FACTORS AFFECTING THE QUALITY OF PUBLIC COMMERCIAL TRANSPORT SERVICE (AT ADDIS ABABA CITY)

In Partial Fulfillment of the Requirements for the Award of Master of Art Degree in Logistics and Supply Chain Management

By: Firdos Kebir

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Addis Ababa, Ethiopia

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A Thesis Submitted to Addis Ababa University School of Commerce

In Partial Fulfillment of the Requirements for the Degree of Master of Art in Logistics and Supply Chain Management

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Advisor: Busha Temesgen (PhD)

Addis Ababa University School of Commerce

June, 2020

Addis Ababa, Ethiopia

DECLARATION

I, the under signed, declare that this thesis entitled ‘Factors Affecting The Quality of Public Commercial Transport Service In Addis Ababa City’, is my original work and to the best of my knowledge, has not been presented for a degree by any other person and that all the sources of material used for the thesis have been duly acknowledged.

Declared by:

Firdos Kebir

Signature

_____

STATEMENT OF CERTIFICATION

This is to certify that the thesis carried out by Firdos Kebir on the topic entitled “Factors Affecting the Quality of Public Commercial Transport Service in Addis Ababa City” is her original work and is suitable for submission for the award of Master of Art Degree in Logistics and Supply Chain Management.

_____

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ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

This is to certify that the thesis carried out by Firdos Kebir, entitled 'Factors Affecting The Quality Of Public Commercial Transport Service In Addis Ababa City' and submitted in partial fulfillment of the requirements of the Degree of Master of Art in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Firdos Kebir

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LIST OF ACRONYMS

AACA - Addis Ababa City Administration

AACTO- Addis Ababa City Transport Office

FMTC - Federal Ministry of Transport and Communication

PT- Public Transport

PCTS -Public Commercial Transport Service

TA - Transport Authority

NGOs - Non-Governmental Organizations

SERVQUAL - Service Quality

ABSTRACT

Transportation is the movement of persons or goods from one place to another. The need for the conveyance of goods arises from the fact that they often produced in areas far from the place where they are needed. Therefore, mobility of people as well as transportation of goods from place to place is important to satisfy some needs. In view of that, this research has examined the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City. To achieve the objectives of this study descriptive and explanatory research designs have been used. Primary data has been collected through questionnaires from 384 users that have been selected as a sample using a convenience sampling method from the five taxi zones of Addis Ababa city. The data collected through the questionnaires were analyzed using statistical tools such as mean, standard deviation, correlation, and multiple regression analysis. The results of mean and standard deviation indicate that public commercial transport service users agreed on the factors that are creating influences on the quality service delivery of public commercial transport service such as, transport service practices and management, traffic congestion and parking management, accessibility, and availability. The result of the inferential analysis indicates that, factors that affect the quality of public commercial transport service such as (transport service practices and management, traffic congestion and parking management, accessibility, and availability) have a positive and significant relationship with perceived transport service quality. The results also indicate that, all factors that affect the quality of public commercial transport service (transport service practices and management, traffic congestion and parking management, accessibility and availability) have a positive and significant effect on perceived transport service quality. Furthermore, the aforementioned factors that affect the quality of public commercial transport service significantly contribute, 86.2% to perceived transport service quality. Based on the findings of the study, the researcher recommends for the concerned bodies, to improve the existing transport practices by implementing the available policies properly and controlling the service providers' unethical acts; increase the number of interconnected roads as well as parking lots to minimize congestion; improve the accessibility of the minibus taxis by expanding the road network coverages; adjust the demand overlap between school and work hours so as to minimize the unavailability of the taxis during pick hours.

Key Words: Transport service practices and management, Traffic congestion and parking management, Accessibility, and Availability.

CHAPTER ONE

INTRODUCTION

This chapter contains an introductory part of the entire study. It provides some insights about the ground and assumptions where the study is conducted. It states the background of the study, statement of the problem, basic research questions, objectives of the study, research hypothesis, scope of the study, significance of the study, limitation of the study, definition of key terms, and organizations of the study. Accordingly, it begins with the background of the study.

1.1. Background of the Study

Every humankind travel either to work, to play, for shopping or to do business. This mobility demand, especially for people living in urban and metropolitan areas, is continuously growing because of the desire to participate in increasingly varied activities motivated by physiological, psychological, and economic needs. All raw materials must be conveyed from the factory to the marketplace and from the production site to the consumer, transport is how these activities occur; it is the cement that binds together communities and their activities. Meeting these needs has been, and continues to be the transport task (O'Flaherty, 2006).

Civilized lifestyle relies on transport service in different ways such as, for the shipment of raw materials from farm to manufacturing sites, for finished goods from where they are produced to where they are needed, and for the mobility of people from their places of residence to where they must go to pursue all the activities of life, such as work, education, shopping and leisure activities. A good transport system is vital for a country's

development; at the same time, the factors affecting the development of a country play an important part in determining how its transport system evolves. Ensuring that the transport system develops in the way, which is most conducive to the overall development of the country, can have far-reaching benefits, and conversely, failing to do so will harm development (Iles, 2005).

Most of the rapid urbanization changes are taking place in cities of the developing world particularly in Africa where the urban population is growing at an unprecedented rate. In addition, the continent currently is experiencing an average growth rate of 4.5 per annum. This growth in population is a result of a combination of both natural increase and rural-urban migration (Trans - Africa, 2010). This is because urban areas perceived to offer a better quality of life and to provide employment opportunities. Besides, a significant proportion of industrial and manufacturing industries in the developing world are located in the major urban centers. For example, ninety percent of all the industrial and manufacturing industries in Zimbabwe is located in the seven largest urban centers (Tatenda, 2002). It is therefore evident that urban transport is closely linked to the national economy and hence constraints in the sector are likely to have extensive repercussions on the performance of the national economy. Thus, transport plays an important and pervasive role in allowing industrialists, manufactures, and consulters to effectively participate in the economic processes.

According to the definition of Gronroos (2000), “a service is a process that consists of a set of activities which take place in interactions between a customer and people, goods and other physical resources, systems and/or infrastructures representing the service provider and possibly involving other customers, which aim at solving customer's problems. Also,

service quality has become one of the key driving forces for business sustainability and is vital for firms' accomplishment" (Rust and Oliver, 1994).

The demand for transportation is growing increasingly in urban cities like Addis Ababa. As the demand for transportation increases, the issue of congestion, air pollution, noise, and accidents became inevitable. Delays, uncertainty, and stress levels are also beginning to take their toll on both individuals and society (Tilahun, 2014). These challenges increase as the mode choice of private car increases for means of transportation.

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. 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 of Addis Ababa (Berhane, 2013).

Mobility in the developing world is often characterized by travel demand that far exceeds supply (Darido, 2003 cited on Mintesnot and Takano, 2007). The city of Addis Ababa is not an exception to this reality. Demand for urban public transport services is growing in the same way as in other third-world cities (Jacobs, 1986 cited on Mintesnot and Takano, 2007).

Researches have been done on the city buses and several studies have been conducted on the service quality and customer satisfaction of public transport enterprises in Ethiopia (Aschalew Tsegaye, 2015). Among the studies Demelash (2007) and Adem (2009) focused on the performance of service delivery and customer satisfaction, they put down that

passengers are not satisfied, and there is a positive relationship between service quality and customer satisfaction.

According to (Frehiwot, 2013), the finding of the study confirmed that taxi zonal transport system is weak in controlling and managing the system. The drivers are forcing the passengers to pay more than the tariff, cutting trips, and taxis working out of the zone to gather more money which is taken by the owners at the end of the day. These conditions lead the customers to fight with assistants all the time, corruption, concentration in a single place, and carelessness were the main problems observed around the traffic police.

A study conducted by Genet (2017), the majority of the customers prefer to travel using the company buses because of some attributes related to safety issues and price are perceived to be less than 50%. If the necessary adjustment is made to the required levels, the researcher recommended that enterprises' buses would be able to address the customers' expectations towards the service quality. Because all the factors of service quality are perceived low.

A study accompanied by Roza (2019), revealed that customers are satisfied with the provided services by Sheger mass transport service. Though the company seems to do better in the eyes of the majority, some areas still need to be improved in making sure that the company positions itself in a good place at the market and to sustain for long. Willingness to help passengers, handling passengers' problems, using the nearest stop for the users where they live, increasing availability of seats during travel, repairing the buses which are out of service with few technical problems are the areas that need agent action towards improvement.

Addis Ababa's current situation regarding public transport access indicates that there is a problem to get transport services. The city government took different corrective actions like zoning of taxis and dispatching middle buses, establishing new public employees transport service providing enterprise, initiating and supporting the private sectors to involve in the transport industry that delivers service for passengers, constructing light train display, but the transport problem is not solved yet and as the study made on the service quality and customer satisfaction indicates, there is a dissatisfaction of passengers in the SERVQUAL dimensions of the Anbessa City Bus enterprise, which is the city's main public transportation service provider (Aschalew, 2015).

Subsequently, Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City with particular reference of Min-bus taxi service quality is seen to be interrelated. Therefore, this research project work aims to provide an interpretative review of the factors affecting the quality of public commercial transport service. Moreover, it is these facts that have motivated this study to contribute evidence from public commercial transport service with particular reference to Addis Ababa city.

1.2. Statement of the Problem

Most of the time, it is difficult to observe satisfied customers in transportation service delivery because of different reasons like the buses do not appear as wanted, weak service deliverance, overcrowding of passengers, lack of information exposes passengers to theft, broken windows exposes passengers to accident, suffocation, and pickpocketing (Mekonnen, 2010). 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 (Eshete, 2014).

Theoretical Gap - the student researcher goes beyond some literatures to reveal the trending researches on transport service quality under the context of Ethiopia. To mention some of the studies done by different academics: Roza Wondatir, (2019) The Effect of Service Quality on Customer Satisfaction: The Case of Sheger Mass Transport; Mesfin Tegegne, (2018) Evaluating Quality of Service on Public Bus Transportation and Improvement Strategy in Addis Ababa; Andinet Minbale, (2013) An Assessment of Service Recovery Practice with Respect to Medin Freight Transport Owners Association; Daniel Zewdu, (2014) Assessment of Public Transport Service in the Case of Cross Country Buses; Genet Molla, (2017) Assessment on Service Quality in Bus Transportation Service: A Particular Case Study of Selam Bus Line S.C; Kidane Hadush, (2017) Assessment of Service Quality with Special Reference to Selam Bus Line Share Company; Wubeshet Demissie, (2018) Contribution of Multimodal Transport Operation System to Performance of Ethiopian Shipping and Logistics Services Enterprise; Samrawit Bogale, (2014) Assessment of Transport Service: The Case of Derba Transport Company; Helen Zewdie, (2018) Public Transport Mode Choice and its Determinants: The case of Megenagna-Ayat Corridor in Addis Ababa, Ethiopia; and Bayisa Bonja, (2017) Service Quality and Customer Satisfaction in the Transport Sector: A Case Study of Alliance City Bus Enterprise PLC. The above researches conducted on public transport service sector mostly focused on the assessment of the service quality, the challenges and opportunities, and the relationship between service quality and customer satisfaction in relation to a single or two enterprises including the cross-country transportation services like Selam bus. After

reviewing the aforementioned literatures, the student researcher found out that there is no adequate work that has been done on the Factors that Affect the Quality of Public Commercial Transport Service. Therefore, the student researcher initiated this study in order to get more information and fill the gap in relation to the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa city, in particular, the Minibus taxi services.

Methodological Gap - the methodology employed by various researchers who have conducted studies on similar issues in Ethiopia happened to be inadequate or inefficient to expose the reality on the ground. Most of the above-mentioned studies were conducted using a descriptive research design. Descriptive research design by its very nature is used to describe situations and any phenomena as it exists (Abiy, 2009), which is not sufficient to deal with cause and effect relationships among variables. Thus, this research used both descriptive and explanatory research designs to identify and look for causality between the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City (Transport service practices and management, Traffic congestion and parking management, Accessibility, and Availability) and service quality. Hence, from this, we can easily infer that there is a high level of theoretical gap under this subject matter due to the limitation of researches undertaken within the academic studies.

Practical Gap - Concerning the practical gap, majority of the urban people are dependent on public transportation, which provides critical mobility at less costs and helps in improving social welfare. However, providing equitable and efficient public transport for the ever-increasing travel demand amid limited resources is a challenge. Transport is detrimental for the holistic growth of a country. If the transportation service is available,

safe, comfortable, affordable and acceptable, citizens can properly utilize their money and time and thereby it can be the manifestation of the modernization of the city. The existing reality of the Addis Ababa city transport service shows that in many of the transport providers, specifically, public bus and mini-bus services, major problems seeking the good attention of the Government as well as policy implementers have been observed. Some of the problems are: Population increase, weak road capacity, lack of coordination, and poor execution of the available policies and regulations are the macro issues that have a direct relationship with the quality of PCTS provision. Because of these conditions, an imbalance between the demand and the supply of public commercial transport service arisen. This imbalance caused the quality of the public commercial transport service to suffer.

Different regulations and policies have been promulgated to maintain the quality of PCTS while their impacts are invisible. Even the factors that are causing the quality problems are not well studied while the consequences triggered by those factors usually observed affecting the users of the service. Specifically, people are suffering from the quality compromised minibus taxi services in Addis Ababa city. The poor service delivery of minibus taxi drivers and coordinators became a day-to-day challenge for the service users.

Some of the observed problems of the service providers are: deliberately charging the users above the tariffs by route diversion as well as by providing the service only in short distance basis, terminating long distance travels before reaching the final destination, using offensive words towards the users either verbally or by using some disrespectful sayings that are posted inside the vehicle, and considering themselves as the only rightful persons to provide the service and neglecting the rights of the users as well as the law.

(Tilahun, 2014) also supports this practical gap. He clearly stated that Addis Ababa is growing tremendously and it has been undergoing spectacular changes in all sectors. Hence, the decision-makers are facing enormous challenges. The major modes of public transportation in the city are the Anbessa bus and Mini-bus taxis. Besides, Alliance bus enterprise, 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 city have to face great inconveniencies such as, additional costs of the daily trips to their destinations already at crisis levels, worsening urban congestion, deteriorating mass transport service quality, and ever-rising road accidents, continue to be the major problems the city mass transport sector faces (AACG, 2015).

Moreover, the factors that affect the quality of PCTS have implications on the economic development of the country and the safety of passengers since a huge number of travelers are users of taxis. The poor quality of PCTS is especially manifested in the tangibility, reliability, responsiveness, assurance, and empathy of service providers. Currently, minibus taxis in Addis Ababa city are organized in five taxi coordination zones to reduce the burden of taxi accessibility and availability. Long waiting lines at every time to get transport service, traveling in congested seats, the bad manner of some of the coordinators and service providers of the minibus taxis, making long-distance travels short to get more money, overcharging fees more than the actual ceiling price/tariff, diversion of routes to request additional and unauthorized fee, serving out of the assigned routes and so on; are becoming the usual observed problems that affect the quality of PCTS delivery.

Likewise, the PCTS quality problem has an impact on the per-capita and other social involvement of citizens. The long waiting time of passengers looking for public transport services for instance, leads the service users to use other alternative transport mechanisms, which are very expensive. This will create additional problem and burden on the household budget of passengers as well as affects their capital formation.

Because of these and other similar inconveniences observed in the transportation service, there might be less quality service provision. The student researcher noticed that the above-observed reality is also a challenge that needs to be investigated and requires special attention from the service delivery authorities.

Finally, by improving customer satisfaction, it will bring advantages to the public commercial transportation service industry and benefits the City Administration in satisfying its people's economic and social needs. Due to the existence of the above-perceived problems, this study empirically aimed to examine the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City.

1.3. Basic Research Questions

This study attempted to address the following research questions:

1. What effects does transport service practices and management have on perceived transport service quality at Addis Ababa City?

2. What effects does traffic congestion and parking management have on perceived transport service quality at Addis Ababa City?

3. What effects does accessibility have on perceived transport service quality at Addis Ababa City?

4. What effects does availability have on perceived transport service quality at Addis Ababa City?

1.4. The Objective of the Study

It consists of a general objective and specific objectives.

1.4.1. General Objective of the Study

The general objective of the study is to examine the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City.

1.4.2. Specific Objective of the Study

The study has the following specific objectives:

1. To assess the effects of Transport Service Practices and Management on perceived transport service quality at Addis Ababa City.
2. To examine the effect of Traffic Congestion and Parking Management on perceived transport service quality at Addis Ababa City.
3. To evaluate the effect of Accessibility on perceived transport service quality at Addis Ababa City.
4. To investigate the effect of Availability on perceived transport service quality at Addis Ababa City.

1.5. Research Hypothesis

The study examined the following hypothesis:

H_1: There is a positive and significant effect of Transport Service Practices and Management on perceived transport service quality.

H_{10}: There is no positive and significant effect of Transport Service Practices and Management on perceived transport service quality.

H_2: There is a positive and significant effect of Traffic Congestion and Parking Management on perceived transport service quality.

H_{20}: There is no positive and significant effect of Traffic Congestion and Parking Management on perceived transport service quality.

H_3: There is a positive and significant effect of Accessibility on perceived transport service quality.

H_{30}: There is no positive and significant effect of Accessibility on perceived transport service quality.

H_4: There is a positive and significant effect of Availability on perceived transport service quality.

H_{40}: There is no positive and significant effect of Availability on perceived transport service quality.

1.6. Scope of the Study

1.6.1. Subject Scope:

Conceptually this study has focused on the factors that affect the quality of public commercial transport service in Addis Ababa city. In this research, it is chosen to focus only on service quality influencers such as transport service practices and management, traffic congestion and parking management, accessibility, and availability as independent variables that affect the dependent variable of perceived transport service quality.

1.6.2. Geographical Scope:

Geographically the study area has covered only the city of Addis Ababa in which public commercial transportation services are given. Addis Ababa will continue to grow as a regional business hub and support expansion in the sector. The study incorporated the city's minibus taxi zones from the available five taxi zones namely: Torhailoch, Megenagna, Asko, Saris, and Bole.

1.6.3. Methodological Scope

Methodologically this study used a quantitative research approach, descriptive as well as explanatory research designs, and the sampling techniques employed are a non-probability specifically convenience sampling and a census method.

1.6.4. Time Scope

This research has focused on a cross-sectional survey.

1.7. Significance of the Study

The study has both academic and practical usefulness.

1.7.1. Practical Significance of the Study

- It will be one of the inputs for transport authority, which will enable them to see the real implementation of their policies. Also, the study provides some information about how the Minibus taxis transportation service is undertaken by taxi drivers, taxi owners, terminal attendants, and other stakeholders. The findings of the study are also expected to contribute a lot towards bridging the existing literature gap on Minibus taxis transportation service and its impact on the service quality.

- In addition, the study also aims to give insight for taxi drivers and their assistants to adjust their behaviors. Hence, it reduces the fight of customers with taxi assistants. This is because most people quarrel with the drivers and their assistants due to ambiguous charges/tariffs as well as travel routes. Furthermore, the output of this paper will be helpful for Policy makers, Government, NGOs, Individuals and others who may need to know about the existing realities of Minibus taxis transportation service and its impact on service quality in Addis Ababa with a general objective of providing solution and suggestion as well as measures that should be taken to make it play a role towards transport service and taxi zones.

- The study will also have significance in devising strategies for other concerned bodies like the Addis Ababa City Administration (AACA) and the Federal Ministry of Transport and Communication (FMTC), to narrow the gaps by considering the

implications caused by the factors that affect the PCTS quality on the economy of the country as well as the quality living condition of the citizens.

1.7.2. Theoretical Significance of the Study

Moreover, the findings of the study may serve as a springboard for decision-makers and for those who have a keen interest in such areas of study. Scholars of different disciplines will also benefit from the contribution to the general knowledge of the area of quality affecting factors in the public transport sector as well as enhancing their understanding of transport service quality. The other benefit of the research is it may give suggestions for policymakers.

