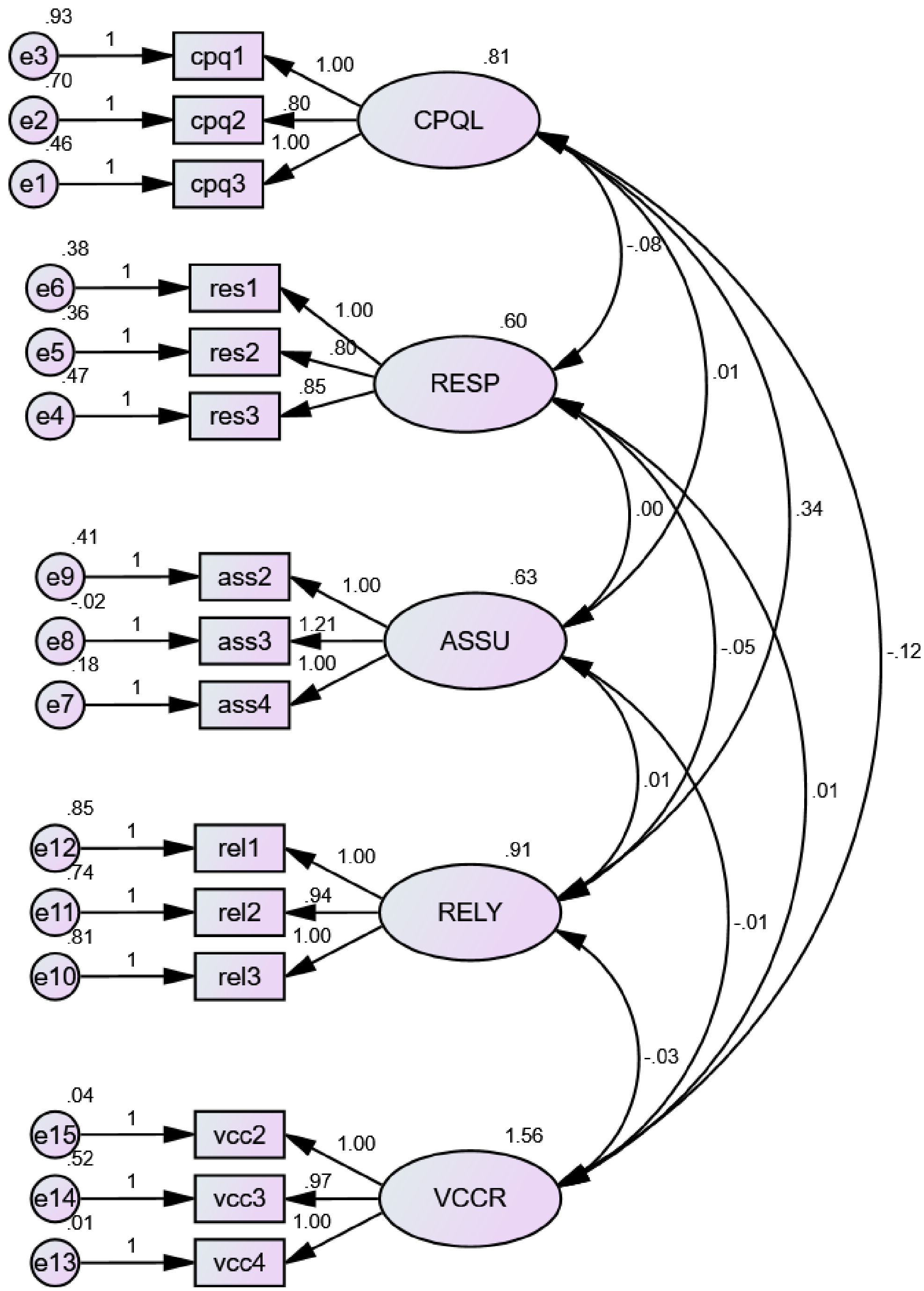


Figure 6: Proposed Full CFA Measurement Model. (Source: researcher Amos output)

Table 22: Examination of the GOF statistics is summarized in table the proposed measurement model is inadmissible

Chi-square		Absolute Fit Indices		Incremental Fit Indices		Parsimony Fit Indices	
X2 (pvalue)	159.598	RMSEA	.049	CFI	.980	PCFI	.784
DF	84	RMR	.061	IFI	.980	PNFI	.767
X2/DF	1.900			TLI	.975		

Factor Loadings

(*** = p< 0.001, ** = p< 0.01, * = p< 0.05)

ITEM….VARIABLE			Estimate	S.E.	C.R.	P	SMC	Comment
cpq3	<---	CPQL	1.000				.462	Convergent validity holds
cpq2	<---	CPQL	.802	.070	11.403	***	.698	Convergent validity holds
cpq1	<---	CPQL	1.000				.928	Convergent validity holds
res3	<---	RESP	.848	.080	10.541	***	.473	Convergent validity holds
res2	<---	RESP	.795	.075	10.622	***	.365	**Convergent validity doesn't holds**
res1	<---	RESP	1.000				.384	**Convergent validity doesn't holds**
ass4	<---	ASSU	1.000				.180	**Convergent validity doesn't holds**
ass3	<---	ASSU	1.211	.037	32.570	***	-.019	**Convergent validity doesn’t holds**
ass2	<---	ASSU	1.000				.408	Convergent validity holds
rel3	<---	RELY	1.000				.810	Convergent validity holds
rel2	<---	RELY	.941	.076	12.309	***	.736	Convergent validity holds
rel1	<---	RELY	1.000				.852	Convergent validity holds
vcc4	<---	VCCR	1.000				.006	**Convergent validity doesn't holds**
vcc3	<---	VCCR	.968	.030	32.181	***	.516	Convergent validity holds
vcc2	<---	VCCR	1.000				.042	**Convergent validity doesn't holds**

A row with blank space indicates a default indicator

Source: researcher Amos output

As can be seen in the table 22 above, the model fit indices shows, the value of X2/DF is 1.900 which is in the acceptable range (between 1 and 5), RMSEA has a value of .049 which is in the acceptable range (below .08/.1), RMR is .061 which is in the acceptable range (below .09). CFI, TLI, and IFI values are. .980, .975, and .980 respectively and all of these values fall within the acceptable range (above .90). The values of PCFI and PNFI are .784 and .767 respectively and both fall within the acceptable range (above .5). All standardized regression weights (estimates) are significant at p value of below 0.001(as described in ***). The critical ratios of the factor loadings are all significantly different from zero (above 1.96).

The model shows that the SMC values for res3, res1, ass4, ass3, vcc4 and vcc2 are also lower than the 0.4 threshold, suggesting a problem of item reliability and convergent validity. Hence, the proposed full measurement model needs to be re-specified. To re-specify the proposed model, by connecting the arrow item errors e5 to e6, e7 to e8 and e13 to e15 by covariance arrow and the Amos regression was rerun.

As can be seen in the table 23, the correlations of all the latent variables are below the threshold of .8, indicating the existence of discriminant validity.

Table 23: Statistics of Discriminant Validity of Proposed Measurement Model

Constructs			Correlation	Comment
CPQL	<-->	RESP	-.110	Discriminant Validity Holds
RESP	<-->	ASSU	-.005	Discriminant Validity Holds
ASSU	<-->	RELY	.011	Discriminant Validity Holds
RELY	<-->	VCCR	-.029	Discriminant Validity Holds
CPQL	<-->	ASSU	.015	Discriminant Validity Holds
RESP	<-->	RELY	-.068	Discriminant Validity Holds
ASSU	<-->	VCCR	-.009	Discriminant Validity Holds
CPQL	<-->	VCCR	-.104	Discriminant Validity Holds
RESP	<-->	VCCR	.014	Discriminant Validity Holds
CPQL	<-->	RELY	.391	Discriminant Validity Holds

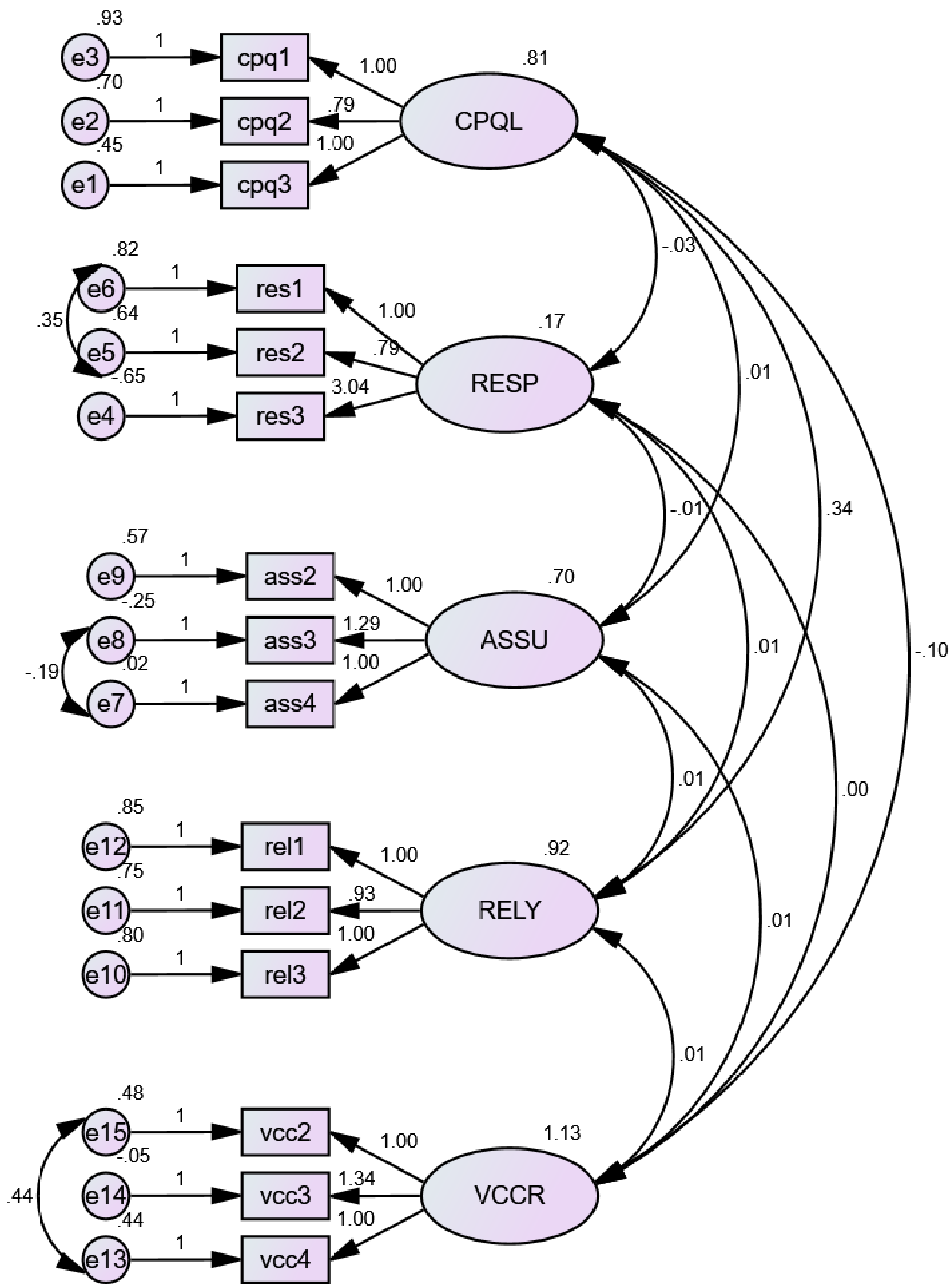


Figure 7: Re-specified Structural Model (source: researcher Amos output)

Table 24: Statistics for Re-specified CFA Measurement Model

Chi-square		Absolute Fit Indices		Incremental Fit Indices		Parsimony Fit Indices	
X2 (pvalue)	131.393	RMSEA	.041	CFI	.987	PCFI	.761
DF	81	RMR	.058	IFI	.987	PNFI	.745
X2/DF	1.622			TLI	.983		

