



**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**ASSESSING FACTORS AFFECTING USERS' SATISFACTION:
A CASE STUDY
ON
ADDIS ABABA LIGHT RAIL TRANSPORT SERVICE**

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MAY, 2018

ADDIS ABABA, ETHIOPIA

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A CASE STUDY
ON
ADDIS ABABA LIGHT RAIL TRANSPORT SERVICE**

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Dr. Temesgen Belayneh (Phd). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Name

Signature & Date

ENDORSEMENT

This is to certify that the research entitled “Assessing Factors Affecting Users’ Satisfaction, case of Addis Ababa Light Rail Transit” has been the independent work done by Mesfin Wondafrash (ID No. SGS/0225/07) under my supervision as a University research advisor and submitted to St. Mary’s University, School of Graduate Studies, General MBA program in the partial fulfillment of the award of Master of Business Administration.

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Acronyms:

AALTR- Addis Ababa Light Rail transit

BRT-Bus Rapid Transit

KLCC-Kuala Lumpur City Center

LRT-Light Rail Transit

MTC-Monthly Travel Card

SERVPERF- Performance-based Service Quality

SERVQUAL- Service Quality

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Abstract

The main aim of this study was to assess factors affecting users' satisfaction in AALRT .The designed objectives of the assessment were attained using both quantitative and qualitative approaches. The researcher has taken 398 passengers' for survey questionnaire and the sample size was calculated using Taro Yamane formula based on the number of passengers traveled per day on each station of the rail. Additionally, three informants were selected for semi- structured interview questions through simple random sampling techniques from the 3 selected stations of the East -West line of the rail using the list randomly. The survey questionnaire was distributed randomly inside and outside the train to passengers aged 20 and above years old and travelers of a minimum of 10 stations. This study considered eight factors and 39 variables to analyze the user satisfaction. The collected questionnaire survey data were analyzed using SPSS version 23. The results of Pearson correlation analysis of the study indicated that there was a significant positive correlation of all independent variables; tangibility, reliability, responsiveness, assurance, empathy, comfort, service delivery and social responsibility with passengers' satisfaction. The overall reliability Cronbachs' alpha value of the study was 96%, which indicates that there was an excellent internal consistency in the scale. The findings of the study proved that Social responsibility and Comfort variables had greater significant positive effect (grater Beta coefficient) on users' satisfaction at 5% significance level followed by Assurance, Empathy, Responsiveness, and reliability. The findings suggested that the service of AALRT need to improve all the dimensions of service quality .The light rail transit service management should sustain and continue the better provisions of the light rail transit services primarily to satisfy passengers and secondly to attain organizational goals.

Key words: AALRT, User Satisfaction, Social Responsibility and Comfort

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The concept of customer satisfaction is important in business field. Striving for customer satisfaction means understanding and anticipating what customers want of the products in the future but do not expect of them (Matzler et al. 1996). Customer satisfaction is actually how customer evaluates the ongoing performance (Gustafsson, Johnson & Roos, 2005) and Ahmed, Nawaz, Usman, Shaukat, Ahmed and Iqbal (2010) it is critical issue in the success of any business system in today's business world. Customer satisfaction is an evaluation made by the customer after buying their goods and services. The most popular view of customer satisfaction in academia is that the customer satisfaction is the judge born out of the comparison of pre-purchase expectations with post purchase evaluation of the product or service experience (Oliver 1993). Customer satisfaction can result from any dimension (whether or not its quality related) and its judgment may arise from non-quality issues and require experience with the service or provider (Taylor & Baker, 1994). Customer satisfaction is widely recognized as a key pressure in the formation of consumers' purchase intentions. Satisfied Customers are likely to tell others of their favorable experiences and thus engage in positive word of mouth advertising. Dissatisfied customers, on the other hand, are expected to switch brands and engage in negative word of mouth advertising (File and Prince, 1992).

Railway is a very vital prerequisite for economic growth; the commuter rail industry has a host of service delivery exchanges in their comprehensive operation (Colins Bosch, 2009). The nature of the core services does not result in a single service encounter or customer transaction episode with contact personnel but rather a series of transactions from the time a commuter enters the station precinct to purchase a ticket until the time they depart the environment at the destination station.

Hart (1998) argues that customer expectations might not be fully established at the point of first contact with service personnel but rather that expectations become more prominent after a series of

interactions during the service delivery. A Service Quality dimension as it relates to AALRT has been divided into eight groups which are Tangibles, Reliability, Responsiveness Assurance, Empathy, Comfort, service delivery and social responsibility.

For service providers, customer satisfaction is crucial to know which service attributes add value and increase satisfaction, which of them merely fulfill minimum requirements and minimum dissatisfactions and which do both. Only then can they make better decisions about the research should be allocated to different service attributes in order to improve quality and satisfaction. Thus, the identification of customer satisfaction factors is crucial (Matzler & Sauerwein 2002).

Carbon free and alternative transport infrastructure is crucial to address the growing challenges pertaining to rapid urbanization including traffic congestion and mitigate climate change. Undoubtedly, we are living in a world of massive mobility for various reasons and such movement of millions of people on a daily basis needs adequate and efficient public transport facilities. If such conditions are not met people find it very difficult to arrive on time in their working places and children do not reach their schools, appointments cannot be fixed and traffic jams become a huge stumbling block almost routinely.

