

**EFFECTS OF ROAD TRANSPORTATION  
MANAGEMENT SERVICE DELIVERY PRACTICE ON  
CUSTOMER SATISFACTION IN GURAGE ZONE**



**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF  
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This is to certify that the research study entitled *“Effect of Road Transportation Management Service Delivery Practice on Customer Satisfaction in Gurage Zone”* submitted in partial fulfillment of the requirements for the degree of master’s with specialization in Business Administration, from graduate program of management department. It has been carried out by **Tina Aklile**, under my supervision. Therefore, I recommend that the student has fulfilled the requirements and hence here by can submit the research study to the department for defense.

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## **ABBREVIATIONS/ ACRONYM**

<b>SPSS</b>	Statistical package for social science
<b>ANOVA</b>	Analysis of Variance
<b>VIF</b>	Variance Inflation Factor
<b>GPS</b>	Global Positioning System
<b>RIAMS</b>	Remote Infrastructure Asset Management System.

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## **ABSTRACT**

The purpose of this study was to examine the effect of road transportation management service delivery on customer satisfaction in Gurage zone. The result of this study will be significant in various aspects. The significance of studying road transportation management practice's effect on customer satisfaction lies in its potential to improve the overall quality of service. Understanding how different management practices affect customer satisfaction can lead to the development of more effective strategies for meeting customer needs and expectations. This, in turn, can lead to increased customer loyalty, positive word-of-mouth referrals, and ultimately, improved business performance. This can lead to better resource allocation, cost savings, and improved operational efficiency. Moreover, a better understanding of the relationship between road transportation management practices and customer satisfaction can also help policymakers and regulators to develop more effective policies and regulations that promote a better customer experience and a more sustainable transportation system.

**Key words:** Customer Satisfaction, Gurage zone Road transportation, Service delivery, Road transportation management

# CHAPTER ONE

## INTRODUCTION

### 1.1. Background of the Study

Any business's ability to survive in the competitive environment of today depends heavily on how well it performs, which is further influenced by the quality of services provided to the client's organization. On the other hand, excellent customer service promotes the growth of satisfied customers who can create and preserve enduring business-customer relationships while relying on mutually beneficial earnings. Since it is well known that retaining current clients is significantly less expensive than acquiring new ones, service quality and customer happiness become crucial concerns for numerous service providers in all industries.

Transportation is a vital economic driver, facilitating the movement of people and goods via road networks. Road transportation management involves the planning, coordination, and implementation of strategies to ensure safe, efficient, and effective travel. This includes infrastructure maintenance, safety precautions, traffic control, and regular upkeep of road systems.

Effective practices—such as enforcing speed limits, installing traffic signals, conducting regular road safety audits, and providing good customer service—are essential for smooth and reliable journeys. Prioritizing safety and operational efficiency can significantly enhance the overall experience for road users, leading to higher customer satisfaction.

Conversely, poorly managed road networks can result in discomfort, frustration, and dissatisfaction. On the other hand, well-managed road systems can promote safer travel, reduce travel times, and ensure more comfortable and convenient journeys. Therefore, prioritizing safety and efficiency is essential for a successful road transportation management system (Ejem E. A., 2021).

This means that without a transportation management system, the entire economy will suffer stagnation (Sidiq, 2018). Meanwhile, the commonest means of transport is land transport, which entails transportation with the use of roads and rails to convey goods and people from one place to another. But of great importance in this study is road transportation. Road transport entails the use of vehicles, motorbikes, and bicycles to move goods and passengers from place to place.

Road transportation has been a necessary end since early history. Research has shown that road transportation alone accounts for about 46% of the total physical distribution costs for manufacturing companies and 28% for reseller companies (Douglas Miller a, 2009). It is important to note that not much success can be accomplished in the manufacturing and distribution of goods and services, including the movement of people without transportation. It is as a result of the great importance of road transportation that man has, over the ages, developed various transportation modes to facilitate the movement of people and materials. The mode of transportation selected will greatly depend on price, time, delivery, condition, destination, customer's patronage, and past purchase satisfaction. But poor transportation management in terms of road and vehicle maintenance as well as customer satisfaction can therefore jeopardize the source of procurement of materials, goods, and services; movement of people; and even an increase in prices and loss of lives (Christopher Adesola Wojuade & Adewumi I. Badiora, 2017). (KevinJ. Krizek 1,2007). Advances in business over the years have considerably driven developments in business philosophies such as marketing, transportation and distribution, and customer demands and satisfaction for survival in an increasingly competitive business world. The level of customer expectation has engendered an industry-wide search for quality, a high level of customer service, and greater cost-effectiveness (Zeithaml, 1990). Poor road transportation management is one major problem that is affecting the growth of the Ethiopian economy. Service quality and customer satisfaction have received a great deal of attention from both scholars and practitioners because of their relevancy and relationship, and the main reason for focusing on these issues is improving the overall performance of organizations (Mekonnen, 2019).

Poor road transportation in the Gurage Zone has led to a poor road network, poor customer service, poor technological development, and substandard road construction. This has resulted in the collapse of the road system and increasing prices of goods and services. Heavy-duty trucks overwork the system, causing damage to roads, accidents, and loss of lives and property. Vehicle breakdowns also cause delays in reaching destinations. This poor management has damaged the nation's image, made it easy to corrupt, and cost a significant amount of money. This paper examines the effect of road transportation management service delivery on customer satisfaction in the Gurage Zone.

## **1.2. Statement of the Problem**

Road transportation plays a critical role in the socio-economic development of regions like the Gurage Zone by facilitating the movement of people, goods, and services. However, in recent years, there has been growing concern among users about the quality and reliability of road transport services in the area. Complaints regarding delays, poor road conditions, inefficient scheduling, lack of safety measures, and unprofessional customer service have become increasingly common. These issues suggest that current transportation management practices may be inadequate in meeting customer expectations.

Despite the strategic importance of effective transportation service delivery, there is limited empirical research focusing on how road transportation management in the Gurage Zone influences customer satisfaction. The absence of reliable data and analysis hampers efforts to improve service quality and policy-making in the region.

This study aims to address this gap by examining the relationship between road transportation management practices such as Tangibility, Reliability, Responsiveness, Assurance and Empathy and the satisfaction levels of customers who rely on these services. Understanding this relationship is vital to identifying key areas for improvement and enhancing the overall efficiency and user experience of the road transport system in the Gurage Zone.

## **1.3. Research Questions**

- What is the road transport administration service delivery like?
- What is the current road transportation management practice in Gurage zone?
- What are the factors which affects the satisfaction level of customer in relation with transportation services in Gurage zone?

## **1.4. Objectives of the Study**

### **1.4.1 General objective**

Assessing the effect of road transportation service delivery on customer satisfaction in the Gurage zone is the major objective of this research.

### **1.4.2. Specific Objectives**

The study intended to achieve the following specific objectives of the study

- To assess the current road transportation management practice in Gurage zone?
- To examine the impact of road transportation management practices on customer satisfaction,
- To identify the factors which affect the satisfaction level of customer in relation with transportation services in Gurage zone

## **1.5. Significance of Study**

The study results will be very helpful to others who share the same goals and are looking for knowledge on matters pertaining to the study being conducted after it is finished. The result of the study will serve in various aspects. The significance of studying the effect of road transportation management practice on customer satisfaction lies in its potential to improve the overall quality of service and the competitiveness of transportation companies. Understanding how different management practices affect customer satisfaction can lead to the development of more effective strategies for meeting customer needs and expectations. This, in turn, can lead to increased customer loyalty, positive word-of-mouth referrals, and ultimately, improved business performance. Additionally, the study can also provide valuable insights into the areas for improvement within the transportation industry, helping companies identify and address any shortcomings in their current management practices. Better operational efficiency, cost reductions, and resource allocation may result from this. Furthermore, policymakers and regulators can create more effective rules and regulations that support a more sustainable transportation system and a better customer experience by having a better understanding of the connection between road transportation management practices and customer satisfaction. The study's overall importance stems from its capacity to promote constructive changes in the road transportation sector, which could result in increased consumer satisfaction, higher-quality services, a more sustainable and competitive market.

## **1.6 Scope of the Study**

This study focuses on examining the relationship between road transportation management service delivery and customer satisfaction within the Gurage Zone. Gurage is a zone in Ethiopia's Central Ethiopia Regional State, home to the Gurage people. It is bordered by Silt's, Oromia Region, Kebena Special Woreda, and Hadiya and Yem Zones. The region's administrative center is Butajira, while Welkite serves as its administrative center. As a resident and traveler in Gurage Zone. The researcher is aware of how crucial dependable and effective road transportation services are to the neighborhood. Since better transportation services will benefit locals, businesses, and tourists, the researcher feels obligated to look into current processes and find areas for improvement. Considering aspects such as accessibility, cost, comfort, safety, and service reliability, the study will focus on customer satisfaction in the Gurage Zone's road transportation service delivery processes. The client experience is enhanced by comfortable, well-maintained vehicles; customer safety is ensured by safety measures; and on-time delivery is guaranteed by service reliability. To record both subjective experiences and objective performance indicators, a mixed-methods research strategy blends qualitative and quantitative data collection approaches. The target population includes transportation service users—such as passengers or business customers—within the selected districts of the Gurage Zone. The geographical location, conceptual variables, and methodology approach contribute to a comprehensive understanding of customer satisfaction in road transportation services in the Gurage Zone. The study is limited to road transport services and does not include air, rail, or maritime transportation. The timeframe of the study is confined to data collected within the current fiscal year.

## **1.7 Limitations of the Study**

The study is geographically limited to the Gurage Zone, which may restrict the generalizability of the findings to other regions with different infrastructural or socio-economic conditions. Additionally, the availability of reliable and comprehensive data from transportation service providers is limited, potentially affecting the depth of the analysis. Time constraints imposed by the research schedule may prevent the observation of long-term trends, while resource limitations both financial and logistical could influence the sample size and the extent of field

data collection. Furthermore, the possibility of respondent bias must be acknowledged, as customer feedback may be influenced by subjectivity or a tendency to provide socially desirable responses.