Factor Loadings

(*** = p< 0.001, ** = p< 0.01, * = p< 0.05)

ITEM…VARIABLE			Estimate	S.E.	C.R.	P	SMC	Label
cpq3	<---	CPQL	1.000				.454	Convergent validity holds
cpq2	<---	CPQL	.795	.070	11.393	***	.704	Convergent validity holds
cpq1	<---	CPQL	1.000				.931	Convergent validity holds
res3	<---	RESP	3.044	3.264	.932	.351	-.649	**Convergent validity doesn't holds**
res2	<---	RESP	.793	.075	10.595	***	.640	Convergent validity holds
res1	<---	RESP	1.000				.819	Convergent validity holds
ass4	<---	ASSU	1.000				.022	**Convergent validity doesn't holds**
ass3	<---	ASSU	1.292	.044	29.676	***	-.249	**Convergent validity doesn't holds**
ass2	<---	ASSU	1.000				.566	Convergent validity holds
rel3	<---	RELY	1.000				.804	Convergent validity holds
rel2	<---	RELY	.934	.076	12.306	***	.745	Convergent validity holds
rel1	<---	RELY	1.000				.848	Convergent validity holds
vcc4	<---	VCCR	1.000				.442	Convergent validity holds
vcc3	<---	VCCR	1.343	.422	3.178	.001	-.051	**Convergent validity doesn't holds**
vcc2	<---	VCCR	1.000				.478	Convergent validity holds

Table 25reveals that all other model fit indices are within the threshold. The squared multiple correlations (SMC) of res3, ass4, ass3, and vcc3 are below the threshold of 0.4 indicating lack of convergent validity. As a result, one item res3 have been deleted from the model and connect by covariance arrow e7 to e8 and the Amos regression was rerun.

Table 25 also shows that the correlations of all latent variables are within the acceptable range (below .8) indicating the existence of discriminant validity

Table 25: Statistics for Re-specified Discriminant Validity of Measurement Model

Constructs			Correlation	Comment
CPQL	<-->	RESP	-.085	Discriminant Validity Holds
RESP	<-->	ASSU	-.030	Discriminant Validity Holds
ASSU	<-->	RELY	.014	Discriminant Validity Holds
RELY	<-->	VCCR	.008	Discriminant Validity Holds
CPQL	<-->	ASSU	.009	Discriminant Validity Holds
RESP	<-->	RELY	.015	Discriminant Validity Holds
ASSU	<-->	VCCR	.007	Discriminant Validity Holds
CPQL	<-->	VCCR	-.104	Discriminant Validity Holds
RESP	<-->	VCCR	-.001	Discriminant Validity Holds
CPQL	<-->	RELY	.392	Discriminant Validity Holds

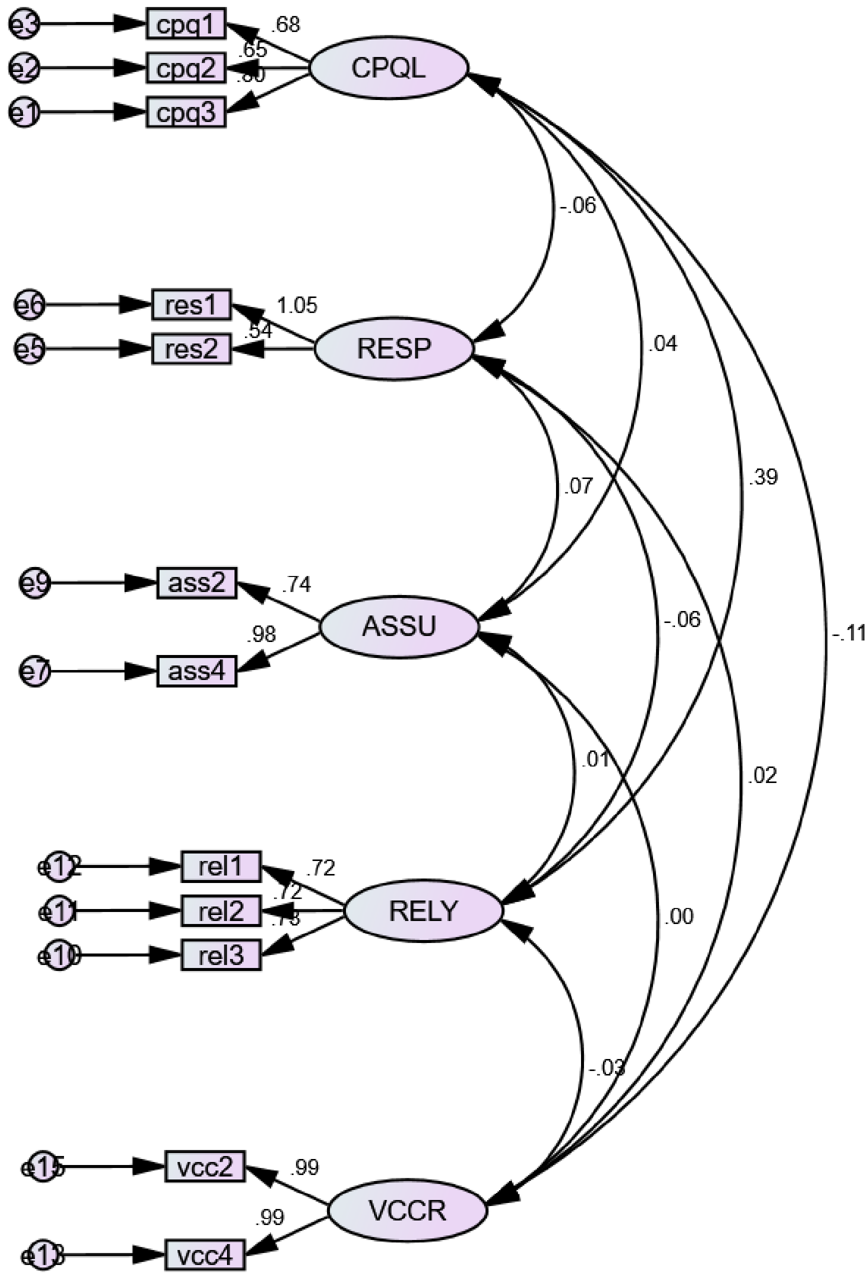


Figure 8: Final CFA Measurement Model

Table 26: Statistics of Final CFA Measurement Model

Name of the category	Name of index	Index value	comments
Absolute fit	RMSEA	.054	The required level achieved.
	GFI	.958	The required level achieved
Incremental fit	CFI	.978	The required level achieved
parsimonious	Chisq/df	2.103	The required level achieved

Validity: This requirement was achieved through the following processes:

Convergent Validity	AVE > 0.50: Refer to the following table (refer Table 5)
Construct Validity	All fitness indexes for the models meet the required level
Discriminant Validity:	The redundant items are either deleted or constrained as "free parameter", also the correlation between exogenous construct X1 and X2 is lower than 0.85

Reliability: This requirement was achieved through the following process

Internal Reliability	Cronbach's Alpha > 0.70
Composite Reliability	CR > 0.60:
Average Variance Extracted:	AVE > 0.50:

The CFA Results for the Measurement Model

Construct	Item	Factor Loading	Cronbach's Alpha (Above 0.7)	CR (Above 0.6)	AVE (Above 0.5)
CPQL	cpq1	.68	.757	.7546	.5083
	cpq2	.65			
	cpq3	.80			
RESP	res1	1.05	.713	.8066	.6975
	res2	.54			
	res3	This item was deleted due to high factor loading			
ASSU	ass2	.74	.825	.8574	.6828
	ass3	This item was deleted due to high factor loading			
	assu4	.98			
RELY	rel1	.72	.766	.7566	.5089
	rel2	.72			
	rel3	.70			
VCCR	Vcc2	.99	.992	.9899	.9801
	Vcc3	This item was deleted due to high factor loading			
	Vcc4	.99			

4.6.3.1.6 Final Reliability

Reliability assesses how consistent the items measuring a construct are and as such ensures trust worthiness of the measurement instrument. A common statistic for evaluating reliability is the coefficient of internal consistency (Cronbach's Alpha). After the Cronbach Alpha of the first order model, the six variables or factors were further analyzed at the second order level. The analysis was carried out to achieve a valid model fit for the data obtained as well as theoretical Table 27 provides the reliability estimates of each of the variables; they are all above 0.7, which satisfies the recommended threshold in the literature. Thus, the measurement instrument is reliable.

Table 27 Instrument Reliability

NOW TEST CRONBACH ALPA

Table 27: Cronbach's Alpha result of the variables

Constructs	**Number of Items**	**Cronbach's Alpha**
CPQL	3	.757
RELY	3	.766
ASSU	2	.825
RESP	2	.713
VCCR	2	.992

The correlation of all latent variables is within the acceptable range below 0.8

The Discriminant Validity Index Summary

construct			**correlation**	**comment**
CPQL	<-->	RESP	-.065	Discriminant validity holds
RESP	<-->	ASSU	.068	Discriminant validity holds
ASSU	<-->	RELY	.013	Discriminant validity holds
RELY	<-->	VCCR	-.028	Discriminant validity holds
CPQL	<-->	ASSU	.042	Discriminant validity holds
CPQL	<-->	RELY	.391	Discriminant validity holds

4.7 Structural Model

Assessment of model fit in SEM is a two-step process (Hair et al, 2006). The first step involves testing the full measurement model's fit, as well as its construct validity. The goal of testing the measurement model is to establish how well the observed variables of a hypothesized construct relate to one another. This was reported in the previous chapter and the result shows acceptable model fit and validity. However, the test of the full measurement model does not investigate the nature of the relationships between constructs beyond simple correlations. As such, a measurement model is a means towards establishing the fit and validity of a structural model, rather than an end in itself (Hair et al, 2006). Thus, the second step in the process requires testing of the structural model, including for the significance of the structural relationships. The structural model can be tested only after adequate measurement and construct validity are

Established, as the latter is the groundwork for the structural modelHence, this section reports on the tests of the structural model.

The validity and acceptability of the structural model can be evaluated in terms of (1) model fit, that is, GOF indices; (2) comparing factor loadings of the structural model to that of the underlying measurement model; (3) the magnitude of variance explained, that is, ; and (4) the size, direction and significance of the estimated structural parameters. Table 28 provides a description of the above tests and the rule of thumb criteria for what constitutes as acceptable value based on recommendations of SEM literature.