In this regard, the government of Ethiopia - city of Addis Ababa is striving to address the pressing transport problems and growing challenges by introducing LRT along major lines of the city. One of this transformation plans, the introduction and expansion of modern transport system to urban areas specifically in the capital city - Addis Ababa. And the Light Rail Transit (LRT) has got the first priority than Bus Rapid Transit (BRT) by the federal and city administration for the cities mass transit (Company Brusher).

LRT system plays a role in reducing the transport crowdedness on the road. Nevertheless, issues and customer complaints of LRT system problem are increasingly in years. Moreover, people crowdedness at station LRT, especially at Kuala Lumpur City Center (KLCC) station was caused of the lack of LRT train frequency during peak hour (Shek 2007). According to Berita Harian (2007), increasing of the Monthly Travel Card (MTC) for the LRT fare also was complained by some people, which the LRT Company just to emphasize on increasing the LRT fare without give a notice early to passenger. Researchers have used different instruments to measure Service quality, but the most widely used instrument is SERVQUAL scale. SERVQUAL scale is the measure of service quality based on the gap between expectation & performance. Within

SERVQUAL model there are five specific dimensions of service quality: tangibles, reliability, responsiveness, assurance & empathy (Parasuraman, Zeithaml & Berry, 1988).

The above findings by various researchers therefore imply that any company that aspires to improve its profitability should always improve its service quality offering to customers and thereby getting them satisfied.

For this reason, providing services characterized by high levels of quality is very important in order to customize the users of the services and attract new users.

Hence, this study focused on the SERVQUAL model's dimension, i.e Tangibility, reliability, responsiveness, assurance and empathy, Comfort, service delivery, social responsibility and their association and effect on customer satisfaction of AALRT service.

1.2. Statement of the Problem

In transportation context, passenger satisfaction is created by comparison of pre-travel expectation and post-travel experience. One of the most important elements in customer satisfaction and company profitability is quality of service.

Several researchers have been conducting researches in relation with what factors affecting customer satisfaction in the light rail industry.

There are studies conducted considering the variables like the 5 SERVQUAL (Tangibility, Reliability, Assurance, Responsiveness and Empathy), service delivery, comfort, social responsibility and staff behavior.

According to Marin (2014), the most important customer satisfaction factors that influence the use of light rail for a passenger are the reliability of the system, the punctuality of the transport, the price of it and the time of journey needed to go from one point to another . However, M. Devi Prasad (2010) Reliability, railways punctuality and staff behavior have least influence in customer satisfaction.

The research conducted by Jiao Li (2013), shows that responsiveness and Reliability had significant impact on customer satisfaction. Whereas, the study conducted by Rozila Ahmad (2015), Reliability & responsiveness had insignificant effect in customer satisfaction.

Therefore, there is inconsistency in findings and initiated to do more researches in the subject matter.

According to EBC news televised in November 18, 2017, Heven Teshome, the journalist, has made news on AALRT service. The route the news which was made on is from “Torhailoch” to “Hayat”. The users asked and replied *“previously, when we arrived in the morning at 1:30 local time, we got on the rail immediately, but now a days; we got the rail waiting after 40 minutes and more”*. The users added that, *the facilitators and supervisors were there wearing their uniform to supervise and facilitate, however, now, we didn’t see them*”. When there are any delays in the schedule, users who have planned their journey in the expected arrival times got really unhappy. When a user gets on the train, looking for a seat, litters and junks left behind by other users’ raises dissatisfaction. A passenger would be willing to wait out a delayed service when he/she understands the reason for said delays. In case of AALRT, there is no digital display in the waiting areas commonly called “Fermats” to notify the users the frequency of the rail in the specific waiting station. When there are no given reasons, assumptions occur and customers become more anxious. This leads to overall dissatisfaction with the service. Delays in certain cases are unavoidable however users unwilling being kept in the dark. It is known that when an individual, due to personal reasons miss a train, the first thing which comes to mind is “when will the next train be?”. If an individual has to wait say 15 minutes, customers will be better satisfied than when they would have to wait over 20-30 minutes for the next train.

Many dwellers of Addis Ababa are forced to flee to use the light railway to get relief from the huge congestion of the city traffic in Addis while using public transport (bus, minibus and taxi). However, there are disparities between the service been providing by the rail transport service and the users’ perceived value. According to Heven, in the peak hours (in the Morning and late afternoon) the rail is delayed from the expected minute, six minutes. The rail has become crowd from the starting point and is uncomfortable to travel. According to ENN TV, the rail way is not accessible to disabled users, some light railway users spoke to ENN that they cannot be able to use the lift service since it’s not operational. Due to the aforementioned reasons, the quality of the service provided by the company will be compromised. The main goal of the AALRT is to alleviate the transportation problem in the city by providing quality service to users.

In our Country, as far as the researcher's knowledge is concerned, there are very few studies conducted in relation with light rail transit service.