### **1.9. Definition of terms**

**Service Quality:** a form of attitude representing a long run, overall evaluation of the service received (Looy et al (2003) )

**Reliability:** The ability carries out the promised service dependably and accurately (Akter et al., 2008). )

**Responsiveness:** the willingness to support and/help the customer and provide prompt service. (Akter et al., 2008). )

**Tangibility:** Refers to the appearance of physical facilities, equipment and appearance of personnel or staffs. (Akter et al., 2008). )

**Assurance:** refers to the knowledge and courteousness of the staff and their ability to entertain trust and confidence. (Akter et al., 2008). )

**Empathy:** providing individualized attention provided to customers. (Akter et al., 2008)

### **1.8 Organization of the study**

This study is organized into five chapters. Chapter one introduces the study by presenting the background, statement of the problem, research questions, objectives, significance, scope, limitations, and organization of the study. Chapter two reviews related literature, including theoretical and empirical studies on road transportation management and customer satisfaction, along with key definitions, a conceptual framework, and relevant past research. Chapter three outlines the research methodology, covering the research design, target population, sampling techniques, data collection instruments, procedures, and methods of data analysis, as well as the reliability and validity of the study. Chapter four presents, analyzes, and interprets the collected data using tables, graphs, and descriptive discussions in line with the research questions and objectives. Finally, Chapter five summarizes the findings, draws conclusions and offers recommendations for improving road transportation service delivery and customer satisfaction in Gurage-Zone,.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1. Theoretical Literature Reviews**

##### **2.1.1. Road Transport Asset Management**

There is no single method for implementing road transportation asset management practice. Transportation agencies differ in terms of their needs and resources and the complexity of their systems (Switzer., 2004) Typically, the first step toward implementation involves some realization that a need for innovation change exists. However, innovation does not happen until people within the asset management practice agency, particularly managers, see the reason for the change. Taking the first step is typically difficult because it involves figuring out what needs to be done. The road transport asset management agencies presently have no common process of implementing the management practice, rather use a traditional process that outfit the unique circumstances (Daan Schraven, 2011) Examples are documented in the reports of recent domestic and international scanning programs that reviewed transportation asset management practices in agencies in Canada, England, Australia and New Zealand. For the United States, more detailed experiences of states and local highway agencies with the implementation of asset management programs appear in a series of case studies reported Federal Highways Authorities (L., 2004) of Asset Management (Beauvais et al., 2003). The following are some real-life examples from local governments, State Department of Transports (DOTs), and international organizations of their experiences in developing and implementing transportation asset management programs.

##### **2.1.2 Definition of Road Transportation Management**

Road transportation management involves the planning, coordination, and optimization of road transportation activities to ensure the efficient and cost-effective movement of goods and people. This includes managing vehicle fleets, routing and scheduling, driver management, giving different licenses, maintenance, and compliance with regulations.

### **2.1.3 Road Transportation Management Practice**

**Fleet management:** This involves managing a fleet of vehicles, including acquiring, maintaining, and disposing of vehicles, as well as monitoring fuel usage and vehicle performance.

**Routing and scheduling:** This involves determining the most efficient routes for vehicles to take and creating schedules for pickups, deliveries, and passenger transport.

**Driver management:** This includes hiring, training, and managing drivers, as well as monitoring their performance and ensuring compliance with safety regulations

**Maintenance:** This involves scheduling regular maintenance and repairs for vehicles to ensure they are safe and reliable for transportation activities.

**Compliance:** This involves ensuring that all road transportation activities comply with local, state, and federal regulations, including safety standards, environmental regulations, and hours of service requirements for drivers.

### **2.1.4 Customer Satisfaction**

In road transportation, management is crucial for the success of any transportation company. It involves providing timely and reliable transportation services, ensuring the safety and security of goods and passengers, and maintaining open communication with customers. Road transportation management procedures should prioritize prompt and dependable service, safety and security, communication, flexibility, and transparency to satisfy customers. Road transportation management may establish a solid reputation, keep devoted clients, and draw in new business by concentrating on these crucial elements of customer satisfaction. Additionally, gathering feedback from customers and using it to improve services can further enhance customer satisfaction in road transportation management practice (Closs., 2008).

### **2.1.5 Effective Road Transportation Management Practice**

Effective road transportation management can help companies reduce costs, improve customer satisfaction, and minimize environmental impact. It requires careful planning, real-time monitoring, and the use of technology such as GPS tracking and route optimization software to optimize operations. Additionally, effective communication and collaboration with drivers, customers, and other stakeholders are essential for successful road transportation management (Donald J. Bowersox, 2013).

### **2.1.6 Relationship Between Road Management Practice and Customer Satisfaction**

In road transportation management, the relationship with customer satisfaction is essential for the success of the company. By providing reliable and timely service, ensuring safety and security, maintaining open communication, and being flexible and transparent, transportation companies can build strong relationships with their customers. This can help them stand out from their competitors and retain loyal customers.

Customer devotion and satisfaction can also be increased by consistently asking for feedback and making adjustments in response to suggestions. Long-term success and profitability are ultimately the result of satisfied clients who are more inclined to use a transportation company's services again and refer others to them. Therefore, the relationship between road management practices and customer satisfaction is crucial for the growth and success of transportation companies (Zeithaml V. A., 2018).

### **2.1.7 Factor That Affects Customer Satisfaction in Road Transportation Management Practice**

**Traffic management professionalism and discipline** refer to the level of expertise and adherence to regulations by traffic management personnel. This includes ensuring a smooth flow of traffic, proper handling of road incidents, and effective enforcement of traffic laws (Litman, 2021).

**Less usage of technology in transportation management** refers to the limited use of advanced tools and systems for traffic management, vehicle tracking, and communication between drivers and passengers (Aderamo, 2012).

**Less quality of road infrastructure** pertains to the inadequate condition of roads, bridges, and other transportation infrastructure, which can impact the overall efficiency and safety of travel (Bank., 2019).

**Poor data analysis method** refers to the ineffective or insufficient process of collecting and analyzing data related to traffic patterns, vehicle performance, and customer feedback. This can lead to a lack of understanding of transportation needs and inefficiencies in service delivery (Benevolo, 2016).

**Driver professionalism and courtesy** encompass the conduct and behavior of drivers, including

their adherence to traffic laws, respect for passengers, and overall professionalism in their role (Ishida, 2007).

**Transparency and clarity of pricing and fees** refer to the openness and accuracy of communicating the costs associated with transportation services, including any additional fees or surcharges (London), (2020).

**Overall experience and satisfaction with the transportation service** reflect the overall impression and contentment of passengers with their travel experience, taking into account various factors such as comfort, timeliness, and customer service (UITP, 2020)

## **2.2 Empirical Literature Review**

Fernández Vázquez-Noguerol (2018) states, “Road transport aspects are becoming increasingly important due to their high impact on economic, environmental, and social sustainability. Considering the triple bottom line approach, best practices play a fundamental role within organizations.” Hassan et al., (2017), the journal details a review of “road transportation management practice in Australia and New Zealand and stakeholder consultation.” It also considers how the adoption of new and emerging transport technologies, particularly those related to electric, connected, and autonomous vehicles, and the increasing demand for better use of intelligent transport systems for road and transport management will alter the way road transportation management principles interact.

Amador et al., (2014), this discussion mainly focuses on the pavement management system. Internationally, the road infrastructure asset management system approach is moving from a condition-based approach to a service-based approach, focusing on customer-driven priorities. This service-based approach needs to be balanced with budget constraints, level of service, and risk tolerance. The transportation agency has not yet addressed integrated land use and transportation modeling, the comparison of the relative advantages between capital and operating investments, risk-based estimation, and the identification of a range of costs associated with the failure within the RIAMS. The transportation agencies should develop a performance-based RIAMS ensuring serviceability, accountability, stewardship, long-term financial plans, and transparent investments. The RIAMS is still emerging and needs to incorporate the local mission, budget, and other constraints within the scope of the local context.

Yordanov (2019), one of the conditions for the successful functioning of transport companies is that the latter should maintain and increase certain levels of competitiveness. Most small transport

companies should try to find their own market niche to protect themselves from competition. To this effect, the providers of such services should seek to offer unique and different services from their competitors.

(Nuru Gambo and Innocent Musonda., 2021)Effects of the Fourth Industrial Revolution on road transport asset management practices in Nigeria. *The Journal of Construction in Developing Countries*, “Poor management practices of road transport assets pose a challenge to the sustainable development of the transport system in developing countries like Nigeria.”.

(Ejem E. A., 2021)Transportation, as an important part of human activity, forms the basis of all socioeconomic interactions, as a lack of transport facilities often hinders economic development. Bad roads, inadequate fleets of vehicles, inadequate trains, overcrowded airplanes, and congested ports are common features of the developing world transportation system. There are significant challenges confronting the road service in Nigeria. There is an urgent need on the part of the government to actively develop strategies and systems that will facilitate the process of road reconstruction and construction.

(MIREKU, 2014) It is revealed in the study that 15 attributes on the SERVQUAL scale portray a poor perception of service quality. This means that respondents were not satisfied with more than half of the attributes: staff satisfy passengers’ request right the first time, there is a schedule timetable for buses, passengers feel safe in their transactions with staff, passengers luggage are safe, staff are always polite, staff have in-depth occupational knowledge of their jobs, behavior of staff instills confidence in the passengers, buses have ample legroom and foot space, bus companies have passengers interest at heart, bus companies convenient operating hours, easy accessibility of information about services, staff provide individualized attention to help customers, bus companies provide timely and efficient services, communication with staff is clear and helpful and staff are always willing to help passengers. It is very possible that some questions on the servqual scale were not answered correctly. This is because the respondents had to first respond to the expectations questions before the perceptions questions. Therefore, this may have accounted for the number of attributes that contributed to satisfactory service. This does not rule out the fact that service providers have a couple of attributes that have to be addressed to provide optimal service.