Table 28:Tests for Structural Model Validity

Test	Description	Acceptable values
Structural model fit	Assesses extent of the structural model fit of the sample data using the GOF indices used for the measurement model	see table 20
Comparison of loadings of the structural model and the measurement model	Assesses closeness of the parameter loadings of the structural and measurement models	Difference in loading should be 0.05 or less
Variance explained (R2)	Extent to which variance is explained by the estimates of the model	0.70 and above = great; 0.50 and above = very good
Size and significance of parameter estimates	Significance of the parameter estimates based on the corresponding p-values	P<0.05 and/or t-value above 2.00

Source: Hair et al. (2006) and Kline (2010)

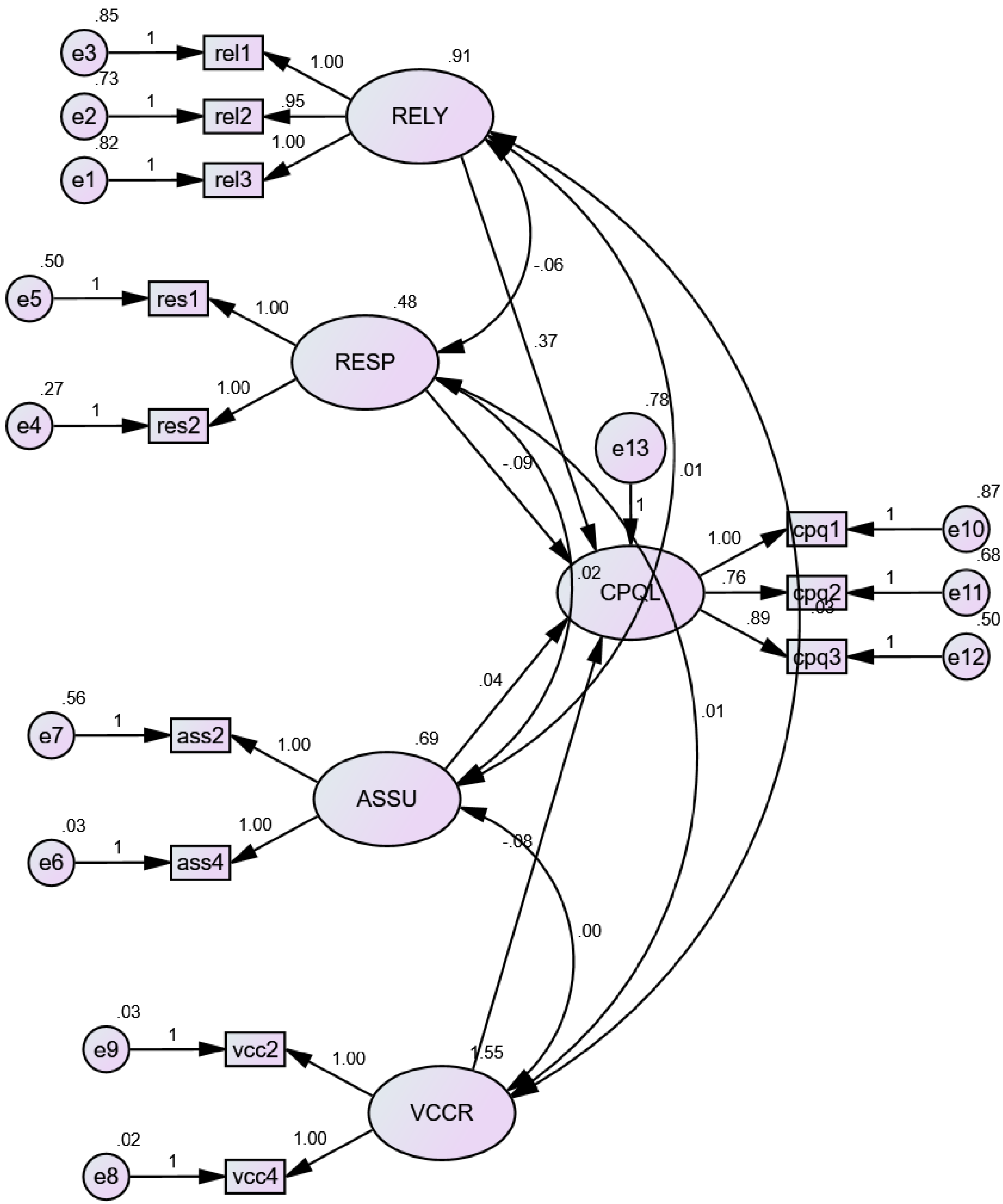


Figure 9: Structural Model (Source: researcher Amos output)

The structural model shown in Figure 9 has 9items. AndSupport for and the acceptability of the structural model is evaluated based on the four criteria outlined in Table 28 First, the structural model's fit statistics are evaluated. The model fit statistics of the structural

Table 29: Model Fit Statistics for Structural Model

Chi-square		Absolute Fit Indices		Incremental Fit Indices		Parsimony Fit Indices	
X2 (p-value)	61.546	RMSEA	.037	CFI	.994	PCFI	.741
DF	41	RMR	.047	IFI	.994	PNFI	.731
X2/DF	1.501			TLI	.991		

The model's normed chi-square (X2/DF) is within the acceptable range. All the incremental fit indices also meet the lower threshold value of 0.90 and the model is acceptable in terms of CFI, IFI and TLI. The model's absolute fit index value is also within the recommended range in terms of RMSEA (0.037). Regarding RMR (0.047), the result is within the threshold value. Further, the model's parsimony fit indices values are acceptable in terms of PCFI and PNFI, which show relatively higher value than the corresponding measurement model.

Second, the loading estimates of the structural model are compared against the loading estimates of the corresponding measurement model. The structural model is expected to show similar or close loadings to that of the measurement model (Hair et al, 2006). In this regard, most of the loading estimates of the structural model are virtually unchanged from the measurement model. Only four standardized estimated loadings show change and the maximum change in standardized loadings is 0.037, which is not above the 0.05 limit (Hair et al, 2006). This indicates the existence of parameter stability among the measured items in the two models, which provides further support for the validity of the structural model.

The third assessment of the structural models validity is examined through the extent of the variance in product, process and organizational innovations, the ultimate dependent (endogenous) variables, which the model explains.

The fourth set of criteria for assessing the validity of the structural model is investigating the size, direction and significance of the structural parameter estimates. Table 30 presents the structural path estimates and one of the fore paths are significant.

Table 30 Direct Effects of RELY,RESP,ASSU,VCCR on CPQL.

Table 30: Regression Weights of the model

			Estimate	S.E.	C.R.	P	Label
CPQL	<---	RELY	.372	.070	5.332	***	
CPQL	<---	RESP	-.088	.092	-.960	.337	
CPQL	<---	ASSU	.042	.066	.637	.524	
CPQL	<---	VCCR	-.081	.044	-1.856	.063	

4.8 Discussions of Empirical Findings

4.8.1 Instrument reliability

The measurement scales were assessed for internal consistency using the cornbach's alpha in which coefficient reflects how closely related a set of items are as a group. The values were above 0.64, indicating acceptable level of internal consistency for all the scales (Byrne, 1989).

Assessment of service quality and customers' perception of service quality

The modify SERVQUAL model was employed to assess the factors affecting mass transport quality service provision as it is an appropriate instrument for evaluating the difference between customer expectations and perceptions of quality. Such model focuses on the difficulty in ensuring a high quality service for all customers in all situations. Thus, taking service quality as dependent variable the study attempted to assess mass transit Customer Perceived service quality by using quality dimension indicators.

Table 31: Direct Effects of (RELY, RESP, ASSU, and VCCRon CPQL)

Hypothesis	Endogenous	Exogenous		Std. Estimate	S.E.	C.R.	P
H1	CPQL	<---	RELY	.372	.070	5.332	***
H2	CPQL	<---	RESP	-.088	.092	-.960	.337
H3	CPQL	<---	ASSU	.042	.066	.637	.524
H6	CPQL	<---	VCCR	-.081	.044	-1.856	.063

(Source: researcher Amos output)

Note 1: ***Significance at p < 0.001, ** Significance at p<0.05,

Note 2: **RELY**: Reliability, **RESP**: Responsiveness, **VCCR**: and Value Co-Creation, **ASSU**:

- The model suggests that customer perceived quality public transport service has the strongest on Reliability(0.372) followed by Assurance (0.042).
- The results shows that customer perceived quality public transport service is predicted by Reliability (β= 0.070, p=0.000), Responsiveness (β= 0. 092, p=0. 337) and Value Co-Creation (β= 0. 044, p=0. 063, and Assurance (β= 0. 066, p=0. 524)

H	EXOGENOUS VARIABLE	ENDOGENOUS VARIABLE	PATH COEFFICIENTS	P-VALUE	RESULTS
DIRECT EFFECTS					
H1	RELY	CPQL	.372	***	Supported
H2	RESP	CPQL	-.088	.337	Not Supported
H3	ASSU	CPQL	.042	.524	Not Supported
H6	VCCR	CPQL	-.081	.063	Not Supported
H4	TANG	CPQL	-	-	-
H5	EMPA	CPQL	-	-	-

Hypothesis 1, Proposed that there is positive relationship between Reliability and

Customer Perceived Quality of Public Transport service.

As can be observed from Regression Weights table RELY (Reliability) and CPQL (customer perceived quality) have β estimate value of 0.372And t-statics 5.332with a p value of 0.***found to be significant on quality customer perceived quality.

As part of service quality marker, provision of reliable service enables service operators to withhold their customers for a long period. Mass transport users are satisfied with scheduled service, which habitually operates according to scheduled departure and arrival times. Reliability of public transport service is mainly determined by the availability of sufficient number of buses.

And the result shows that nearly 59 percent of them were not satisfied (17.6 % strongly dissatisfied and 40.6 % dissatisfied). On the other hand, only 11 percent agreed the availability of adequate buses.

Regarding timely arrival of buses on the bus stations, 89 and 137 of the respondents (about 61 percent of the total) strongly disagreed and disagreed respectively. Conversely, 19.8 percent reported buses to arrive on stations timely. 13 percent of the customers neither agreed nor disagreed on the punctuality of mass transit vehicles.

In terms of eases of access to payment and ticketing system, nearly half of the respondents (26 percent) noted the ticketing and payment system to be dissatisfying. A total of 19.8 percent agreed with the availability of access to ease of payment and ticket service. And 31 percent of the MT users neither agreed nor disagreed.

Hypothesis 2: Proposed that there is positive relationship between Responsiveness

And Customer Perceived Quality of Public transport service.

As can be observed from Regression Weights table RESP (Responsiveness) and CPQL (customer perceived quality) have β estimate value of 0. 092and t-statics -.960with a p value of .337found to be in significant on quality customer perceived quality.

- Service provider enterprises' responsiveness to customers' needs and views

Recognizing the significant contributions customers make in efforts made to improve the performance efficiency of the service providers, respondents were asked about the enterprises' commitment and readiness to take their views and suggestion as part of the series improvement plan. With regard to this, 37.9 percent noted that the service providers to attend their views as part of the service improvement process, where as 33.8 percent of the individuals choose to disagree in this regard. The remaining 104 customers neither agreed nor disagreed.

As part of service providers' responsiveness to customers, study participants were made to desirable about the service provider staff integrity and readiness in solving passengers problems likely to occur while using he service and more than half ofthe respondents (58.5 percent) responded that the problem-solving approaches of mass transport operators was mission. Only 62 of the total 374 (16.6 percent) agreed that operators' willingness towards solving customers' problems to be satisfying.

The study participants were also asked about their opinions on how motivated service operators were in providing quality service to all passengers. Many of the service users selected for the study asserted that operators' initiative to provide quality service was satisfying, while 36.4 percent agreed and strongly disagreed on the operators' endeavors towards meeting the quality service demands of public bus riders.

There was also a disparity of respondents in opinions about the fairness of cost travels passengers pay. 42 percent of the mass transport users pointed out the transport cost to be fair, while 87 individuals out of the total 374 disagreed about the fairness of travel cost. More than half of the respondents (54.8 percent) didn't suggest being either fair or not

Hypothesis 3: Proposed that there is positive relationship between assurance and Customer Perceived Quality of Public transport service.

As can be observed from Regression Weights table ASSU (Assurance) and CPQL (customer perceived quality) have β estimate value of 0. 066and t-statics .637with a p value of. 524found to be in significant on quality customer perceived quality.

The perception of respondents about how transport service provider enterprises towards ensuring the safety of passengers and their goods, more than half of the mass transport service users involved in the study (35.6 percent) descried the safety concern to be dissatisfying. Whereas, 39 percent (146) respondents agreed the service providers preserve their safety and goods, the remaining 95 (25.4 percent) participants of the study were neutral.

Regarding customers' waiting time in the bus terminals, the majority of the respondents (57.8 percent) confirm to stay longer in the bus terminals waiting for the arrival of buses, were as III (29.7 percent) replied to not to wait long in the stations to get bus transport services.

In response to the bus driver's performance efficiency (in terms of profound experience, competence skills, etc.) and their capability in taking full control of the buses they are arriving, the perception of the respondents is summarized 57.75 percent (217 individuals) feel that they were not satisfied with the driver's technical efficiency towards managing the vehicles effectively, 111 (29.6 percent of the 374 respondent pointed out that the bus drivers are skilled and well experienced, 48 out of the 374 (12.8 percent) expressed they were not aware of the situation (neutral).