Hence, this study intends to bridge this gap by exploring the relationship between railway service qualities attributes used to assess service quality of rail transit user service at AALRT by answering the following research questions derived from the topic:

1.3. Research Questions

- 1.3.1. What are the factors that affect users' satisfaction in using Addis Ababa light rail transit?
- 1.3.2. What is the relationship between service quality and users' satisfaction in Addis Ababa light rail transit?
- 1.3.3. What is the overall level of users' satisfaction in Addis Ababa light rail transit?

1.4. Research Objectives

The main objective of this study is to determine the relationship between implementation of service quality and user satisfaction in Addis Ababa rail transit service.

However, there are other specific objectives of the study which include:

- ✓ To determine the relationship between service quality and Users' satisfaction in Addis Ababa Light Rail Transit Service.
- ✓ To assess factors affecting user satisfaction with AALRT
- ✓ To analyze the overall levels of passengers' satisfaction in AALRT

1.5. Definition of Operational Terms

- **Customer Satisfaction:** is the evaluation of perceived difference between prior expectation and the actual performance of the product/service (Philip Kotler, 1997)
- **Service Quality:** About meeting customer needs satisfactorily by matching to his expectations (Parasuraman, Zenithal & Berry, 1988)
- **Tangibility:** Physical facilities, equipment, and appearance of personnel.

- **Reliability:** Ability to perform the promised service dependently and accurately
- **Responsiveness:** Willingness to help customers and provide prompt service
- **Assurance:** Knowledge and courtesy of employees and their ability to inspire trust and confidence
- **Empathy:** Caring and individualized attention that the firm provides to its customers.
- **Comfort:** a state of physical ease and freedom from pain or constraint, the easing or alleviation of a person's feelings of grief or distress
- **Service delivery:** It refers how the service is rendered to the customer
- **Social responsibility:** Developing business with a positive relationship to the society in which they operate ultimately can create benefit/satisfaction

1.6. Significance of the Study

This study has much significance for policy and decision makers to monitor, control and improve their service at the level of customers' satisfaction. It can also be used as a measurement tool for comparing the performance of AALR system with reference to users' satisfaction. It can also help the Railway Corporation to enhance service quality standards in users' rail transit sector and achieve its mission of expanding user railways transport services. It would help the corporation to improve public mobility by respecting customers and satisfying their needs with satisfactory and reliable service delivery based on such type of research findings. In the Future, this research can serve as a potential reference for those individuals who want to conduct further studies on the same or related areas.

1.7. Scope of the Study

This research paper was limited by taking as a respondent only those users that was waiting their travel at each randomized selected station of the rout from Torhailoch to Hayat. Therefore, other users' of the AALRT system who was at the selected stations of the rout at the time of the data collection was not considered.

1.8. Limitation of the Study

The selected sample for this investigation might not be the true representative for the entire passengers of the light rail transit. This may lead to obscurity to generalize the study. Additionally, the information which was collected through questionnaire may not be filled by the respondents heartily, properly and accurately.

1.9. Organization of the paper

This paper has been divided into five chapters; the first chapter is an introduction and which contains the background of the study, statements of the problem, research questions, general and specific objectives, significance, scope, and limitation of the study. The second chapter deals with previous theoretical and empirical studies that are related to the research topic have been reviewed. The third chapter was concerned with the methodology used for the study. The fourth chapter shows data, analyze, interpretation and presentation of the result. The final chapter outlines summary of findings, conclusions, recommendations, and suggestions for future studies would have been addressed.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This Chapter assessed the various theoretical bodies of knowledge and major theories on service quality operations as well as empirical literature review where the authoritative definitions of service quality, determinants, measurement and Service quality at AALRT users' services is reviewed. The section summarized the relationship between Service quality and Customer satisfaction as established in the review and finally explaining the Conceptual framework for the study.

2.1. Customer Satisfaction

Customer satisfaction is the overall level of attainment of a customer's expectations. It is measured as the percentage of customer expectations which has actually been fulfilled.

According to Klaus,(1985), satisfaction is the consumer's subjective evaluation of a consumption experience, based on some relationship between the consumer's perceptions and objective attributes of the product/service" Satisfaction from service quality is usually evaluated in terms of technical quality and functional quality (Gronroos 1984). Usually, customers do not have much information about the technical aspects of a service and therefore, functional quality becomes the major factor from which to form perceptions of service quality (Donabedian 1980,1982). One of the most important factors and antecedents of customer satisfaction is quality of services.

The consequences of customer satisfaction are loyalty (Kotler & Armstrong, 2007) and repurchase intention (Anderson & Sullivan, 1993) which leads companies to more profit. One of the most important factors and antecedents of customer satisfaction is quality of services.

Providing service quality is widely recognized as a critical business requirement (Voss et al, 2004; Vilares & Coehlo, 2003; Van der Weile et al, 2002) in order to keep and attract more Users'.

Vanniarajan and Stephen (2008) identified the attributes that User's use to evaluate the service quality of railways as reliability, assurance, empathy, tangibles, and responsiveness. Agrawal

(2008) identified employee behavior as most important determinant of customer (user) satisfaction with Indian Railway services.