In this study, assessing the impact of road transportation management practices on customer satisfaction in this region is a critical area of study, as it directly affects the accessibility,

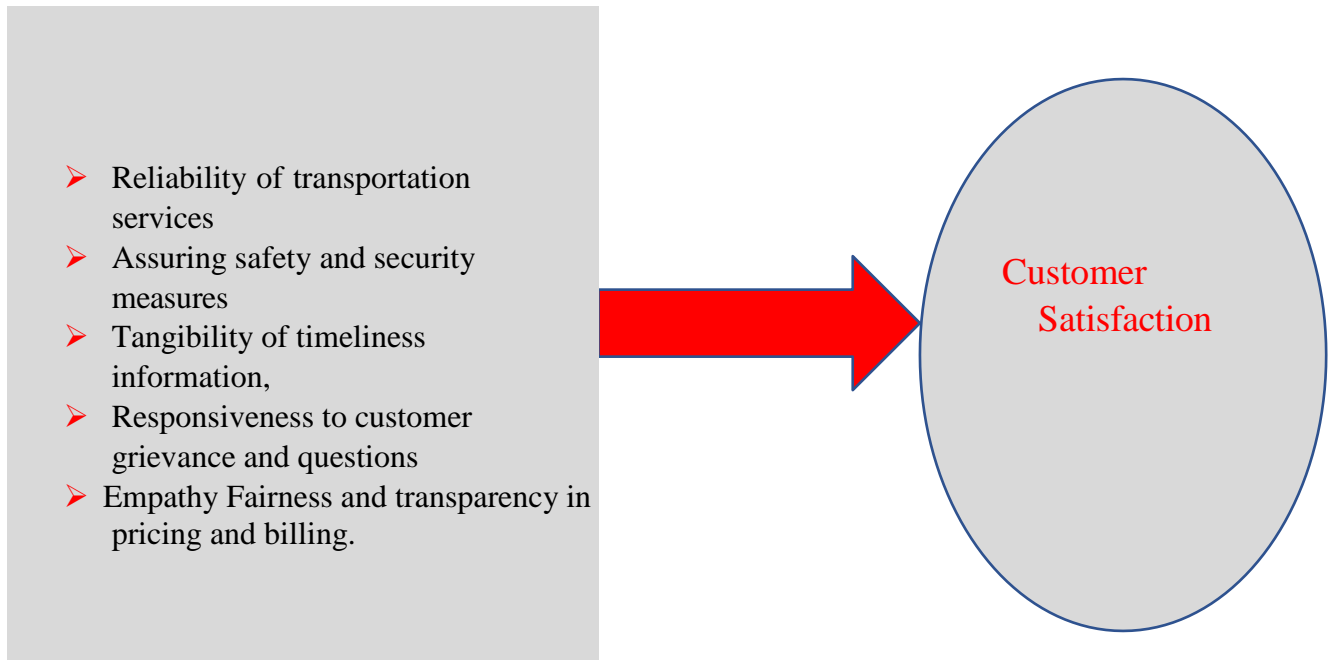
connectivity, and overall well-being of the local population. This literature review aims to synthesize existing empirical research on the infrastructure development, accessibility and connectivity, quality of service, and socio-economic impact of road transportation management in Gurage Zone. By analyzing the findings from these studies, this review seeks to provide insights into the specific challenges and opportunities for improving road transportation management practices in Gurage Zone to enhance customer satisfaction. This research is crucial for informing policy decisions, infrastructure investments, and service improvements to better meet the transportation needs of the local population in Gurage Zone.

### **2.3 Conceptual Framework**

The Gurage Zone Road Transport Management Office's answers demonstrate a proactive and upbeat approach to providing services. The officials exhibit a thorough comprehension of their responsibilities, admit difficulties, and declare their dedication to further development. There is a solid basis for improving customer satisfaction in the road transport industry, given their emphasis on customer input and cooperation with higher authorities. Customers in the Gurage Zone may benefit from better services and a better overall experience as a result of this upbeat attitude and flexibility. The factors' influence of independent variables is affecting customer satisfaction, which is treated as a dependent variable.

**Independent variables**

**Dependent variable**



*Figure 2. 1 Conceptual Framework*

## **CHAPTER-THREE**

### **RESEARCH METHODOLOGY**

#### **3.1. Description of the Study Area**

The Gurage zone is located in the Central Ethiopia Region (CER) of Ethiopia. It is known for its diverse culture, agriculture, and trade activities. Gurage zone has a mix of urban and rural areas, with a growing population and increasing transportation needs. In terms of road infrastructure, the Gurage Zone faces various challenges such as poor road conditions, limited maintenance, and inadequate management practices. The roads in the region are crucial for connecting communities, facilitating trade, and supporting economic activities. However, the current state of road management has led to dissatisfaction among customers, including commuters, businesses, and tourists. In this study, both descriptive and explanatory survey design was employed. The study was emphasized on “the effect of road transportation service delivery practice on customer satisfaction in Gurage zone” (UN-Habitat., 2020).

Despite the critical importance of road infrastructure , the Gurage Zone faces persistent and multifaceted challenges in the realm of road transportation management. Among the key issues identified are deteriorating road conditions, limited and irregular maintenance, inadequate planning and investment, and insufficient implementation of modern road management practices. These deficiencies have not only hindered the efficient functioning of the transportation system but have also contributed to growing dissatisfaction among various stakeholders, including daily commuters, business operators, freight service providers, and tourists visiting the area (Girma, 2021).

#### **3.2. Research Design**

This research utilizes a mixed-method approach to collect comprehensive data. the research strategy for this study was to examine the effect of road management strategies on customer satisfaction in the Gurage zone. Research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedures (Kothari, 2004).

In this study, both descriptive and explanatory survey design were employed, since it enables us to describe and explain facts and opinions of the key respondents regarding determinants of the effect of road transportation service delivery practices on customer satisfaction in the Gurage Zone. Since a mixed techniques strategy is more likely to produce more accurate study results than a single method, it was chosen.

The strategy aims to gather comprehensive insights into the variables affecting customer satisfaction and attitudes toward road management procedures through the use of both qualitative and quantitative methods.

### **3.3. Research Approach**

The purpose of the study was to investigate the effect of road transportation management practices on customer satisfaction in Gurage Zone. The study employed a mixed research approach by combining both quantitative and qualitative methods to provide a comprehensive understanding of the topic. The quantitative approach is selected because it enables the researcher to collect numerical data, analyze relationships between variables, and make generalizations based on statistical evidence. Through structured questionnaires distributed to transportation service users and stakeholders, the study aims to gather measurable data related to service delivery factors such as route planning, delivery timeliness, vehicle condition, driver conduct, and communication. The data will then be analyzed using descriptive and inferential statistical methods to determine the extent to which transportation management practices influence customer satisfaction. This approach ensures objectivity, reliability, and clarity in addressing the research questions and achieving the stated objectives.

### **3.4. Target Population**

The target population for this study includes individuals and public road transportation customers who directly use or are affected by road transportation services within the Gurage Zone. This encompasses passengers using public transport, customers of private transport and delivery services, local business owners relying on road logistics, and transportation service providers such as drivers, transport company managers, and traffic management personnel. These groups are selected because they have firsthand experience with transportation service delivery and are in a position to assess its impact on customer satisfaction. The study will focus on selected districts within the Gurage Zone where road transport plays a critical role in daily mobility and commercial activities.

The inclusion of local authorities and road management agencies will provide insight into the policies and practices that govern road management, while input from business owners, commuters, and residents will offer valuable perspectives on the practical implications of these policies on their daily activities and overall satisfaction. By targeting these specific groups, the study aims to gather a comprehensive understanding of the effect of road management practices on customer satisfaction in the Gurage zone.

### **3.5. Sampling Techniques and Sample Size Determination**

The study used probability sampling technique, which is simple random sampling technique. Random sampling is a statistical technique where each member of a population has an equal chance of being selected for a sample. Random sampling can help gather unbiased feedback from users. By randomly selecting customers who have recently used the service, organizations can obtain insights into their experiences, identify areas for improvement, and make data-driven decisions to enhance service delivery.

The study was conducted on four road initial-station Wolkite to (Adiss-Abeba, Guncherie. Hosana, Butajira) in road management sector and bus stations in Gurage zone. Three factors, in addition to the necessary sample data from respondents, were crucial for determining the sample size.

A level of precision of 5%, a confidence range of 95%, and the degree of variability in the attributes being measured were among these. (1976, Miaoous & Michener). The total sample size for this study was 260 out of the total 750 road transportation customers on the four different roads. Thus, for this sample size estimation, the formula described by Yamane's (1967) was cited in Obasi and Ekwueme (2011).

$$n = \frac{N}{1 + Ne^2}$$

$$\mu = \frac{N}{1 + N(e^2)} = \frac{750}{1 + 750(0.05^2)} = 260$$

**Where:**

➤  $N = \text{Adiss-Abeba road (350) + Butajira road (150) + Guncherie road (70) + Hosana road (150) = 750}$

- $N = \text{the study population (750)}$
- $n = \text{the sample size (260)}$
- $e = \text{the level of precision (5\%)}$
- $l = \text{designates the probability of the event occurring}$

Therefore, for this study, 260 respondents were used to collect. Since the research roads have different traffic flow, it was found necessary to take an independent sample of the zonal road transport flow to ensure appropriate sampling techniques. Therefore, for the sample, the sample size of the zonal road transport office was calculated. The study used a proportional sampling allocation formula to make each sample of the sample similar to the road use. Therefore, the proportional sample size from each stratum was calculated using the following formula

$$n = n * Ni / N \text{ Where:}$$

- $N_i = \text{the total number of each road customer}$
- $N = \text{the total number of study population}$
- $n = \text{the total sample size for selected.}$

**Table 3. 1proportionate sample for each road**

List of Selected Roads in Gurage Zone	Total population	Sample Size for Selected
Addis-Ababa Road	350	163
Hosana road	200	53
Butajira road	150	30
Gaucherie road	70	14
Sum	750	260
Total =260		

### 3.6. Source of Data

The source of this study was Gurage Zone Road users was selected as primary source. Zone road transport structured query. The questionnaire was prepared. In addition, secondary data is collected from relevant sources such as books, journals, and reports to provide background and context for the study. Include academic articles on road user satisfaction and related topics as well as relevant ones on Organizational policies, guidelines, and reports. In general, a combination of primary and secondary. Information about road transport service delivery is used to provide a detailed understanding of the overall customer satisfaction Change in Gurage Zone city administrations.

### 3.7. Method of Data Analysis

The data analysis strategy suggested for this thesis was mixed method, incorporating both quantitative and qualitative methods.

The following actions were made with the qualitative information gathered from open-ended questions:

**Transcribing data:** A text format will be created from the gathered data (Gibbs, 2007).

**Text data coding:** NVivo, a computer program for qualitative data analysis, was used to code the text data (Bazeley, 2013).

**Data classification:** The coded information will be divided into major and supporting themes (Saldaña, 2021).

**Data interpretation:** In order to derive conclusions, find patterns, and extract meaning from the categorized data, analysis was done (Braun, 2006).

**Triangulation:** To give a thorough grasp of the research subject, the quantitative and qualitative data was analyzed independently and then combined (Denzin, 2012).

**Data visualization:** To enhance comprehension and clarity, the results were displayed using tables, graphs, and charts (Miles, 2014).