In relation to the service providers' initiative towards putting in place the safety standards to make sure passengers are safe, 111 of the total 374 (29.7 percent) agreed that mass transport service operators are concerned to the safety of their passengers, and 30.4 percent of them answered the issues of safety standards in mass transport service sector to be dissatisfying.

Hypothesis 4: Proposed that there is positive relationship between Empathy and Customer Perceived Quality of Public transport service.

As can be observed from Factor Rotation part the variable does not pass the test because of that the hypothesis is does not support the dependent variable.

Empathy as a service quality marker refers to the caring, individualized attention that mass transport operators provide to their customers.

With regard to the comfort ability of mass transport vehicles' facilities (e.g. passengers' seats, free space that offers free movement of the passenger while travelling, etc.), the majority of the service users involved in the study (63.1 percent) witness that the vehicles' seats are not comfortable and city buses are characterized by extreme congestion and totally restricting the freedom of movement. Only 10 percent agreed that the vehicles are sound in this regard.

Respondents were also asked about the modernity of mass transport vehicles towards passenger's safety and wellbeing of the service users. In this regard, the majority of the customers (49.7 percent) disagreed that the modernity of public buses does not maintain the safety and comfort of the passengers, while 47 individuals (12.8 percent) agree that public buses to be modern to ensure the safety of the mass transport users.

Hypothesis 5: Proposed that there is positive relationship between Tangiblesand Customer Perceived Quality of Public transport service

As can be observed from Factor Rotation part the variable does not pass the test because of that the hypothesis is does not support the dependent variable.

As to the proximity of bus terminals, 44.3 percent (166 individuals) agreed the distance from home to the nearest bus station to be at a reasonable distance, while 142 out of the 374 (37.9 percent) disagreed that home-bus stations distance was far away.

With regard to the flow of public transport services, nearly half of the mass transit users (41.7%) reported to disagree with the notion that uninterrupted flow mass transport service system is non-existent. And a total of 121 individuals (32.3 percent) inform that the flow of public transport service (uninterrupted bus service provision) is satisfying. The remaining 25.9 percent of customers neither agreed nor disagreed in this regard.

Pertaining the operational capacity of mass transport vehicles and timely repair and maintenance of buses, a relatively a high proportion of the public transport system users (50 percent) disagreed thee existing vehicles to be neither in good condition nor get maintenance timely. Many of the respondents stated That It Is Not Uncommon To See Anbessa city bus stationed in the middle of the road due to lack of maintenance. In comparisons to the two mass transport service enterprises, many of the study participants agree that the Sheger mass transport vehicles are in good conditions (hence the total service year of the bus

Hypothesis 6: Proposed that There is positive relationship between Value Co-Creation and

Customer Perceived Quality of Public transport service.

As can be observed from Regression Weights table VCCR (value co-creation) and CPQL (customer perceived quality) have β estimate value of. 044and t-statics -1.856with a p value of. 0. 063found to be in significant on quality customer perceived quality.

Taking value creation and co-creation as part of organizational approach, passengers selected for the study were asked about their involvement in the enterprises' platform service plans. The overwhelming majority of the participants (45 percent) explained that they did not take part in the service providers problem solving and service improvement discussions. Only 12 percent of them replied to have actively participated in the enterprise's problem identification sessions.

In regard to customers' opinions on the validity of their suggestions towards improving the operational efficiency of the service providers, the great majority (69 percent) describes to hold a firm belief that their views and opinions about the service would benefit for service providers' performance efficiency conversely, 64 customers' of the total 374 disagree about their significant contribution towards improving the performance capacity of PM service enterprises.

4.8.2 The major challenges of Addis Ababa mass transport service

As part of assessing the major factors affecting the service quality of Anbessa and sehger mass transport enterprises; qualitative research methods were also made applicable which include in-depth interviews, and the writer's on-site observation. The enterprises; management, experts, but drivers and ticketers were interviewed on the overall organizational performance and the existing challenges affecting the service quality of the enterprises' in accordance with quality service measurements.

4.8.2.1 Anbessa city bus service enterprise bus drivers and ticketers:-

They Are placed in the front line in any transport service providing firm, hence they encounter a direct day to day contact with the customers.In view of this, they described to be the major challenges which affect the organizational performance of the enterprise as follows.

- **Vehicles related**

Despite the progressive improvements made on the enterprise's organizational performance capacity (in terms of both service coverage expansion and the massive increase in the number of buses and infrastructure), the enterprise still suffers from shortage of quality transport vehicles. In recent years, the company has introduced modernized buses to a large extent. Yet, the enterprise operates with a mix of sold buses (with a service year of up to 10-15 years) and the new ones.

However, due to lack of regular, proper, and timely bus maintenance and repair a huge number of fleets are left in garage for a long period of years. This, not only results in loss of revenue, but also severely affects the overall operation, creating a huge gap in the service delivery system and puts a heavy burden on the service delivery.

Worse, the quality of newly Introduced modern buses in open to question. Not only the old ones, but also it is the new ones which encounter frequent damages. It has now become a common phenomenon to see Anbessa city bus stationed in the middle of the road in all streets of Addis Ababa carrying up to 150 passengers.

Absence of vehicles spare parts is also a major problem which leads hundreds of vehicles remain in garage for years. Besides, almost all buses purchased from china in recent years are imported without the necessary spare parts and accessories. So, every time buses face breakdown, the damaged part of the vehicle is sent to China (manufacturer) to bring the spar part and this is the main reason for the damaged buses to remain off service for years.

Many bus drivers anonymously asserted that, new buses with 2-3 years of service parked in the garage due to this are dismantled and the parts are fused as spare parts for the currently operating buses. The enterprise's drivers also witnessed that, in various, occasions; the drivers are forced by the management to operate with damaged and /or improperly repaired vehicles.

- **Management related problems**

The interviewed respondents explained various issues related to poor management which affects the performance efficiency of the enterprise. These include:

- Lack of fair management and rent seeking and corruption problems.
- Absence of incentives and reward to employees
- Many of eh enterprise's employees at a higher management are not educated and lack the necessary knowledge, skill and experience to properly manage the company.
- Most of the newly introduced buses are assigned in 'Tulu Dimtu' regularly. At the same time the Sheger mass transport service enterprise assigns lots of buses in 'Tulu Dimtu' route with a travel cost of 1 Eth. Birr less from Anbessa city bus transport fare tariff. Due to this, most of the regular customers of the Anbessa city bus make sheger buses to be a choice of interest.
- Due to shortage of mass transit, vehicles all thee respondents (drivers) explained to be assigned to the routes soon after their arrival. For this reason, the drivers are exhausted and demotivated, similarly, the vehicles which require major maintenance are assigned reluctantly
- Assigning buses in routes with little or no passengers at all.

- **Problems raised by customers**

- Insufficient number of buses (a wide mismatch in service demand and supply)

- Unfair distribution of buses in routes. Large number of buses is assigned in routes with less volume of passengers. Conversely, the numbers of buses are insufficient in routes where the passenger volume is high.
- Lack of comfort and convenience resulting from passenger overloading (to 150-160 passengers at a time). The respondents complain the issue of overcrowding int3erms of health and increased accidents.
- Lack of integration of different modes of transport
- Waiting for hours in bus stations due to the absence of timely arrival of the buses
- Problem of security and lack of the bus transport services especially during rush hours.
- Poor quality of buses and the problem of unloading passengers prior to arriving the destination (resulting from vehicles breakdown). Besides, the enterprise does not provide optional transport service while buses to operate in the middle of nowhere. Most often passengers are forced to travel on foot for hours.
- Non ethical drivers and ticketers mistreating passengers
- The bus transport service did not take children, the sick, and the disabled in to account (service inconvenience)

4.2.1.2 Sheger Transport Service Enterprise

Management and expert staff interviews

- In availability of land for office and other service related purposes
- In availability of land to build garage which meets the standard to the modern buses.
- Absence of land to build the enterprises own fuel station, bus terminals, car wash services, bus parking stations, etc.
- Absence of profound skills and experience of the staff (including higher management)
- In availability and shortage of transport vehicle spare parts.
- Lack of integration in different modes of transport.
- Urban transport policy performance inefficiency

Sheger bus transport customers

- Bus stops are often inconvenient to many passengers. And the distance between two bus stops is far

- Late arrival of buses
- Poor ticketing system

  Sheger buses drivers often have the problem of driving away before the passengers who have paid bus fare through bus window ticketing service

  Sheger mass transport service often is not available during lunch time hours (12: - 2:00PM) and I the evening.
- Ticketers often do not give change
- Passengers are often treated badly by non-ethical drivers and ticketers.
- Drivers use addicted drugs while driving
- Some ticketers ask passengers to pay above the conventional travel cost tariff.
- Reluctant and irresponsible drivers often park buses and get lost during working hours.

- Noise disturbance in the course of travelling (music)
- Buses are often off duty for long hours of the day
- The problem of parking on the respective bus terminals where there are vacant seats
- The problems of speeding, and at times too sluggish (low speed) deriving prevents us arrive destinations on time
- Absence of the enterprises' staff in change of assigning buses in different routes.
- Limitations of service provision in specific routes and the enterprise needs to expand the service dimension
- Bus drivers are in charge of driving and ticketing at the same time while ticketers are unavailable.
- The buses passenger compartment lacks cleanness

Chapter Five

5 Summary of the Findings, Conclusions and Recommendations

5.1 Introduction

This chapter presents the result obtained in the study. Accordingly, this chapter presents conclusion of the results, recommendations forwarded, research contributions and lastly direction for future research

5.2 Summary of the study

The purpose of this research is conducted comprising a sample survey on how the enterprises' mass transit operations meet customer demands and provide quality transport service on the basis of the SERVQUAL model. The survey has the purpose of finding out on the difficulty in ensuring a high quality of service for all customers in all situations. In general, the information from the survey has the primary objective of providing background for the assessment of the factors mass transport service quality characteristics in Addis Ababa.

Surveying strategy

The surveying strategy (sampling method and sample size) has intended to make as reliable as possible, inferences about the general characteristics of quality service provision to serve the purpose of the study. One of the limitations of the surveying strategy is that it is not based on a statistically significant sample to make inferences about the characteristics of the population of Addis Ababa. The following sampling methods were employed for the research.

- Mass transport service users behavior: data was primarily acquired from well-structured questionnaires at various bus stops and inside buses while the bus is travelling. This provided most complete information, as higher response rates (95 percent) were possible through personal interaction As a result, respondents of different sex, age, livelihood, and education background were included in the sample. This provided timely data about the characteristics of the respondents about their perception regarding public transport service quality.
- Transit operators' interviews: in interviewing drivers of buses at different locations (bus stations) of the city. They were asked questions to provide information on the overall

performance of the enterprises, and the challenges related to service provision which affect transport service quality. Also the enterprises management and staffs working on different level of positions and responsibilities were selected purposefully and were interviewed at work places.

Finally, the research findings are presented as follows:
Generally, a total of 374 respondents were covered by the sample study. The sample classified by gender comprised 221 male and 153 female individuals. In terms of age distribution, 37 (9.9 percent) were form ages 15-19, 161 (43.0%) were 20-29, 84 (22.5) were 30-39, 57 (15.2 percent) were 40-49, and 35 (9.4 percent) were from ages 50-59.

On the basis of the education level of the respondents of the service providers' staff and mass transport service customers, the majority (147) were with a level of first degree and above, 20.9 percent (78) were grades 10-12, 86 (23.0 percent) have a diploma, 10.2 percent (38), and the remaining 6.7 percent study participants had an education at a certificate level.

In terms of occupation, 37 percent (138) of the respondents were government employees 22.5 percent (84) of them were students. While 18.7 percent (70) were NGO workers and 14.4 percent engaged in own business. The remaining 7.5 percent (28) were daily laborers.