1.8. Limitation of the Study

Conceptually, only four transport service quality-affecting factors: transport service practices and management, traffic congestion and parking management, accessibility, and availability, are considered in this study. Other factors that may compromise quality are not considered in this study. Methodologically, out of the total of public commercial transports operating in Addis Ababa city, only mini-bus taxis are selected for this research purpose by excluding saloon and sedan taxis. Therefore, the result may not be representative to show the overall factors that affect the public commercial transport service quality in the city.

1.9. Operational Definitions of Key Terms

- **Transport** - It is a means of conveying people or goods from one place to another or Transportation is the movement of persons or goods from one place to another (Robert Novack, 2006).
- **Service -** Service is an act or performance offered by one party to another. Although the process may be tied to a physical product, the performance is essentially intangible and does not normally result in ownership of any of the factors of production (Lovelock and wright, 1999).
- **Quality -** Some definitions of quality cited by (Mohamed, 2011). Quality is the totality of features and characteristics in a product or service that bear upon its ability to satisfy needs (Hardie & Walsh 1994). Quality is the extent to which the customers or users believe the product or service surpasses their needs and expectations (Gitlow, 1989).
- **Service Quality -** is how well a delivered service level matches customer's expectations (Parasuraman, 1988, 1991) as cited on Sang-Lin Han. Bitnere (1990) define service quality as "the consumers' overall impression of the relative inferiority/superiority of the organization and its services".
- **Customer Satisfaction -** is a person's feeling of pleasure or disappointment resulting from comparing a product's performance (outcome) with his or her expectation (Kotler & Keller, 2006).
- **Reliability -** The ability to perform the service dependably, consistently, and accurately (Zeithaml, 2006).

- **Responsiveness -** The willingness to help customers and provide prompt service (Zeithaml, 2006).
- **Assurance -** The knowledge and courtesy of employees and their ability to convey trust and confidence (Zeithaml, 2006).
- **Tangibles** - The physical evidence of service including physical facilities, the appearance of personnel, tools, and equipment used to provide the service (Zeithaml, 2006).
- **Empathy** - Caring, individualized attention to customers (Zeithaml, 2006).
- **Transport Service Practices and Management -** Transport Management practice alludes to those strategies or methods considered as the best and pragmatic methods in accomplishing transportation goals, for example, low costs, and opportune conveyance of transportation-related data to the remainder of the undertaking and clients, the increment of transportation speed while utilizing the association's assets (Stock and Lambert, 2001).
- **Traffic Congestion and Parking Management -** It is a delay a traveler experiences during his/her journey: that is the difference between the actual realized journey time and a journey time which could have been realized if no traffic congestion had occurred (Hook, 1997). Parking management is a procedure in which parking space is given, controlled, directed, and confined (Corpus Christi Metropolitan Planning Organization, 2009).
- **Accessibility -** is described in terms of the distance passengers have to walk from their home to the initial bus stop and from the final bus stop to their final destination (Iles, 2005).

- **Availability -** It is the extent of the service offered in terms of geography, transport modes, operating hours, and frequency. Availability and accuracy of information enable passengers to plan their journeys, especially for prospective passengers (Iles, 2005).

1.10. Organization of the Study

The research report is organized with five chapters. Chapter one includes the background of the study, statement of the problem, basic research questions, objectives of the study, research hypothesis, scope of the study, significance and limitations of the study, operational definitions of key terms, and organization of the study. Chapter two includes a review of relevant related literature. In this second chapter, the theoretical and empirical foundations of the study have presented. Chapter three encompasses research methodology which includes, research approach, research design, data type and source, target population and sample size determination, sampling techniques, methods of data collection, constructs measurement, and methods of data analysis. In chapter four results and discussion of the study have presented in detail. The last chapter (chapter five) presents the summary of findings, conclusions, and recommendations of the study. The summary of findings has been made based on the results under chapter four. The conclusions have been drawn from the summary of findings with practical recommendations at the end.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Consistent with Frank Arlene (2014), a literature overview surveys books, scholarly articles, and any other sources applicable to a particular issue, zone of investigate, or hypothesis, and by doing so, offers a description, summary, and crucial comparison of these works in relation to the research problem being investigated. Literature reviews are designed to furnish an overview of sources one has explored while gaining knowledge of a particular topic and to show to the readers how the investigate matches inside a bigger field of study.

2.1. Theoretical Literature Review

2.1.1. Concept/Definition of Transportation

Transport or transportation is the movement of humans, animals, and goods from one location to another. In other words, the action of transport defined as a particular movement of an organism or thing from point A to Point B. The need for the conveyance of goods arises from the fact that it often produced in areas far from the place where it is required for consumption. Therefore, it is essential to transport goods from one place to another to satisfy those needs. Transport for a nation has various advantages. It is a significant division for any nation to bring financial and social turn of events. Particularly for developing countries, the effect of this segment on the day-to-day living condition of the citizens is huge since people of these nations need to normally move here and there to fulfill their financial needs or to satisfy their bread of the day. What's more, open vehicle as the fundamental piece of the transportation framework for developing countries, considered as

a means for livelihood and job opportunity, along these lines; open vehicle administrations are flavors for the advancement of emerging nations as it has irrefutable financial, social, and natural advantages. In order to fulfill their need for mobility, people in urban areas use different modes of transportation. “In urban areas, there are mainly five-passenger transport modes available: walking, cycle, motorcycle, private car, and some form of public transport.” (O'Flaherty, 1997). As per Vuchic (1999), depending on the use of the transport service, transport modes can be categorized into three types. Private transportation (consists of privately owned vehicles operated by companies for their businesses, walking, bicycle, and private cars); Par transit or for-hire transportation (is provided by operators and available to parties that hire them for individual or multiple trips, taxi, dial-a-bus, jitney); and Public transportation (mass transit/ urban transit).

Transportation is one of the fundamental societal needs that sustained to this time and period. This is true especially in urban regions considering the noteworthy increment in the quantity of vehicles utilizing streets. The report from England World Business Council for Sustainable Development (2004) states that transportation assumes a significant job in the financial improvement of a nation by facilitating basic material accessibility, expanding the efficiency of work and raw material, and connecting individuals and things. The report additionally contends that all the advantages individuals procure from transportation likewise accompany a few costs that incorporate increased contamination, emanation of ozone harming substances, overcrowding, the danger of death and serious injury, commotion, and interruption of networks as well as ecosystems.

Transport assumes a crucial job in the improvement of the cutting edge time as a basic piece of the financial and political structure of the nation/city. As modernization and

urbanization forms quicken, the significance of this area in giving opportuneness and versatility arrives at more significant levels (Johan Holmgren, 2013). Urban vehicle is a basic piece of human life. Transport theory unequivocally underscores that whatever the mode is, it should essentially consider the human perspective, for example wellbeing, reasonableness, economy, fulfillment, and so on. (W. Onael, 2013). This gives each individual the option to pick the mode that he/she wants.

Bardi, Edward, John Coyle, and Robert Novack (2006) explained that automobiles offer transport services with high flexibility and low capacity but are deemed with high energy and area use. These automobiles are also the main source of noise and air pollution in cities while buses allow more efficient travel, but at the expense of flexibility. Road transport by truck is often the initial and final stage of freight transport.

Though using public transport service is inevitable, specially for the middle and low income class societies, the quality of the service is questionable mostly in countries like Ethiopia. Thus, this study is all about exploring the factors that affect the quality of pubic commercial transport service in particular the mini-bus taxi service in Addis Ababa city.

2.1.2. Classification of Road Passenger Transport

Transport is a means to transport objects and people. The movement can be made via air, rail, water, land, and walking. Therefore, transport is a type of service that enhances the performance and ability of people to move themselves or their baggage from place to place. Due to this reason, transport is a vital service sector for both social and economic benefits. Transport service can be classified based on ownership, motorization type, and the way it

is routed. Mostly, road passenger transport services classified as private and public, thus, this study utilizes this type of classification to achieve its purpose.

2.1.2.1. Private Passenger Transport

Private transport is a transportation service that is not available for use by the public. It is a mode of transport used for the owners' private activities and can operate freely as well as the user can determine his/her route as long as they obey the traffic rules and regulations (Warpani, 1990) cited in K.A, 2018. Similarly, the Federal Proclamation of Ethiopia states "Private Vehicle" under Proclamation No. 488/2005, as a motor vehicle used for private service excluding truck, motorcycle, public service vehicle, truck tractor, and special mobile equipment. The Proclamation also describes "Private Commercial Road Transport" as a vehicle owned by private enterprises to transport passengers or goods for their businesses.

Private transport has its own drawbacks and advantages that can distinguish it from public transport. As advantages, the private mode of transportation has flexibility, privacy, saves time, gives more comfort, and provides safety as well as security to its users than public transport. On the other hand, the cost of owning and using private transport service is high.

A mode of transport is key to determine the use of a particular type of vehicle, infrastructure, and operation because each mode has its advantages and disadvantages and will be chosen based on cost, capability, route, and speed. Mode choice is also important since it affects how efficiently we can travel; how much urban space can be dedicated to transportation functions as well as the range of alternatives available to the commuter (Ortuzar & Willumsen 1999).

2.2.2.2. Public Passenger Transport

Public transport (also known as public transportation, public transit, or mass transit) is a system of transport, in contrast to private transport; available for passengers to use it as a group travel method, typically managed on a scheduled basis, operated in established routes, and charge a posted fee for each trip (*Harper Collins and* Joseph *L. Schofer, 2018).*

Examples of public transport include city buses, trolleybuses, trams (or light rail), passenger trains, rapid transit (metro/subway/underground, etc.), and ferries. Public transport is supported by governments because of its contribution to the net social welfare or welfare of segments of society; public transport is therefore, held as being in the public interest (Glover, 2014).

The definition of public transport in Ethiopia as stated on the Transport Proclamation of Ethiopia is "Public Service Vehicle" means a motor vehicle used to carry passengers from the general public and classified as the commercial motor car and motor omnibus (Gazeta, 2005).

Public transportation in Addis Ababa city is provided by the blue and white colored "taxis" which are: shared Mini buses, Anbessa bus, Higer bus, and Star Alliance bus. Public transportation in Ethiopia is a crucial part of the solution to the country's economic, energy, and environmental challenges helping to bring a better quality of life. In Ethiopia, at increasing numbers and rates, people are using public transportation and local communities are expanding public transit services. Every segment of Ethiopian society: individuals, families, communities, and businesses can benefit from public transportation (Mulu, 2015).

As per the study of scholars regarding public transport; public transport is an easier alternative that saves time and money (Carlos Dora, Jamie Hosking, Pierpaolo Mudu, 2011). Public transport is an essential element of most people's lives since it is regarded as a significant factor in achieving peoples' economic, social, and environmental goals (Stjernborg and Mattisson, 2016). In sub-Sahara Africa, urban public transport is a sector that remains poorly organized across the continent (Mekuriaw, 2012). Despite the importance of urban public transport, it is often poorly financed, badly managed, and neglected by Governments as well as the poor public transport system overturns the economic and social advantages for which the cities developed in the first place (Bank, Dc and Kwakye, 2008).

Since most personal car users in the city are careless and a large part of the population uses buses and taxis for their daily mobility, attention must be given to mass transport promotion and the quality of the service. And also, priority should be given to the construction of mass transport infrastructures along major corridors (Federal *et al.*, 2011).

As advantages of using public transport, scholars stated that public transport provides easy accessibility and mobility, is well inter-connected, provides an efficient low impact public transport system, and is an easier alternative that saves time and money (Development, 2019).

Public transportation as one of the transport options for people has its own implication on the socio-economic development of any country. For those developed countries, this service can be considered as an optional transport service since the factors that can compromise the quality of public transportation have minimized enough. However, as for

the developing countries where their transport infrastructures and socio-economic conditions are poor, public transportation is a necessity and has vital socio-economic impacts. In support of this, many theories have evidenced that public transport services for developing countries are the central concern of individuals' livelihood, economic, social, and environmental issues though the quality of the service is below the expected standard.

2.1.2.3. Public Commercial Passenger Transport Service

Based on the definition of the Ethiopian Transport Proclamation No. 488/2005, "Public Commercial Road Transport" means all commercial road transports not classified as private. "Trip Schedule" means yearly, monthly, weekly or daily program fixed for the movement of public commercial road transport vehicles. "Route of Operation" means a place of departure and destination to be determined by the Authority where public commercial road transport vehicles are assigned to operate. "Public Service Vehicle" means a motor vehicle used to carry passengers and classified as commercial motor car and motor omnibus. "Commercial Motor Car" means a public service vehicle that can accommodate a maximum of twelve passengers. "Commercial Motor Omnibus" means a public service vehicle that can accommodate more than twelve passengers (Gazeta, 2005). This study focused on the “Commercial Motor Car” by excluding “Saloon Taxis”.

2.1.3. Concept of Service and its Characteristics

A study carried out by Johns, (1998, P.954) points out that a word "service" has many meanings which lead to some confusion in the way the concept is defined in management literature. Service could mean an industry, a performance, an output, an offer, or a process. The American Marketing Association defines services as - "Activities, benefits, and

satisfactions, which are offered for sale or are provided in connection with the sale of goods". Philp Kotler and Lane Keller (2006) explain a service as "any activity of benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product". Furthermore, Zeithaml and Bitner (2000) define services as "deeds, processes, and performances". Here, deeds are the actions of the service providers, processes are the steps in the provision of the service, and performance is the customers' understanding of how the service has been delivered.

According to Zeithaml and Bitner (2000), service is all economic undertakings in which its output cannot be presented physically, is generally used up at the time it has created, and provides value added forms (such as convenience, amusement, comfort or health). Services are a series of processes that lead to an outcome, which will solve customers' problems and they often actively participates in the process (Gronroos, 2000).

As stated by Zeithaml and Bitner (2000), the following are assumed to be characteristics of services: Intangibility: the service cannot be touched or viewed, so it is difficult for clients to tell in advance what they will be getting. The inseparability of production and consumption: the service can be produced and used at the same time. Perishable: unused capacity cannot be stored for future use. Heterogeneity (or variability): services use different people with different service delivery capability as well as various users with varying degree of expectations from the service to be delivered or provided.

2.1.4. Quality Concept

According to Apte, 2004, let alone in the case of service even in the case of product, "quality is difficult to define because it is highly dependent upon customer perception". The American Society for Quality Control has defined quality as "the totality of features and characteristics of a product or a service that bear on its ability to satisfy stated or implied needs". "Quality: the totality of features and characteristics of a product that bear on its ability to satisfy stated or implied needs" International Standards Organization (ISO). "Quality is the totality of features and characteristics in a product or service that bear upon its ability to satisfy needs" (Haider, 2001).

2.1.5. Service Quality

Every customer has an ideal expectation of the service he/she wants to receive when he/she go to some place to get a service. Parasuraman (1988) cited in International Journal of Management and Marketing Research (2010) defines high service quality for businesses as meeting or exceeding expectations of their customers. Service quality can be defined as an overall judgment or attitude towards the service as well as a generally accepted antecedent of total customer satisfaction (Zeithaml and Bitner, 1996) cited in International Journal of Management and Marketing Research by Munhurrun, Bhiwajee, and Naidoo, Zeithaml et al. (1990) defines perceived service quality as outcomes that comes from comparisons by customers of their expectations with their perceptions of the delivered service by the service providers. It is the difference between customer expectations of the service and their perception of the service. If expectations are greater than performance,

then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al., 1985; Lewis and Mitchell, 1990).

2.1.6. 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 to 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 service quality (Perez, 2007).

2.1.7. Related Theories

2.1.7.1. Assimilation Theory

Lewin (1952), originally formulated the theory of cognitive dissonance, which later developed and refined by Festinger (1957) where his theory of dissonance forms the basis for the theory of assimilation. The theory of dissonance states that the consumer makes a sort of cognitive comparison between the expectations regarding the product or service and the product or services' perceived performance. If there is a discrepancy between expectations and the product or services' perceived performance, the dissonance arises. This point of view on post-usage evaluation introduced in the literature discussing satisfaction under the form of the theory of assimilation.

According to Anderson (1973), consumers seek to avoid dissatisfaction by "adjusting perceptions about a given product or service to bring it more in line with expectations"; the control on the actual product or service performance can lead to a positive relationship between expectations and satisfaction. According to Peyton et al. (2003), "if the consumer adjusts either expectations or perceptions about product or service performance, then dissatisfaction would not be an outcome of the post-usage evaluation process". A number of scholars such as, Olson and Dover (1979) and Andrson (1973) have found that controlling for actual product or service performance can lead to a positive relationship between expectation and satisfaction. Thus, the theory assumes that the consumers are motivated enough to adjust both their expectations and their product or service performance perceptions.

2.1.7.2. The Theory of Contrast

This theory, first introduced by Hovland, Harvey and Sherif (1957), presents an alternative approach to the evaluation of post-usage process that was presented in assimilation theory, in that post-usage evaluations lead to results in opposite predictions for the effects of expectations on satisfaction (Cardozo, 1965). Dawes et al (1972) defines contrast theory as "the tendency to magnify the discrepancy between one's own attitudes and the attitudes represented by opinion statements". This approach states that whenever the customers experiment disconfirmation, they try to minimize the discrepancy between their previous expectations and actual product or service performances by shifting their evaluations away from expectations. While the theory of assimilation asserts that the consumers will try to minimize the expectation-performance discrepancy, the theory of contrast insists on a surprise effect that can lead to exaggerating the discrepancy. Thus, the theory asserts that

any discrepancy of experience from expectations will be exaggerated in the direction of discrepancy.

2.1.7.3. The Theory of Assimilation-Contrast

The assimilation-contrast theory was suggested as another way of explaining the relationships between variables within the disconfirmation model (Hovland, Harvey and Sherif, 1957). This paradigm posits that satisfaction is a function of the magnitude of the discrepancy between expected and perceived performance. A large discrepancy between perceived performance and expectations results in contrast effects and the consumer's tendency would be one of increasing the perceived difference. Assimilation or contrast can appear in connection with the perceived gap between expectations and the actual product performance. The strength of the expectations may also affect whether assimilation or contrast effects are observed. Accordingly, Cadotte, Woodruff and Jenkins reported negative correlation between expectation and disconfirmation. Thus, this theory tries to depict the fact that both the assimilation and the contrast theory paradigms applicability in the study of consumer's satisfaction that is when product performance is difficult to judge, expectations may dominate and assimilation effects will be observed.

2.1.8. Service Quality in Public Transport

Mazzula and Eboli (2006) indicate that transport service quality evaluation can be made via asking customers' opinion in relation to their perception and satisfaction level on the service quality, their expectation regarding the importance of the service quality, or by questioning them about both perception and expectation. In addition, perception can be compared with the zone of tolerance of expectations (the range defined by the maximum

desired level and minimum acceptable level of expectations). A rating or ranking of individual service attributes can also be asked to customers.

Some techniques assume the selection of some service quality attributes. According to Prioni and Hensher (2000) cited in Mazzula and Eboli (2006), all the attributes of service quality can be grouped in macro-factors defined by one or more attributes. For example, for public transport service, the quality attributes can be: transport network design (e.g. number and regularity of bus stops, availability of stops near destination), service supply and reliability (e.g. frequency, regularity and punctuality of rides), comfort (e.g. availability of seats on the bus, bus overcrowding), fare (e.g. fairness or consistency of fare structure, ease of paying the fare), information (e.g. availability of information on schedules or maps, explanation and announcement of delays), safety (e.g. safe and competent drivers, security against crimes), relationship with personnel (e.g. friendly, courteous personnel), customer preservation (e.g. repayment, complaint number), environmental protection (e.g. use of vehicles with low environmental impact), quality of the system (quality of stops furniture, cleanliness of bus's seat). All the above attributes contribute to global service quality, each one in a different measure. Therefore, to measure the performance of service delivery in public transport, there is the necessity to quantify the importance of each one.