Overall, the research problem was better understood and more complex thanks to our mixed-method approach, which enabled us to draw insightful conclusions and offer well-informed recommendations.

### **3.8. Model Specification for the Study**

The model specification for the study on the impact of road management practice on customer satisfaction may include the following:

#### **Independent variables (Explanatory variables or X-variables):**

- 1, Availability of information, timeliness, and reliability of transportation services
- 2, Ensuring cleanliness, comfort of vehicles, quality, level of vehicles and security measures
- 3, Convenience of transportation options
- 4, Compliance with safety measures and traffic rules
- 5, Customer service responsiveness and efficiency
6. Fairness and transparency in pricing and billing.

#### **Dependent variable (Response variable or Y-variable):**

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon$$

**Were:**

- $Y$  = customer satisfaction, the dependent variable
- $\beta_0$  = The intercept or constant in the regression equation
- $\beta_1$ - $\beta_6$  = The regression coefficients that represent the effect of each independent variable on job satisfaction
- $X_1$ - $X_6$  = The independent variables
- $\varepsilon$  = The residual or error term in the regression equation

### **3.9. Reliability and Validity**

The two most important criteria for assessing any measurement device or research tool are validity and reliability.

**Validity** refers to the extent of accuracy of the results of the study. The validity of the results can either be internal or external. Internal validity refers to the analysis of the accuracy of the results obtained. External validity refers to the analysis of the findings about whether they can be generalized (Ghauri & Grønhaug 2005). This research is concerned with whether the findings were really about what they appeared to be. Several different steps were taken to ensure the validity of the study. The first data was collected from reliable sources, from respondents who have more experience in using Garage Zone road transport

services; the survey question is made based on a literature review and frame of reference to ensure the validity of the result; the questionnaire has been pre-tested by pilot test before starting the survey.

**Reliability** measures the internal consistency of the model. In this research, Cronbach's alpha was used to test the reliability. Reliability is also the extent to which results are consistent over time and accurately represent the characteristics of the total population under study. Therefore, before the actual administration of the questionnaire, a pilot test was conducted on randomly selected employees.

## **CHAPTER FOUR**

### **DATA ANALYSIS AND INTERPRETATION**

This chapter deals with the presentation, analysis, and interpretation of data obtained from the selected respondents through the distributed questionnaire. The objective of the study was to determine the effect of road management practices on customer satisfaction. A total of 260 questionnaires were distributed among the customers. The data were collected, processed, and presented in tables, graphs, and other statistical representations with the help of the statistical software program SPSS version 27 in order to be free from ambiguity for readers. Correlation analysis was performed to measure the variables under inquiry. The interpretation of the processed and collected data from the field sought to establish the effect of road transportation management service delivery on customer satisfaction in the Gurage Zone. This chapter was organized and analyzed around the following topics: respondents' response rate, Demographic Characteristics of the Respondents, descriptive statistics, correlation analysis, and regression analysis.

#### **4.1. Response Rate of Respondents**

Based on the aforementioned facts and the overall population's sample size, the researcher sought 260 responses from customers of road transportation in the Gurage zone. To increase the likelihood of a positive response rate, 260 questionnaires were distributed to customers; 240 customers completed and returned the questionnaires, leaving a total of 20 questionnaires unreturned. According to Mugenda (2003) and Cooper and Schindler (2014), a 50% response rate is suitable for analysis, 60% is good, and 70% is considered great for analysis. As a result, the study's response rate was 92.3%, which is high enough to warrant data analysis.

#### **4.2. Demographic Characteristics of the Respondents**

For the researcher to understand the variations among the respondents, the study analyzed the respondents' information's.

**Table 4.1** Demographic Characteristics of the Respondents

	<b>Statement</b>	<b>Frequency</b>	<b>Percent</b>
<b>Gender</b>	Male	124	51.7
	Female	116	48.3
	<b>Total</b>	<b>240</b>	<b>100.0</b>
<b>Age</b>	Below 20 years	46	19.2
	20-25 years	32	13.3
	26-30 years	44	18.3
	31-35 years	58	24.2
	36-40 years	40	16.7
	41 and above	20	8.3
	<b>Total</b>	<b>240</b>	<b>100.0</b>
	<b>Educational qualification</b>	Primary school	5
Secondary school		27	11.3
TVET		44	18.3
Diploma		92	38.3
BA/BSC/LLB		60	25.0
Master's		8	3.3
PHD others		4	1.7
<b>Total</b>		<b>240</b>	<b>100.0</b>
<i>Experience of customers</i>	Less than one year	83	34.6
	1-2 years	69	28.7
	above three years	88	36.7
	<b>Total</b>	<b>240</b>	<b>100.0</b>
<i>For what</i>	To go to school	49	20.2
	To go to work and	111	45.9

<i>purpose</i>	back to home		
	to go to other places	80	33.1
	Total	240	100.0
<b>Type of distance</b>	short distance 0-20km	47	19.6
	medium distance 20-40m	115	47.9
	to go to other places	80	33.1
	Total	240	100.0

**Source: Survey Data, SPSS analysis 2024**

#### **4.2.1 Gender of Respondents**

According to respondents' response rate on number and frequency based on gender distribution, which is on table 2 above the results revealed that more respondents were male in number 124, which is 51.7% of the total sample size, whereas female respondents were 116 in number, which accounted for 47.7% of the sample in the study. The results implied that both genders participated, and thus biases were avoided as there was evidence of gender imbalance of respondents.

#### **4.2.2 Age of Respondents**

The majority of the respondents' age range is 31-35 years, which accounts for about 24.2 percent. The result implies that respondents are mature and have potential.

#### **4.2.3 Educational level of Respondent's**

As of the respondent's response rate on educational background, which is tabulated and figured out on table 4 above, their educational background was distributed accordingly. Based on the ranges, 5 or (2.1%) respondent was Primary school, 27 or (11.3%) of respondents were Secondary school, 44 or (18.3%) of respondents were TVET, 92 or (38.3%) respondents were Diploma Holders, 60 or (25.0%) respondents were BA/BSC/LLB, 8 or (3.3%) respondents were Master's and 4 or (1.7%) respondents were PHD and others. In this study, most of the respondents were diploma holders in overall observation of the data.

#### **4.2.4 Customer experience**

Based on the respondents of customer experience, which is tabulated in Table 5 above, their customer experience was distributed accordingly. The majority of the respondents have customer experience above 3 years, which accounts for about 36.7% of respondents. Less than one year this accounts for about 34.6% of the total respondents. Also, 1-2 years of customer experience has 28.7 percent, which is the least one. In general,

participants in the study have had a good customer experience to handle the study questionnaire.

#### 4.2.5 For what purpose

Based on the respondents of customer for what purpose they use, which is tabulated table 6 above; Majority of the respondents have used for to go to work and back to home accounts for about 45.9% of respondents and customers used for to go to other places accounts for about 33.1% of the total respondents. The lowest percentage of respondents (20.2%) said they were going to school.

#### 4.2.6 Type of distance

The majority of respondents (47.9%) travel medium distances, making this the most common type of journey. This suggests that the road transport services are primarily utilized for trips that fall within this range, indicating a significant demand for medium-distance travel options.

**Table 4. 2 The Cronbach alpha result**

<b>N<sub>o</sub></b>	<b>Variables</b>	<b>Cronbach'alpha</b>	<b>Decision on reliability</b>
<b>1</b>	Tangibility	0.748	Accepted
<b>2</b>	Reliability	0.731	Accepted
<b>3</b>	Responsiveness	0.794	Accepted
<b>4</b>	Assurance	0.7	Accepted
<b>5</b>	Empathy	0.72	Accepted
<b>6</b>	Customer satisfaction	0.813	Accepted

**Source: Survey Data, 2024**

The above table illustrates that the values of the Cronbach alpha coefficients were above 0.7. The result indicated that the five variables are accepted.

### 4.3 Descriptive Statistics of Study Variables

Descriptive statistics examine and evaluate data collected from a primary source. The primary data was acquired from a questionnaire intended to collect the information required to answer the study questions. The questionnaire was distributed to 260 customers of road transportation users. Before analysis, the acquired data was verified for completeness and consistency. The data was analyzed with SPSS software version 27. The descriptive statistics used in the analysis included standard deviation, mean, frequency distribution, and percentages.

**Table 4.3 Mean Comparison based mean range criteria**

<b>No</b>	<b>Mean range</b>	<b>Response Options</b>
1	1.00-1.80	Strongly disagree
2	1.81 -2.60	Disagree
3	2.61 -3.40	Neutral
4	3.41 -4.20	Agree
5	4.21 -5.00	Strongly agree

*Source: (Boone ,2012).*

**Table 4.4 Descriptive Statistics for Tangibility**

	<b>N</b>	<b>Mea n</b>	<b>Std.Deviati on</b>
Information on the route and schedule of the bus station should be tangible and unambiguous.	240	4.08	.736
Gurage Zone Road Transport should have modern equipment.	240	4.00	.752
Physical Utilities (such as chairs and other materials) should be attracted by your view.	240	3.87	.885
Their service workers must be well-dressed, orderly, and respectful to customers.	240	4.08	.878
The internal part of the buses should be clean and comfortable.	240	4.12	.903

**Source: Survey Data, SPSS analysis 2024**

The table presents descriptive statistics for five different aspects of tangibility related to Gurage Zone Road Transportation, based on responses from 240 individuals. All five aspects have mean scores above 3.87, indicating generally positive perceptions of tangibility. Overall, the descriptive statistics suggest that Gurage Zone Road Transport is perceived to be tangible in various aspects, with generally positive ratings. However, there's room for improvement in certain areas, particularly regarding the attractiveness of physical utilities, as indicated by the higher standard deviation.

*Table 4. 5 Descriptive Statistics for Reliability*

	N	Mean	Std. Deviation
When drivers or conductors promise to do something by a certain time, they should do so.	240	4.21	.647
When a customer has a problem, drivers or conductors should show a sincere interest in solving it.	240	4.23	.687
Drivers and conductors should perform the service right the first time.	240	4.14	.704
They should provide their services at the time they promise to do so.	240	4.03	.567
They should keep their customer data records accurate.	240	4.10	.652
Information must be clear to passengers on the bus, including schedule and payment.	240	4.17	.670
Aggregate	240		

All six aspects have mean scores above 4, indicating a strong perception of reliability among respondents. This suggests that customers generally find Gurage Zone Road Transport to be dependable and trustworthy. The standard deviations are relatively low, indicating that responses are fairly consistent across the different aspects of reliability. This means there's a consensus among respondents regarding the reliability of Gurage Zone Road Transport.