Regarding the frequency of using mass transport services, the overwhelming majority of customers (73.3 percent) replied to be regular public bus riders. Out of the active customers, 27.3 percent of the public bus users travel 1-5 days in a week 23.5 percent use the service all days of the week, 19.5 percent 1-3 days/week, 18.7 percent 1-2 days/week and 41 respondents described using mass transport occasionally.

As far as proximity of public bus stations is concerned, many of the mass transport users (34.5 percent) estimated the distance from home to the station to be 100-300 meters, 30.5 percent 500-1000 m, 17.1 percent less than 100 m. 12 percent and 5.9 percent of the customers estimated home-bus station distance to be 301-500 m. and 1km and above respectively.

Bus service users participated in the study were also asked about the distance they travel on foot to reach the nearest station and how much time it takes them to reach. Nearly 40 percent of them replied to travel about 11 to 20 minutes.

From the model, one (1) factorwas statistically significant in customer perceived quality service. THE Variable (Reliability), the model suggests that customer perceived quality public transport service has the strongest on Reliability (0.372) followed by Assurance (0.042).

- The results shows that customer perceived quality public transport service is predicted by Reliability (β= 0.070, p=0.000), Responsiveness (β= 0. 092, p=0. 337) and Value Co-Creation (β= 0. 044, p=0. 063, and Assurance (β= 0. 066, p=0. 524)

5.3 Conclusion and Recommendation

Measuring and monitoring service quality in public transportation is an important issue for transport managers and suppliers, who, based on different analysis, could identify changes in the quality of het service provided over the time and also discover the main effects that the interventions developed in the service hare produced on passengers' satisfaction.

As described in the previous sections, the factors affecting the service quality of Addis Ababa were assessed using the SERVQUAL measurement instruments, taking in to account the customers' quality service perception and the degree of satisfaction. The research on measuring service quality focuses primarily on meeting or exceeding customers' expectations.

The study result reveals that customers'' expectations of service are not accurately predicted by organizations management along each of the service quality dimensions except the assurance dimension. As a result, management specifies quality standards that fall below customer expectations and hence causes service quality pitfalls.

Mangers in service organizations often experience numerous difficulties in trying to match or exceed customers' expectations. This is due to the factors like some functions require changes in organizational system of service delivery to enhance customer perception. This night require altering the process by which the work is accomplished, in some cases change requires new equipment's and technology. Change also necessitates aligning executives form different angle of the organization to collectively understand the big picture form the customer point of view, and also requires a willingness to be open to different ways of structuring, calibrating and monitoring the service provision.

5.3.1 In view of this, the study recommends the following:

- The enterprises' should continuously monitor customer satisfaction by carrying market surveys frequently to determining customer requirements.
- The enterprises should incorporate total quality management in the provision of services, so that all departments within the enterprises' are coordinated with the single purpose of satisfying customers: this will instill a marketing orientation establishment among employees and thus proper adherence to the corporate objectives of the organization
- There should be frequent training sessions or seminars for employees especially the customer contact personnel to update them on the customer trends in customer requirements and wants: this will enable them to provide the right packaged service to customer's consistent to handling their complaints.
- Improving the quality and sustained good status of vehicles. Enterprises should ensure that mass transport service providing fleets are reliable
- Improving the internal working environment and this enable the firm to cope with the current situation in the area of modernization and technology.
- Assessing what other competitors are doing such as road transport concerning customer expectations. This will help setting quality standards.
- External communication made to customers should be realistic and should portray to customer's a realistic picture of the service such as promises influence customer expectation and impact on satisfaction.
- The management should commit important resources for quality provision to customers, in doing this; the enterprises' management should consider long run benefits.
- Widening and simplifying the public transport network, e.g. by
    - Redesigning het networks layout
    - Enhancing the frequency of operating hours.
    - Introducing demand-responsive transport, which is a public transport service operated on demand only.
- Modernizing of infrastructure and making the entire voyage by public transport more comfortable, e.g.,
    - Installing high quality waiting facilities (seats, shelters, convenient services)
    - Easing access to stations.

  - Modernizing the service provisions to adjust it to requirements of potentials customer's by enhancing accessibility.
  - Improving driver training for customer smooth and energy efficient driving
- Enhancing the accessibility for all person, especially for people with social needs
- Improving the safety and security at stations, at stops and on the vehicles for passengers and drivers, as well as for the infrastructural equipment.
- Purchasing sufficient additional buses.

5.4 Contributions of the Research

The finding of the study is showing the relationship between customers' perceived quality PT service and the new developed model extension to SERVEQUAL model service quality indicators. The findings of the study further contribute to the understanding of how the public transport service quality improved and knowing the basic variables that affect service quality. Furthermore, the study introduced the concept of value co creation indicator variable give emphasis in service improvement process in the city bus service enterprises and the city administrators.

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Appendixes

አዲስ አበባ ዩኒቨርስቲ

ቢዝነስና ኢኮኖሚክስ ፋኩሊቲ

የአስተዳደር ሣይንስ ትምህርት ክፍል

የድህረ ምረቃ ፕሮግራም

የተከበራችሁ የዚህ ጥናት ተሣታፊዎች ይህ መጠይቅ የተዘጋጀው ከአንበሳና ሸገር የህዝብ ትራንስፖርት አገልገሎት ኢንተርፕራይዞች የህዝብ ትራንስፖርትን አገልግሎት በመደበኛነት ከሚጠቀሙ የአዲስ አበባ ነዋሪዎች በሚገኝ መረጃ በአዲስ አበባ ከተማ ያለውን የህዝብ ትራንስፖርት አገልግሎት አሰጣጥ ጥራትን ለማጥናት ነው፡፡

ይህ ጥናት የተዘጋጀው ሙሉ በሙሉ ለትምህርታዊ ጥናት ብቻ ነው፡፡ ለመጠይቁ የምትሰጡት ምላሽ ሚስጢራዊነቱ ሙሉ በሙሉ የተጠበቀና የምትሰጡትን መሠረት በማድረግ በሚገኘው የጥናት ውጤት ተጠያቂ እንደማትሆኑ ላረጋግጥላችሁ እወዳለሁ፡፡ በመሆኑም የመጠይቁ ተሣታፊዎች ትክክለኛ የሆነ መረጃን በመስጠትና በቶሎ ሞልቶ በመመለስ እንድትተባበሩኝ በታላቅ ትህትና እጠይቃለሁ፡፡

አጠቃላይ መረጃዎች

- መጠይቁን ሲሞሉ ስምዎን መፃፍ አያስፈልግዎትም
- ለቀረቡት ጥያቄዎች በተዘጋጀው ቦታ ላይ የ(✓) ምልክት ብቻ በማድረግ መልስዎን ይስጡ የግል አስተያየትዎን እንዲሠጡ ለተጠየቁበት ጥያቄ ደግሞ በተሠጠው ክፍት ቦታ ላይ አስተያየትዎን ይፃፉ፡፡

በመጠይቁ ላይ ተጨማሪ ማብራሪያ ካስፈለገዎ ከዚህ በታች ባለው አድራሻ ቢያደርሱኝ እርስዎን በሚመችዎት ጊዜና ቦታ እንደምገኝ አረጋግጣለሁ፡፡ ስልክ ቁጥር፡ +251 0913256189 ወይም በኢሜይል አድራሻ kagewAbatek@gmail.com ይላኩ፡፡

ክፍል አንድ፤ የግል መረጃ

1. ፆታ ወንድ ☐ ሴት ☐
2. እድሜ ከ15-19 ☐ 29 ☐ 0-39 ☐ 40-49 ☐ ከ50-59 ☐ ከ60 በላይ ☐
3. የትምህርት ደረጃ

   ከ10ኛ ክፍል በታች ☐ ከ10ኛ ወይም 12ኛ ያጠናቀቀ ☐

የምስክር ወረቀት የኮሌጅ ዲፕሎማ

የመጀመሪያ ዲግሪ ሁለተኛ ዲግሪ እና ከዚያ በላይ

4. ሥራ

ተማሪ የመንግስት ሠራተኛ

መንግስታዊ ያልሆነ ድርጅት በግ

የቀን ሠራተኛ ስራ ፈላጊ

ጡረተኛ

5. የህዝብ ትራንስፖርት አገልግሎት መደበኛ ተጠቃሚነዎት?

አዎ አይደለሁም

6. አገልግሎቱን በሳምንት ምን ያህል ይጠቀማሉ?

በየቀኑ ሳምንቱን በሙሉ ቀን በሣምንት

ከ1-2 ቀን በሣምንት ከ1-3 ቀን በሣምንት

በጣም አነስተኛ ጊዜ (አልፎ አልፎ)

7. ለተራ ቁ. 5 ጥያቄ ምላሽዎ "አይደለም" ከሆነ በአማራጭነት የሚጠቀሙት የትራንስፖርት አገልግሎት

በእግር በብስክሌት ቀላል ባቡር

ኮንትራት ገልግለት የግል መኪና

8. የህዝብት ራንስፖርት አገልግሎት ለማግኘት ከመኖሪያዎ በምን ያህል ርቀት ያገኛሉ?

ከ100 ሜትር በታች 100-300 ሜትር

ከ301-500 ሜትር 500-1000 ሜትር

1 ኪ.ሜ እና ከዚያ በላይ

9. አገልግሎት መስጫ ጣቢያው ለመድረስ በአማካይ በእግር ምን ያህል ጊዜ ይወስድብዎታል?

ከ10 ደቂቃ በታች 11-20 ደቂቃ

21-60 ደቂቃ ከ1 ሰአት በላይ

10. የህዝብ ትራንስፖርት አገልግሎት ለማግኘት በአማካይ ለምን ያህል ጊዜ ይጠብቃሉ?

ከ5 ደቂቃ በታች ከ5-10 ደቂቃ

ከ10-20 ደቂቃ ከ21-60 ደቂቃ

1 ሰአትና ከዛ በላይ

ክፍል ሁለት፤ የህዝብ ትራንስፖርት አገልግሎት አሠጣጥን በተመለከተ ሊጤኑ የሚገባቸው ጉዳዮች

ከዚህ በታች ለቀረቡት የህዝብ ትራንስፖርት አገልግሎት አሠጣጥ ላይ ያለዎትን አስተያየት ከቀረቡት አማራጮች ውስጥ የመረጡትን (✓) ምልክት በማድረግ መልስ ይስጡ፡፡

(**1 ማለት በጣም እስማማለሁ ማለት ነው፣ 2 ማለት እስማማለሁ ማለት ነው፣ 3 ማለት አስተያየት መስጠት አልፈልግም ማለት ነው፣ 4 ማለት አልስማማም ማለት ነው፣ 5 ማለት በጣም አልስማማም ማለት ነው**)

ከህዝብ ትራንስፖርት አገልግሎት፣ አቅርቦትና አሰጣጥ ጋር ተያይዞ ያሉ ሁኔታዎች						
ተ.ቁ	ዓረፍተ ነገሮች	አማራጮች				
		በጣም እስማ ማለሁ	እስ ማማ ለሁ	አስተያየ ት ለመስጠ ትእቸገራ	አልስ ማማ ም	በጣምአ ልስማ ማም

				ለሁ		
		1	2	3	4	5
1	የአንበሳ እና ሸገር የከተማ አውቶቡስ ሰራተኞች ደንበኞች ለሚያነሱዋቸው ጥያቄዎች ፈጣን ምላሽ እንደሚሰጡ እምነት አለኝ					
2	የአንበሳ እና ሸገር የከተማ አውቶቡስ አመራሮች የደንበኞችን ፍላጎትና ሃሳብ ግምት ውስጥ ያስገባ ውሳኔ እንደሚወስኑ አምናለሁ					
3	የአንበሳ እና ሸገር የከተማ አውቶቡስ ሰራተኞች ለደንበኞች ምቾት ጥራቱን የጠበቀ አገልግሎት ለመስጠት ፍላጎትና ጥረት እንዳላቸው አምናለሁ፣					
4	የአንበሳ እና ሸገር የከተማ አውቶቡስ አገልግሎት ድርጅቶች ሁሉንም የከተማውን ኮሪደር ባማከለ ለከተማው ነዋሪ አገልግሎት እየሰጠ እንደሆነ አምናለሁ					
5	የአንበሳ እና ሸገር የከተማ አውቶቡስ አገልግሎት ድርጅቶች በቂ የሆነ የአውቶቡስ ብዛትና አስፈላጊ መሰረተ ልማቶች ተሟልተውላቸው እየሰሩ ነው ብዬ አምናለሁ					
6	የአንበሳ እና ሸገር የከተማ አውቶቡስ አገልግሎት ድርጅቶች በቂ እውቀት እና ልምድ ባላቸው ሰራተኞች እና አመራሮች በመታገዝ ጥራቱን የጠበቀ አገልግሎት እየሰጡ ነው ብዬ አምናለሁ					