2.1.9. Dimensions of Perceived Transport Service Quality

As indicated by Silvestro (2005), the main model that include in assessing administration quality are those characterized by the client. Zeithaml and Berry built up 10 parameters that can be used to measure quality as well as to be used by customers to pass judgment on

the nature of the quality of a service offered in 1984. The ten measurements are not really independent of one another. There could be some overlay between groups. Parasuraman et al. (2000), in further examination, joined the ten determinants into five components of quality: physicality, unwavering quality, responsiveness, affirmation (counting skill, politeness, believability, and security), and empathy (including access, communication, and understanding). The five dimensions were found relevant for various business services.

2.1.9.1. Reliability

Reliability is a key measurement that clients can use to assess the quality between what they got and what the supplier guaranteed during the conveyance procedure (for example administration arrangement, issue goals, and estimating) (Bebko, 2000). Given this, all businesses need to be conscious regarding customers' expectation of reliability. In other words, reliability emphasizes on consistency in service quality since it is a key dimension for users in evaluating the quality between what they got and what the service provider promised them during the service delivery process (Bebko, 2000). Taking this into account, all organizations should be careful enough when providing service in order to meet their customer's desires for unwavering quality.

2.1.9.2. Responsiveness

Zeithaml (2006) suggested that service providers should be active and willing to be flexible enough in helping their customers and providing prompt service. This dimension demands that service providers should be more flexible in solving their customers' problems and requests. Organizations even should have the capacity to customize their services in order

to cope up with their customers' dynamic needs as well as ought to have the ability to redo administrations for managing their clients' extraordinary needs.

2.1.9.3. Assurance

For Landrum (2007) assurance refers to “employees’ knowledge, courtesy, and the ability of the firm and its employees to inspire trust and confidence”. This measurement consists of four original determinants, namely: competence, courtesy, credibility, and security. Moreover, employees’ know-how and diplomacy along with the capacity of the organization and its agents to inspire trust and certainty, create confirmation for customers. This dimension also comprises of four unique elements, to be specific, skill, graciousness, validity, and security.

2.1.9.4. Empathy

The essential point of this measurement is to offer more varieties of assistance for the present or potential clients whilst improving the administration capacity through customized or modified service. Zeithaml (2006) depicted sympathy as the mindful, individualized consideration that an organization gives to its clients.

2.1.9.5. Tangibles

Tangibles are connected with the presence of physical offices, hardware, work force, and correspondence materials. Administration organizations are probably going to utilize physical assets to upgrade their picture and pass on quality assistance to clients (Zeithaml, 2006).

2.1.10. Standards of Transport Service Quality

The quality of transport service refers to the level of comfort the service provided during travel or ride. Armstrong-Wright, et al. (1987) and Armstrong-Wright (1986) indicate five standards for quality of transport service.

- Waiting time: - It is the time passengers have to wait for transport services at the stations and stops. The longer the waiting time, the lesser the adequacy of the service. In developing countries to achieve a balanced degree of administration, the normal holding up time ought to be in an average between 5 and 10 minutes though the usual average waiting time is between 10 and 20 minutes (Armstrong-Wright et al., 1987).
- Walking distance to bus stop: - It is the distance that passengers have to walk to and from transport service stations and is an indicator of the coverage or spatial accessibility. For organized urban areas, distance from home to work place should be between the ranges of 300 to 500m. Distance above 500m may be acceptable in the low-density area but the maximum should not exceed 1000m (Armstrong- Wright et al., 1987).
- Interchanges between routes and services: - An interchange between routes and services refers to the number of vehicles and routes used before a user reaches his/her destination. If the majority of travelers used only one bus to reach their destination on every adjacent of the city, then it shows that there is a well-designed and accessible service (Armstrong-Wright et al., 1987).

- Journey time: - It is the total time consumed to reach a destination from a given point of departure. It comprises the walking time, waiting time, on vehicle time, and walking to the destination. It should not be more than two to three hours per day. Excessive journey time reflects inadequate transport supply or poor scheduling or routing (Armstrong-Wright et al., 1987).
- Travel expenditure: - Household expenditure on travel as a percentage of household income has to be ten (Armstrong-Wright et al., 1987).

The quality of service can be varied based on consumers' perceptions of the service delivered in comparison with their expectations of the service from past service experiences (Parasuraman et al., 1985). However, Parasuraman's idea on quality was extended by (Zeithaml, 2004) to include a relationship between service quality and what a customer should expect from the organization that delivers high-quality services, while satisfaction compares perceptions to what consumers would normally expect.

As far as this study is concerned, an urban transport service quality is defined by user's perception in meeting his/her expectations particular to the service and which ultimately leads to his/her satisfaction. In this case, the customer is a passenger. Therefore, when a passenger becomes satisfied with the transport service, he/she perceives the service as being of good or high quality and vice versa.

2.1.11. Factors That Affect the Quality of Public Commercial Transport Service

Quality factors in the examination of the total quality of public transport include the identification and classification of various quality factors, determination of passenger satisfaction with these quality factors, and the evaluation of the relative significance of the quality factors (Kerkko Vanhanen and Jari Kurri, 2004).

The quality of transport may be compromised by the quality of roads, overcrowding of buses, unpredictable and irregular service, and inadequate terminal facilities. Besides, the passengers waiting time before being able to transport, and the trip made to reach taxi stations also compromise the quality of urban transport (Kumar and Barrett, 2008).

This study considers four quality factors that affect public commercial transport service: transport service practices and management, traffic congestion and parking management, accessibility, and availability.

2.1.11.1. Transport Service Practices and Management

Due to the lack of appropriate and combined approaches, using public transportation in developing countries becomes risky for the reason that it poses a higher risk of safety and security as there happen to be more passengers in one vehicle. Since public transportation is a major means for people's mobility, it has a great impact on the overall transportation system. Accordingly, it should be managed and operated properly to achieve an efficient and effective transportation system. To accomplish this, evaluating its performance and level of service quality is vital. The safety and security of passengers are the main determinates in assessing the quality. Security is defined as the actual degree of safety from crime or accidents and the feeling of security resulting from that and other psychological factors. Safety and security measures evaluate the likelihood that passengers will be involved in an accident, be it vehicular or otherwise (safety), or become the victim of a crime (security).(JOEWONO and KUBOTA, 2006)

Transport Management practice refers to those strategies or methods considered as the best and rational methods in accomplishing transportation goals, for example, low costs, and

opportune conveyance of transportation-related data to the rest of the undertaking and to clients, increasing transportation speed while utilizing the association's assets (Stock and Lambert, 2001).

The coordination of public transport system, not only through integrated fares but also through integrated ticketing and coordinated transport planning, marketing, and customer information, is a foundation for providing an attractive alternative to the car. Buehler, R., Pucher, J., and Dümmler, O. (2018) suggest that such coordination, in the form of so-called Verkehrsverbund, is a part of the explanation of why the modal share of private cars has fallen since 1990 in many German, Austrian, and Swiss metropolitan areas. In all six of their case studies, they argue that the integrated public transport associations have increased the quality and quantity of services, attracted more passengers, and reduced the proportion of costs covered by subsidies. Coordination is also a key element for making public transport attractive and cost-effective outside the most densely populated areas.

Despite low frequencies, it is possible to create an attractive public transport network through rigorous coordination and central network planning (Petersen, T., 2009). Integrated timed-transfer systems with pulse timetables can operate with more than adequate levels of cost recovery and vehicle occupancy even in rural regions with very low population densities (Petersen, T., 2016).

Mostly in developing countries, quality-compromising factors are observed from both service operators and transport regulatory bodies. The existence and magnitude of the factors that affect the public transport qualities are worst in developing countries since these countries are characterized by their unfortunate economic development. Specifically,

the public transports are characterized by their scarcity, poor accessibility and high cost of getting the service. In addition, poor execution of policies, misbehavior of the service providers and corruptions are among the reasons for countries like Ethiopia to have deprived quality of public transport service.

2.1.11.2. Traffic Congestion and Parking Management

Vehicle congestion as it is both a physical and relative occurrence, truly identified with the circumstance of vehicles deter each other for restricted street space that arrives at its full limit, and as a relative marvel identifying with client desires in examination with street framework execution. Snare (1997) and Loop and Perdok (2014) have a typical view on the meaning of clog up: it is a postpone a voyager encounters during his/her excursion that is the distinction between the genuine acknowledged excursion time and an excursion time which could have been acknowledged whether no traffic blockage had happened.

Congestion has become one of the most significant parts of present-day life in huge urban areas. The component of the issue can be acknowledged by essentially thinking about that 33% of all vehicular travel happens under clogged conditions, in which speed midpoints a large portion of the free stream esteems. Roadblock happens when transport use surpasses road capacity in a particular area. Under such conditions, every vehicle hinders the movement of others (Arnott, R, and Little, KA, 1994). Smeed, RJ (1964), indicates that urban vehicle development is not in consistent with road transport, consequently prompting considerable increase in congest. The rise in blockage expands the outflows and the vitality utilization per traveler km making the road use progressively unreasonable. Congestion likewise has a negative monetary effect since the productivity and the throughput limit of

a clogged vehicle decreases considerably. Moreover, as vehicles do not want to move in clogged areas, the need in a parking spot arise, which in turn, made space utilization issues difficult specially in focal zones.

Frequent complaints include poor quality of roads, overcrowding of buses, unpredictable and irregular service, and inadequate terminal facilities. Mass transit systems in Addis Ababa are non-existent or are unable to cater to demand that is imposed on them. The carrying capacity of roads has not kept up with the increase in personalized vehicles. This has led to congestion and parking problems which further adversely affect urban public transport operations (Co., 2009).

The most known reasons for traffic blockage are repetitive and non-intermittent clog. Intermittent blockage is an every now and again happened situation, for instance during day to day traveling or end of the week trips, traffic is helpless against abrupt breakdowns as demand moves toward the greatest throughput limit on a connection or in the system (European Conference of Ministers of Transport, 2007).

Congestion can be estimated in different manners, including roadway level-of-administration, normal clog delay evaluation, and free streaming of traffic (Litman, 2005). The limit of a road relies upon different structural factors, for example, way widths and bury portion courses of action among others. As indicated in various books, it is possible to assume that constraint of a given road can be dignified by veritable traffic volume or level-of-organization of the streets (VTPI, 2009; Winder and Motin, 2009).

The blockage causes expanded expenses for travelers and load development, loss of time, accidents, and mental strain (Alan, 1995). This is not simply stopping up of vehicles during

pick hours, blockage of a passerby on walkways just as clog of a bike. A congestion is a thing that many people find it questionable about going into urban communities. It is the most widely recognized grumbling. If there was no clog, the vast majority of people would be content with their vehicles and transportation would not be a generally examined issue.

Parking management is away that aimed at making a better utilization of accessible stopping flexibly including supported stopping or value limits. Parking administration is a procedure wherein stopping territory is given, controlled, directed, or confined, and in transportation domain parking arrangements focus at improving natural quality and availability (Corpus Christi Metropolitan Planning Organization, 2009).

When in doubt, the ideal urban vehicle framework and the street system ought to include the effective joining of the methods and methods of versatility to make straightforwardness and solace to look after neighborhood, provincial and universal associations. In like manner, urban street arrangement relies upon the character of the administrations they give. The job that street organize plays in giving access to property and travel portability is the significant piece of traffic management. Effective urban street arrangement is gotten from the blood dissemination examples of a living life form. The examples are progressively separated into fundamental streets, optional streets, and tertiary streets. The crossing points in urban street systems are significant on account of their impact on the development and wellbeing of vehicular traffic stream. In the arranging procedure of the street organize framework and the general idea of versatility and availability, organizers should contemplate natural measurements too (Mathewos Asfaw, 1999). Ultimately, there is a contention of value, which basically suggests that spatial versatility gave by framework offices, is a legitimacy that ought to be given at least equal to all residents independent of

their capacity to pay for it. Consequently, the requirement for the Government's contribution in the arrangement of transport foundation is fundamental.

2.1.11.3. Accessibility

Accessibility to public transport is characterized by the ease in which inhabitants can reach means of transportation such as buses or metros. By measuring the degree of accessibility to public transport networks using a common data format, a comparative study can be conducted between different cities or metropolitan areas with different public transit systems (Bok and Kwon, 2016).

Accessibility is described in terms of the distance passengers have to walk from their home to the initial bus stop and from the final bus stop to their final destination (Iles, 2005). In dense urban areas the recommended walking distance ranges from 300-500 meters while it is 500-1000 meters in low densely urban areas (Iles, 2005; World Bank, as cited in Armstrong Wright, 1993).

Feelings of personal safety and security can also be associated with perceptions of accessibility, although the literature often deals with these issues in isolation from each other. This is particularly important in terms of accessing public transport, as the presence and fear of crime affect the decision to use public transport (Yavuz and Welch, 2010).

Good transportation accessibility is certainly an important factor in exploiting spatial potentials. The quality of transportation infrastructure in terms of capacity, travel speed, connectivity etc., determines the quality and advantage of a location relative to other locations, which is usually measured as accessibility. Increasingly overloaded transport

corridors, in the context of changing transportation flows are becoming an important issue for accessibility (Vulevic, 2016).

Besides mass mobility, unique characteristics such as routes and schedules, locations of users, and the times of the day when trips are made distinguish public transit from other modes of transportation and influence accessibility (Church, R.L. 2010).

Accessibility is the main "product" of a transportation system. It determines the locational advantage of an area (a region, a city, or a corridor) relative to all areas (including itself). Indicators of the accessibility measure the benefits that households and firms in an area enjoy from the existence and use of the transportation infrastructure relevant to their area (Vulevic, 2016).

2.1.11.4. Availability

It is the extent of the service offered in terms of geography, transport modes, operating hours, and frequency. Accessibility and exactness of data empower travelers to design their excursions, particularly for imminent travelers. Regardless of whether the administration is generally excellent, the accommodation of the administration is fundamentally decreased if travelers do not have data about the administration. Subtleties of courses worked, focuses at which vehicles may stack and empty travelers, places served along each course, last goals of courses, the tolls for the excursions to be made, and administration activity schedules which incorporate flight times from terminals, times at significant middle of the road stops and appearance times at the goal are significant data that ought to be made accessible to travelers. Specialist co-ops ought to likewise stay up with the latest data about

the administration. Precise and cutting-edge data builds traveler fulfillment and it may likewise convince extra travelers to utilize the public transport (Ibid, 2005).

The operating hours of transport systems have been criticized for adversely affecting the ability of socially disadvantaged groups to access such important services as before-and-after school activities, health care facilities, supermarkets and food shops, employment opportunities (SEU, 2003), and higher education (Kenyon, 2010). Extending the operating hours of transport systems could, therefore, be an important element in reducing social exclusion.

Travel time is a key factor when choosing a mode of transport. For work or school journeys, time importance is much higher. Beirão and Cabral's (2007) analysis of public transport users and non-users survey proved that respondents want to feel in control when traveling and this means that brief waiting times, a quick journey, and reliability. Also, there is a preference for direct and frequent public transport services. Generally, people want their trip without change of the vehicles during their journey, unless the change is perceived as easy and fast. In addition, the problem is the uncertainty of when the transport will arrive (Konig & Axhausen, 2002).

2.1.12. Policy and Strategy Review on Ethiopian Public Transport Service

The Addis Ababa City Administration has embarked on a program to increase the capacities of high-travel corridors. While this is considered important, a more radical approach may be required to improve fleet productivity, to reduce operating costs, improve service standards, leading to enhanced financial sustainability and patronage. Recently, new services in the form of medium capacity buses (midi-buses) have been introduced in

Addis Ababa to fill the widening gap between demand and supply. Yet, no formal quality-of-service statistics are available on intercity bus services. There is no reason to doubt, however, the quality of service levels pertaining in Addis Ababa would be better than those generally relating to intercity bus services in Ethiopia.

The Transport Authority is planning to sub-contract or franchise some long-distance routes to operators who will become responsible and act within transport authority guidelines for the regular scheduling activities currently performed by the transport authority. This will relieve some of the routine workloads for the Authority. The designated operators will be permitted both to operate the routes themselves and to sub-contract them to others (Co., 2009).

Moreover, the Addis Ababa Transport office has identified the challenges and strategies in its policy to improve existing situations regarding public transport service.

It is possible to say poor enforcement capacity is evident which made it difficult to provide efficient and quality services within the existing roads, traffic systems, and transport services (Federal *et al.*, 2011).

2.1.13. The Relationship between Factors that Affect the Quality of Public Commercial Transport Service and Perceived Transport Service Quality

The evaluation of customers' expectation varies from time to time, individual to individual, and country to country. What is viewed as quality today may be different tomorrow. Customers see benefits as far as the nature of the administration and how fulfilled they are mostly with their inclusions. Since consumer loyalty has been viewed as dependent on the

client's understanding on a specific assistance experience, (Cronin and Taylor, 1992) it is in accordance with the way that administration quality is a determinant of consumer loyalty. Administration quality originates from the result of the executives as well as specialist co-ops in association. Concerning connection between consumer loyalty and administration quality (Oliver 1993) first proposed that administration quality would be predecessor to consumer loyalty whether or not these builds were combined or exchange explicit. Fulfillment and administration quality share certain things for all intents and purpose, yet fulfillment for the most part is a more extensive idea, though administration quality spotlights explicitly on measurements of administration (Wilson, 2008). In spite of the fact that different factors, for example, cost and item quality can influence consumer loyalty, practical administration quality is a part of consumer loyalty (Zeithaml, 2006). (Parasuraman et al., 1985) proposed that when perceived service quality is high, then it will lead to an increase in customer satisfaction. Some other researches done are comprehend with the idea brought up by (Parasuraman, 1995) and they acknowledged that "Customer satisfaction is based upon the level of service quality that is provided by the service providers" (Saravana & Rao, 2007, Lee et al., 2000).

The attributes of service quality are tangible (physical evidence of the service), reliability, acceptability, responsiveness, assurance and empathy, safety, sustainability. The notation of quality in service industry is largely tied to the understanding of the service phenomenon. Four points can be identified as the characteristics of service such as service is intangible, activities (performance rather than things), produced and consumed simultaneously, and the consumer participates in the production process to some extent (Kundi, 2013).

There are a few provokes that should be resolved, and the issue of how open vehicle administrations can be made increasingly effective and safe is every now and again talked about (Odufuwa, 2006). Arrangements including enlistment of all methods of open vehicle and guideline of their season of activity have not tackled the issues of the administration in most Nigerian urban communities (Ono, 2007).

Another examination done by Beirão (2007) in Porto to discover disappointing components demonstrated that clients revealed and that are: sit around, excessively swarmed, absence of solace, time vulnerability, absence of control, shakiness, long holding up times, they need to move but cannot change course to keep away from traffic clog, absence of adaptability, and long strolling time. In addition, another examination done by Edvardsson (1998) uncovered that promptness, poor driver fitness, and data were significant components causing disappointment.

2.2. Empirical Literature Review

Motorized urban transport in cities has been characterized by the operation of private vehicles namely shared taxis, minibuses, and motorcycle-taxis which, unfortunately, do not effectively meet demand in quantity and quality, especially during peak hours (UITP - International Association of Public Transport, 2008).

Different researchers revealed that in North America, the related environmental justice perspective has also long served to offer similar analyses of the social impacts of transport disadvantage on low-income individuals and communities (e.g. Cervero, 2004). McCray

(2009) considered perceptions of safety concerning modal use and exclusion from activities in Quebec; and Paez, et al. (2009) undertook an extensive study for the Canadian Directorate of Social Policy and Research to explore the exclusion of older people, single parents, and low-income households from key activities in three Canadian cities. Elsewhere, Australian researchers have also pioneered research in this area, considering the accessibility needs of different social groups in Sydney (e.g. Hurni, 2006; Batellino, 2009) and Melbourne (e.g. Currie, et al., 2010; Currie and Delbosc, 2010), as well as reflecting on the role of public transport in meeting these needs (e.g. Loader and Stanley, 2009). Rose, et al. (2009) have also researched the issue of transport and social exclusion in the context of New Zealand cities. The authors have extensively reviewed this material elsewhere (Lucas, 2004; Lucas, 2006; Lucas, 2010), and as such we do not wish to duplicate this effort here (Duranton and Turner, 2012).