2.2. The Relationship between Customer Satisfaction & Service Quality

Service quality and customer satisfaction are very important concepts that companies must understand in order to competitive in the business and hence grow. It is very important for companies to know how to measure the qualities from customers' perspectives so as to better understand their needs and satisfy them. Service quality is considered very important since it leads to higher customer satisfaction, profitability, reduced cost, customer loyalty and retention (Zeithmal & Berry, 1994). Since customer satisfaction has been considered to be based on the customer's experience on a particular service encounter, (Cronin & Taylor, 1992) it is in line with the fact that service quality is a determinant of customer satisfaction, because service quality comes from outcome of the services from service providers in organizations. Definitions of consumer satisfaction relate to a specific transaction (the difference between predicted service and perceived service) in contrast with „attitudes“, which are more enduring and less situational-oriented,” (Lewis, 1993, p. 4-12). This is in line with the idea of Zeithaml et al (2006, p. 106-107). Regarding the relationship between customer satisfaction and service quality, Oliver (1993) first suggested that service quality would be antecedent to customer satisfaction regardless of whether these constructs were cumulative or transaction-specific. Some researchers have found empirical supports for the view of the point mentioned above (Anderson & Sullivan, 1993; Fornell et al 1996; Spreng & Macky 1996); where customer satisfaction came as a result of service quality.

In relating customer satisfaction and service quality, researchers have been more precise about the meaning and measurements of satisfaction and service quality. Satisfaction and service quality have certain things in common, but satisfaction generally is a broader concept, whereas service quality focuses specifically on dimensions of service. (Wilson et al., 2008, p. 78). Although it is stated that other factors such as price and product quality can affect customer satisfaction, perceived service quality is a component of customer satisfaction (Zeithaml et al. 2006, p. 106-107). This theory complies with the idea of Wilson et al. (2008) and has been confirmed by the definition of customer satisfaction presented by other researchers.

It has been proven from past researches on service quality and customer satisfaction that Customer satisfaction and service quality are related from their definitions to their relationships with other aspects in business. Some authors have agreed to the fact that service quality determines customer

satisfaction. Parasuraman et al., (1985) in their study, proposed that when perceived service quality is high, then it will lead to increase in customer satisfaction.

2.3. Theories of Customer Satisfaction

2.3.1. Assimilation Theory

Assimilation theory is based on Festinger's (1957) dissonance theory. Dissonance theory posits that consumers make some kind of cognitive comparison between expectations about the product and the perceived product performance. This view of the consumer post-usage evaluation was introduced into the satisfaction literature in the form of assimilation theory. According to Anderson (1973), consumers seek to avoid dissonance by adjusting perceptions about a given product to bring it more in line with expectations. Consumers can also reduce the tension resulting from a discrepancy between expectations and product performance either by distorting expectations so that they coincide with perceived product performance or by raising the level of satisfaction by minimizing the relative importance of the disconfirmation experienced.

2.3.2. Contrast Theory

Contrast theory was first introduced by Hovland, Harvey and Sherif (1987). Dawes et al (1972) define contrast theory as the tendency to magnify the discrepancy between one's own attitudes and the attitudes represented by opinion statements. Contrast theory presents an alternative view of the consumer post-usage evaluation process than was presented in assimilation theory in that post-usage evaluations lead to results in opposite predictions for the effects of expectations on satisfaction. While assimilation theory posits that consumers will seek to minimize the discrepancy between expectation and performance, contrast theory holds that a surprise effect occurs leading to the discrepancy being magnified or exaggerated.

According to the contrast theory, any discrepancy of experience from expectations will be exaggerated in the direction of discrepancy. If the firm raises expectations in his advertising, and then a customer's experience is only slightly less than that promised, the product/service would be rejected as totally un-satisfactory. Conversely, under-promising in advertising and over-delivering will cause positive disconfirmation also to be exaggerated.

2.3.3 Expectancy Theory

The most widely accepted theory of customer satisfaction is the expectancy disconfirmation theory (Barsky, 1992). The theory was developed by Oliver (1980), who proposed that satisfaction level is a result of the difference between expected and perceived performance. Satisfaction (positive disconfirmation) occurs when product or service is better than expected.

2.3.4. Consistency Theory

Consistency theories suggest that when the expectations and the actual product performance do not match the consumer will feel some degree of tension. In order to reduce this tension, the consumer will make adjustments either in expectations or in the perceptions of the product's actual performance. Four theoretical approaches have been advanced under the umbrella of consistency theory: Assimilation theory, Contrast theory, Assimilation-Contrast theory and Negativity theory (Peyton et al, 2003).

2.3.5. Assimilation –Contrast Theory

Assimilation-contrast theory was introduced by Anderson (1973) in the context of post-exposure product performance based on Sherif and Hovland's (1961) discussion of assimilation and contrast effect.

Assimilation-contrast theory suggests that if performance is within a customer's latitude (range) of acceptance, even though it may fall short of expectation, the discrepancy will be disregarded – assimilation will operate and the performance will be deemed as acceptable. If performance falls within the latitude of rejection, contrast will prevail and the difference will be exaggerated, the produce/service deemed unacceptable.

The assimilation-contrast theory has been proposed as yet another way to explain the relationships among the variables in the disconfirmation model. This theory is a combination of both the assimilation and the contrast theories. "This paradigm posits that satisfaction is a function of the magnitude of the discrepancy between expected and perceived performance. As with assimilation theory, the consumers will tend to assimilate or adjust differences in perceptions about product performance to bring it in line with prior expectations but only if the discrepancy is relatively small.