1. የአገልግሎት አሰጣጥ አስተማማኝነት /RELIABILITY/						
ተ.ቁ	ዓረፍተ ነገር	አማራጮች				
		በጣምእስማ ማለሁ	እስማማለሁ	አስተያየት ለመስጠት እቸገራለሁ	አልስማማ ም	በጣምአልስማማም
		1	2	3	4	5
1	በቂ የሆነ የህዝብ ትራንስፖርት አገልግሎት					

	ተሽከርካሪዎች አቅርቦት አለ					
2	የህዝብ ትራንስፖርት ተሽከርካሪዎች በሠአቱ ይደርሳሉ					
3	ተሽከርካሪዎች በተገቢው ሰአት ተሣፋሪዎችን ጭነው ይንቀሣቀሣሉ					
4	ፈጣንና የተቀላጠፈ የክፍያ (የትኬት አሰጣጥ) አሠራር አለ					
5	አሽከርካሪዎች ከትራንስፖርት ተገልጋዮች ጋር ያላቸው ተግባቦት እና የትራፊክ አደጋ እንዳይከሰቱ ጥንቃቄ ለማደረገ ህግና ስርአትን ለማክበር ያላቸው የኃላፊነት ስሜት					

2. **የአገልግሎት አሰጣጥ አመቺነት/ASSURANCE/**

ተ.ቁ	**ዓረፍት ነገር**	**አማራጮች**				
		በጣምእስማማለሁ	እስማማለሁ	አስተያየት ለመስጠት እችገራለሁ	አልስማማም	በጣምአልስማማም
		1	**2**	**3**	**4**	**5**
1	የተሣፋሪዎችን ደህንነት ለአደጋ የማያጋልጥና ንብረቶቻቸውን በሚገባ የሚያስጠብቅ የተመቻቸ የአገልግሎት አሰጣጥ መኖር					
2	የትራንስፖርት አገልግሎቱን ለማግኘት በማቆሚያ ጣቢያው ለረጅም ጊዜ አያስጠብቁም					
3	የአሽከርካሪዎች ልምድ እና ሙያዊ ብቃት አስተማማኝነት እና ተሽከርካሪውን በተገቢው ሁኔታ የመቆጣጠር ሁኔታ					

4	የትራንስፖርት ተገልጋዮች ደህንነት በአስተማማኝነት ሁኔታ ለማስጠበቅ ስታንዳርዱን የጠበቀ አሠራር በመዘርጋት ረገድ ያለው ሁኔታ					

3. ለተጠቃሚዎች አስፈላጊውን አገልግሎት መስጠት የሚያስችሉ ግብአቶችን ማሟላትTANGBELES/						
ተ.ቁ	ዓረፍተ ነገር	አማራጮች				
		በጣምእስማ ማለሁ	እስማ ማለሁ	አስተያየት ለመስጠትእቸገ ራለሁ	አልስማ ማም	በጣምአልስማማም
		1	2	3	4	5
1	የህዝብ ትራንስፖርት አገልግሎት መስጫ ጣቢያዎች በቅርብ ርቀት ይገኛሉ					
2	የተሣፋሪዎችን ምቾት በሚገባ በሚጠብቅ መልኩ ተሽከርካራዎች ሙቀት እና ቅዝቃዜን መቆጣጠር በሚያስችል መልኩ ያላቸው ይዞታ					
3	በማቆሚያ ጣቢያዎች ወራጅና ተሣፋሪ መንገደኞች የሚስተናገዱበት ቀልጣፋና አመቺ የአሰራር ስርአት አለ					
4	ያልተቆራረጠ እና ቀልጣፋ የሆነ የህዝብ ተሽከርካሪ ፍሰት (መተካካት) የአሠራር ስርዓት መኖር (frequency of transport flow)					

5	የህዝብ ትራንስፖርት አገልግሎት ተሽከርካሪዎች ያሉበት ይዞታ እና ደረጃውን የጠበቀ ጥገና (ሰርቪስ) በወቅቱ ማድረግ					
6	የህዝብ ትራንስፖርት ተሽከርካሪ ማቆሚያ ጣቢያዎች (bus stations) የተገልጋዮችን ምቾት በሚያስጠብቅ መልኩ የተገነቡ (ማረፊያ ወንበሮች፣ ከዝናብና ፀሃይ የሚከላከሉ ወዘተ) እና ተሣፋሪዎች ስርአት ባለው መንገድ ስለመስተናገዳቸው					

4. የትራንስፖርረት አገልግሎት ተጠቃሚዎችን ምቾት መጠበቅ EMPATHY/

ተ.ቁ	ዓረፍተነገር	አማራጮች				
		በጣምእስማ ማለሁ	እስማማለ ሁ	አስተያየት ለመስጠትእቸገራለ ሁ	አልስማማ ም	በጣምአልስማማም
		1	2	3	4	5
1	የተሽከርካሪዎች ወንበሮች ምቹነትና የተሣፋሪዎችን እንቅስቃሴ የማይገድብ በቂ ክፍት ቦታ መኖር					
2	የህዝብ ትራንስፖርት ተሽከርካሪዎች በሁሉም እድሜ ላይ ላሉ ተገልጋዮች ያለ ችግር አገልግሎቱን ለማግኘት በሚያስችል መልኩ ያላቸው ምቹነት (ለምሣሌ ለህፃናት፣ ከነፍሰጡሮች፣ ለአቅመ ደካሞች፣ ለአካል ጉዳተኞች ወዘተ ግምት					

	ውስጥ በማስገባት)					
3	የተሽከርካሪዎችንና የማቆሚያ ጣቢያዎች አገልግሎት አሰጣጥ ተሣፋሪዎችን እንግልትና መጨናነቅ እንዳይፈጠር ረገድ ያለው አገልግሎት አሰጣጥ ሁኔታ					
4	ተሽከርካሪዎቹ የተሣፋሪዎችን ምቾት እና ደህንነት አስተማማኝ በማድረግ የቋሚ መንገደኞችን ደህንነት በመጠበቅ ረገድ ያላቸው ዘመናዊነት					
5	የተገልጋዮችን ምቾት በሚጠብቅ መልኩ የተሽከርካሪዎችን የውስጥ ክፍል (ለምሣሌ የተሰበሩ መስኮቶች፣ ወንበሮች፣ ቆመው የሚሄዱ መንገደኞች ሚዛናቸውን ለመጠበቅ የሚይዙት ገመድ፣ የተሽከርካሪውን የውስጥ ንፅህና በየጊዜው በመጠበቅ ረገድ)					

5. የህዝብ ትራንስፖረት አገልግሎት ሰጪ ተቋማት ተገልጋዮችን በአግባቡ የማስተናገድ ሁኔታ /responsiveness/

ተ.ቁ	ዓረፍተ ነገር	አማራጮች				
		በጣምእስማማለሁ	እስማማለሁ	አስተያየት ለመስጠትእ ቸገራለሁ	አልስማማም	በጣምአልስማማም
		1	2	3	4	5
1	የትራንስፖርት አገልግለት ሠራተኞች የተገልጋዮችን ጥያቄዎች ተቀብሎ አፋጣኝ እና ተገቢ የመፍትሄ ምላሽ ለመስጠት ያላቸው ዝግጁነት እና					

	የኃለፊነት ስሜት					
2	የትራንስንፖርት አገልግለት ሠራተኞች አገልግሎቱን አስመልክቶ ተገልጋዮች ለሚያቀርቡት አቤቱታና ለሚያጋጥማቸው ችግር የመፍትሄ ምላሽ ለመስጠት ያላቸው ቅንነት					
3	የትራንስፖርት ክፍያው ሁሉንም የህብረተሰብ ክፍል የኑሮ ሁኔታ ያገናዘበ መሆኑ (affordable)					
4	የትራንስፖርት አገልግለት ሠራተኞች የተገልጋዮችን ጥያቄዎች ተቀብሎ አፋጣኝ እና ተገቢ የመፍትሄ ምላሽ ለመስጠት ያላቸው ዝግጁነት እና የኃለፊነት ስሜት					

6. አገልግሎትን በጋራ ከማሻሻል አንጻር						
ተ.ቁ	**ዓረፍተ ነገር**	**አማራጮች**				
		በጣምእስማ ማለሁ	**እስማማለሁ**	**አስተያየት ለመስጠትእ ቸገራለሁ**	**አልስማማ ም**	**በጣምአልስ ማማም**
		1	2	3	4	5
1	ድርጅቱ በሚያደርጋቸው ችግሮችን የመለየትና የአገልግሎት አሰጣጥ ማሻሻያ ፕሮግራሞች ላይ በንቃት ይሳተፋሉ					
2	በአገልግሎቱ አሰጣጥ ዙሪያ የእርስዎ ፍላጎት በበቂ ሁኔታ ተካቷል ብለው ያምናሉ					

3	በአገልግሎት አሰጣጥ መሻሻል ዙሪያ ድርጅቱ የእርስዎን ሃሳብ ተቀብሎ ቢጠቀምበት በአገልግሎቱ ላይ ለውጥ ያመጣል ብለው ያምናሉ					
4	በአገልግሎት አሰጣጥ መሻሻል ዙሪያ ድርጅቱ የእርስዎን ሃሳብ ባለመቀበሉ በሚሰጠው አገልግሎቱ ላይ ተጽኖ ያመጣል					

መጠይቁን ጨርሰዋል፡፡ ከልብ እናመሰግናለን!!

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

POST GRADUATE QUESTIONNAIRE

The questionnaire is aimed at gathering data on the Factors Affecting the Quality Public Transport Services in Addis Ababa City based on the evidences obtained from Anbessa and Sheger mass Transport enterprises, customers (passengers) who use mass Transport Services regularly. The study is purely for academic purpose.

I assure you that all your responses will be kept in absolute confidentiality, and you will not be held responsible for the research outcome. So, your genuine and timely response is appreciated for the success of the study. Therefore, I kindly ask you to respond each items of the question very carefully.

General instructions:

- There is no need of writing your name
- Please put a tick (✓) marks in the appropriate box of your answer.

Contact Address: If you have any Questions, please contact me and 1'm available per your convenience: Mobile: +251 913 25 61 89 or e-mail: kagewAbatek@gmail.com

Thank you in advance for scarifying your time to response this Questionnaire!!

PART I General Information: Demographic Information

Please put a (✓) mark under the appropriate selection.