Public transport quality depends on several factors (attributes) of the service. Some are quantitative (e.g., average travel time and its reliability, transit waiting time, monetary costs); while others are qualitative and its effect on user behavior are more difficult to assess (e.g., riding comfort, information, personal security) (Cascetta and Cartenì, 2014) cited in (Vabuolytė and Ušpalytė-vitkūnienė, 2018). The perceived total quality of public transport is the result of the combined effect of objective (actual travel time, actual travel costs, accidents, if any, etc.) and subjective factors in individual travel experiences accumulated over a longer period (Finnish Standards Association SFS. Helsinki. 59 pp.).

The urban transport study attempted to assess passenger numbers carried by the minibuses and modified taxis and came up with widely varying estimates for the number carried by each vehicle ranging from 132 to 312. The situation in Addis Ababa is complicated by the

authorized fares structure. In effect, this provides an incentive for drivers to break their trips at peak hours to charge extra fares even if a passenger continues to ride in the same vehicle. If such artificial breaks are controlled, then the true number of passengers is likely to be nearer to the average of these estimates and would be consistent with international experience for this type of transport (Co., 2009).

According to Friman, passengers may feel the overall public transport quality has deteriorated even if monitoring of the operator's quality criteria indicates it has remained unchanged or has even improved. Quality factors that are perceived to be in order and to which little attention is therefore paid in daily travel situations can easily be undervalued. Quality factors that are perceived as requiring much improvement are deemed to be important even if objectively speaking, they are of minor importance in terms of the overall public transport service. Awareness of quality improvements in a given sector may increase expectations with regard to other factors impacting perceived total quality (Friman 2004, cited in, Kerkko Vanhanen and Jari Kurri, 2004).

To secure a seat, many passengers walk to the terminal. By loading vehicles in strict rotation, the unions also prevent intending passengers from rejecting vehicles that fail to meet expected standards of cleanliness or physical condition. This, in turn, lowers the incentive for vehicle owners to improve their performance. Investment in a premium-quality vehicle also becomes impractical under these circumstances (Co., 2009).

No formal quality-of-service statistics are available for urban transport in Africa, but formal and informal surveys of users undertaken in 14 sample cities suggest widespread customer dissatisfaction with bus services (Co., 2009).

The existing public transport is low in quality and with an inadequate number of buses and taxis. Taxi is the majority choice of public transportation. Because of the availability and the number of taxis, which are better compared to buses, the majority of people use taxis even though the price of a taxi is expensive. And also, the belief in society in relation to social class, force them to use a taxi (Mintesnot and Takano, 2007, cited in,(Nallet, 2018)). Thus, taxi is the majority's choice of public transportation in Addis Ababa.

A shortage of public transport services has been observed in Addis Ababa city since long ago. To meet the increasing mobility needs of the people due to the expansion of the city as well as the population growth, an adequate supply of mass transport service is becoming mandatory. Though there are different transport service providers, there is no coordination among them. Also, the service is limited to main roads and its coverage is very low. In view of that, the policy has been formulated to bridge the gap between transport demand and supply and to provide mass transport services that can support the socio-economic activities of the residents as well as address problems inherent to the sector (Federal *et al.*, 2011).

Quality suffers from other union-imposed operating practices that work against passenger interests. Chief among these is the practice of waiting for the assembly of a full load before setting out, which often forces passengers to sit in the vehicle under the hot weather in order to retain their place. Waiting times at terminals can exceed an hour specially during peak hours as well as waiting times can be extended on the vehicle, which makes it difficult for intending passengers to reach to their destination as per their expected times (Co., 2009).

The quality of the taxi transport service is bad in Addis Ababa. Drivers, conductors, and taxi station attendants exhibit bad behavior, lack of capacity and experience of association. The zonal coordination system has slightly improved the transport situation in terms of accessibility and quality. However, it is difficult to say it makes taxi fare affordable. Rather it helps taxi drivers to exploit the poor (Mekuriaw, 2012).

Several studies conducted by (Meron, 2007; Berhan, Beshah and Kitaw, 2013; Tilahun, 2009; Mintesnot and Takano, 2007) show that the Addis Ababa city transport service is very poor. The situation is even worse in the morning and during the evening rush hours.

A study done by Abane (2011) revealed that public transports have poor ventilation, dirty bus conditions, and high exposure to road traffic accidents and safety. The study further discovered that public transport operators are more concerned with journey speeds than the reliability, safety, convenience, and accessibility of the service for users. Abane (2011) also pointed to the fact that there is a need to consider whether the existing public transport services in most developing cities cater to the pressing mobility needs of the vulnerable groups. The study emphasized that for public transport in future cities to be an acceptable alternative to private automobiles or cars, operating conditions have to be revised and improved.

A research done by Kundi (2013) explained that transportation conditions and access to services in a context of urban sprawl and deregulation which shows major deficiencies in urbanization and transportation systems are reinforcing patterns of social and urban segregation in Dar-es-Salaam, Tanzania. The survey shows that there are numerous obstacles to the daily travel of the city's inhabitants, notably the poor. These barriers weigh

heavily on schedules, complicate access to services even further limit the use of urban space, and place considerable pressure on household budgets. It has been argued that a comfortable and quality public transport fleet in major cities in Tanzania cannot be achieved since it is poor, and many of the vehicles are in poor condition as well as dirty (Munawar, 2007).

Lwesya (2017) conducted a study in Tanzania and the main objective of the study was to assess customer service quality management by taking into account the factors affecting the service quality in the rail transport sector. To achieve the study objectives, the researcher used descriptive statistics and regression analysis and adopted a dual-pronged view of internal customers (employees) and external customers (clients) by focusing on the skills and qualifications of customer contact personnel in service encounters, incentives, staff training, working tools, and other operational facilities. For the case of external customers, quality service dimensions as synthesized in the SERVQUAL model were used. The results show that customers' expectations of service quality are accurately predicted by service providers along each of the service quality dimensions except the reliability dimension. This shows that there is a gap between service delivered and external communication of rail transport services and this difference is related to the performance of the promised service accuracy and reliance.

Fujii (2001) directed an examination in Osaka, Japan during an impermanent conclusion of the interstate that associated among Osaka and Sakai City. The overview was disseminated at three tollgates from 6:00 am to 8:30 am. The significant finding was that the conclusion of the interstate expanded open vehicle use. Second, it was likewise found that the normal drive time by open vehicle was overestimated via car workers. Third, after

encounters of open vehicle the overestimates of drive times were amended. Lastly, individuals who rectified their drive time kept on utilizing open vehicle though the expressway was revived.

Fellesson and Friman (2008) directed a transnational correlation of clients' open vehicle administration fulfillment perception in nine urban areas (Stockholm, Barcelona, Copenhagen, Geneva, Helsinki, Vienna, Berlin, Manchester, and Oslo) in Europe. The outcome demonstrated four general variables: framework, for example, traffic flow assurance, unwavering quality, and data; transport and transport stop structure that makes the client agreeable and appreciate the movement experience; staff expertise, information and mentality towards client; and security in the transport and transport stops as well as wellbeing from a car crash. Moreover, it was presumed that distinctions in broad daylight transport innovation and framework may cause contrasts in singular thing loadings.

Eboli and Mazulla (2007) researched administration quality characteristics that are significant for consumer loyalty with a transport travel administration in Cosenza, Italia. Respondents were approached to rate the significance and fulfillment with 16 assistance quality properties (transport stop accessibility, course trademark, recurrence, dependability, transport stop furniture, transport stuffing, tidiness, cost, data, advancement, wellbeing equipped, individual security, faculty, whines, natural insurance, and transport stop upkeep). The outcome shows that the inert variable significant for worldwide consumer loyalty is administration arranging which is reflected in unwavering quality, recurrence, data, advancement, work force, and protest.

In public transport, passengers evaluate the quality of service before traveling and after the service (Ojo et al., 2014). The study was conducted in Ghana by administering 162 Questionnaire to find out the quality of service delivery based on the perception and expectation of the passengers in cap coast city public transport buses and the result shows that almost half of the attributes of the scale portrays poor perception about the service.

Kumar (2012) conducted a study in India Madurai City of Tamil Nadu venue, to measure factors affecting the service delivery of State Road Transport by using the SERVQUAL instrument as well as administering 500 questionnaires to test the significant difference on the variables of perception and expectation of passengers. The result showed that there is No Gap in the service delivery and expectation of the passenger. That means State Road Transport delivery gives the service that satisfies its customer.

Govender and Pan (2011) have studied in South Africa to enhance service quality in intercity transport. They have used the SERVQUAL model comprising 25 items. The study was conducted using purposive, convenience, and quota sampling among 400 intercity transport bus passengers, including international travelers. The results indicate gaps in four out of the five dimensions of service quality.

Prince (2011) examined the commuters' perception of service quality offered by the open vehicle administrations of twin urban communities of Hyderabad and Secunderabad, India. The SERVQUAL scale was utilized to quantify worker's view of administration quality. The review was led among the workers who were routinely profiting open vehicle administrations for voyaging. The investigation inferred that the administration conveyance quality meets the view of workers. When all is said and done, individuals of

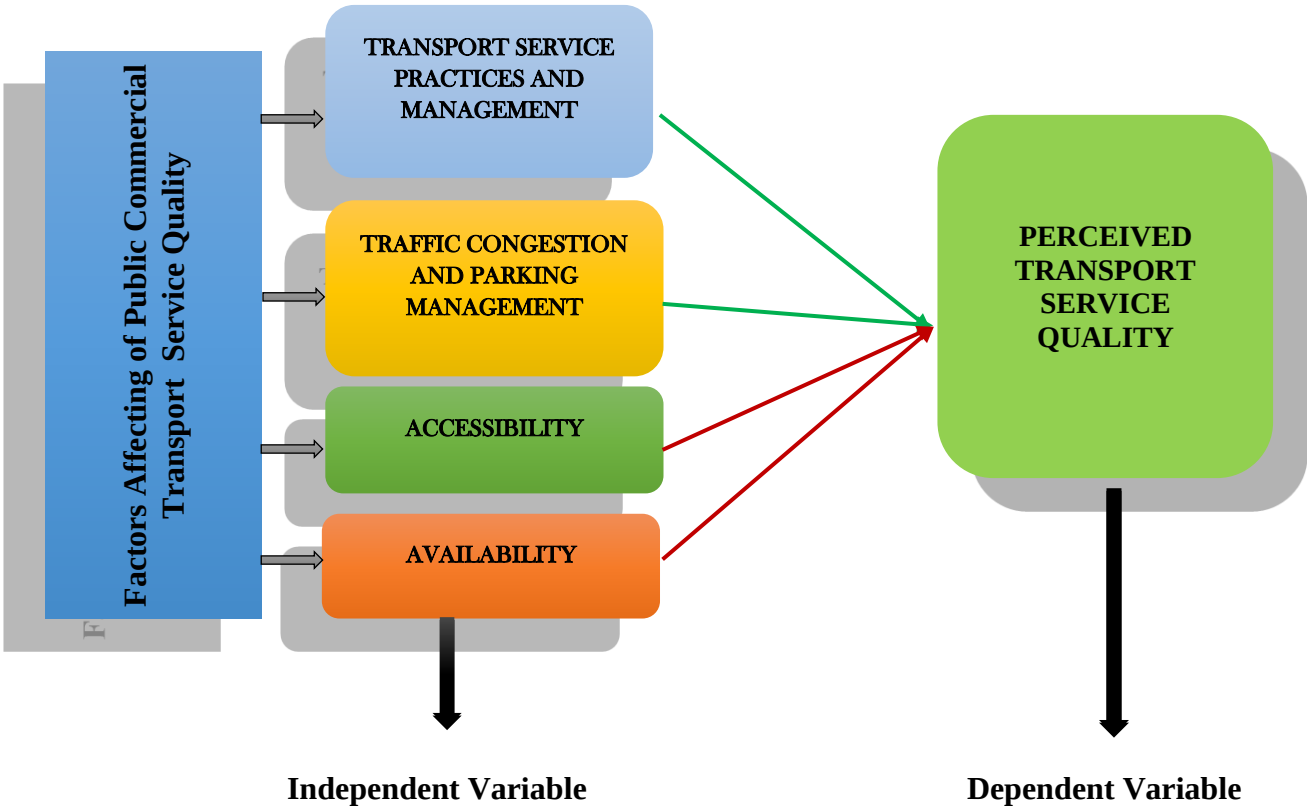
twin urban communities of Hyderabad and Secunderabad are profited by the administration conveyance quality by public transport services.

In the case of Ethiopia, Mekonnen (2010) has conducted a study on Anbessa city bus in relation to the service quality and customer satisfaction by distributing 227 questionnaires for passengers. The researcher used quality indicators of bus transport service as parameters and found out that both the selected service attributes in the Anbessa city bus did not meet their expected levels. In 2008, RTA conducted research on cross-country public buses to understand the level of customer satisfaction by distributing 190 questionnaires for the passengers who were traveling to Diredawa, Gonder, Harrar, Jigijiga, Debremarkos, and Bahirdar via using 9 parameters to measure the level of customer satisfaction. The result found from the survey indicates that 69% of the passengers are satisfied by the delivered service according to the parameters.

2.3. Conceptual Framework of the Study

The main purpose of this study helped to develop the conceptual framework in order to evaluate the factors that affect the quality of public commercial transport service in Addis Ababa city. This evaluation facilitated the achievement of the purposes and objectives of the study. Conceptual framework has been developed based on one of the previous contributions of many authors who developed many scales and models. The study is based on (Bok and Kwon, 2016), (Stock and Lambert, 2001), and SERVQUAL Model Parasuraman (1988) and Zeithmal (2006) that examines the service quality.

Figure I Conceptual Framework of the Study



Source: Conceptualized based on previous studies (Bok and Kwon, 2016), (Stock and Lambert, 2001), and Parasuraman (1988) and Zeithaml (2006).

CHAPTER THREE

RESEARCH METHODOLOGY

Research methodology is necessary to provide a reliable and valid research study. In chapter three, the researcher has discussed and delivered the method that has been used to obtain related information in order to conduct descriptive and explanatory research. This chapter incorporates research approach, research design, data type and sources, target population and sample size determination, sampling techniques, methods of data collection, constructs measurement such as reliability and validity, the methods of data analysis.

3.1. Description of the Study Area

Addis Ababa is the capital and largest city of Ethiopia. According to the 2007 national census, the population of Ethiopia has reached 73,909,355 of which urban population was 11,956,170 accounting for 16.1% of the total population. Having a growth rate of 2.1%, the population of Addis Ababa was 2,738,248 which accounted for 32.27% of the total urban population of the country (Statistical, 2012). The expansion of the city, an increase in population size coupled with the economic growth has required respective transport service supply for the increasing mobility needs of the People (Federal *et al.*, 2011).

According to Federal Negarit Gazeta (2005), that is prepared to provide Proclamation for the Regulation of Transport, the Transport Authority established as an autonomous public authority having separate juridical personality. The Authority shall have the powers and duties to manage the transport activities, which is to prepare and submit policy proposals to the Ministry relating to transport and implement same upon approval; follow up the

provision of safe, efficient, adequate and equitable transport services to the public; to implement and enforce government policies and laws in relation to transport service as well as treaties to which Ethiopia is a party etc.

There is an established association and this association recognized by persons and enterprises engaged in public commercial road transportation and it is classified as "Commercial Road Transport" means the carrying by a natural or juridical person, or passengers or goods for hire, remuneration or profit, classified as either private or public. "Private Commercial Road Transport" means vehicles used for carrying passengers or goods that are owned by private enterprises, and “Public Commercial Road Transport” means all commercial road transports that are not classified as private.

Regarding the undertakings of Public Commercial Road Transport Activities, any individual or an enterprise established in accordance with the law may engage in public commercial road transport. Persons and enterprises licensed to engage in public commercial road transport may carry out their activities either by becoming members of associations that are established in accordance with Article 13 of this Proclamation or on their own without becoming members of any association. With respect to the establishment of Associations, persons and enterprises engaged in public commercial road transport may establish and join public commercial road transport associations and the Authority shall, in order to ensure the provision of competitive road transport services, determine the number of members that may join an association.

3.2. Research Approach

According to John, (2014), research approaches are plans and procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. The selection of a research approach is based on the nature of the research problem or issue to be addressed, the researchers' personal experiences, and the audiences for the study. There are three basic approaches to research (a) qualitative (b) quantitative (c) mixed methods. According to Christensen, (1985) quantitative survey is the most appropriate one to use if the purpose of an investigation is to describe the degree of relationship that exists between the variables. Accordingly, this research employed quantitative research approach because the goal of this research is to understand the cause and effect relationship between the independent and dependent variables. For that reason, the study examined and measured the relationship between factors affecting public commercial transport service quality and the dependent variable that is perceived transport service quality.

3.3. Research Design

According to Singh, (2006), research design is essentially a statement of the object of the inquiry and the strategies for collecting the evidence, analyzing the evidences and reporting the findings. There are different types of scientific research, namely: exploratory research, descriptive research and explanatory research (Bhattacharjee, 2012). Accordingly, this research used both descriptive and explanatory type of research designs in order to explain the relationship between the factors affecting transport service quality and the transport

service quality, assess the effect relationship between independent variables and dependent variable in the public commercial transportation service.

3.4. Data Type and Source

Basically, there are two wellsprings of data used for exploring purposes, essential and auxiliary sources. Essential sources are those sources required to lead another study for get-together data at various levels as to the request. Auxiliary sources are those that are made accessible or have been gathered for other research purposes (Adams, Khan, Raeside, and white, 2007).

In this study, both primary and secondary sources of data have been used in soliciting information for the study. The primary data was obtained from structured, close ended, self-administered questionnaire. The secondary data has been collected from the previous studies, journals and articles conducted on Factors that Affect the Quality of Public Commercial Transport Service and other related studies have been used as the source of data for analysis.

3.5. Target Population and Sample Size Determination

In research, understanding and defining the research population is important on many fronts and failure to include those that are not accessible results in the sample being unrepresentative. The results from such research also have implications on the findings (Sydor, 2013). There are three approaches to determining sample size. The size of the sample may be determined through the good judgment of the researcher (Green, Tull & Albaum, 1988). The use of the budget and the cost of the research may be another

determinant of the sample size (Green, 1988). Finally, the fact that the researcher has attracted all potential participants may determine sample size (Green, 1988).

The target population for this study is users of public commercial transportation service particularly minibus taxi users. Since the study is about quality compromising factors in public commercial transport service provision, one of the most important issues about this service is passengers' satisfaction. The users of any service are the most suitable judges to evaluate the service quality as well as customers are the most affected group in any service delivery system. “The quality of service has become an aspect of customer satisfaction. It has been proven by some researchers that service quality is related to customer satisfaction” (Agbor, 2011). Regarding the sample size, when the size of population is unknown and previous researches are unavailable to determine the variability of an estimate over all possible samples, the sample size can be calculated for the least favorable case $\boldsymbol{p = q = 0.5}$ (Corbetta, 2003). Since the total population is unknown and previous studies are not available to determine the estimate of $\boldsymbol{p}$ and $\boldsymbol{q}$, the researcher used the recommendation by (Corbetta, 2003) in determining the standard deviation, 95% confidence interval and 5% sampling error in calculating the sample size. The sample size for this study has been determined with the use of Topman formula as presented below (Dillon, 1993).

$$\mathbf{n = \frac{Z^2 pq}{e^2}}$$

Where:

n = required sample size

Z = Degree of confidence (that is $1.96)^2$

P = Probability of positive response (0.5)

Q = Probability of negative response (0.5)

E = Tolerable error $(0.05)^2$

$$\mathbf{n= \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2}}$$

$$\mathbf{n = \frac{3.8416 \times 0.5 \times 0.5}{0.0025}}$$

$$\mathbf{n = 384}$$

So, 384 respondents have been considered to gather relevant data to complete the research project work.