Assimilation-contrast theory attempts to illustrate that both the assimilation and the contrast theory paradigms have applicability in the study of customer satisfaction "...hypothesize variables other than the magnitude of the discrepancy that might also influence whether the assimilation effect or the contrast effect would be observed.... when product performance is difficult to judge, expectations may dominate and assimilation effects will be observed... contrast effect would result in high involvement circumstances. The strength of the expectations may also affect whether assimilation or contrast effects are observed".

Assimilation-Contrast theory suggests that if performance is within a customer's latitude (range) of acceptance, even though it may fall short of expectation the discrepancy will be disregarded – assimilation will operate and the performance will be deemed as acceptable. If performance falls within the latitude of rejection (no matter how close to expectation), contrast will prevail and the difference will be exaggerated, the product deemed unacceptable.

2.3.6. Negativity Theory

This theory developed by Carlsmith and Aronson (1963) suggests that any discrepancy of performance from expectations will disrupt the individual, producing 'negative energy'. Negative theory has its foundations in the disconfirmation process. Negative theory states that when expectations are strongly held, consumers will respond negatively to any disconfirmation. "Accordingly, dissatisfaction will occur if perceived performance is less than expectations or if perceived performance exceeds expectations.

This theory developed by Carlsmith and Aronson (1963) suggests that any discrepancy of performance from expectations will disrupt the individual, producing "negative energy." Affective feelings toward a product or service will be inversely related to the magnitude of the discrepancy.

2.3.7. Disconfirmation Theory

Disconfirmation theory argues that 'satisfaction is related to the size and direction of the disconfirmation experience that occurs as a result of comparing service performance against expectations'. Szymanski and Henard found in the meta-analysis that the disconfirmation paradigm is the best predictor of customer satisfaction. Ekinici et al (2004) cites Oliver's updated definition on the disconfirmation theory, which states "Satisfaction is the guest's fulfilment response. It is a judgement that a product or service feature, or the product or service itself, provided (or is

providing) a pleasurable level of consumption-related fulfilment, including levels of under- or over-fulfilment”.

Research also indicates that how the service was delivered is more important than the outcome of the service process, and dissatisfaction towards the service often simply occurs when guest’s perceptions do not meet their expectations.

2.3.8. Cognitive Dissonance Theory

Cognitive dissonance is an uncomfortable feeling caused by holding two contradictory ideas simultaneously. The theory of cognitive dissonance proposes that people have a motivational drive to reduce dissonance by changing their attitudes, beliefs, and behaviours, or by justifying or rationalizing them.

The phenomenon of cognitive dissonance, originally stated by Festinger in 1957, has been quickly adopted by consumer behaviour research. “Described as a psychologically uncomfortable state that arises from the existence of contradictory (dissonant, non-fitting) relations among cognitive elements (Festinger 1957) cognitive dissonance revealed high exploratory power in explaining the state of discomfort buyers are often in after they made a purchase.

2.3.9. Adaptation-Level Theory

Adaptation-level theory is another theory, which is consistent with expectation and disconfirmation effects on satisfaction. This theory was originated by Helson in 1964 and applied to customer satisfaction by Oliver. Helson (1964) simply put his theory as follows:

“it posits that one perceives stimuli only in relation to an adapted standard. The standard is a function of perceptions of the stimulus itself, the context, and psychological and physiological characteristics of the organism. Once created, the ‘adaptation level’ serves to sustain subsequent evaluations in that positive and negative deviations will remain in the general vicinity of one’s original position. Only large impacts on the adaptation level will change the final tone of the subject’s evaluation”.

2.3.10. Equity Theory

This theory is built upon the argument that a “man’s rewards in exchange with others should be proportional to his investments”.An early recognition of this theory first came out of research by

Stouffer and his colleagues in military administration. They referred to ‘relative deprivation’ (equity) as the reaction to an imbalance or disparity between what an individual perceives to be the actuality and what he believes should be the case, especially where his own situation is concerned. In other words, the equity concept suggests that the ratio of outcomes to inputs should be constant across participants in an exchange. As applied to customer satisfaction research, satisfaction is thought to exist when the customer believes that his outcomes to input ratio is equal to that of the exchange person.

2.3.11. Dissonance Theory

A decidedly different outcome is offered by applying Festinger’s Theory of Cognitive dissonance. Applying Festinger’s ideas to affirmation and disconfirmation of expectation in satisfaction work, one concludes that customers might try to eliminate any dissonant experiences (situations in which they have committed to an apparently inferior product or service).

Dissonance theory would predict that a customer experiencing lower performance than expected, if psychologically invested in the product or service, would mentally work to minimize the discrepancy. This may be done either by lowering expectations (after the fact) or, in the case of subjective disconfirmation, positively increasing the perception of performance.⁶⁰

2.3.12. Cue Utilization Theory

Cue utilization theory argues that products or services consist of several arrays of cues that serves as surrogate indicators of product or service quality. There are both intrinsic and extrinsic cues to help guests determine quality, where the intrinsic cues provide information on the physical attributes of the product or service, whereas extrinsic cues are product related to provide information such as brand and price”.