1. Sex: A. Male ☐ B. Female ☐
2. Age (Years): A. 15-19 ☐ B. 20– 29 ☐ C. 30 – 39 ☐ D. 40 – 49 ☐ E. 50-59 ☐ F.60-69 ☐

3. Education status: A. 12 grade and below ☐ B. Diploma ☐

   C. First Degree ☐ D. 2nd Degree and above ☐

4. Occupation:

   A. Student ☐ B. Government Employee ☐ C. NGO ☐

   D. Own business ☐ E. daily levered ☐ F. Pensioner ☐

5. Do you permanent user of public transport.

   A. Yes ☐ B. NO ☐

6. How many days in a week do you use public transport.

   A. All days in a week ☐ B. 1-5 days in a week ☐ C. 1-2 days in a week ☐

   D.1-3 days in a week ☐ E. sometimes ☐

7. In question No 5 if your answer (B. (No)) your other means of transport.

   A. On fete ☐ B. Bicycle ☐ C. Light railway ☐

   D. Taxi ☐ E. own car ☐

   E. Total work experience with and out of the enterprise (if any)

8. The distance between your house and bus stations.

   A. Less than 100 meter ☐ B. 100– 300 meter. ☐ C. 300-500 meter ☐

   D. 500-1000 meter ☐ E. 1 Km and above ☐

9. How match time do you need to reach the bus station.

   A. less than 10 minutes ☐ B. 11-20 minutes ☐ C21-60 minutes ☐

A. above 1 hour ☐

10. How match time do you need to wait the bus in a bus station.

A. Less than 5 minutes ☐ B. 5-10 minutes ☐ C. 10-20 minute ☐

B. 21-60 minute ☐ D. 1 hour and above ☐

<u>PART II perception of the customers</u>

Please put a (✓) mark under the appropriate number of indicate the extent to which you agree or disagree with each statement.

<u>The item scales are five-point scales with:</u>

7. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

Dependent variable

Customer perceived Quality of Public Transport Services(CPQL)						
No.	**Statements**	**Alternatives**				
		Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly Agree**
		1	2	3	4	5
CPQ1	I think the enterprises (Anbesa & Shegere) staffs ready to Give Response for customers.					
CPQ2.	I think the enterprises (Anbesa & Shegere) management Consider customers' needs in their decisions.					
CPQ3	I think the enterprises (Anbesa & Shegere) employees Making customers feel safe & satisfied in their service.					

CPQ4	I think that the enterprises (Anbesa & Shegere) provide their Service in all round of the city.					
CPQ5	I think that the enterprises (Anbesa & Shegere) have Afford sufficient buses and necessary infrastructures.					
CPQ6	I know Anbesa & Shegere enterprises have knowledgeable and experienced man power to provide quality public transport service.					

Independent variable

1. Reliability of service provision(RELY)						
No.	**Statements**	**Alternatives**				
		Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly Agree**
		1	2	3	4	5
REL1	There is enough Network coverage of public transportation buses on the Route.					
REL2	The public transportation buses arrive in the station on time.					
REL3	The buses aboard passengers on the right time..					
REL4	There is ease of payment and ticket supply system for					

	passengers					
REL5	The responsibility of the transport drivers in relation to their customer and					
2. Regarding the Assurance of transport service user(ASSU)						
ASS1	The availability of transport service system that include the safety of the client and their properties					
ASS2.	Users it does not take long wait to get public transport service at the station					
ASS3	The reliability of the drivers work experience, their competency of their ability to Carry out their job and their handling the vehicles in proper manner.					
ASSU4	The enterprises are setting and applying the standardized system which insures the safety of the transport customer.					
3. Regarding the Tangibility of public transport service for user(TANG)						
TAN1	Public transport bus stations are					

	nearby at short distance.					
TAN2	The AC availability during hot and cold air condition that control and Provide comfort to customer					
TAN3	There is suitable system of serving the customers at transport Exit and aboard .					
TAN4	There is Uninterrupted frequent of public transport service flow					
TAN5	The current condition of the public transport buses and they get Standardized maintenance at the required time					
TAN6	The availability of Facilities at station that protected customers from weather, Lighting During waiting for bus and etc.					
4.Keeping the public transport Empathy for users(EMPA)						
EMP1	The comfortably of the user's seat and the availability of enough space that does not limit the movement of the passenger's.					
EMP2	The competency of public transport buses to provide quality service to users' With any condition (for instance, putting into consideration the transport					

	service for children, pregnant women, elders and for people with disability and etc.) .					
EMP3	Ease of entering / exiting the vehicle.					
EMP4	The modernity of public transport buses in terms of assuring the safety and Comfort ability of the users. .					
EMP5	To keep the comfort ability of the users if there is the cleanness of the public Transport vehicles inside part and windows mirror damage and holding elbow for passengers standing to keep their balance while travelling.					
5. The Responsiveness of public transportation service providers in relation to their proper service provision to their clients (RESP)						
RES1	The readiness and tendency of bus service provider employees holding their responsibility to accept complaints from customer and providing response.					
RES2	The integrity and readiness of the transport service employees to					

	give solution for each complain and questions rose by clients'.					
RES3	The cost of travel considers the capacity of all the society members. (Affordability).					
RES4	The readiness of the transport conductors for providing quality service and Responsive to the clients' inquiry and their comfort.					
6. Value Co-Creation (Co-Creation of service by users and providers) (VCCR)						
VCC1	Do you actively participate on the organization platform about service? Improvement and problem identification discussions?					
VCC2	Do you think the service you are receiving from the enterprise fulfills the level of your expectation and satisfaction?					
VCC3	In relation to the service quality improvement of the organization, if your desire is Accepted and implemented, do you think it will help the organization to Improve the service?					

VCC4	In relation to the service quality improvement of the organization, if your desire or Perception won't be accepted, do you think it will have an impact on the Organization service quality improvement?					

The End!

Thank you or your valuable input and kind cooperation

Rotated component matrix before adjustment

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
The comfortably of the user's seat and the availability of enough space that does not limit the movement of the passenger's	.715						.306
The suitableness of public transport stations construction to provide quality service to the users and availability of seat, rain and sun blocking shade for clients on waiting list for bus and etc.	.708						
The current condition of the public transport buses and they get standardized maintenance at the required time	.671						
Ease of entering / exiting the vehicle.	.664						
The competency of public transport buses to provide quality service to users' With any condition (for instance, putting into consideration the transport service for children, pregnant women, elders and for people with disability and etc.)	.608					.342	
To keep the comfort ability of the users if there is the cleanness of the public transport vehicles inside part and windows mirror damage and holding elbow passengers standing to keep their balance while travelling.	.575						
The modernity of public transport buses in terms of assuring the safety and Comfort ability of the users. .	.573						
I think the enterprises (Anbesa & Shegere) staffs ready to Give Response for customers		.798					
I think that the enterprises (Anbesa & Shegere) has Afford sufficient buses and necessary infrastructures		.757					
I think that the enterprises (Anbesa & Shegere) provides their Service in all round of the city.		.757					

I think the enterprises (Anbesa & Shegere) employees Making customers feel safe & satisfied in their service		.754					
I think the enterprises (Anbesa & Shegere) management Consider customers' needs in their decisions		.737					
The reliability of the drivers work experience, their competency of their ability to Carry out their job and their handling the vehicles in proper manner			.956				
Users It does not take long wait to get public transport service at the station			.903				
The enterprises are setting and applying the standardized system which insures the safety of the transport customer.			.894				
The availability of transport service system that include the safety of the client and their properties			.666				
In relation to the service quality improvement of the organization, if your desire or Perception won't be accepted, do you think it will have an impact on the Organization service quality improvement?				.980			
Do you think the service you are receiving from the enterprise fulfills the level of your expectation and satisfaction?				.976			
In relation to the service quality improvement of the organization, if your desire is Accepted and implemented, do you think it will help the organization to Improve the service?				.926			
The readiness and tendency of bus service provider employees holding their responsibility to accept complaints from customer and providing response.					.824		
The cost of travel considers the capacity of all the society members. (Affordability).					.790		
The integrity and readiness of the transport service employees to give solution for each complain and questions rose by clients'					.786		
The readiness of the transport conductors for providing quality service and Responsive to the clients' inquiry and their comfort.					.734		
The AC availability during hot and cold air condition that control and Provide comfort to customer						.725	
Public transport bus stations are nearby at short distance.	.305					.637	
There is ease of payment and ticket supply system for passengers						.624	
There is suitable system of serving the customers at transport Exit and aboard						.597	
There is Uninterrupted frequent of public transport service flow	.468					.483	
The public transportation buses arrive in the station on time							.777
There is enough Network coverage of public transportation buses on the Route							.745
The buses aboard passengers on the right time.						.354	.737
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]							
a. Rotation converged in 6 iterations.							

Final adjusted rotated matrix

Rotated Component Matrix[a]					
	Component				
	VCCR	ASSU	RELY	RESP	CPQL
In relation to the service quality improvement of the organization, if your desire or Perception won't be accepted, do you think it will have an impact on the Organization service quality improvement?	.982				
Do you think the service you are receiving from the enterprise fulfills the level of your expectation and satisfaction?	.978				
In relation to the service quality improvement of the organization, if your desire is Accepted and implemented, do you think it will help the organization to Improve the service?	.931				
The reliability of the drivers work experience, their competency of their ability to Carry out their job and their handling the vehicles in proper manner		.968			
The enterprises are setting and applying the standardized system which insures the safety of the transport customer.		.930			
Users It does not take long wait to get public transport service at the station		.910			
The public transportation buses arrive in the station on time			.830		
The buses aboard passengers on the right time.			.819		
There is enough Network coverage of public transportation buses on the Route			.800		
The readiness and tendency of bus service provider employees holding their responsibility to accept complaints from customer and providing response.				.845	
The integrity and readiness of the transport service employees to give solution for each complain and questions rose by clients'				.826	
The cost of travel considers the capacity of all the society members. (Affordability).				.811	
I think the enterprises (Anbesa & Shegere) staffs ready to Give Response for customers					.842
I think the enterprises (Anbesa & Shegere) management Consider customers' needs in their decisions					.800
I think the enterprises (Anbesa & Shegere) employees Making customers feel safe & satisfied in their service					.790
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 5 iterations.					

Anbessa City Bus Service Enterprise Route and Distance

# route	Origin-Destination	Tariff	KM
1	MEGENAGNA - Yeka Abado G7	2.00	11.2
2	Kore Mekanissa - Addis Ketema	2.00	11.1
3	Ayer Tena - Menelik Squar	2.00	10.8
4	Kaliti - Addis Ketema	3.75	19.4
5	Kore Mekanissa - Menelik Squar	2.50	12.7
6	Kera - Semen Gebeya Squar	2.00	9.9
7	Megenagna - Aleltu	13.00	49
8	Kechene - Addis Ketema	1.50	9.4
9	Bole Brass Clinic - Piassa	3.00	10.5
10	Kotebe College - Piassa	2.00	12.7
11	Kolfe Efoyeta - Menelik Hospital	2.00	10
12	Gurara Ferensay Kela - Addis Ketema	2.00	9.9
13	Italy Embassy - Addis Ketema	2.00	9.9
14	Saris Abo - Menelik Squar	3.00	12.3
15	Megenagna - Addis Ketema	2.00	10.4
16	Kidanimihret - Addis Ketema	1.50	7.9
17	Kusqum - Addis Ketema	2.00	9.1
18	Keraniyo - Addis Ketema	1.50	7.3
19	Sansusi - Piassa	2.00	12.8
20	Dil Ber - Addis Ketema	1.50	8.6
21	Felidoro - Addis Ketema	1.50	8.6
22	Summit - Legehar	2.75	14.3
23	Lamberet - Addis Ketema	2.00	12
24	Dire Sololiya -Addis Ketema	3.00	15.9
25	Legehar - Akaki	3.75	19
26	Addis Ketema - Sebeta	4.50	25.5
27	Legehar - Kaliti	2.75	14.9
28	Asko Sansuzi -Addis Ketema	2.00	11.1
29	Saris Addisu Sefer - Addis Ketema	2.50	12.7
30	Sululta -Addis Ketema	5.00	25.8