"Taxi zoning has 5 zones. Each zone includes two sub cities; in Addis Ababa, there are 13 taxi associations, which have roles on zonal system. Each association contains about 700 members. The Transport bureau reintroduced taxi zoning service program in 2008. However, the plan was not executed in Addis Ababa until May 10, 2011 G.C. The main purpose of the zoning system is to create a fair service in all areas, prevent taxi operators from dividing long routes to make more money, and enable passengers to pay the appropriate fee" (Frehiwot nigatu, 2013). Accordingly, all the available taxi zones have been considered in order to make the study comprehensive.

Table I**:** Target Population and Sample Size Proportion

S/N	Name of Terminals	Number of Routes in each Terminal	Percentage Proportion	Sample Size Proportion
1	Megenagna terminal	18	36%	139
2	Bole terminal	8	16%	61
3	Saris terminal	6	12%	46
4	Torhailoch terminal	10	20%	77
5	Asko terminal	8	16%	61
Total	**5**	**50**	**100%**	**384**

Source: Own computation, 2020

3.6. Sampling Techniques

After determining the methods of data collection, the next step is to determine the element from which the data will be collected (Churchill, 1995). There are two types of sampling techniques: probability and non-probability sampling. The non-probability sampling means that probability of selecting an element cannot be estimated (Churchill, 1995). This study depended on non-probability sampling; namely, convenience sampling to select the respondents as well as distribute the questionnaires to them (taxi users) who were awaiting

to use minibus taxi service during the data collection dates. This method is used because the sampling frame is unavailable (Malhotra., 1996; Reynolds, 2003; Saunders, 2012).

Convenience sampling "is one of the most frequently used non-probability sampling methods" (Hair, 2003), and used commonly in marketing (e.g. Ismail, 2010; Jamal and Al-Marri, 2010). Convenience sampling means the non-random selection of available elements from the study-defined population. It is an easy, quick, and cost-effective technique, but the main drawback is that it is unrepresentative of the population (Churchill, 1995; Saunders, 2012).

Since all the five available taxi zones in the city namely; Megenagna, Torhailoch, Asko, Bole, and Saris terminals have been considered for this study, a census sampling method is applied. "A census is a study of every unit, everyone or everything, in a population. It is known as a complete enumeration, which means a complete count." (1299.0 - An Introduction to Sample Surveys: A User's Guide, 1999, 2020)

3.7. Methods of Data Collection

The questionnaire has been divided into two sections. The first section contained the demographic characteristics of the respondents to get information about their gender, age, occupation, educational level, frequency of usage of public transport, and for how many days in a week the passengers use public transport. The second section of the questionnaire has been designed to enable the researcher to gather information about factors that affect the quality of public commercial transport service in Addis Ababa city. Questionnaire is a set of questions that has structured questions, in this case, the questions contain close-ended questions type and responses to the question in order to measure on a five Likert rating

scale such as: Strongly agree (SA) = 5; Agree (A) = 4; Neutral (N) = 3; Disagree (D) = 2; Strongly disagree (1). The use of Likert scale is to make it easier for respondents to answer the questions in a simple way.

3.8. Validity and Reliability

The Cronbach alpha coefficient is an indicator of internal consistency of the scale. A high value of the Cronbach alpha coefficient suggests that the items that make up the scale "hang together" and measure the same underlying construct. A value of Cronbach alpha above 0.70 can be used as a reasonable test of scale reliability (Gaur A. and Gaur S., 2009).

The first step in assessing validity is called the face validity test. Face validity establishes whether the measuring device looks like it is measuring the correct characteristics. The face validity test is done by showing the instrument to experts and analyzing their responses qualitatively **(**Gaur A. & Gaur S. 2009).

Table II**:** Rule of Thumb of Cronbach's Alpha

Cronbach's Alpha	**Internal Consistency**
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Cortina (1993)

Generally, a Cronbach Alpha greater than or equal to 0.7 can be regarded as an acceptable level of reliability in most social science research. If the Cronbach Alpha is less than 0.7,

the questions might be difficult for the respondents or the respondents did not understand the questionnaire (Cronbach, 1951).

The reliability of scale shows that how free the data is from random error. Therefore, it is always advisable to select a scale that is reliable. One of the most commonly used scales of reliability is internal consistency. Internal consistency refers to "the degree to which the items that make up the scales are all measuring the same underlying attributes (that is the extent to which the items "hang together") (Christopher, 2015). The Cronbach Alpha technique was applied to assess reliability of the measurement scales used in the study.

Table III**:** Reliability Test Result

Variables	**#of**	**Cronbach's Alpha**
Transport service practices and management	8	.759
Traffic congestion and parking management	5	.764
Accessibility	5	.716
Availability	6	.773
Perceived transport Service Quality	13	.842

Source: SPSS result, 2020

As it can be seen from Table III, all the independent variables scored good alpha results. As compared to the independent variables, the dependent variable 'Perceived transport Service Quality" has a high reliability with α= .842, this shows that Cronbach Alpha lays where $\alpha \geq 0.8$. Compared within the independent variables, Availability has higher acceptable reliability with $\alpha = 0.773$, followed by Traffic congestion and parking management with $\alpha = 0.764$, Transport service practices and management follows with $\alpha = 0.759$ indicating acceptable reliability. Though the least among the others is Accessibility with acceptable reliability $\alpha = 0.716$. According to Cronbach (1951), a Cronbach Alpha of

0.70 is an acceptable level; this means that there is internal consistency in the items considered.

3.9. Methods of Data Analysis

The collected data has been changed and interpreted into meaningful information and statement. The data has been analyzed, processed, and interpreted according to the nature of the data. Statistical Package for Social Science (SPSS) software version 20 has been employed to analyze and present the data through the statistical tools, namely descriptive analysis (mean and standard deviation), correlation and multiple regression analysis.

3.9.1. Descriptive Analysis

First, descriptive statistics of the variable is calculated in line with Malhotra (2007), which states that using descriptive statistics method helps the researcher in picturing the existing situation and allows relevant information. In the descriptive analysis, mean and standard deviation has been used to the study. Frequency table was used to summarize the respondents' profile in the form of frequency and percentages. The descriptive statistics such as mean and standard deviations of the users' answers to the factors that affect the quality of public commercial transport service scales have been calculated in order to determine the users' perceptions of the factors that affect the quality of public commercial transport service. While in making the interpretation of the results of frequency, mean, and standard deviation, the scales have been reassigned as follows so as to make the interpretation easy and clear.

Table IV: Range for Interpreting Quantitative Data

Range	Interpretation1	Interpretation2	Interpretation 3
1.49 or less	Strongly disagree	Very Low	Very Poor
1.50-2.49	Disagree	Low	Poor
2.50-3.49	Neutral	Average	Fair
3.50-4.49	Agree	High	Good
4.5 or greater	Strongly agree	Very High	Very Good

Source: Upgade and Shende (2012)

3.9.2. Inferential Analysis

According to Sekaran (2000), "inferential statistics allow researchers to infer from the data through analysis of the relationship between two variables; differences in a variable among different subgroups; and how several independent variables might explain the variance in a dependent variable". The following inferential statistical methods have been used in this research.

3.9.2.1. Multicollinearity

Multicollinearity is a phenomenon in which two or more predictor variables in multiple regressions are highly correlated, meaning that one can be linearly predicted from the other. That is two or more independent variables in a multiple regression model are very much linearly related. The Variance Inflation Factor (VIF) and tolerance are the widely used measures of the degree of multicollinearity. A tolerance of less than 0.10 and/or a VIF of 10 and above indicate multicollinearity problem (O'Brien, 2007).

Multicollinearity increases the standard errors of the coefficients. Increased standard errors in turn mean that coefficients for some independent variables may be found not significantly different from zero. In other words, by over inflating the standard errors, multicollinearity makes some variables statistically insignificant when they should be significant (Belsley, 1991).

3.9.2.2. Pearson Product Moment Correlation

According to Stigler (1989), Pearson Product Moment Correlation is a measure of the linear correlation between two variables x and y giving a value between +1 and -1 inclusive, where 1 is total positive correlation, 0 is no correlation, and -1 is total negative correlation. The sign of the coefficient tells us whether the relationship is positive or negative, whereas the numerical part of the coefficient indicates the magnitude of the correlation. The closer the correlation coefficient to +1 or -1 the greater the relationship between the variables. To ascertain whether a statistically significant relationship exists between factors that affect the quality of public commercial transport service dimensions (transport service practices and management, traffic congestion and parking management, accessibility, and availability) and perceived transport service quality, the Pearson Product Moment Correlation Coefficient has been used. Pearson's Product Moment Correlation was used to determine the following relationships for the sample respondents.

1. The relationship between transport service practices and management and perceived transport service quality.
2. The relationship between traffic congestion and parking management and perceived transport service quality.

3. The relationship between accessibility and perceived transport service quality.
4. The relationship between availability and perceived transport service quality.

According to McDanail and Gates (2006), correlation coefficient can range from-1.00 to +1.00. The results of correlation coefficient can be interpreted as follows:

Table V**:** Interpretation of Correlation

Correlation Coefficient	Interpretation
1	Perfect
0.8-0.9	Very Strong
0.5-0.8	Strong
0.3-0.5	Moderate
0.1-0.3	Modest
>0.1	Weak

Source: McDanail and Gates (2006)

3.9.2.3. Multiple Regression Analysis

The purpose of multiple regressions is to learn more about the relationship between independent or predictor variables and dependent variable. Multiple regressions analysis takes into account the inter-correlations among all variables involved. In multiple regression analysis, more than one predictor will be regressed against the dependent variable (Cohen & Swerdlik, 2002). This method has been used to investigate the factors that affect the quality of public commercial transport service (transport service practices and management, traffic congestion and parking management, accessibility, and availability) and the dependent variable that is perceived transport service quality.

3.9.2.4. Regression Model Specification

The model of multiple regressions on this study generally built around the dependent variable, which is service quality, and the dimensions of the independent variables (transport service practices and management, traffic congestion and parking management, accessibility, and availability). Therefore, the general formula used for the model is:

$Yi=\alpha+\beta xi+e$

The left-hand variable Y_i denote the dependent variable transport service quality,

α= is the intercept term which gives the mean or average effect on Y of all the variables excluded from the equation, although its interpretation is the average value of Y when the stated independent variables are set equal to zero,

β = is the coefficient of x variables (independent variables) which measures the change in the mean value of Y; per unit change in their respective independent variables,

X_i = is the different independent variables which are transport service practices and management, traffic congestion and parking management, accessibility, and availability, and

E = is the error term/sampling error.

Finally, the above general least square model has been converted to incorporate all the variables to test the hypothesis of the study as follows:

Service Quality = f (transport service practices and management, traffic congestion and parking management, accessibility, and availability)

$$PSQ = \alpha + \beta_1 X_1 (TSPM) + \beta_2 X_2 (TCPM) + \beta_3 X_3 (AC) + \beta_4 X_4 (AV) + e$$

Where

TSM = Transport service practices and management

TCPM = Traffic congestion and parking management

AC = Accessibility

AV= Availability

e = Error Term

3.10. Ethical Consideration

Ethics are the moral distinction between right and wrong, and what is unethical may not necessarily be illegal (Bhattacherjee, 2012). In order to be ethical, a researcher should consider voluntary participation and harmlessness. Subjects in a research project must be aware that their participation in the study is voluntary, that they have the freedom to withdraw from the study at any time without any unfavorable consequences, and they cannot be affected because of their participation or non-participation in the project. Accordingly, name of the respondents was not asked in order to increase the confidentiality of the information they gave, the questionnaire explains that the purpose of the research is for academic purpose only, the respondents were included based on their willingness, and finally the researcher tried to avoid misleading or deceptive statements in the questionnaire as well as the questionnaires were distributed only to voluntary participants.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

The major aim of the study is to find out the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City. This chapter presents a discussion of the final results and the process through which the results were obtained. In addition to this, background information of the respondents is presented. Finally, the statistical methods of analysis are discussed, which included a descriptive analysis, a correlation analysis, a multiple regression analysis, ANOVA, and model summary through Statistical Package for Social Science (SPSS version 20). Therefore, the analysis was made in the order of the objectives of the research, that are:

1. To assess the effects of Transport service practices and management on perceived transport service quality at Addis Ababa City.
2. To examine the effect of Traffic congestion and parking management on perceived transport service quality at Addis Ababa City.
3. To assess the effect of Accessibility on perceived transport service quality at Addis Ababa City.
4. To investigate the effect of Availability on perceived transport service quality at Addis Ababa City.

A total of three hundred eighty four (384) questionnaires were distributed to the respondents that are Public Commercial Transport Service users who were found in Torhailoch, Megenagna, Asko, Saris and Bole taxi zones, out of which a total of 320

questionnaires were fully completed and returned. The total response rate was 83.3%. As a result, the analysis of this research is based on the number of questionnaires collected.

Factor analysis is conducted to orderly simplify and reduce this large number of inter correlated variables to a few representative constructs or factors. Factor analysis involves a number of steps: assessment of the data, factor extraction and factor rotation (Julie, 2005). Therefore, the Bartlett Sphericity test is used to verify the adequacy of the variables for the further implementation of factor analysis. If the test shows statistically significant differences in the level of significance 0.000, it means that the variables are not independent from each other and further analysis of the effects makes sense. In this example, the significance level is 0.000, and therefore the factor analysis is appropriate. The Kaiser Meyer Olkin (KMO, hereinafter) measure of sample adequacy checks the relationship power between the variables. Possible to conclude that there is strong relationship if the value of KMO is 0.80 or more, but in social data a slightly lower connectivity (at least 0.50) is also acceptable. In this case, the KMO value is 0.759 and therefore the factor analysis is still justified.

Table VI: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.759
Bartlett's Test of Sphericity	Approx. Chi-Square	8861.268
	df	231
	Sig.	.000

Source: SPSS result, 2020.

4.2. Descriptive Statistics

4.2.1. Demographic Characteristics

In this section, the basic information of the respondents is explored. Table VII below is about the demographic characteristics of the respondents. This information is presented in order to make the reader understand the size of population taken, the gender, age, occupation, education level, regular user of public commercial transport, and number of days in a week in which respondents use public commercial transport service.

In the table VII below, the Gender specification of the respondents is presented. A total percent of male respondents is 47% and female representation is 53%. Therefore, majority of the respondents are female.

As far as the Age of the respondents' is concerned, 13% of the respondents are in the range of 18-25 years, 39% of the respondents are in the range of 26-35 years, 21% are in the range of 36-45 years, 14% are in the range of 46-55 and 13% are above 55 years old. This shows that most of the respondents were adults and it is likely that they can provide useful data.

Educational status of each respondents has also been illustrated in the table. Respondents that hold master's degree have the lowest level of frequency with 3%, high school and below with 6%, certificate with 20%, BA degree holders with 32%, and diploma holders with 39%. These results show that most of the participants are literate.

Table VII: Demographic Characteristics of Respondents

Demographic Characteristics	Description	Frequency	Percent
Gender	Male	150	47
	Female	170	53
	Total	**320**	**100.0**
Age of Respondents	18-25	40	13
	26-35	124	39
	36-45	68	21
	46-55	45	14
	55 and above	43	13
	Total	**320**	**100.0**
Education Level	High School and Below	18	6
	Certificate	63	20
	Diploma	124	39
	Degree	103	32
	Masters & above	12	3
	Total	**320**	**100.0**
Occupation	Government	36	11
	Private employee	115	36
	Self-employed	89	28
	Student	80	25
	Total	**320**	**100.0**
Use of public commercial transport	Yes	320	100
	No	-	-
	Total	**320**	**100.0**
Days in a week use of public commercial transport service?	All days in a week	87	27
	1-2 days in a week	13	4
	1-3 days in a week	103	32
	1-5 days in a week	117	37
	Total	**320**	**100.0**

Source: SPSS Result, 2020

As far as the respondents' Occupation is concerned, 11% of the study participants happened to be Government employees, whereas 36% of them work in private company, and 28% of them are self-employed. The remaining 25% are students.

Regarding the use of public commercial transport, all of the respondents answered that they are regular users of public commercial transport service. Finally, with respect to the number of days in a week respondents use public commercial transport, 27 percent of them responded by stating that they use all days in a week, 4% are using 1-2 days in a week, 32% are using 1-3 days in a week, 37% of them use 1-5 days in a week.

Accordingly, from the above users' demographic characteristics, it can be understood that most of the respondents are adults, educated, employed, and regular users of minibus taxis. In relation to the gender composition, female respondents outweighs male respondents in number.

4.2.2. Descriptive Statistics for Factors Affecting of Public Commercial Transport Service Quality

This section explores the nature of the data collected. To explain the nature of the data in depth mean and standard deviation are used. The researcher has used an itemized rating scale to construct a range. This range was used to measure the perceived level of the respondents' response towards each variable. Hence, this descriptive analysis is used to look at the data collected and to describe the data captured through the questionnaire and it is desired to determine the users' perception to Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City. Four indicators of Factors that Affect the Quality of Public Commercial Transport Service are considered for the study. These

four broad antecedents are Transport service practices and management, Traffic congestion and parking management, Accessibility, and Availability.

Mean: It is similar to average. The mean is calculated when the sum of total values divided by the number of total values in a given sample of the population. According to Akmaliah, Z (2009), mean score measurement can be used while interpreting the data and if Mean Score > 3.80, it is considered as high; 3.40-3.79 is considered as moderate and when the mean score is below 3.40, it is considered as low.

Standard Deviation: It is taken to identify the differences among the variables and the square root of standard deviation shows the variance. Standard deviation was also used to show the variability of measurements from the mean (average). The higher standard deviation indicates a wider distribution of the scores from the mean. This distribution indicates more heterogeneous or dissimilar spread of scores on a scale. While, if the value is lower, it shows a smaller range with comparable or homogeneous spread of scores around the mean (Mark, Philip and Adrian, 2009).

4.2.2.1. Respondents Perception towards Transport Service Practices and Management

A series of eight questions were presented to respondents and respondents were asked to rate their level of agreement with each statement. Table VIII shows the mean and standard deviation for each item under this category.

According to Akmaliah (2009), mean score measurement can be used while interpreting the data; and if Mean Score is under 3.40, it is considered as low/weak/. Accordingly, in

this analysis, the grand mean for transport service practices and management is 2.64, which is considered as low/weak.

This indicates that the respondent's perception is low or weak level of agreement towards the activities/indicators of transport service practices and management. The respondents reported that minibus taxi transportation service cost is not realistically fair compared to the service provided (mean=2.95); the minibus taxi transport service providers are often exercising a fee that is above the ceiling price/tariffs (mean=2.96).

Table VIII : Summary of Response for Transport Service Practices and Management

Items of Transport Service Practices And Management	Mean	S.D
1. The minibus taxi transportation service cost is fair compared to the service provided.	2.95	.989
2. Most often, the minibus taxi transport service providers do not charge a fee that is above the ceiling price/tariffs.	2.96	.022
3. The minibus taxi transport drivers have the required skills and abilities in road transport discipline.	2.89	.024
4. The minibus taxi transport drivers as well as their assistants fulfill their responsibilities by providing awareness for users in relation to traffic accident management.	2.48	.970
5. The minibus taxi transport service providers often provide comfort, safety, and security for their users.	2.65	.998
6. The minibus taxi transport service providers (drivers and their assistants) often behave well, do not use drugs (like Khat, Alcohol, Cigarette), as well as use polite words and proverbs towards their users.	2.50	.025
7. Minibus taxi service coordinators do not privilege a minibus taxi driver to extend or change the taxi's assigned route in connection with some monetary benefits.	2.15	.061
8. The good coordination and policy implementation trends caused fair minibus taxi transport service practices.	2.51	.996
Cumulative Mean of Transport Service Practices and Management	**2.64**	**0.511**

Source: SPSS Result, 2020

Moreover, the response shows that the minibus taxi service providers do not have the required skills and abilities in road transport discipline (mean=2.89); they also do not fulfill their responsibilities by providing awareness for users in relation to traffic accident management (mean=2.48). The respondents also realistically stated that the minibus taxi transport service providers' misuse the vehicle seats, which creates discomfort and safety and security issues for the users (mean=2.65).