**Table 4. 6 Descriptive Statistics for Responsiveness**

	N	Mean	Std. Deviation
Gurage zone road management should independently solve emerging issues and not try to shift the responsibility to third parties	240	3.85	.888
Drivers/conductors are always willing to help customers	240	3.78	.958
Drivers, conductors, and Gurage Zone road management should make information easily obtainable by the customers.	240	3.90	.999
Gurage Zone road management should give prompt service to customers.	240	3.96	.810
Drivers/conductors in Gurage zone road transport should never be too busy	240	3.93	.525
<b>Aggregate</b>	240		

All five aspects have mean scores above 3.7, indicating a strong perception of responsiveness among respondents. The descriptive statistics reveal strong agreement among respondents on the importance of several key aspects of customer service in Gurage Zone road transport. These include taking responsibility for resolving issues, providing easily accessible information, offering prompt service, and maintaining a helpful and approachable attitude toward customers.

**Table 4.7 Descriptive Statistics for Assurance**

	N	Mean	Std. Deviation
Personnel should prevent boarding of drunken and socially dangerous passengers	240	3.94	.553
The behavior of drivers or conductors in the buses should instill confidence in customers	240	4.15	.686
Customers should be able to feel safe in their communications with drivers or conductors on the buses.	240	3.93	1.175
Gurage zone road management, conductors and drivers are polite with customers.	240	4.06	.651
Gurage zone road management, Drivers or conductors of the bus have the knowledge to answer customers' questions	240	4.23	.726
<b>Aggregate</b>	240		

Customers have a generally positive experience with the bus services provided by Gurage Zone road management. The mean scores for all items range from 3.93 to 4.23, which suggests that satisfaction levels are mostly above average. However, there is some variation in the standard deviations, indicating that opinions may not be completely uniform across the board. In summary, Gurage Zone road management appears to have generally satisfied customers who expect politeness and safety from their bus services. There is room for improvement in preventing the boarding of drunken or socially dangerous passengers and ensuring knowledgeable staff members are available to answer customer questions.

**Table 4. 8 Descriptive Statistics for Empathy**

	N	Mean	Std. Deviation
Bus-stations should be designed optimally, so that no additional bus-stations needed	240	3.98	.575
Drivers/conductors should give customers individual attention.	240	4.12	.707
The classification of buses and their operating hours should be convenient to all their customers	240	4.09	.752
They should have their customers' best interest at heart.	240	3.94	.553
Drivers, conductors and Gurage zone road management should understand the specific needs of their customers	240	4.15	.686
<b>Aggregate</b>	240		

The above table shows that the mean scores are above 3.94, which indicates a strong perception of empathy among respondents. The descriptive statistics reveal a strong desire for customer-centricity and empathy from the Gurage Zone road transport services.

Customers value personalized attention, convenient service design, and a clear demonstration that their needs and best interests are being prioritized. While there is general agreement on these expectations, some variations in opinions highlight the need for further exploration and potential segmentation of customer needs.

**Table 3.1 1 Descriptive Statistics for Customer Satisfaction**

	N	Mean	Std. Deviation
I always prefer travelling in this Transport station	240	4.13	.709
I rarely travel with public transports from other options	240	3.99	.771
The public transport in this organization is always convenient for my journeys	240	3.96	.555
I find many people preferring to use this transport station	240	3.85	.888
Public transports in this station fill up fast; hence, there is minimum delay	240	3.90	.999
The public transport station ensures the security of its passengers	240	3.87	1.030
Forgotten items in the public transports are always securely stored for the customers to come and claim from the Road Transport Management offices	240	3.94	.553
The Road transport Management office members are always time conscious for the sake of customers	240	4.15	.689
Aggregate	240		

These descriptive statistics provide insights into customer satisfaction with the Gurage zone road transport services. Which mean score above 3.9 this indicates that it has a strong perception among respondents.

The descriptive statistics paint a largely positive picture of customer satisfaction with Gurage zone road transport services. Passengers seem particularly satisfied with the convenience, minimal delays, perceived popularity of the station, and the handling of lost items. However, there is some variation in opinions regarding security and experiences with office staff, which could be areas for potential improvement.

## 4.4 Correlation Analysis

Table 4. 9 correlation analysis

Correlations		Tangibility	Reliability	Responsiveness	Assurance	Empathy	SATISFACTION
Tangibility	Pearson Correlation	1	.605**	.741**	.470*	.891**	.861**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	240	240	240	240	240	240
Reliability	Pearson Correlation	.605**	1	.582**	.560*	.692**	.677**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	240	240	240	240	240	240
Responsiveness	Pearson Correlation	.741**	.582**	1	.479*	.808**	.869**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	240	240	240	240	240	240
Assurance	Pearson Correlation	.470**	.560**	.479**	1	.539**	.554**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	240	240	240	240	240	240
Empathy	Pearson Correlation	.891**	.692**	.808**	.539*	1	.909**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	240	240	240	240	240	240
SATISFACTION	Pearson Correlation	.861**	.677**	.869**	.554*	.909**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	240	240	240	240	240	240

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis is a technique used to show the relationship of one variable to another and can be considered as a standardized covariance that shows the extent to which a change in one variable corresponds systematically to a change in another (Zikmund et al, 2013). Correlation analysis is used to describe the strength and direction of the linear relationship between two or more variables. These analyses use Customers Pearson Correlation Coefficients to check the correlation between transportation management practices and Customers satisfactions for Garage zone road transport services. According to Field (2005) Pearson correlation coefficients (r) can only take on values from -1 to +1.

**Table 4. 10 .Pearson correlation coefficients criteria**

No	correlation coefficients criteria	Response Options
1	.01 to .30	Weak
2	.30 to .70	Moderate
3	.70 to .90	Strong
4	.90 to 1.00 are	very strong

**Source: (Kelley, K. 2017)**

The Pearson correlation coefficients are run for all the independent variables including performance planning, continuous communication, performance reviewing, assessment and rewarding of performance that are denoted in the table 4.13 Tangibility, Reliability, Responsiveness, Assurance and Empathy respectively with the dependent variable Customer satisfaction.

The correlation test demonstrates that there was a statistically significant positive relationship between tangibility and customer satisfaction ( $r=0.861$ ,  $p<0.05$ ). This indicates that when Tangibility increased significantly. The result demonstrates that there was a strong relationship. The correlation test demonstrates that there was a statistically significant positive relationship between reliability and customer satisfaction ( $r=0.677$ ,  $p<0.05$ ). The result demonstrates that there was a moderate relationship. The correlation test demonstrates that there was a statistically significant positive relationship between responsiveness and customer satisfaction ( $r=0.869$ ,  $p<0.05$ ). This indicates that when responsiveness increased significantly. The result demonstrates that there was a strong relationship. The correlation test demonstrates that there was a statistically significant positive relationship between assurance and customer satisfaction ( $r=0.554$ ,  $p<0.05$ ). This indicates that when assurance increased significantly. The result demonstrates that there was a moderate relationship. The correlation test demonstrates that there was a statistically significant positive relationship between empathy and

customer satisfaction ( $r=0.909$ ,  $p<0.05$ ). This indicates that when empathy increased significantly. The result demonstrates that there was a strong relationship. This proves the existence of significant evidence of correlation for each variable.

## 4.5 Regression Analysis

In this section, different regression analysis was tested

### 4.5.1 Multi co linearity Test

When the independent variables are not independent of one another, multi-collinearity arises. The requirement that the mean's error be independent of the independent variables is a second crucial independence condition. According to Dorman, Lautenbach, S, et.al, (2013), such tests can be undertaken using different criteria. One of such criteria is the Correlation matrix where multi co-linearity can be checked by looking at the outputs of the Pearson's Bivariate Correlation results. The coefficient among all independent variables needs to be smaller than 1. Verifying tolerance, which gauges how one independent variable affects every other independent variable, is the second requirement. The table below displays the outcome. The outcome must be less than one.

*Table 4. 11 Multicollinearity Test Coefficients'*

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)	0.471	
	Tangibility	.204	4.895
	Reliability	.471	2.124
	Responsiveness	.342	2.926
	Assurance	.639	1.566
	Empathy	.135	7.380

**Source: Survey Data, SPSS analysis 2025**

Thus, it may be concluded that there is no tolerance problem because all of the tolerance coefficients are less than 1. The second is the Variance Inflation Factor (VIF). The rule is if  $VIF > 10$ , there is an indication for Multi co-linearity to be presented. The result is also shown in table 14 above, and all the VIF coefficients are less than 10, which shows that there is no multi-collinearity indication.

### 4.6.2 Autocorrelation Test

The data's low or nonexistent autocorrelation is the second premise of linear regression analysis.

Stevens (2009) states that autocorrelation happens when the residuals are not independent of one another.

The Durbin-Watson test is used in the study to check for autocorrelation in the linear regression model. Durbin-Watson's value should fall between 0 and 4; values close to 2 suggest no autocorrelation.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.945 <sup>a</sup>	.893	.890	1.383	1.409

a. Predictors: (Constant), Empathy, Assurance, Reliability, Responsiveness, Tangibility

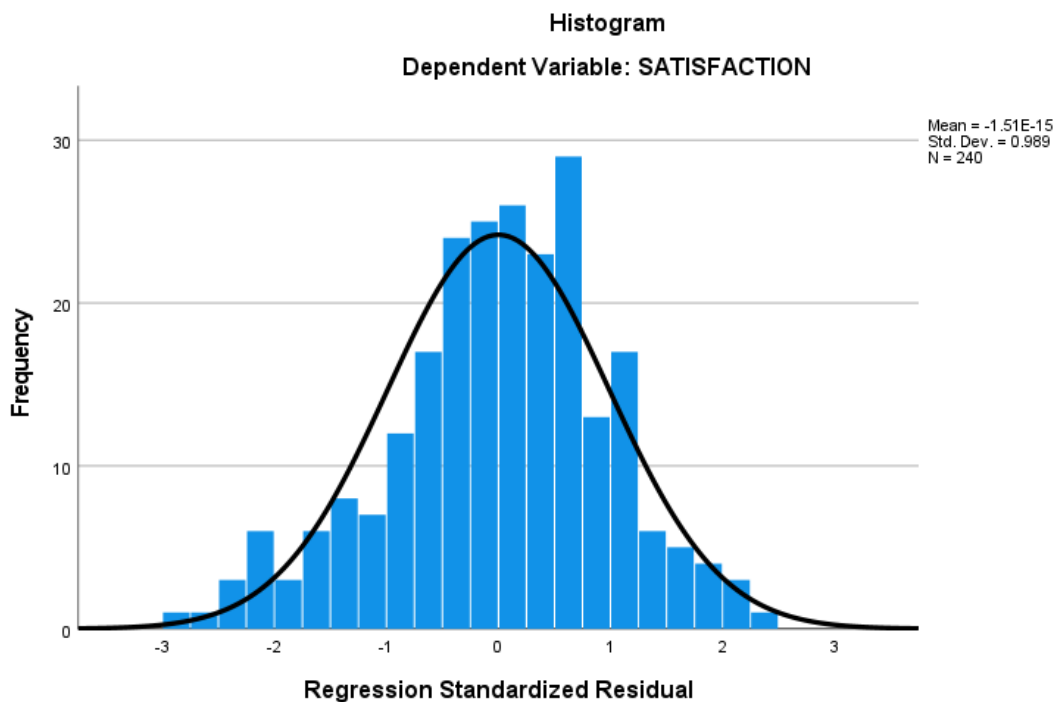
b. Dependent Variable: Satisfaction

**Source: Computed, SPSS analysis 2025**

The Durbin-Watson result is as seen in the above table 4.15; this statistic ranges from 0 to 4, with a value close to 2 suggesting no autocorrelation with that assumption the above table result represents of 1.409 which shows a value closer to 2 which is there is no autocorrelation between the data.