31	Legehar -Shiro Meda	1.50	7.4
32	Hana Mariam -Legehar	2.00	10.6
33	Kotebe Gebriel - Arat Kilo	2.00	11.4
34	German Squar - Addis Ketema	2.00	9.8
35	Lebu Muziqa Sefer- Addis Ketema	2.75	15
36	Kara Kore - Legehar	2.00	11.7
37	Keraniyo - Menelik Squar	2.00	12
38	German Squar - Sidist Kilo	2.00	11
39	Bole School - Addis Ketema	2.75	9.6
40	Karalo - Addis Ketema	3.00	17.9
41	Eyesus - Addis Ketema	1.50	8.5
42	Bole Bora - Summit Condimminium	2.00	12.00
43	Menagesha - Addis Ketema	5.00	30.2
44	Legedadi - Addis Ketema	5.00	30.4
45	Legehar - Dil Ber	1.50	8.6
46	Gerji - Arat Kilo	2.00	11.2
47	Yenegew Fire School - Addis Ketema	1.50	6
48	Bola Mekale - MENELIK SQ;	2.00	15.8
49	Chefe Ayate; - Megenagna	2.00	11
50	Tore Hailoch - Welete Adebabaye	2.00	12
51	Bethel Hospital - Addis Ketema	2.00	10.9
52	Gerji - Addis Ketema	2.75	14.1
53	Bole Michael - Shiro Meda	2.00	11.5
54	Lafto - Legehar	2.00	9.5
55	Legehar - Gurara Ferensay Kella	2.00	9.5
56	Saris Abo - Shiro Meda	2.75	14.2
57	Kara - Legehar	2.75	14.4
58	Legehalr - Alem Bank	2.00	12
59	Bethel Hospital - Menelik Squar	2.00	11.5
60	Debr Zeit - Legehar	9.00	47.2
61	Chefe Ayate - Legehar	3.00	18
62	Sebeta - Legehar	4.50	23.8
63	Addis Ketema - Mikililand	2.00	9.1

64	Sidist Kilo - Megenagna Gorf Aswegaj	2.00	9.5
65	Addis Ketema - Alem Bank	2.00	11
66	Addis Ketema - Kara Qorre	2.00	10.5
67	Legehar - Jemmo Mekanissa	2.00	10.6
68	Menelik Hospital - Tore Hailoch	2.00	10.2
69	Lome Meda - Merkato	1.50	5.9
70	Aware Square - Ayer Tena	2.00	12
71	Gerji - Balcha Hospital	2.00	10.9
72	Hana Mariam - Sari Abo	1.25	4.9
73	Legehar - Ring Road Vis Winget	2.00	10.2
74	Semite Kondominem - ADDIS KETEMA	3.50	14.2
75	Sidist Kilo - Qera	2.00	10.4
76	Megenagna - Kaliti	3.00	18.2
77	Ayer Tena - Kera	1.25	5
78	Megenagna - Gofa Condiminium	2.75	12.4
79	Arat Kilo - Semit Condiminium	2.75	14.7
80	Semen Gebeya Squar - Megenagna	2.00	12.4
81	Sidist Kilo -Sansusi	2.00	11.1
82	Goro Adebabay - Balcha Hospital	2.75	14.6
83	Chefe Ayate - Sidist Kilo	3.00	18
84	Kolfe Efoyta - Legehar	2.00	9.5
85	Addis Ketema - Holeta	9.00	45
86	Ayer Tena - Kality	3.00	12.3
87	Winget Vis Ring Road- Ayer Tena	2.00	10.5
88	Addis Ketema -Chancho	9.00	40
89	Addis Ketema -Sendafa	9.00	44
90	Betel Hospital - Legehar	2.00	10
91	Addis Ketema - Teji	13.00	52
92	Hana Mariam Ring Road- Balcha	2.00	9.6
93	Bole Bulbula - Megenanga	2.75	15.2
94	Piassa - Mikililand	2.00	9.9
95	Addis Ketema - Addis Alem	9.00	47
96	Megenagna - Goro Sefera	1.50	9.2

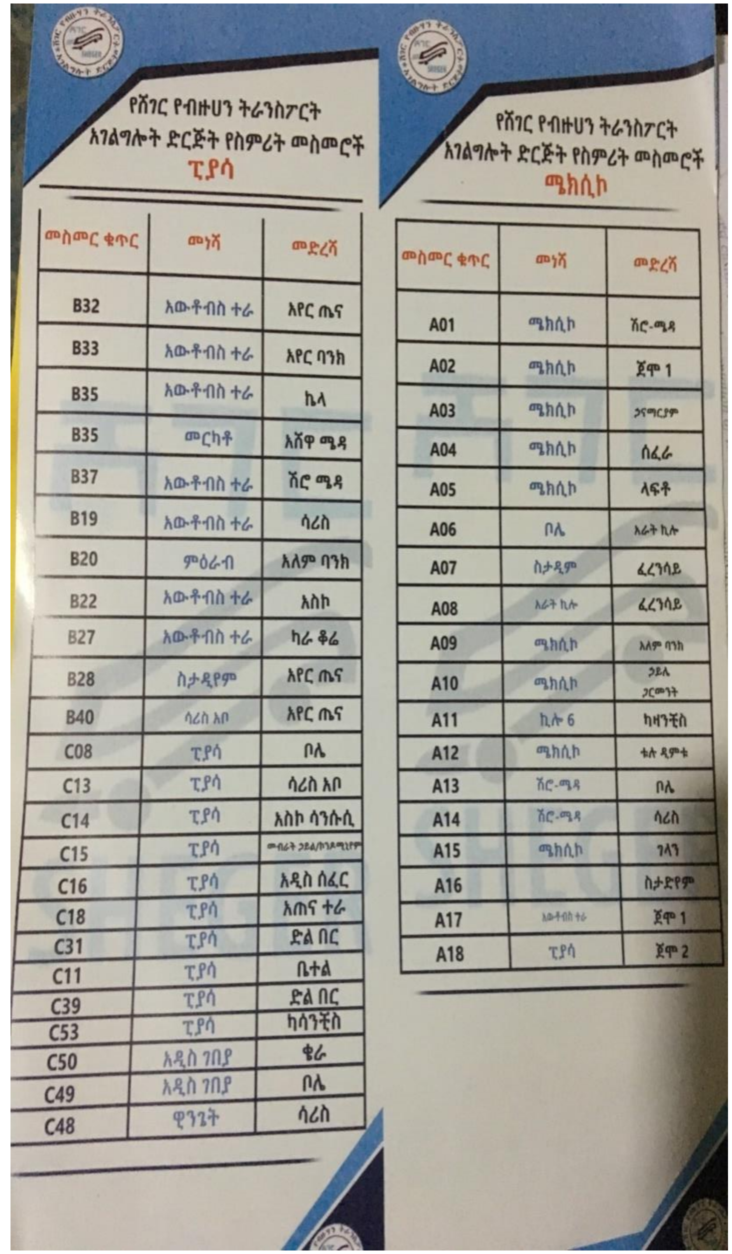
97	Megenagna - Legetafo Mission	2.75	15.8
98	Dukem - Saris Abo	5.00	26.3
99	Ayer Tena - Alem Gena Michael	2.00	9.4
100	Addis Ketema - Jemo	3.00	14.5
101	Megenagna - Aba Kirros Sq.	2.00	12
102	Kara - Legehar	2.75	13.7
103	Jemo - Piassa	3.00	12.2
104	Kality - KERA	1.50	8.3
105	Anfo Meda - Legehar	2.00	12
106	Boly Arabesa - MEGENAGNA	2.00	10.8
107	Saris Abo - Unisa Ueneversity	2.00	11.4
108	Asko Addisu Sefer - 18 Sq .Menelik Sq.	2.00	9.3
109	Saris Abo - Tulu Dimetu Square	3.00	12
110	Sidist Kilo -Tulu Dimetu Square	5.00	24.9
111	Dire Sololiya - Piassa	3.00	16.6
112	Circular Route With In Ring Road 4 Turning Points	2.00	47.3
113	Kaliti Total - Feche Koye	2.00	8.1
114	Gelan Condiminium - Saris Abo	3.50	7.9
115	Lebu Muziqa Bet - Mexico Square	2.00	9.4
116	Mekanissa Michael SQ - Alemgena	2.00	5.6
117	KOTARI Condiminnium - MEXICO SQUARE	2.00	9.2
118	Merkato - Tateq Kella	3.00	18
119	Megenagna - Summit Condiminnium	2.00	9.2
120	Burayu Keta - Tore Hiloch	2.00	12.1
121	Jemo Qedus Gebreal - Mexico Square	2.00	10
122	Arat Kilo -Entoto Mariam	3.00	16.6
123	Megenaga-----Yeka Abado	2.00	12
124	Megenaga-----Tulu-Dimtu	5.00	26

Sheger City Bus Service Enterprise Route

የሸገር የብዙሀን ትራንስፖርት
አገልግሎት ድርጅት የስምሪት መስመሮች
መገናኛ

መስመር ቁጥር	መነሻ	መድረሻ
D21	መገናኛ	የካአባዶ
A03	መገናኛ	ሽሮ ሜዳ
D46	መገናኛ	ቦሌ አራብሳ
D42	መገናኛ	ቦሌ አራብሳ
D42	መገናኛ	ቱሉ ዲምቱ
D26	መገናኛ	ጎሮ
D10	መገናኛ	ሳሪስ አቦ
D25	መገናኛ	ሰሚት
D23	መገናኛ	ጣፎ
C17	መገናኛ	ፒያሳ
C51	የካአባዶ	ፒያሳ
A24	መገናኛ	ሜክሲኮ
D38	ጎሮ	ቱሉ ዲምቱ
D52	መገናኛ	ኮዬ ፈቼ

የሸገር የብዙሀን ትራንስፖርት
አገልግሎት ድርጅት የስምሪት መስመሮች



የሸገር የብዙሀን ትራንስፖርት
አገልግሎት ድርጅት የስምሪት መስመሮች
ፒያሳ

መስመር ቁጥር	መነሻ	መድረሻ
B32	አውቶብስ ተራ	አየር ጤና
B33	አውቶብስ ተራ	አየር ባንክ
B35	አውቶብስ ተራ	ኬላ
B35	መርካቶ	አሸዋ ሜዳ
B37	አውቶብስ ተራ	ሽሮ ሜዳ
B19	አውቶብስ ተራ	ሳሪስ
B20	ምዕራብ	አለም ባንክ
B22	አውቶብስ ተራ	አስኮ
B27	አውቶብስ ተራ	ካራ ቆሬ
B28	ስታዲየም	አየር ጤና
B40	ሳሪስ አቦ	አየር ጤና
C08	ፒያሳ	ቦሌ
C13	ፒያሳ	ሳሪስ አቦ
C14	ፒያሳ	አስኮ ሳንሱሲ
C15	ፒያሳ	መብራት ኃይል/ኮንዶሚኒየም
C16	ፒያሳ	አዲስ ሰፈር
C18	ፒያሳ	አጠና ተራ
C31	ፒያሳ	ድል በር
C11	ፒያሳ	ቤተል
C39	ፒያሳ	ድል በር
C53	ፒያሳ	ካሳንቺስ
C50	አዲስ ገበያ	ቄራ
C49	አዲስ ገበያ	ቦሌ
C48	ዊንጌት	ሳሪስ

የሸገር የብዙሀን ትራንስፖርት
አገልግሎት ድርጅት የስምሪት መስመሮች
ሜክሲኮ

መስመር ቁጥር	መነሻ	መድረሻ
A01	ሜክሲኮ	ሽሮ-ሜዳ
A02	ሜክሲኮ	ጀሞ 1
A03	ሜክሲኮ	ኃናማርያም
A04	ሜክሲኮ	ሰፈራ
A05	ሜክሲኮ	ላፍቶ
A06	ቦሌ	አራት ኪሎ
A07	ስታዲም	ፈረንሳይ
A08	አራት ኪሎ	ፈረንሳይ
A09	ሜክሲኮ	አለም ባንክ
A10	ሜክሲኮ	ኃይሌ ጋርመንት
A11	ኪሎ 6	ካዛንቺስ
A12	ሜክሲኮ	ቱሉ ዲምቱ
A13	ሽሮ-ሜዳ	ቦሌ
A14	ሽሮ-ሜዳ	ሳሪስ
A15	ሜክሲኮ	ገላን
A16		ስታድየም
A17	አውቶብስ ተራ	ጀሞ 1
A18	ፒያሳ	ጀሞ 2