Not only the issues related with the comfort of the vehicles, but also the use of drugs (like Khat, Alcohol, Cigarette) along with the insulting words and proverbs by drivers and their assistants towards their users gotten rational acceptance from the respondents (mean=2.50). Furthermore, users disagreed to accept that minibus taxi service coordinators do not have corrupted behavior (mean=2.15). As regards coordination and policy implementation trends, users reported that it is poor and minibus taxi transport service practices are unfair (mean=2.51).

The standard deviation value indicates that the respondents' responses are homogenous and not widely spread from the mean. Since, the obtained result of standard deviation (0.511) is supported by (Mark, Philip and Adrian, 2009) that is, value < 1, implies that the responses of the respondents were not dispersed towards the perceived/obtained mean result.

Overall, the above mean result indicates that there is weak level of transport service practices and management and the respondents do not have a big variation of response towards the existing weak level of transport service practices and management.

4.2.2.2. Respondents Perception towards Traffic Congestion and Parking Management

A series of five questions were presented to respondents and respondents were asked to rate their level of agreement with each statement. Table IX shows the mean and standard deviation for each item under this category.

According to Akmaliah (2009), mean score measurement can be used while interpreting the data; and if Mean Score is below 3.4 is considered as low/weak.

Accordingly, in this analysis, traffic congestion and parking management with mean score of 2.36 is considered as low/weak. This shows that the respondents shared their thoughts with low level of agreement in relation to the activities of traffic congestion and parking management. As per the responses obtained from the respondents, road networks that interconnect streets so as to make the traffic flow simple for vehicles as well as pedestrians are insufficient (mean=2.33); parking spots to smoothen the road transport administration are not enough (mean=2.76); it is not acceptable by users for taxis to utilize alternative routes to stay away from traffic blockage since it costs them additional money (2.11); the city's road traffic management system is not adequate in taking care of the street clog (mean=2.33).

Table IX**:** Summary of Response for Traffic Congestion and Parking Management

Items of Traffic Congestion and Parking Management	Mean	SD
1. In Addis Ababa city, there are adequate road networks that interconnect roads in order to make the traffic flow easy for vehicles as well as pedestrians.	2.33	.071
2. Most of the roads in Addis Ababa city have efficient capacity as well as enough parking space to facilitate the road transport service.	2.76	.895
3. Though the cost can be high, it is good for minibus taxis to use alternative routes to avoid traffic congestion.	2.11	.120
4. The Addis Ababa city road traffic management system is good in handling the road congestion.	2.33	.085
5. Though population growth caused an increase in car ownership as well as people's mobility, it does not aggravate the traffic congestion in Addis Ababa city.	2.27	.058
Cumulative Mean of Traffic Congestion and Parking Management	**2.36**	**0.246**

Source: SPSS Result, 2020

In addition, respondents perceived that population growth in the city magnify the inconvenience of the traffic jam (mean=2.27).

The standard deviation value indicates that the respondent's responses are homogenous. Since, the obtained result of standard deviation (0.246) is supported by (Mark, Philip and Adrian, 2009) that is, value < 1, implies that the variance of responses of the respondents were similar towards the perceived/obtained mean result.

Overall, the above mean result indicates that there is weak level of traffic congestion and parking management and the respondents do have similar response with regard to the challenges in relation to traffic congestion and parking management.

4.2.2.3. Respondents Perception towards Accessibility

A series of five questions were presented to respondents and respondents were asked to rate their level of agreement with each statement. Table X shows the mean and standard deviation for each item under this category.

Table X: Summary of Response for Accessibility

Items of Accessibility	Mean	Std.
1. The Addis Ababa city minibus taxi transport service stations, stops, and routes cover most of the city's neighborhoods, schools, and offices.	3.48	.024
2. The minibus taxi transportation system in Addis Ababa city is well suited for people with disability.	2.54	.471
3. Users often find it easier to find transport as well as reach to their destination on time due to the willingness of the minibus service providers.	2.24	.071
4. Taxi users in Addis Ababa city walk short distances and easily get minibus taxis transport service.	2.98	.925
5. Minibus taxis are always easily accessible for the movement to any direction.	2.43	.990
Cumulative Mean of Accessibility	**2.73**	**0.496**

Source: SPSS result, 2020

According to Akmaliah (2009), mean score measurement can be used while interpreting the data; and if Mean Score is below 3.40 is considered as low.

As it can be seen from the above table, the grand mean score for accessibility is 2.73, which is significantly lower than the cut-off point set by Akmaliah (2009) and is considered as low/disagreed.

This indicates that the respondents' overall response or level of attitude to the existing accessibility is weak. With respect to the statements that the taxi transport administration

stations, stops, and paths are fairly covering a large portion of the city's neighborhoods, schools, and workplaces (mean=3.48). The respondents also reported that the taxi transportation situation in Addis Ababa city is not appropriate for individuals with disability (mean=2.54); users often find it difficult to find transport as well as reach to their destination on time due to the unwillingness of the minibus service providers (mean=2.24); taxi users in Addis Ababa city walk long distances and find it difficult to get minibus taxi transport service (mean=2.98); minibus taxis are not always easily accessible for the movement to any direction (mean=2.43).

The standard deviation value indicates that the respondent's responses are homogenous. Since, the obtained result of standard deviation (0.496) is supported by (Mark, Philip and Adrian, 2009) i.e., value < 1, implies that the variance of responses of the respondents were similar towards the perceived/obtained mean result.

Overall, the above mean result indicates that there is unsatisfactory level of accessibility/ease of access to minibus taxis and the respondents do have similar response in the direction of the prevailing level of accessibility.

4.2.2.4. Respondents Perception towards Availability

A series of six questions were presented to respondents and they were asked to rate their level of agreement with each statement. Table XI shows the mean and standard deviation for each item under this category.

Table XI**:** Summary of Response for Availability

Items of Availability	Mean	SD
1. To get the minibus taxi transportation service, users do not wait for a long time at the station.	2.40	.994
2. There is uninterrupted and frequent minibus taxi transportation service flow in the city.	2.65	.867
3. Minibus taxis do not delay in reaching to their stations as well as not absent in their assigned routes.	2.51	.942
4. Minibus taxis are always available during pick hours of the day.	2.65	.114
5. The operating hours of the minibus taxi transportation service in Addis Ababa city is at acceptable level for users.	2.80	.097
6. There are adequate number of minibus taxis in the city that are sufficient to meet the growing demand for public commercial transportation service.	2.18	.114
Cumulative Mean of Availability	**2.53**	**0.521**

Source: SPSS result, 2020

According to Akmaliah (2009), mean score measurement can be used while interpreting the data; and when the mean score is below 3.40, it is considered as low. Similarly, in this analysis, availability with mean score 2.53 can be considered as low/weak/disagreed. This indicates that the respondents' level of agreement is low with regard to the statements to measure the level of taxi service availability in the city. Respondents reported that they wait for long at the station in order to get the taxi transportation service (mean=2.40) ; there is noticeable stop and irregular taxi transportation service flow in the city (mean=2.65); minibus taxis delay in reaching to their stations and also get absent in their assigned routes (mean=2.51); minibus taxis are not always available during pick hours of the day (mean=2.65); the operating hour of the minibus taxis is insufficient compared to the need (mean=2.80); and the number of minibus taxis in the city are inadequate in order to fulfill the increasing demand for public commercial transport service (mean=2.18).

The standard deviation value indicates that the respondent's responses are homogenous. Since, the obtained result of standard deviation (0.521) is supported by (Mark, Philip and Adrian, 2009) i.e., value < 1, implies that the variance of responses of the respondents were similar towards the perceived/obtained mean result.

Overall, the above mean result indicates that there is pathetic level of availability/obtainability and the respondents do have similar response in the direction of availability problems/challenges.

4.2.2.5. Respondents Perception on Perceived Transport Service Quality

A series of thirteen questions were presented to respondents and respondents were asked to rate their level of agreement with each statement. Table XII shows the mean and standard deviation for each item under this category.

According to Akmaliah (2009), mean score measurement can be used while interpreting the data; and if Mean Score is below 3.40, it is considered as low. Accordingly, in this analysis, the grand mean of Perceived Transport Service Quality is 2.45, which is considered as low/weak/disagreed.

This indicates that the respondents' opinion is low/weak with respect to the statement that is, there is enough network coverage of minibus taxis on the route (mean=2.51).

The respondents also reported that minibus taxi transports do not show up in the station on the schedule (mean=2.73); drivers do not fulfill their responsibility by providing awareness to users regarding traffic accident precautions (mean=2.56); taxi service providers do not

offer a convenient service that is safe for passengers and safeguard their belongings (mean=2.44); minibus taxi transportation service providers are impolite (mean=2.56).

Table XII: Summary of Response for Perceived Transport Service Quality

Items of Perceived Transport Service Quality Statement	Mean	Std.
1. There is enough network coverage of minibus taxis on the route.	2.51	.063
2. The minibus taxi transports show up in the station on the schedule.	2.73	.016
3. Drivers fulfill their responsibility by providing awareness to users regarding traffic accident precautions.	2.56	.017
4. The taxi service providers offer a convenient service that is safe for passengers and safeguard their belongings.	2.44	.050
5. The minibus taxi transportation service providers are polite.	2.56	.945
6. The minibus taxi transportation service providers positively support users.	2.42	.020
7. Minibus taxi transportation sites are located within walking distance from your place.	2.13	.022
8. There is suitable system of serving the users at transport exit and aboard.	2.41	.222
9. There is uninterrupted and smooth minibus taxi transportation service flow in the city.	2.26	.169
10. In general, minibus taxis transportation service provision is carried out based on customer demand.	2.58	.167
11. The minibus taxi transportation is convenience for passengers and there is enough comfort inside the vehicles and on travel.	2.34	.285
12. The minibus taxi and parking facility services let the passengers to avoid congestion.	2.58	.964
13. The modernity of minibus taxi transportation is assuring the safety and comfort of the users.	2.38	.989
Cumulative mean of Perceived transport service quality	**2.45**	**0.302**

Source: SPSS result, 2020

Furthermore, users reported that minibus taxi transportation service providers do not confidently support users (mean=2.42); minibus taxi transportation sites are not within walking distance from users' places (mean=2.13); there is no suitable system of serving the users at transport exit and aboard (mean=2.41).

Respondents also reported that minibus taxi transportation service flow is infrequent and characterized by interruption (mean=2.26); minibus taxi transportation service provision is not carried out based on customer demand (mean=2.58); minibus taxi transportation is inconvenience for passengers and there is no enough comfort inside the vehicles and on travel (mean=2.34); minibus taxi and parking facility services do not let the passengers to avoid congestion (mean=2.58); and the modernity of minibus taxi transportation does not assure the safety and comfort of the users (mean=2.38).

The standard deviation value indicates that the respondent's responses are homogenous. Since, the obtained result of standard deviation (0.302) is supported by (Mark, Philip and Adrian, 2009) i.e., value < 1, implies that the variance of responses of the respondents were similar towards the perceived/obtained mean result.

Overall, the above mean result indicates that there is a gap with perceived transport service quality of public commercial transport service and the respondents do have similar response with the weakness of perceived transport service quality.

4.3. Inferential Analysis

4.3.1. Assumptions Testing

4.3.1.1. Sample size

Authors tend to give different guidelines concerning the number of cases required for multiple regressions. Tabachnick and Fidell (2001) presented a formula for calculating sample size requirements, taking into account the number of independent variables to use: $N > 50 + 8m$ (where m = number of independent variables). In this study, four independent variables had existed and cases were 320. Therefore, the study satisfied sample size assumption.

4.3.1.2. Multi Collinearity

Multicollinearity refers to the situation in which the independent variables are highly correlated in a way that has undesirable implication on the outcome of regression analysis. According to Robert (2006), when the predictor variables are highly correlated, they share essentially the same information and together, they may explain a great deal of the dependent variable, but may not individually contribute significantly to the model. Thus, the impact of multi collinearity is to reduce any individual independent variable's predictive power by the extent to which it is associated with the other independent variables (Beyan, 2014). Accordingly, Tolerance and Variance Inflation Factor (VIF) values were calculated to check multicollinearity and the result is presented on table XIII below. The Tolerance value is an indication of the percentage of variance in the predictor that cannot

be accounted for by the other predictors implying the fact that very small values indicate overlap or sharing of predictive power (Robert, 2006).

Table XIII**:** Multi collinearity Test

Variables	Tolerance	VIF
Transport service practices and management	.719	1.392
Traffic congestion and parking management	.639	1.564
Accessibility	.733	1.365
Availability	.585	1.409

Source: SPSS result, 2020

Multi Collinearity in this study was tested using Variance Inflation Factor (VIF) value and tolerance value. If tolerance value is closer to 1 and VIF value is around 1 and not more than 10, it can be concluded that there is no Multi-co linearity between independent variables in the regression model (Pallant, 2005). As shown in the table above, there is no Multi-co linearity in this study.

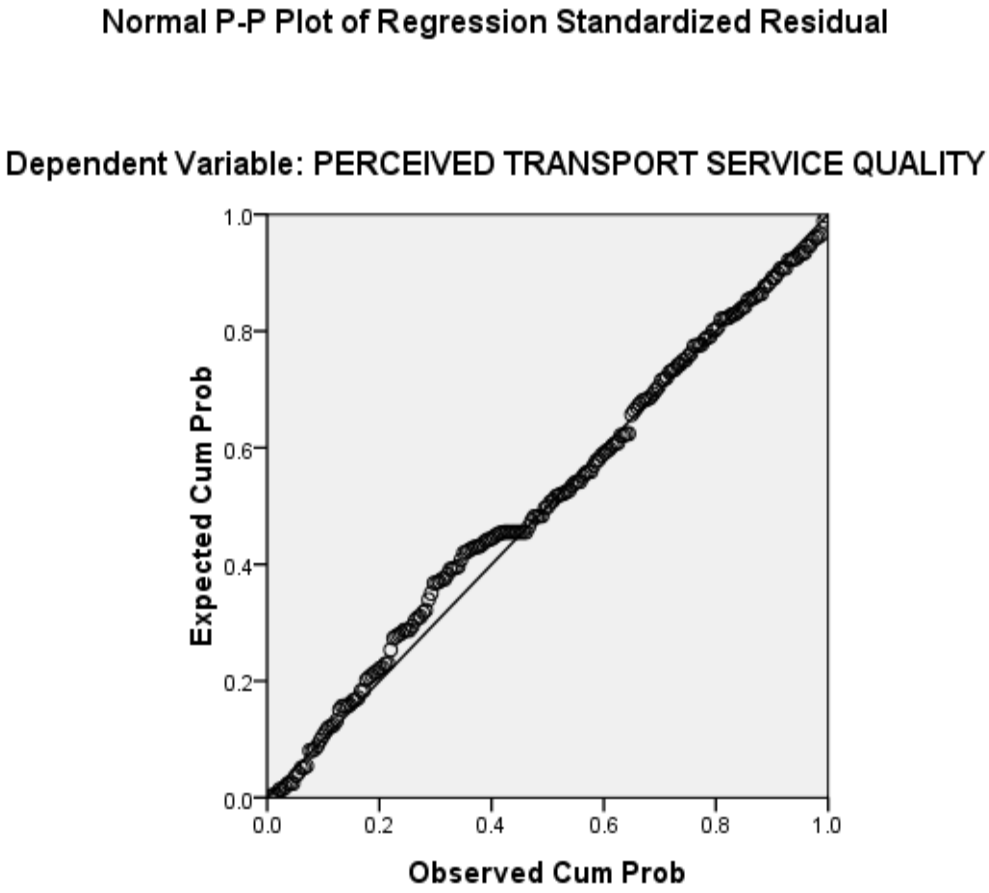
4.3.1.3. Assessment of Autocorrelation (Durbin-Watson)

It is a test for correlation error or a test for correlation between variables residuals. In short, this option is important for testing whether the assumption of independent error is tenable/reasonable. The test statistics can vary between 0 and 4 with a value of 2 meaning that the residuals are uncorrelated. A value greater than 2 indicated a negative correlation between adjacent residuals and a value below 2 indicates positive correlation. The size of Durbin-Watson statistics depends on the number of predictors in the model and the number of observations. Field (2009) suggests that the value less than 1 or greater than 3 are

definitely a cause for concern; however, values closer to 2 may still be problematic depending on your sample and model. In addition, Garson, (2012) Durbin Watson should be between 1.5 and 2.5 for independent observations. The value closer to two is acceptable (Field, 2009). Therefore, the Durbin-Watson result has scored 1.712 and it is possible to say acceptable result or fulfill the testing assumption requirement.

4.3.1.4. Linearity Test

Perceived transport service quality is assumed to be linearly related with factors of public commercial transport service quality dimensions/elements; meaning the dependent variable perceived transport service quality is assumed to be impacted with changes in factors that affect the quality of public commercial transport service elements (the independent variables). The relationship between the two variables should be linear. This means that at a scatter plot, scores should be a straight line (roughly), not a curve (Pallant, 2005). The scatter plots of this study show that there is almost linear relationship between the variables. The plots do not show any evidence of non-linearity; therefore, the assumption of linearity is satisfied.



Source: SPSS result, 2020

4.3.1.5. Normality Test

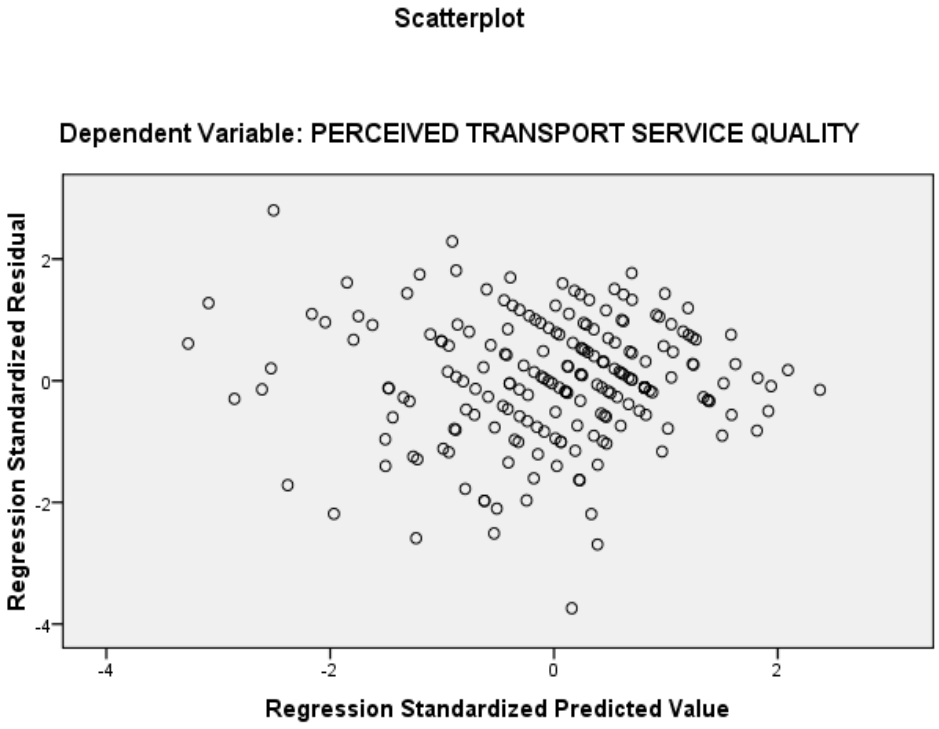
The study used method of assessing normality; graphically (Normal Probability Plot) and numerically (Skewness and Kurtosis). In the Normal Probability Plot, it is expected that points will lie in a reasonably straight diagonal line from bottom left to top right. This would suggest no major deviations from normality. The scores are normally distributed. Numerically, the evaluation of normality in the data analysis begun with exploring the skewness and kurtosis values of the factors that affect the quality of public commercial

transport service and perceived transport service quality. Skewness and kurtosis values greater than 1 and less than -1 are considered being abnormally distributed (Gamst, Meyers, & Guarino, 2008). Table XIV below summarizes the Skewness and Kurtosis values of the constructs. The Skewness and Kurtosis values for the factors that affect the quality of public commercial transport service elements, namely, transport service practices and management, traffic congestion and parking management, accessibility, and availability were all below 1 and greater than -1 indicating that the data is normally distributed for these elements. The perceived transport service quality also showed Skewness and Kurtosis value of less than 1, and is therefore normally distributed.