#### 4.5.3 Normality Test

The assumption of normal distribution of the data was examined. To check the normality of variables which are incorporated in the multiple linear regression model, the histograms with a normal curve are imposed. If the residuals are normally distributed, the histogram should be bell-shaped. Bryman, (1988). Therefore, from the below figure, the Histogram is bell-shaped; this implies that the residuals are normally distributed.



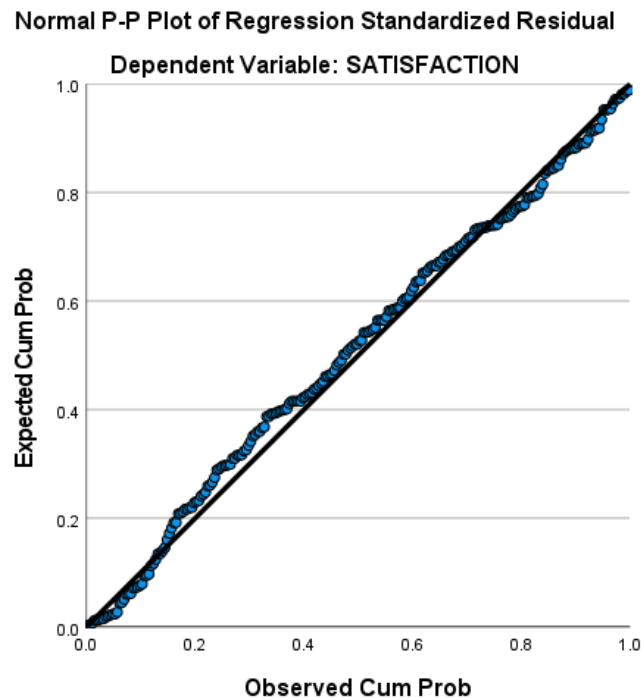
**Figure 2. 2: Normality Test**

**Source: survey computed, SPSS analysis 2025**

Upon analyzing the figure that is presented above, it is quite evident that the histogram exhibits a clear bell-shaped structure. This particular shape of the histogram is a strong indication that the underlying random variable, as well as the residuals, follows a normal distribution. This indicates that the mean, median, and mode of the data all coincide and that the random variable's frequency distribution is symmetric. The central limit theorem, which asserts that, given a big enough sample size, the distribution of the sample means will be roughly normal regardless of the underlying population distribution, further characterizes the normal distribution.

#### 4.5.4 Linearity Test

The dependent and independent variables need to be linearly related. The degree to which changes in the independent variables are correlated with changes in the dependent variable is known as linearity. This can also be confirmed using the p-plot that is shown below. The linearity assumption was satisfied since the plots seemed to be in a straight line.



*Figure 2. 3* **Linearity Test**

**Source: computed, SPSS analysis 2025**

#### 4.5.5. Homoscedasticity Test

It refers the Variance of the Errors which should be Constant. To test for this, plot the errors against the

Dependent Variable (Tefera, 2018).

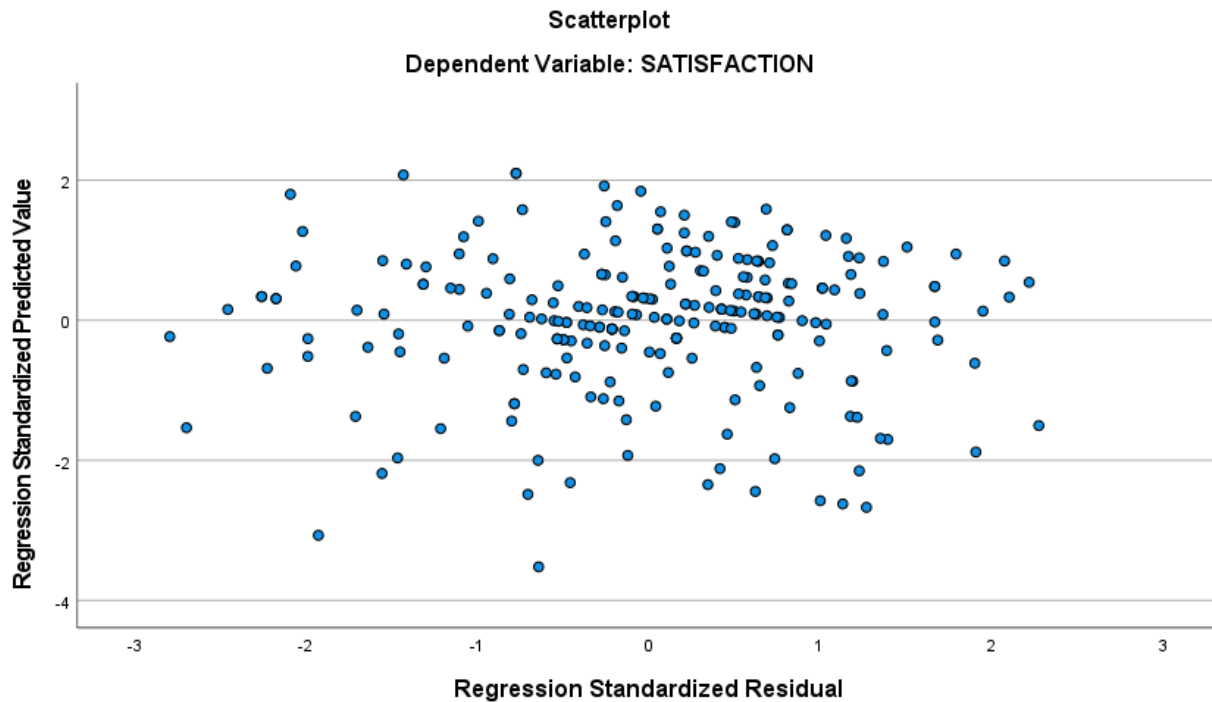


Figure 2. 4 Homoscedasticity Test

Source: Computed, SPSS analysis 2025

The distribution of residuals, more especially whether they are evenly distributed or have a tendency to cluster at some values while being widely dispersed at others, is referred to as homoscedasticity. Plotting shows that the dependent variables in this case have an equal distribution, meaning that there are no outliers and the variance of the errors stays constant.

### MODEL FITNESS TEST

Test Statistics						
	Tangibi lity	Reliabil ity	Responsive ness	Assuran ce	Empat hy	SATISFA CTION
Chi-Square	221.625 <sup>a</sup>	187.625 <sup>a</sup>	201.375 <sup>a</sup>	254.750 <sup>a</sup>	183.000 <sup>b</sup>	135.667 <sup>c</sup>
df	14	14	14	14	11	19
Asymp. Sig.	.000	.000	.000	.000	.000	.000
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.0.						
b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell						

frequency is 20.0.

c. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 12.0.

All five SERVQUAL dimensions—Tangibility, Reliability, Responsiveness, Assurance, and Empathy—have a statistically significant effect on customer satisfaction in the study. This confirms that these factors are crucial in shaping how customers perceive service quality in road transportation in the Gurage Zone.

#### 4.5.6 ANOVA Test

Evaluating whether the independent factors collectively have a significant impact on the dependent variable is the primary goal of an ANOVA, also known as the F-test. The independent factors significantly explain the variance in the dependent variable if the significance value of the F statistic is less than the expected error margin, which, in this example, is 0.05. Accordingly, the result indicated in Table 18 below shows an F value of 295.133, which is significant at a 0.000 significance level, which is smaller than the error margin of 0.05. Thus, statistically, all the independent variables predict the dependent variable.

**Table 4. 12** Regression of ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3725.080	5	745.016	389.439	.000 <sup>b</sup>
	Residual	447.654	234	1.913		
	Total	4172.733	239			
a. Dependent Variable: SATISFACTION						
b. Predictors: (Constant), Empathy, Assurance, Reliability, Responsiveness, Tangibility						

**Source: own survey computed, SPSS 27 analysis 2024**

The table that is presented above displays the analysis of variance, which is also known as model fit marks. The key elements of interest in this table are the F-statistics and its associated sig. value. After conducting the analysis, it was found that the F-statistics is significant with a Sig <.0001b, indicating that the model can predict customer satisfaction from transportation management practices in a significant manner.

A liner regression using the following model summary was carried out to observe the impact of a unit change in the independent variables on the dependent variable:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon$$

**Where:**

- $Y$  = customer satisfaction the dependent variable
- $\beta_0$  = The intercept or constant in the regression equation
- $\beta_1$ - $\beta_6$  = The regression coefficients that represent the effect of each independent variable on the job satisfaction
- $X_1$ - $X_6$  = The independent variables
- $\varepsilon$  = The residual or error term in the regression equation

**Table 4. 13 Regression Coefficient**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.704	.077	.530	9.161	<.001
	Tangibility	.342	.075	.217	4.586	.000
	Reliability	.090	.047	.060	1.921	.056
	Responsiveness	.558	.056	.364	9.935	.000
	Assurance	.101	.048	.056	2.102	.037
	Empathy	.645	.107	.350	6.009	.000

a. Dependent Variable: SATISFACTION

**Source: survey computed, SPSS 27 analysis 2024**

Multiple linear regressions are a method of estimating the value of a dependent variable using the values of one or more independent variables. Table 4.16 illustrates the parametric estimation of several linear regressions. As a result, numerous linear regression models were used to determine the study's independent variables, which were all considered to be good predictors of the dependent variable, Customer satisfaction. Table 4.16 reveals that the coefficient for Tangibility is 0.342. So, assuming all other variables are fixed, every unit improvement in Tangibility is anticipated to result in a 0.217 unit increase in Customer satisfaction.