2.3.13. Hypothesis Testing Theory

Deighton (1983) suggested a two-step model for satisfaction generation. “First, Deighton hypothesizes, pre-purchase information (largely advertising) plays a substantial role in creating expectations about the products customers will acquire and use. Customers use their experience with products / services to test their expectations. Second, customers will tend to attempt to

confirm (rather than disconfirm) their expectations. This theory suggests customers are biased to positivity confirm their product/service experience.

2.4. Models of Customer Satisfaction Measurement

Organizations analyze customer satisfaction with various customer satisfaction models. Different models clarify different theories of customer satisfaction.

2.4.1. SERVQUAL

The SERVQUAL instrument has been widely applied in a variety of service industries, including tourism and hospitality. The instrument was used to measure hotel employee quality as well.

Parasuraman, Zeithamal and Berry (1988) built a 22-item instrument called SERVQUAL for measuring consumer perceptions of service quality. SERVQUAL addresses many elements of service quality divided into the dimensions of tangibles, reliability, responsiveness, assurance, and empathy.

A number of researchers have applied the SERVQUAL model to measure service quality in the hospitality industry, with modified constructs to suit specific hospitality situations.

The most widely accepted conceptualization of the customer satisfaction concept is the expectancy disconfirmation theory. “The theory was developed by Oliver (1980), who proposed that satisfaction level is a result of the difference between expected and perceived performance. Satisfaction (positive disconfirmation) occurs when product or service is better than expected. On the other hand, a performance worse than expected results with dissatisfaction (negative disconfirmation)”.

Providing services those customers prefer is a starting point for providing customer satisfaction

A relatively easy way to determine what services customer prefers is simply to ask them.

2.4.2. Kano Model

The Kano model is a theory developed in the 80’s by Professor Noriaki Kano and his colleagues of Tokyo Rika University. The Kano et al (1996) model of customer satisfaction classifies attributes based on how they are perceived by customers and their effect on customer satisfaction. The model is based on three types of attributes viz. basic or expected attributes, (2) performance or spoken attributes, and (3) surprise and delight attributes.

The performance or spoken attributes are the expressed expectations of the customer. The basic or expected attributes are as the meaning implies the basic attributes without any major significance of worth mentioning. The third one, the surprise and delight attributes are those, which are beyond the customers' expectations.

Kano model measures satisfaction against customer perceptions of attribute performance; grades the customer requirements and determines the levels of satisfaction. The underlying assumption behind Kano's method is that the customer satisfaction is not always proportional to how fully functional the product or service is or in other words, higher quality does not necessarily lead to higher satisfaction for all product attributes or services requirements. In his model, Kano (Kano, 1984) distinguishes between three types of basic requirements, which influence customer satisfaction. They are: (1) Must be requirements – If these requirements are not fulfilled, the customer will be extremely dissatisfied. On the other hand, as the customer takes these requirements for granted, their fulfilment will not increase his satisfaction; One-dimensional Requirement – One dimensional requirements are usually explicitly demanded by the customer – the higher the level of fulfilment, the higher the customer's satisfaction and vice versa. (3) Attractive Requirement – These requirements are the product/service criteria which have the greatest influence on how satisfied a customer will be with a given product". The additional attributes, which Kano mentions, are: Indifferent attributes, Questionable attributes, and Reverse attributes.

2.4.3. SERVPERF

The performance-based service quality (SERVPERF) was identified by Cronin and Taylor (1992). Cronin and Taylor proposed the SERVPERF instrument, which is a more concise performance-based scale; an alternative to the SERVQUAL model. The perceived quality model postulates that an individual's perception of the quality is only a function of its performance. Cronin et al. (1994) continue to debate between the effectiveness of SERVQUAL and SERVPERF for assessing service quality. The authors remained unconvinced of both, that including customer expectations in measures of service quality is a position to be supported, and that SERVPERF scale provides a useful tool for measuring overall service quality.

Moreover, Lee et al (2000) empirically compare SERVQUAL (performance minus expectations) with performance-only model (SERVPERF). The authors also conclude that the results from the

latter appeared to be superior to the former. It has been acknowledged that such approach limits the explanatory power of service-quality measurement.

One of the most important elements in customer satisfaction and company profitability is quality of service. In addition, managers need to identify weaknesses and consider planning for improvement in quality, thereby improving efficiency, profitability and overall performance. Because of that, interest in this area (service quality) has increased during recent decades and researchers have continued to find the best way of measuring quality from the customer perspective (Rohaizat Baharun and Setareh Feiz, 2012). In the world of business, customers are crucial. Companies must keep satisfying their customers to improve profitability and market share to survive in the competition. Companies need to find what their customers need, what they want, and what they value. In recent decades, scientists found that the quality of services has a significant influence on customer satisfaction and customer loyalty and therefore profitability (Baharun et al, 2012).

Researchers believe that the service quality theory is based on the literature of customer satisfaction and product quality (Brady & Cronin, 2001). There are many service quality models but scientists are not of one mind about these models and measurements. Service quality has different dimensions regarding the various service sectors (Pollack, 2009) nevertheless, service quality measurement enables managers to recognize quality problems and enhance the efficiency and quality of services to exceed expectations and reach customer satisfaction.