Table XIV: Table Summary of Skewness and Kurtosis Statistics

Constructs	**Skewness**	**Kurtosis**
Transport service practices and management	.837	-.097
Traffic congestion and parking management	-.632	-.455
Accessibility	-.880	.473
Availability	.293	-.940
Perceived transport Service Quality	.371	.512

Source: SPSS Result, 2020



4.3.2. Correlation Analysis

In this section, correlation analysis was conducted in light of each research hypothesis mentioned in the introductory part. The relationship between factors that affect the quality of public commercial transport service and perceived transport service quality was investigated using Pearson Correlation Analysis. This provides correlation coefficients which indicated the strength and direction of relationship. The p-value also indicated the probability of this relationships' significance. The interpretation was made based on the following measurement scale intervals or range. 1 perfect, 0.8-0.9 very strong, 0.5-0.8 strong, 0.3-0.5 moderate, 0.1-0.3 modest, > 0.1 weak, 0 zero, -1 perfect, -0.8 - -0.9 very strong, -0.5- -0.8 strong, -0.3 - -0.5 moderate, -0.1 - -0.3 modest, and > -0.1 weak. (McDaniel and Gates (2006). These findings are presented below.

Table XV: Correlation Analysis

Factors that Affect the Quality of Public Commercial Transport Service	Measurements	Service Quality
Transport service practices and management	Pearson	.601**
	Sig. (1-tailed)	.000
Traffic congestion and parking management	Pearson	.689**
	Sig. (1-tailed)	.000
Accessibility	Pearson	.436**
	Sig. (1-tailed)	.000
Availability	Pearson	.636**
	Sig. (1-tailed)	.000

** Indicates Correlation is significant at the 0.01 level.

* Indicates Correlation is significant at the 0.05 level.

Source: SPSS result, 2020

Concerning the association between the Transport service practices and management and perceived transport service quality, Pearson correlation analysis reported that it has .601** at a significance level of 0.000. This means Transport service practices and management has a strong positive relationship with perceived transport service quality. Hence, it is possible to conclude that Transport service practices and management has a linear relationship with perceived transport service quality.

In relation to the association between the Traffic congestion and parking management and perceived transport service quality, Pearson correlation analysis reported that it has .689** at a significance level of 0.000. This means Traffic congestion and parking management has a strong positive relationship with perceived transport service quality. Hence, it is possible to conclude that Traffic congestion and parking management has a linear relationship with perceived transport service quality.

Regarding the association between the accessibility and perceived transport service quality, Pearson correlation analysis reported that it has .436** at a significance level of 0.000. This means accessibility has a strong positive relationship with perceived transport service quality. Hence, it is possible to conclude that accessibility has a linear relationship with perceived transport service quality.

Relating to the association between the availability and perceived transport service quality, Pearson correlation analysis reported that it has .636** at a significance level of 0.000. This means availability has a strong positive relationship with perceived transport service quality. Hence, it is possible to conclude that availability has a linear relationship with perceived transport service quality.

4.3.3. Multiple Regression Analysis

Multiple regression analysis is employed to examine the effect the factors that affect the quality of public commercial transport service (transport service practices and management, traffic congestion and parking management, accessibility, and availability) have on perceived transport service quality. Multiple regression analysis is chosen because it helps to predict the linear relationship of a dependent variable. Here, the dependent

variable is regressed and the independent variables are regressed or, which will show the influence on the relationship of these variables by one another. Before explaining the table, the effects of values of the coefficient and R- square are discussed briefly.

Coefficient value: It shows the negative or positive effect of the variables. If the coefficient value is positive, it shows that independent variable is affecting the dependent variable in a positive way. If the sign is negative, it shows that the effect is negative.

R-square: R-square is the coefficient of determination; it explains how much variation in the dependent variable is taking place due to the factors that affect the quality of public commercial transport service.

Constant: Constant is basically the intercept. Therefore, the value of constant cannot be ignored but it does not affect the result in a direct or indirect way. It just shows that even if the independent variable has zero value, there will be still some value of the dependent variable.

Probability: Probability and t-statistics basically indicate the same results. Either both of them or just one of them can be taken because in any way the results will show similar indication overall.

Table XVI**:** Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.165	.626		-.264	.793		
	Transport service practices & management	.588	.078	.220	2.809	.005	.471	1.122
	Traffic congestion and parking management	.675	.084	.461	5.571	.000	.468	1.136
	Accessibility	.695	.080	.572	4.643	.003	.526	1.003
	Availability	.846	.152	.473	1.130	.012	.585	1.709

Source: SPSS result, 2020

Unstandardized beta coefficient is sometimes called, the Beta Weights and tells us about the relationships between the dependent variable and the independent variables. If the value is positive, the relationship between the predictor and the outcome is positive. Negative coefficient represents a negative relationship (Field, 2006).

4.3.4. Hypothesis Testing

Proposed hypotheses are tested based on the results of the regression analysis. By looking at the Sig.-value in Table XVI, it is possible to interpret whether the particular independent variable has a significant effect on the dependent variable. The rules of thumb for this study is if P- value. < = 0.05, H0 will be rejected, and conversely, if Sig. > = 0.05, H0 will not be rejected (Accepted). Hypothesis is supported when the Sig. value is smaller than 0.05;

and a null hypothesis is accepted when the Sig. value is larger than 0.05. Beta coefficients were used to evaluate the effect of each independent variables on dependent variable. Therefore, interpretation by comparing Sig and Beta estimates preceded for each hypothesis.

H1:1 Transport service practices and management has a positive and significant effect on perceived transport service quality.

H0:1 Transport service practices and management has no positive and significant effect on perceived transport service quality.

The results of multiple regressions, as presented in table XVI above, revealed that transport service practices and management has a positive and significant effect on perceived transport service quality with a B value (B =.220), at 95% confidence level ($p < 0.05$), thus; the null hypothesis is rejected and the alternative hypothesis that states transport service practices and management has a positive and significant effect on perceived transport service quality is accepted.

Moreover, the regression coefficients Beta value of 0.588 confirming that, 58.8% of the variation in perceived transport service quality is explained/affected by transport service practices and management. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 58.8%. This was statistically significant ($0.005<0.05$) that is the variable (transport service practices and management) is making a significant contribution to the prediction of the dependent variable (perceived transport service quality). Moreover, transport service practices and management is in poor state as well as on 58.8% chance of losing perceived

transport service quality. Because the effect of transport service practices and management heavily influences perceived transport service quality.

H1:1 Traffic congestion and parking management has a positive and significant effect on perceived transport service quality.

H0:1 Traffic congestion and parking management has no positive and significant effect on perceived transport service quality.

The results of multiple regressions, as presented in table XVI above, revealed that traffic congestion and parking management has a positive and significant effect on perceived transport service quality with a B value (B =.461), at 95% confidence level ($p < 0.05$). Therefore, the null hypothesis is rejected and the alternative hypothesis that states traffic congestion and parking management has a positive and significant effect on perceived transport service quality is accepted.

Moreover, the regression coefficients Beta value of 0.675 confirming that, 67.5% of the variation in perceived transport service quality is explained/affected by traffic congestion and parking management. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 67.5%. This was statistically significant ($0.000<0.05$) that is the variable (traffic congestion and parking management) is making a significant contribution to the prediction of the dependent variable (perceived transport service quality). Moreover, traffic congestion and parking management in poor state and seems at 67.5% chance of losing perceived transport service quality. As a result, the effect of traffic congestion and parking management heavily influences perceived transport service quality.

H1:1 Accessibility has a positive and significant effect on perceived transport service quality.

H0:1 Accessibility has no positive and significant effect on perceived transport service quality.

The results of multiple regressions, as presented in table XVI above, revealed that accessibility has positive and significant effect on perceived transport service quality with a B value (B =.572), at 95% confidence level ($p < 0.05$). Therefore, the null hypothesis is rejected and the alternative hypothesis that assumed accessibility has a positive and significant effect on perceived transport service quality is accepted.

Moreover, the regression coefficients Beta value of 0.695 confirming that, 69.5% of the variation in perceived transport service quality is explained/affected by accessibility. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 69.5%. This was statistically significant ($0.003 < 0.05$) that is the variable (accessibility) is making a significant contribution to the prediction of the dependent variable (perceived transport service quality). Moreover, accessibility in poor state and seems at 69.5% chance of losing perceived transport service quality. Therefore, the effect of accessibility heavily influences perceived transport service quality.

H1:1 Availability has a positive and significant effect on perceived transport service quality.

H0:1 Availability has no positive and significant effect on perceived transport service quality.

The results of multiple regressions, as presented in table XVI above, revealed that availability has positive and significant effect on perceived transport service quality with a B value (B =.473), at 95% confidence level ($p < 0.05$). Therefore, the null hypothesis is rejected and the alternative hypothesis that is availability has a positive and significant effect on perceived transport service quality is accepted.

Moreover, the regression coefficients Beta value of 0.846 confirming that, 84.6% of the variation in perceived transport service quality is explained/affected by availability. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 84.6%. This was statistically significant ($0.012<0.05$) that is the variable (availability) is making a significant contribution to the prediction of the dependent variable (perceived transport service quality). Furthermore, availability significantly in poor state and seems at 84.6% chance of losing perceived transport service quality. Thus, the effect of availability heavily influences perceived transport service quality.

Table XVII: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig.F Change	
.823	.862	.8413	.67232	.678	43.114	4	82	.000	1.712

Source: SPSS result, 2020

The table shows the variation of variables used in the analysis. R-square which is the coefficient of determinant tells that how much variation is taking place in perceived transport service quality (dependent variable) due to transport service practices and management, traffic congestion and parking management, accessibility, and availability (independent variables). When the table is analyzed, it depicts that the value of R-square is 0.862, that means 86.2% change taking place in perceived transport service quality is due to the Transport service practices and management, traffic congestion and parking management, accessibility, and availability.

Table XVIII**:** ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.513	5	1.303	12.426	.000[a]
	Residual	11.113	106	.105		
	Total	17.626	111			

Source: SPSS result, 2020

According to table XVIII the analysis of variance (ANOVA) for these data, if the F ratio is large and probability is less than 0.05 then it is termed as statistically significant (Saunders, 2012). Thus, the F-statistic of each independent variables is 12.426, which is more than four this indicates that the model is overall good fit and significant at $p < 0.05$. Therefore, it can be concluded that the regression model overall predicts perceived transport service quality significantly well. ANOVA (Analysis of variance), was employed to compare whether the mean of one dependent variable differ significantly across the categories of another independent variables. The ANOVA table provides the result of the test of significance for R and R^2 using an F-statistic. Since the result of the test is significant, with P-value below 0.01, that R^2 is significantly different from zero and there is a relationship between the independent variables (the factors that are, Transport service practices and management, Traffic congestion and parking management, Accessibility, and Availability) and dependent variable (Perceived transport service quality) (Field, 2006).

Table XIX: Summary of Alternative Hypothesis Testing Results

Hypothesis	Method	Result	Reason
1. There is a positive and significant effect of Transport service practices and management on perceived transport service quality.	Regression	Accepted	P<0.05
2. There is a positive and significant effect of Traffic congestion and parking management on perceived transport service quality.	Regression	Accepted	P<0.05
3. There is a positive and significant effect of Accessibility on perceived transport service quality.	Regression	Accepted	P<0.05
4. There is a positive and significant effect of Availability on perceived transport service quality.	Regression	Accepted	P<0.05

Source: SPSS result, 2020

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATION

This chapter deals with summary of the findings, conclusions and recommendations. The main purpose of the study was to evaluate the Factors that Affect the Quality of Public Commercial Transport Service in Addis Ababa City. To achieve the objective of the study relevant literatures have been reviewed, quantitative data collected through questionnaires, and the data analyzed, interpreted and discussed using statistical package for social science. Based on the analysis, the following finding are obtained, conclusions drawn, and recommendations forwarded.

5.1 Summary of Findings

- Based on the cumulative result of descriptive statistics, transport service practices and management scored a mean of 2.64 and a standard deviation of 0.511, and this shows that users' perception is low/weak. Akmaliah, Z (2009), supports this result and according to him, when the mean score is below 3.40, it is considered as low.
- With regard to the cumulative result of descriptive statistics, traffic congestion and parking management has scored a mean of 2.36 and a standard deviation of 0.246, this shows that users' perception is low/weak. This result is supported by Akmaliah, Z (2009), when the mean score is below 3.40, it is considered as low.
- As per the cumulative result of descriptive statistics, accessibility has scored a mean of 2.73 and a standard deviation of 0.496, and this shows that users' perception is low/weak. This result is supported by Akmaliah, Z (2009), when the mean score is below 3.40, it is considered as low.

- According to the cumulative result of descriptive statistics, availability has scored a mean of 2.53 and a standard deviation of 0.521. This shows that users' perception is low/weak. This result is supported by Akmaliah, Z (2009), when the mean score is below 3.40, it is considered as low.
- Based on the cumulative result of descriptive statistics perceived transport service quality has scored a mean of 2.45 with a standard deviation of 0.302. This shows that users' perception is low/weak. Akmaliah, Z (2009), supports this result and when the mean score is below 3.40, it is considered as low.
- Regarding the correlation between the factors affecting the quality of public commercial transport service (Transport service practices and management, Traffic congestion and parking management, Accessibility, and Availability) and perceived transport service quality, the results are ($.601^{**}$, $P<0.01$, $.689^{**}$, $P<0.01$, $.436^{**}$, $P<0.01$ and $.636^{**,}$ $P<0.01$) respectively. This means that Transport service practices and management, Traffic congestion and parking management, and Availability have a strong positive relationship with Perceived Transport Service Quality. Whereas, Accessibility has a moderate positive relationship with Perceived Transport Service Quality. Hence, it is possible to conclude that the factors have linear relationship with Perceived Transport Service Quality.
- The regression coefficients Beta value of 0.588 confirming that, 58.8% of the variation in perceived transport service quality is explained/affected by transport service practices and management. This means that all things being equal, when the other

independent variables are held constant, perceived transport service quality would decrease by 58.8%.

- The regression coefficients Beta value of 0.675 confirming that, 67.5% of the variation in perceived transport service quality is explained/affected by traffic congestion and parking management. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 67.5%.
- The regression coefficients Beta value of 0.695 confirming that, 69.5% of the variation in perceived transport service quality is explained/affected by accessibility. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 69.5%.
- The regression coefficients Beta value of 0.846 confirming that, 84.6% of the variation in perceived transport service quality is explained/affected by availability. This means that all things being equal, when the other independent variables are held constant, perceived transport service quality would decrease by 84.6%.
- The overall, results revealed that all independent variables accounted for 86.2% of the variance in perceived transport service quality (R2 = .862). Thus, the Transport service practices and management, Traffic congestion and parking management, Accessibility, and Availability can explain 86.2% of the variation in Perceived transport service quality. Other unexplored factors that may limit Perceived transport service quality accounts for about 13.8%.

5.2. Conclusion

In light of the descriptive and inferential analysis of the factors affecting public commercial transport service, the following conclusions have been drawn.

- It was found out from the study conducted that users demand the provision of public commercial transport service that is fair cost wise, dependable service wise, and easily accessible.

- Area wide traffic management improves the road way capacity of that particular area. At the same time, combining all areas improvement measures increase the road capacity of the whole country as well as reduces congestion, as a result economic development of the country and the living condition of the people progresses. So, it is very much essential for our country which is a developing one with a huge amount of congestion and other transport related problems to consider this kind of improvement plans.

- The way that Addis Ababa has become one predominant focus prompted a higher level of specialization of land use designs in the core area of the city. Markets, corporate workplaces, instructive foundations are situated around the main area of the city and due to this fact, high inbound and outbound traffic triggered at peak hours, which resulted in congestion.

- Most other aspects of urban transport and road network have been subjects of various studies at one point or another, but in-depth researches and studies about the provision or the lack of parking facilities are not there. Therefore, lack of proper supply of parking

facilities is an observed problem and measures should be taken so as to avoid the challenges on street parking.

- Despite the fact that the current traffic volume in the city is viewed as high by any norms, the level of transport arrangement inclusion to the general public commercial transportation service is low. This is because of the absence of both compelling traffic management measures as well as timely investments on the appropriate infrastructure in the right locations.

- As it has been discussed in depth in the history of public transport, maximization of mobility in urban areas heavily relies on the capacity of the existing public transport service. In light of this fact, it can be said that the ability of the public transport system in Addis Ababa city as it exists now in meeting this goal of maximizing public transportation service level is very limited.

- Demand overlap between school and working hours is causing unavailability of taxis specially during pick hours, which needs necessary improvement measures to decrease the burden this situation creates on availability, accessibility, and congestion. The apparent demand overlaps have resulted in high peak hour traffic, which in turn causes for the shortage of public commercial transportation rendering vehicles in the city.

5.3 Recommendation

- Strong fare controlling system should be in place in order to avoid the extra charges that are exercised by the mini-bus taxi service providers. For example, the use of ticketing system can minimize this problem since it creates a sense of accountability among the service providers.
- The transport policy implementing bodies as well as the transport service providers should obey the law and avoid unethical and illegal activities in relation to the minibus taxi transport service provision. To achieve this, there should be a system for users to present their complaints regarding the wrong doings of the executers, the service providers (such as, drivers, assistants, terminal attendants, coordinators, etc.) as well as traffic polices.
- To minimize the congestion, Government should increase the number of interconnected routes.
- Street trading is also a cause for clogs in some areas and should be controlled.
- Government should motivate investors in investing in parking area construction, because it is a source of revenue for the investors and a relief for the users as well as the Government.
- In Addis Ababa city, if there are express roads that are free from jams, vehicle users can use these roads by paying some fees to the Government. This benefits both the users as well as the Government. Users can reach to their destination timely and Government can create a source of revenue.

- If the public transportation system quality and availability can be improved, vehicle owners may opt to use public transports, which indeed helps in reducing congestion.
- To create transport accessibility the road quality and congestion problems should be minimized since it hinders the minibus taxis from working with reasonable time and cost, as well as to cover more destinations.
- Encouraging investors to involve in minibus taxi businesses can help to increase the number of available taxis compared to the population. Government can offer incentives for investors who may wish to open minibus taxi services business with modernized service delivery system.
- To avoid the pick hour's unavailability, adjustments can be made relating to the school and work hours shifts, which often are a source of demand overlap, congestion, and transport shortage.

In general, to improve the minibus taxi service quality, both the Government and the Public should work together.

5.4. Further Research Directions

The study suggests that further research can be done on the following: There were other factors highlighted by the respondents such as affordability, safety, and security issues that influence the quality of public commercial transport service and can be studied independently. A study that includes the other stakeholders (taxi drivers and assistants, terminal attendants, coordinators, heads of taxi associations as well as transport offices, traffic polices, etc.) in addition to the users is necessary to understand the transport service problem further.