The coefficient for Reliability is 0.090. So for every unit increase in Reliability, a 0.060 unit increase in Customer satisfaction is predicted, holding all other variables constant. The coefficient for Responsiveness is 0.558. So, for every unit increase in Responsiveness, a 0.364 unit increase in Customer satisfaction is predicted,

holding all other variables constant.

The coefficient for Assurance is 0.101, which means that for every unit increase in Assurance, a 0.056 unit increase in Customer satisfaction is projected, assuming all other variables remain constant. The coefficient for Empathy is 0.645. So, for every unit increase in Empathy, a 0.350 unit increase in Customer satisfaction is predicted, assuming all other variables remain constant.

The correlation test demonstrates a statistically significant and positive association between Customer satisfaction (dependent variable) and five independent variables: Tangibility, Reliability, Responsiveness, Assurance, and Empathy (0.001, 0.000, 0.056, 0.000, 0.037, and 0.000, respectively). The coefficients of all independent Tangibility, Reliability, Responsiveness, Assurance, and Empathy indicate a positive association between these independent factors and the dependent variable. Now, the equations can be expressed as follows.

$$Y = .704 + .342T + .090R + .558RE + .101A + .645E$$

The output shows that a one unit increase in Tangibility, Reliability, Responsiveness, Assurance and Empathy leads to an increase in Customer satisfaction by 0.704, 0.342, 0.090, 0.558, 0.101 and 0.645 units, respectively.

#### **4.6. Discussion finding**

The responses from the Gurage Zone Road Transport Management Office reflect a positive and proactive approach to service delivery. The officials demonstrate a clear understanding of their roles, acknowledge challenges, and express a commitment to continuous improvement. Their focus on customer feedback and collaboration with higher authorities indicates a strong foundation for enhancing customer satisfaction in the road transport sector. This positive outlook and willingness to adapt can lead to improved services and a better overall experience for customers in the Gurage Zone.

## CHAPTER FIVE

### SUMMARY, CONCLUSION, AND RECOMMENDATION

#### 5.2 SUMMARY OF MAJOR FINDINGS

This study examined the effect of road transportation management service delivery on customer satisfaction in the Gurage Zone. The findings reveal that customer satisfaction in the area is positively and statistically significantly influenced by all five dimensions of road transportation management practices: **tangibility, reliability, responsiveness, assurance, and empathy**. These results highlight that enhancing these key service quality factors can lead to greater customer satisfaction among road users in the Gurage Zone.

Key Findings was all five road transportation management practices demonstrated a statistically significant and positive correlation with customer satisfaction. Multiple regression analysis revealed that these practices collectively explained almost 89.0% of the variation in customer satisfaction. Empathy had the strongest positive effect on customer satisfaction ( $\beta = 0.645$ ), indicating that a 1% increase in Empathy leads to a 64.5% increase in customer satisfaction. Responsiveness had the second strongest positive effect ( $\beta = 0.558$ ), indicating a 1% increase in customer satisfaction. Responsiveness leads to a 55.8% increase in customer satisfaction. Tangibility, Reliability, and Assurance: While significant, these practices had a smaller but still positive effect on customer satisfaction ( $\beta = 0.342, 0.101$  and  $.090$  respectively).

#### 5.3 CONCLUSION

The research tried to see the effect of road transportation management service delivery on customer satisfaction in the gurage zone. To measure every variable in the study, the instrument (structured questionnaires) was used from earlier related studies. Additionally, a validity and reliability test was conducted to verify the reliability and validity of the accepted instruments. The study has primarily engaged in two activities: The first involves a critical evaluation of the theoretical and empirical research on the variables being discussed. This has helped the study to identify the theoretical arguments effect of road transportation management service delivery on customer satisfaction. Additionally, the empirical literature analysis that has been done thus far aids in anticipating the results in other industries or nations. The second accomplishment is the collection of data from selected samples via a structured questionnaire, which is used to see the relationship between the customer satisfactions with other variables.

The total mean value of respondents was presented. The highest mean value among the 5 dimensions was reliability, with a mean value of 4.14 and standard deviation of 0.65. Following it tangibility, responsiveness, Assurance and Empathy with mean value 4.03, 3.88, 4.06, 4.05 and standard deviation of 0.83, 0.83, 0.75 and 0.65 respectively. The correlation value proves that all the independent variables are correlated with the dependent variable from the range of (0.65-0.83). The correlation test demonstrates that there was statistically significant and positive relationship between variables and customer satisfaction which is ( $r=0.861$ ,  $p<0.05$ ), ( $r=0.677$ ,  $p<0.05$ ), ( $r=0.869$ ,  $p<0.05$ ), ( $r=0.554$ ,  $p<0.05$ ) and ( $r=0.909$ ,  $p<0.05$ ) respectively. This indicates that when the variable increases, customer satisfaction increases significantly. The outcome shows that the relationship was strong. However, according to the statistical test, these factors account for 89.3% of the variances in customer satisfaction in the instance of road traffic management services. Therefore, it can be said that economic factors that are not the focus of this study may account for the remaining 10.7%.

The outcome shows that the relationship was strong. However, according to the statistical test, these factors account for 89.3% of the variances in customer satisfaction in the instance of road traffic management services. Therefore, it can be said that economic factors that are not the focus of this study may account for the remaining 10.7%.

## 5.4 Recommendation

Making recommendations based on the analysis's results that could aid in road transportation service management and other researchers' use of the study is one of its significance.

- To guarantee dependability and safety, make investments in the upkeep and modernization of road infrastructure.
- Implement regular audits and assessments to identify areas needing improvement.
- Provide comprehensive training programs for drivers and staff to enhance customer service skills, focusing on empathy and responsiveness.
- Promote a client-focused strategy for all transportation services.
- Adopt modern technologies for tracking and managing transportation services, such as GPS and mobile applications for real-time updates.
- Implement systems for collecting customer feedback to continuously improve service delivery.
- Establish clear communication channels between transportation providers and customers to ensure timely information regarding schedules and services.
- Promote transparency in pricing and service offerings to build trust with customers.
- To find areas for improvement and strengths, regularly evaluate customer satisfaction and service delivery procedures.
- Make operational and policy decisions based on the results of these assessments.

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**WOLKITE UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF MANAGEMENT**

**APPENDIX I**

**A Questionnaire to Be Filed by Gurage Zone Road Transportation Customers**

*Dear respondents!*

I am a postgraduate student at Wolkite University. I am conducting this research for the partial fulfillment of my Master of Business Administration (MBA). You have been selected as a valuable and knowledgeable participant in this research titled "*Assessing the effect of road transportation service delivery on customer satisfaction.*" The case is the effect of road transportation management service delivery in Gurage Zone. The objective is to assess the effect of road transportation service delivery on customer satisfaction in the Gurage zone. The questionnaires are completely anonymous, and confidentiality is assured. For the research to provide correct results, it is important that you answer all the questions as honestly and truthfully as possible. The result of this questionnaire will be utilized for sole academic purposes, and hence, any information you give me will not affect, by any means, your personal benefits or privacy.

Thank You.

**Tina Aklile** (+251936134701)

Email: [tinaaklileshita@gmail.com](mailto:tinaaklileshita@gmail.com)

**SECTION –I. Demographic Information**

Please provide me with some information about yourself. Please make a cross "(x)" or "v"

1. Which age brackets are you belong?  Below 20 years  20-25 year's  26-30 year's

31-35 year's  36-40 year's  41and above

1. Sex?  Male  Female

2. Your level of formal education?  Primary school  secondary school  TVET  Diploma

BA/BSC/LLB    Master's    PhD others-----

3. What is your occupation?

4. What is your marital status?  Married    single    divorced    widowed

**SECTION II QUESTIONS RELATED TO THE PURPOSE OF USING GURAGE ZONE ROAD TRANSPORT**

5. For how long have you been a customer of the Gurage Zone Road transport?

Less than one year  1-2 years  above 3 years

6. For what purpose do you use the Gurage zone road transport?

To go to School  to go to Work and back to home  to go to other places

7. Based on the type of distance, which type of service do you use Gurage zone road transport?

Short distance 0-20KM  Medium distance 20-40KM  Long distance above 40KM

8. Why do you choose to use Gurage zone road transport?

It is easily available  it provides fast transport service  it is cheap

It is comfortable  I don't have any other option  other reasons, if any -----

9. How do you rate the standards of service provided by Gurage zone road transport?

Cannot rate  Improved  little Declined  did not changed

**SECTION III: QUESTIONNAIRES FOR USERS OR PASSENGERS ON THE PERFORMANCE OF ROAD TRANSPORTATION SERVICE**

Listed below are descriptive statements about serve questioner all dimensions on the expectations of service experienced in Gurage zone road transport, for each statement please indicates to which degree you display the behavior described according.