In recent decades, many models have been developed for measuring service quality and the first attempt was by Gronroos in 1984 who distinguish between technical quality as an outcome for performance of service and functional quality as a subjective perception of service delivered.

Various scholars have considered different dimensions of service quality and there are many service quality models but scientists are not of one mind about these models and measurements. (Baharun, et al, 2012). Service quality has different dimensions regarding the various service sectors (Pollack, 2009).

2.4.4. Service Quality

American society for quality (ASQ) defines quality as the total features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs. A service is an

activity or series of activities of more or less intangible nature. It normally, but not necessarily, takes place in interactions between customers and service employees and/or physical resources or goods and/or systems of the service provider (Shahin, 2006). For services, the assessment of quality is made during the service delivery process. Service quality has been defined as customer perception of how well a service meets or exceeds their expectations (Czepiel 1990). Service quality can be measured in terms of customer perception, customer expectation, customer satisfaction, and customer attitude (Sachdev and Verma 2004). Ekinci (2003) indicates that service quality leads to customer satisfaction. Rust and Oliver (1994) define satisfaction as the “customer fulfillment to put forth the role of service quality in affecting customer satisfaction.

According to the research of Parasuraman *et al.* (1988) and Sasser, Olsen and Wyckoff (1978), service quality, as perceived by consumers, stems from a comparison of what they feel service firms should offer with their perceptions of the actual performance of firms providing the service. According to Van Pham and Simpson (2006), various factors are thought to influence consumer expectations and that service quality expectations are based on the notion of what a consumer feels a service provider should offer (desires or wants) and can be construed as predictions rather than what they would offer (satisfaction association).. Parasuraman *et al.* (1988) intimates that perceived service quality is the degree and direction of discrepancy between consumer’s perceptions and expectations. Perceived service quality could be due customer’s previous experience, opinion leaders or communication about a service in an organization. Customer satisfaction has been commonly accepted as an indicator of service quality (Geetika et al. 2008; Sachdev and Verma 2004; Ekinci 2003; Czepiel 1990). However, the literature shows that there is no consensus on the determinants of service quality and different dimensions of service quality have been considered by various researchers in different sectors.

Table.1 Reviewed Related Literature

References	Country	Study Area	Results of the study in relation with customer satisfaction
Jane Aoko Okoth(2017)	Kenya	Public transport	Factors influencing customer satisfaction in public transport
Buluma (2014)	Kenya	Rail	Eight service quality dimensions of the

			SERVQUAL model
M. Devi Prasad B. Raja Shekhar	India	Rail	Factors Affecting customer satisfaction <ul style="list-style-type: none"> • Tangibility • Reliability • Responsiveness • Assurance • Empathy • Comfort • Convenience • social responsibility
Haileyesus Alebachew	Ethiopia	Rail	service qualities perceived value customers' level of satisfaction
Andrew Morris Kundi(2013)	Tanzania	Bus transport	Tangibles, Reliability, Responsiveness, Competence, Courtesy, Credibility, Security, Access, Communication
Mary Louis Temba	Tanzania	Telecommunication	SERVQUAL models of five dimensions
Das et.al (2013)	Malyasia	Public transport	Service waiting area, escalator, quality and quantity seats in the train and comfort.
Syed Muhammad Irfan, Daisy Mui Hung Kee and Saman Shahbaz(2012)	Malyasia	Rail transport	Tangible, Empathy, Assurance, Safety Information, Food, Responsiveness, Timeliness
Khan Rubayet RAHAMAN	Bangladish	Rail Transport	Tangible, Empathy, Assurance, Comfort, safety and Security
Dr.J. ANURADHA		Rail Transport	SERVQUAL models of five dimensions and speed, comfort and Frequency
Sheeba. A. Al Dr. K. Kumuthadevi(2013)	India	Rail	Hygiene, safety and security, Catering, Health care service, Punctuality and Behavior towards passengers

2.5. Factors Affecting Customers Satisfaction

2.5.1 Tangibility

Tangibles refer to the appearance of facilities, equipment, staff and communications (Bateson and Hoffman, 2011) and provide physical representations that customers will use to evaluate service quality. On the human front, the appearance of staff should be neat and tidy. Service performance should go beyond tangible forms. Most organizations use a combination of tangibles and other dimensions to develop a service quality strategy for the firm (Zeithaml, Bitner and Gremler, 2006).

2.5.2. Reliability

In the railway network reliability is one of the biggest problems in the daily operations of a railway system (Berger et al, 2011). It refers to the consistencies of the service delivered to passengers. A study presented by Van and Van (2010), the reliability of transport influenced by the rail quality and efficiency. Reliability is a very important factor when choosing any mode of transport used. The higher the reliability of the system, the more it sells, which can be applied to light rail transit systems (Emmanuel & Solomon, 2015).

Additionally, reliability expressed as how much the travel time is dependable across different routes, times of the day, days of the week and month of the year (Vincent &Hamilton, 2008). The issues of reliability have an important connotation for both commuters' and operators (Parasuraman et al, 2004). Passengers believe that in public transportation there is a high degree of unreliability to reach customer destination according to what they scheduled. For operators making themselves more reliable, they reflect trusted by others and saving their resources (Kaas et al, 2008).