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ANNEX ONE (I): QUESTIONNAIRE

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

GRADUATE STUDIES

Title: Factors Affecting the Quality of Public Commercial Transport Service in Addis Ababa City

Dear respondent,

The purpose of this questionnaire is to gather information about the **Factors affecting the quality of Public Commercial Transport Service in Addis Ababa city**. You are selected for the study. The collected data will be utilized as a primary data in the study which I am conducting as a partial fulfillment of the requirement for the successful completion of the Master's Degree in Logistics and Supply Chain Management. Please spare a few minutes of your time and respond to the questionnaires below as honestly as you can. The information provided by you will be for academic purposes only and will be treated as private and confidential. Your genuine and timely responses are quite vital to determine the success of this study. So, I kindly request your contribution in filling the questionnaire below.

Instruction:

- No need of writing your name.
- Kindly answer the following questions by ticking the appropriate box or provide your answer or suggestion /comments whenever appropriate.
- Please respond as accurately as possible and at your earliest possible time

Thank you for your commitment and cooperation in advance!!!

Section A: Demographic Characteristics of Respondents

1. **Gender:** 1. Male 2. Female

2. **Age:** A. 18-25 ☐ B. 26-35 ☐ C. 36-45 ☐

D. 46-55 ☐ E. 55 and above ☐

3. Educational level: A. High School and Below ☐ B. Certificate ☐ C. Diploma ☐

D. Degree ☐ E. Masters and above ☐

4. Occupation: A. Government employee ☐ B. Private employee ☐

C. Self-employed ☐ D. Student ☐

5. Do you use minibus taxis permanently? Yes ☐ No ☐

6. How many days in a week do you use minibus taxis?

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

.C. 1-3 days in a week ☐ D. 1-2 days in a week ☐

Section B: Questionnaire for Users' Opinion Survey Regarding the Factors that affect the Quality of Public Commercial Transport Service

Please indicate the extent of your agreement or disagreement with each statement as objectively as you can by giving a number from **1to 5**. Whatever information you give me is strictly confidential and could be used for academic purpose only, so please respond honestly. Use the following rating scale.

SN	FACTORS THAT AFFECT THE QUALITY OF PUBLIC COMMERCIAL TRANSPORT SERVICE	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I	**TRANSPORT SERVICE PRACTICES AND MANAGEMENT-**	**1(SD)**	**2(D)**	**3(N)**	**4(A)**	**5(SA)**
1	The minibus taxi transportation service cost is fair compared to the service provided.					
2	Most often, the minibus taxi transport service providers do not charge a fee that is above the ceiling price/tariffs.					
3	The minibus taxi transport drivers have the required skills and abilities in road transport discipline.					
4	The minibus taxi transport drivers as well as their assistants fulfill their responsibilities by providing awareness for users in relation to traffic accident management.					
5	The minibus taxi transport service providers often provide comfort, safety, and security for their users.					
6	The minibus taxi transport service providers (drivers and their assistants) often behave well, do not use drugs (like Khat, Alcohol, Cigarette), as well as use polite words and proverbs towards their users.					
7	Minibus taxi service coordinators do not privilege a minibus taxi driver to extend or change the taxi's assigned route in connection with some monetary benefits.					

8	The good coordination and policy implementation trends caused fair minibus taxi transport service practices					
II	**TRAFFIC CONGESTION AND PARKING MANAGEMENT-**	**1(SD)**	**2(D)**	**3(N)**	**4(A)**	**5(SA)**
1	In Addis Ababa city, there are adequate road networks that interconnect roads in order to make the traffic flow easy for vehicles as well as pedestrians.					
2	Most of the roads in Addis Ababa city have efficient capacity as well as enough parking space to facilitate the road transport service.					
3	Though the cost can be high, it is good for minibus taxis to use alternative routes to avoid traffic congestion.					
4	The Addis Ababa city road traffic management system is good in handling the road congestion.					
5	Though population growth caused an increase in car ownership as well as people's mobility, it does not aggravate the traffic congestion in Addis Ababa city.					
III	**ACCESSIBILITY- MEASUREMENT**	**1(SD)**	**2(D)**	**3(N)**	**4(A)**	**5(SA)**
1	The Addis Ababa city minibus taxi transport service stations, stops, and routes cover most of the city's neighborhoods, schools, and offices.					
2	The minibus taxi transportation system in Addis Ababa city is well suited for people with disability.					
3	Users often find it easier to find transport as well as reach to their destination on time due to					

	the willingness of the minibus service providers.					
4	Taxi users in Addis Ababa city walk short distances and easily get minibus taxis transport service.					
5	Minibus taxis are always easily accessible for the movement to any direction.					
IV	**AVAILABILITY- MEASUREMENT SCALE**	**1(SD)**	**2(D)**	**3(N)**	**4(A)**	**5(SA)**
1	To get the minibus taxi transportation service, users do not wait for a long time at the station.					
2	There is uninterrupted and frequent minibus taxi transportation service flow in the city.					
3	Minibus taxis do not delay in reaching to their stations as well as not absent in their assigned routes.					
4	Minibus taxis are always available during pick hours of the day.					
5	The operating hours of the minibus taxi transportation service in Addis Ababa city is at acceptable level for users.					
6	There are adequate number of minibus taxis in the city that are sufficient to meet the growing demand for public commercial transportation service.					
V	**PERCEIVED TRANSPORT SERVICE QUALITY - MEASUREMENT SCALE**	**1(SD)**	**2(D)**	**3(N)**	**4(A)**	**5(SA)**
1	There is enough network coverage of minibus taxis on the route.					

2	The minibus taxi transports show up in the station on the schedule.					
3	Drivers fulfill their responsibility by providing awareness to users regarding traffic accident precautions.					
4	The taxi service providers offer a convenient service that is safe for passengers and safeguard their belongings.					
5	The minibus taxi transportation service providers are polite.					
6	The minibus taxi transportation service providers positively support users.					
7	Minibus taxi transportation sites are located within walking distance from your place.					
8	There is suitable system of serving the users at transport exit and aboard.					
9	There is uninterrupted and smooth minibus taxi transportation service flow.					
10	In general, minibus taxis transportation service provision is carried out based on customer demand.					
11	The minibus taxi transportation is convenience for passengers and there is enough comfort inside the vehicles and on travel.					
12	The minibus taxi and parking facility services let the passengers to avoid congestion.					
13	The modernity of minibus taxi transportation is assuring the safety and comfort of the users.					

Thank you so much for your cooperation!!!

አባሪ አንድ - 1

በአዲስ አበባ ዩኒቨርሲቲ ንግድ ስራ ኮሌጅ

የሎጀስቲክስ እና አቅርቦት ሰንሰለት አስተዳደር ትምህርት ክፍል

የድህረምረቃትምህርትፕሮግራም

የሚኒባስ ታክሲ የትራንስፖርት አገልግሎት ጥራት ላይ ተጽዕኖ የሚያሳድሩ ምክንያቶች ላይ ያተኮረ ለሚኒባስ ታክሲ መደበኛ ተጠቃሚዎች የቀረበ ጥናታዊ መጠይቅ

የተከበሩ የመጠይቁ መላሽ፡-

ይህ መጠይቅ የተዘጋጀው በአዲስ አበባ የህዝብ ንግድ ማመላለሻ (የሚኒባስ) አገልግሎት ጥራትን የሚያስተጓጉሉ ጉዳዮችን ለማጥናት ሲሆን ግብዓትነቱም ፍፁም ለትምህርት አገልግሎት ብቻ የሚውል ነው።

እኔ በአዲስ አበባ ዩኒቨርሲቲ ንግድ ስራ ኮሌጅ የሎጀስቲክስና አቅርቦት ሰንሰለት አስተዳደር ትምህርት ክፍል የሁለተኛ ዲግሪ ተመራቂ ተማሪ ነኝ። እርሶ ለዚህ መጠይቅ ሲመረጡ ሁሉንም ጥያቄዎች በፈቃደኝነት፤በፍጹም ታማኝትና ሃላፊነት እንደሚሞሉ ተስፋ በማድረግ ነው። ጥናቱ ለትምህርታዊ አላማ ብቻ የሚውል ሲሆን በምንም ዓይነት ሁኔታ የእርሶን ማንነት የሚገልፅ ምንም ዓይነት መረጃ እንዲሰጡ አያስፈልግም፤እንዲሁም የሚሰጡት ምላሽ ሚስጥራዊነት የተጠበቀ ነው።ጊዜዎትን ስለሰጡኝና ስለተሳተፍ በቅድሚያ አመሰግናለሁ።

ክፍል 1፡-ጠቅላላ መረጃ

1. **ፆታ፤ወ☐ሴ☐**
2. **ዕድሜ፤ 18-25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ 55 እና ከዚያ በላይ ☐**
3. **የትምህርት ደረጃ፤ሁለተኛ ደረጃና ከዚያ በታች☐ ቴክኒክና ሙያ ☐ ዲፕሎማ ☐ መጀመሪያ ዲግሪ ☐ ማስተርስና ከዚያ በላይ ☐**
4. **ስራ፤ የመንግስት ሰራተኛ ☐ የግል ሰራተኛ ☐ የግል ስራ ☐ ተማሪ ☐**
5. **ሚኒባስ ታክሲ በቋሚነት ይጠቀማሉ? አዎን ☐ አይደለም ☐**
6. **በሳምንት ውስጥ ለምን ያህል ቀናት ታክሲ ይጠቀማሉ?**

ሳምንቱን በሙሉ ☐ በሳምንት ከ 1-5 ቀን ☐

በሳምንት ከ 1-3 ቀን ☐ በሳምንት ከ 1-2 ቀን ☐

ክፍል 2፡-የሚኒባስ ታክሲ የትራንስፖርት አገልግሎት ጥራት ላይ ተጽዕኖ የሚያሳድሩ ምክንያቶችን ለማወቅ በሚደረገው ጥናት ከሚኒባስ ታክሲ መደበኛ ተጠቃሚዎች አስተያየት ለመሰብሰብ የቀረበ መጠይቅ

እባክዎትን ከታች ለቀረቡልዎት ጥያቄዎች የስምምነት አልያም ደግሞ ያለመስማማት መጠንዎን በትክክልና በሃቀኝነት ከታች በሰንጠረዡ በተቀመጡት ባዶ ቦታዎች ምልክት በማድረግ ይመልሱ።

ተ/ቁ	በአዲስ አበባ የሚኒባስ ታክሲ የትራንስፖርት አገልግሎት ጥራት ላይ ተጽዕኖ የሚያሳድሩ ምክንያቶች	በጣም አልስማማም	አልስማማም	ገለልተኛ አgም	እስማማለሁ	በጣም እስማማለሁ
I	የትራንስፖርት አገልግሎት አሰጣጥና አስተዳደር ልምዶች- የመለኪያ ልኬት	1(በአ)	2(አ)	3(ገአ)	4(እ)	5(በእ)
1	የሚኒባስ ታክሲ የአገልግሎት ክፍያ ከሚሰጠዉ ግልጋሎት አንጻር ተመጣጣኝ ነው					
2	ብዙውን ጊዜ የሚኒባስ ታክሲ አገልግሎት ሰጪዎች ከተፈቀደላቸው ተመን በላይ አያስከፍሉም።					
3	የሚኒባስ ታክሲ አሽከርካሪዎች በመንገድ ትራንስፖርት ስነ-ስርዓት ውስጥ አስፈላጊ ክህሎቶች እና ችሎታዎች አሏቸው።					
4	የሚኒባስ ታክሲ ትራንስፖርት አሽከርካሪዎች እና ረዳቶቻቸው ከመንገድ ትራንስፖርት አደጋ አስተዳደር ጋር በተያያዘ ለተጠቃሚዎች ግንዛቤ በማስጨበጥ ታላፊነቶቻቸውን ይወጣሉ።					
5	የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ሰጭዎች ብዙውን ጊዜ የተጠቃሚዎቻቸውን ምቾት፣ጠንነት፣ እና ደህንነት ይጠብቃሉ።					
6	የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ሰጭዎች (ሹፌሮች እና ረዳቶቻቸው) ብዙውን ጊዜ ጥሩ ባህሪ ያሳያሉ፣አደንዛዥ ዕፅ (እንደጫት፣አልኮልና ሲጋራ) አይጠቀሙም፣እንዲሁም ለተጠቃሚዎቻቸው ትሁትና መልካም አባባሎችን የሚጠቀሙ ናቸው።					
7	የሚኒባስ ታክሲ አገልግሎት አስተባባሪዎች/ተራ አስከባሪዎች/ ለአንድ የሚኒባስ ታክሲ ሾፌር ጥቅምን ባማከለ መንገድ ከምድብ ዉጪ የታክሲውን መንገድ እንዲያራዝም ወይም እንዲሰራ አይፈቅዱም።					

8	መልካም ቅንጅት እና የፖሊሲ አፈፃፀም አዝማሚያዎች ፍትሐዊ የሆነ የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ልምዶችን አስከትለዋል።					
II	**የመንገድ መጨናነቅና የመኪና ማቆሚያ ቦታ አስተዳደር - የመለኪያ ልኬት**	**1(በአ)**	**2(አ)**	**3(ገአ)**	**4(እ)**	**5(በእ)**
1	በአዲስ አበባ ከተማ የትራፊክ ፍሰት ለአሽከርካሪዎችም ሆነ ለእግረኞች ቀላል እንዲሆን ለማድረግ ይቻል ዘንድ መንገዶችን የሚያገናኙ በቂ የመንገድ አውታሮች አሉ።					
2	የመንገድ ትራንስፖርት አገልግሎትን ለማመቻቸት የአዲስ አበባ ከተማ አብዛኛዎቹ መንገዶች በቂ አቅም እና በቂ የመኪና ማቆሚያ ቦታ አላቸው።					
3	ምንም እንኳን ወጪው ከታሪፍ በላይ ሊሆን ቢችልም የሚኒባስ ታክሲዎች የትራፊክ መጨናነቅን ለማስቀረት አማራጭ የመንገድ መስመሮችን መጠቀማቸዉ ጥሩ ነው።					
4	የመንገድ መጨናነቅ ችግርን ለመቆጣጠር የአዲስ አበባ ከተማ ትራፊክ ቁጥጥር ስርዓት ጥሩ ነው።					
5	ምንም እንኩዋን የህዝብ ቁጥር መጨመር የመኪና ባለቤትነት ቁጥር እንዲጨምር ቢያደርግም፤የአዲስ አበባ ከተማ የትራፊክ መጨናነቅ እንዲባባስ ካደረጉት ምክንያቶች ዉስጥግን አይጠቀስም።					
III	**ተደራሽነት- የመለኪያ ልኬት**	**1(በአ)**	**2(አ)**	**3(ገአ)**	**4(እ)**	**5(በእ)**
1	የአዲስ አበባ ከተማ የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ጣቢያዎች፣ማቆሚያዎች እና የሚጉዋዙባቸው መንገዶች አብዛኛዎቹን የከተማዋን የመኖሪያ ሰፈሮች፣ትምህርት ቤቶች እና የስራ ቦታዎች ይሸፍናሉ።					

2	በአዲስ አበባ ከተማ ውስጥ የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት አሰጣጥ ሥርዓት ለአካል ጉዳተኛ ሰዎች ምቹ ነው።					
3	በሚኒባስ አሽከርካሪዎችና ረዳቶቻቸዉ አገልግሎት የመስጠት ፈቃደኝነት የተነሳ ተጠቃሚዎች ብዙዉን ጊዜ አገልግሎቱን በቀላሉ ለማግኘትና ካሰቡበትም በሰዓቱ ለመድረስ ያስችላቸዋል።					
4	አብዛኛዎቹ የአዲስ አበባ ከተማ ነዋሪዎች የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ለማግኘት አጭር ርቀት በእግር ከመጉዋዛቸውም ባሻገር ታክሲም በቀላሉ ያገኛሉ።					
5	ሚኒባስ ታክሲዎች ወደ የትኛዉም የከተማዋ ክፍል ለመዕዝ ምቹና በቀላሉ ተደራሽ ናቸው።					
IV	**ተገኝነት- የመለኪያ ልኬት**	**1(በአ)**	**2(አ)**	**3(ገአ)**	**4(እ)**	**5(በእ)**
1	የሚኒባስ ታክሲ ትራንስፖርት አገልግሎትን ለማግኘት ተጠቃሚዎች ጣቢያው ውስጥ ለረጅም ጊዜ አይጠብቁም።					
2	በከተማዉ ውስጥ የማይቋረጥ፣በቂ እና አስተማማኝ የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ፍሰት አለ።					
3	ብዙውን ጊዜ የሚኒባስ ታክሲዎች ወደጣቢያዎቻቸው ለመድረስ የመዘግየት እንዲሁም ደግሞ ከተመደቡባቸው መስመሮች ሙሉ በሙሉ የመጥፋት ነገር አይስተዋልባቸውም።					
4	በስራና በትምህርት መግቢያና መዉጫ ሰዓታት ሚኒባስ ታክሲዎች ዘወትር ይገኛሉ።					
5	በአዲስ አበባ ከተማ የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት የስራ ሰዓታት ለተጠቃሚዎች ምቹና ተቀባይነት ያለው ደረጃ ላይ ነው።					

6	እየጨመረ የሚሄደውን የህዝቡን የትራንስፖርት አገልግሎት ፍላጎት ለማሟላት በከተማዉ ውስጥ በቂ ቁጥር ያላቸው ሚኒባስ ታክሲዎች አሉ።					
V	**የትራንስፖርት አገልግሎት ጥራት - የመለኪያ ልኬት**	**1(በአ)**	**2(አ)**	**3(ገአ)**	**4(እ)**	**5(በእ)**
1	በመንገድ ላይ የሚኒባስ ታክሲዎች በቂ የተደራሽነት ሽፋን አለ።					
2	የሚኒባስ ታክሲዎች በመርሐ ግብራቸው መሰረት በየጣቢያቸው ይገኛሉ።					
3	የታክሲ አሽከርካሪዎች የትራፊክ አደጋ ቅድመ ጥንቃቄን በማስተማር ሃላፊነታቸውን ይወጣሉ።					
4	የታክሲ አገልግሎት ሰጭዎች የተሳፋሪዎችን ደህንነት እና ንብረቶቻቸውን የሚጠብቁ ምቹ አገልግሎቶች ይሰጣሉ።					
5	የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ሰጭዎች ትሁት ናቸው።					
6	የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ሰጭዎች ለተጠቃሚዎች ቀና ትብብር ያደርጋሉ።					
7	የሚኒባስ ታክሲ መሳፈሪያ ጣቢያዎች ከእርስዎ ቦታ በእግር ቅርብ ርቀት ላይ ይገኛሉ።					
8	በመጓጓዣ መውጫ እና መውረጃ ቦታ ላይ ተጠቃሚዎችን ለማገልገል ተስማሚ ስርዓት አለ።					
9	የማያቋርጥ እና አስተማማኝ የሚኒባስ ታክሲ ትራንስፖርት አገልግሎት ፍሰት አለ።					
10	በአጠቃላይ የሚኒባስ ታክሲዎች የትራንስፖርት አገልግሎት አቅርቦት በደንበኞች ፍላጎት ላይ የተመሠረተ ነው።					

11	የሚኒባስ ታክሲ መጓጓዣ ለተጓዦች ምቹና በተሸከርካሪዎችም ሆነ በጉዞ ላይ በቂ ምቾት አለ።					
12	በቂ የሚኒባስ ታክሲ እና የመኪና ማቆሚያ ሥፍራ አገልግሎቶች ለተሳፋሪዎች በጉዞ ላይ መጨናነቅ እንዳይፈጠር ያስችላቸዋል።					
13	የሚኒባስ ታክሲ ትራንስፖርት ዘመናዊነት የተጠቃሚዎችን ደህንነት እና ምቾትያረጋግጣል።					

ስለትብብርዎ አመሰግናለሁ።