Please make a cross "(×) or √" in the box

STATEMENTS		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	<b>Tangibility</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1.1	Information on the route and schedule of the bus station should be tangible and unambiguous.					
1.2	Gurage Zone Road Transport should have modern equipment.					
1.3	Physical Utilities (such as chairs and other materials) should be attracted by your view.					
1.4	Their service workers must be well-dressed, orderly, and respectful to customers.					
1.5	The internal part of the buses should be clean and comfortable.					
	<b>Reliability</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2.1	When drivers or conductors promise to do something by a certain time, they should do so.					
2.2	When a customer has a problem, drivers or conductors should show a sincere interest in solving it.					
2.3	Drivers and conductors should perform the service right the first time.					
2.4	They should provide their services at the time they promise to do so.					
2.5	They should keep their customer data records accurate.					
2.6.	Information must be clear to passengers on the bus, including schedule and payment.					
	<b>Responsiveness</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

3.1	Gurage zone road management should independently solve emerging issues, and not try shift the responsibility to third parties					
3.2	Drivers, conductors and Gurage zone road management should make information easily obtainable by the customers.					
3.3	Gurage zone road management should give prompt service to customers.					
3.4	Drivers/conductors are always willing to help customers					
3.5.	Drivers/conductors in Gurage zone road transport should never be too busy					
	<b>Assurance</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
4.1	Personnel should prevent boarding of drunken and socially dangerous passengers					
4.2	The behavior of drivers or conductors in the buses should instill confidence in customers					
4.3	Customers should be able to feel safe in their communications with drivers or conductors on the buses.					
4.4	Gurage zone road management, conductors and derivers are polite with customers.					
4.5	Gurage zone road management, Drivers or conductors of the bus have the knowledge to answer customers'' questions					
	<b>Empathy</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5.1	Bus-stations should be designed optimally, so that no additional bus-stations needed					
5.2	Drivers/conductors should give customers individual attention.					
5.3	The classification of buses and their operating hours should be convenient to all their customers					
5.4	They should have their customers' best interest at heart.					
5.5	Drivers, conductors and Gurage zone road management should understand the specific needs of their customers					

**SECTION IV: Questionnaires For Users or Passengers/ Customer Satisfaction on Road Transportation Service**

STATEMENTS		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
	I always prefer travelling in this Transport station					
	I rarely travel with public transports from other options					
	The public transports in this organization are always convenient for my journeys					
	I find many people preferring to use this transport station					
	Public transports in this station fill up fast hence there is minimum delay					
	The public transport station ensures the security of its passengers					
	Forgotten items in the public transports are always securely stored for the customers to come and claim from the Road Transport Management offices					
	The Road transport Management office members are always time conscious for the sake of customers					

*Thank You for Your Co-operations!*

**APPENDIX II**  
**Interview Questions for Gurage Zone Road Transport  
Management Office**

1. What are the roles of the Gurage Zone Road transport workers and officials in providing services and facilities? Or what are the facilities and services provided by workers and officials to the customer?
2. What are the main challenges to providing facilities and services in the Gurage Zone for road transport management?
3. Is there integration or coordination with the Regional or federal transport authority and stallholder to solve the existing problems?
4. What are the main sources of customer dissatisfaction in Gurage Zone Road transportation service delivery practice?
5. In general, what is your opinion or comments to improve the service and facility provision by the Gurage Zone for road transport management?
6. Do you think that the Gurage Zone for road transport management can satisfy its customers by its service?
7. Do you feel that your customers are satisfied with the service they receive from the Gurage Zone for road transport management?
8. What improvements have made to increase customer satisfaction?

**Thank you!**

*Thank You for Your Co-operations!*

## APPENDIX III

### Reliability Statistics

Cronbach's Alpha	N of Items
.920	6

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3725.080	5	745.016	389.439	<.001 <sup>b</sup>
	Residual	447.654	234	1.913		
	Total	4172.733	239			

a. Dependent Variable: SATISFACTION

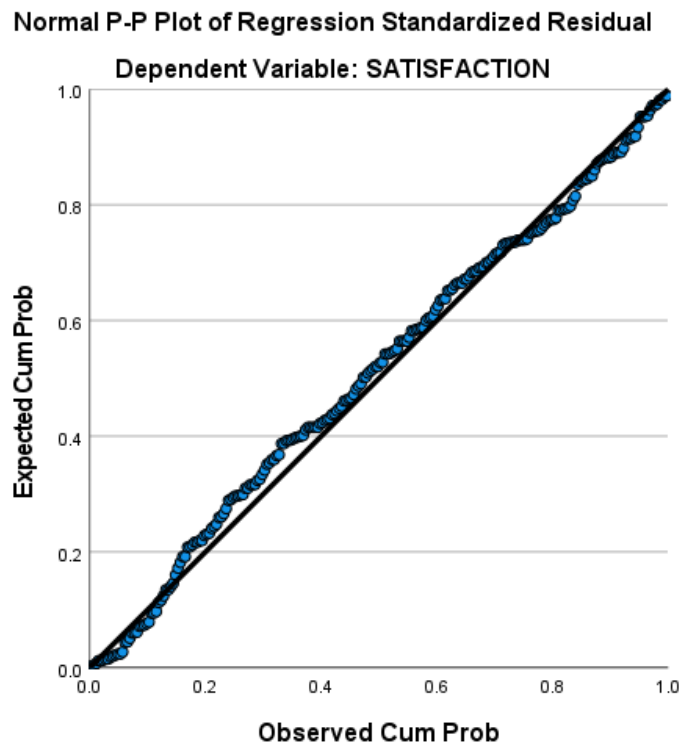
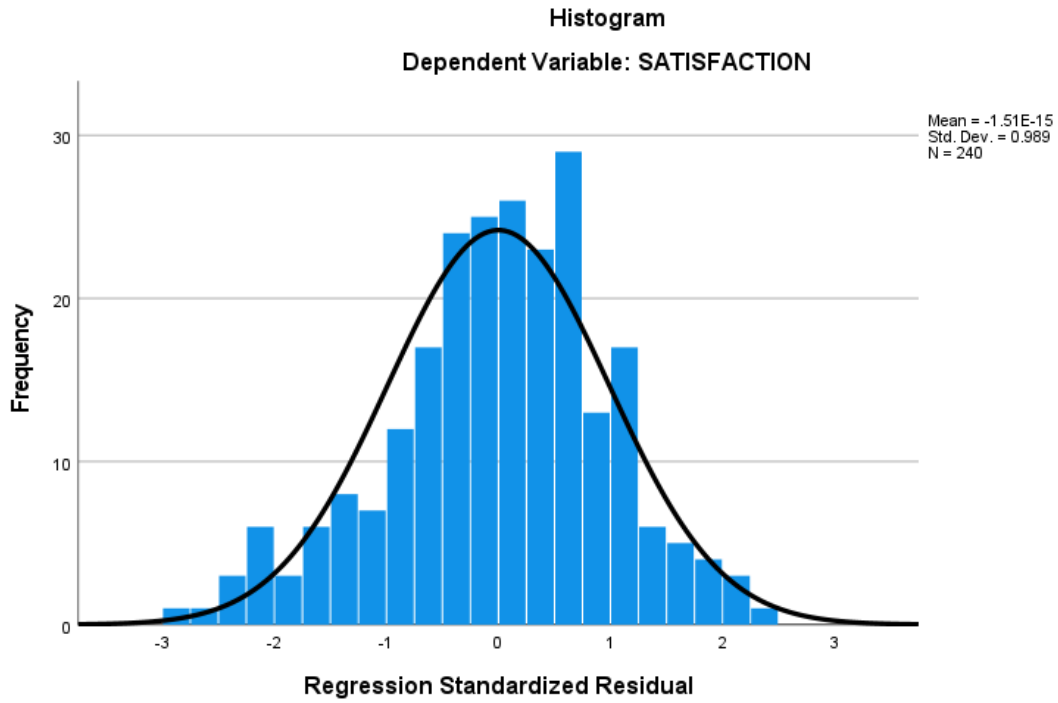
b. Predictors: (Constant), Empathy, Assurance, Reliability, Responsiveness, Tangibility

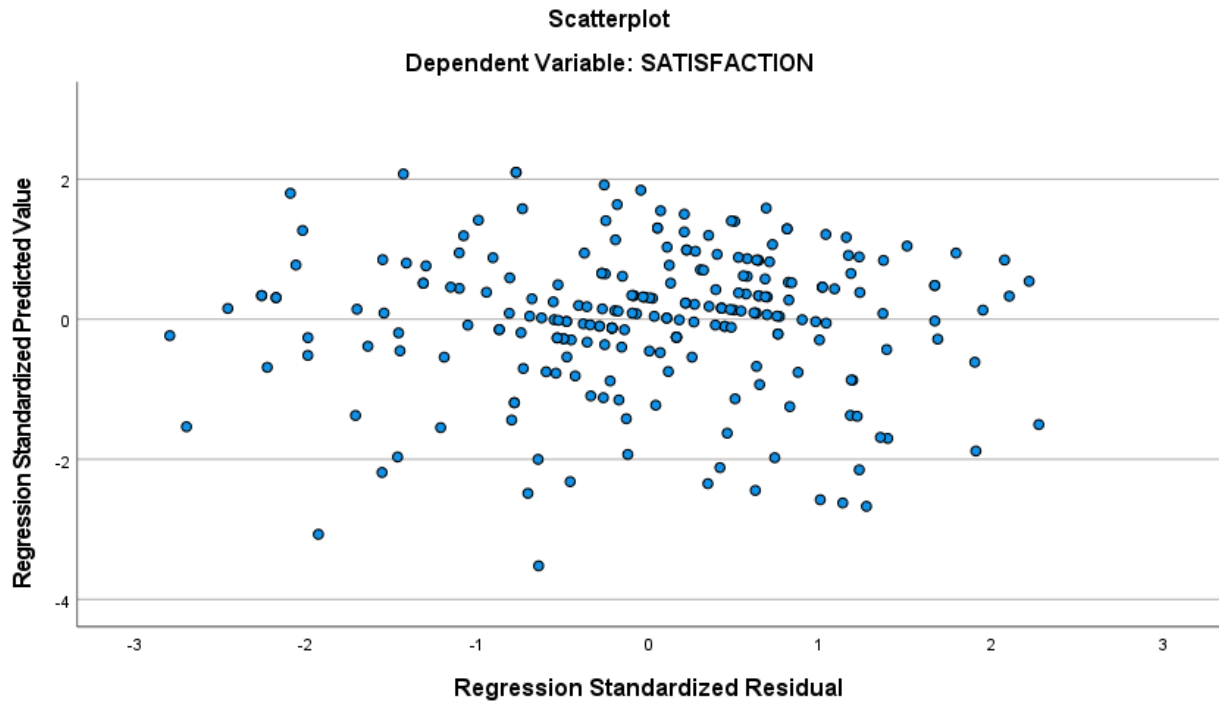
### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
1	.945 <sup>a</sup>	.893	.890	1.383	.893	389.439	5	234	<.001	1.409

a. Predictors: (Constant), Empathy, Assurance, Reliability, Responsiveness, Tangibility

b. Dependent Variable: SATISFACTION





**Test Statistics**

	Tangibility	Reliability	Responsiveness	Assurance	Empathy	SATISFACTION
Chi-Square	221.625 <sup>a</sup>	187.625 <sup>a</sup>	201.375 <sup>a</sup>	254.750 <sup>a</sup>	183.000 <sup>b</sup>	135.667 <sup>c</sup>
df	14	14	14	14	11	19
Asymp. Sig.	<.001	<.001	<.001	<.001	<.001	<.001

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.0.

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