Moreover, a study which was conducted in china on passengers' satisfaction for train service indicated that punctuality and reliability have a significant effect on commuters' satisfaction (Rabiul et al, 2014).

2.4.3. Responsiveness

Dale (2003) defines responsiveness as the willingness to assist customers and to provide prompt service on a continuous basis. Responsiveness is present in the time period that customers have to wait for help, receive answers to queries or attention to problems as well as the ability to develop customised solutions for customers. The staff at the organisation must be willing and ready to serve and help customers. It is crucial that staff members are knowledgeable about the service they represent. Blose and Tankersley (2004) contend that, whether the interaction occurs face-to face or telephonically, the degree to which the service personnel exhibit the ability to handle such matters effectively, and whether they care about attending to the customers' request, will undoubtedly impact on perceptions of service quality.

2.5.4. Assurance

Assurance relates to the competence of the staff in providing a courteous and secure service. Arasli, Mehtap-Smadi and Katircioglu (2005) contend that assurance constitutes the employees' knowledge, courtesy and ability to inspire trust and confidence in the customer. This dimension is of crucial importance to services since customers are confronted with a high level of risk or uncertainty about their ability to evaluate outcomes. To Dhurup, Singh and Surujlal (2006), assurance represents courtesy, credibility and competence on the part of employees. Bruhn and Georgie (2006) advocate that assurance is associated with the service provider 's capability to deliver the output, especially in terms of the knowledge, politeness and trustworthiness of the employees.

2.5.5. Empathy

Empathy relates to providing caring and individualized attention to the customer. The focal point of empathy highlights the message that customers are unique and special. Curry and Sinclair (2002) view empathy as providing caring, individualized attention to its customers. The number of customers that the service provider has to deal with at one given time has an influence on the level of individual attention given to each customer. Yeo (2008) states that there is a greater need for managers to adopt a customer-orientation by showing a human dimension to their interaction with customers. Listening, understanding and communicating with the customer forms the cornerstone of empathy.

2.5.6. Comfort

Comfort refers to the extent to which the passengers will be saved from dissatisfaction during their trip (Emmanuel and Solomon, 2015; Mammo, 2010). Other researchers also argued that comfort is the overall cleanliness of the train (Hundal and Kumar, 2015). When a passenger gets on the train, looking for a seat, litters and junks left behind by other customers' raises dissatisfaction. Nobody wants to be in a dirty atmosphere. The cleanliness of stations and trains are aspects that are considered necessary and mandatory for passengers. It is usual to have a periodic cleaning of the area open to the public (Parasuraman et al, 2004; Hundal and Kumar, 2015).

2.5.7. Service Delivery

The positive relationship between quality service and customer satisfaction is longstanding (Kotler & Armstrong, 2010; Lee, 2013), and evidence of the collective influence of quality service and customer satisfaction factors on customer loyalty, organizational competitiveness and optimum performance is widely acknowledged in the marketing literature (Lee, 2013; Reichheld & Sasser, 2000; Disney, 1999; Heskett, Sasser, & Schlesinger, 1997).

Consistently, numerous studies have shown quality service delivery and customer satisfaction to be associated with loyal customers, repeat purchase, and the organization's propensity to retain its customers over longer period of time (Lee, 2013; Anderson, Fornell, & Lehman, 1994; Berry, et. al, 1983). Notions of positive relationship between quality service, customer satisfaction, loyalty and hence organizational performance are therefore widespread and long held among researchers and marketing practitioners. Driving the academic and industry interests in such linkages and relationships are three perceptions. The first belief is that quality products and associated services designed specifically to meet customer needs would lead to high customer satisfaction.

Second it is deeply held that when customers are satisfied, they become loyal to the organization and also engage in customer loyal behavior outcomes including repeat purchase, good word of mouth propaganda for the organization, and third, that when such positive behavior outcomes results in increased financial, organizational performance and competitiveness (Naumann, Williams & Khan, 2009; Jones & Sasser, 1995). However, though this relationship between quality service, customer satisfaction, and loyalty appears known among marketing and

management scholars for a long time, what is new and emerging is what level of service quality and customer satisfaction leads to or is necessary for loyalty and retention of customers. Gale (1997) underscored this new thinking by indicating that ‘satisfaction is not enough to keep customers loyal, with other scholars arguing that such controversy should be expected because the environments within which organizations compete change often and customers themselves cannot be predicted for a long time. What constitutes a satisfactory service today might not be so the next few years. Disney (1999) claims that customer expectations change significantly and forces of competition, technology, and demographic factors contribute heavily to this frequent customer changes.

According to Alexander (2010), increasingly, business organizations are facing stark realities that satisfying customers at an ordinary or basic level would be inadequate to insure customer loyalty. Findings in a study by Jones and Sasser (1995) have undermined the long-held view that satisfied

2.5.8. Social Responsibility

According to the World Bank CSR is “the commitment of the business to contributes economics developments working with employees, their families, local community, and society to improve quality of life, in ways that are both good for the business and good for development” (Chung, Yu, Choi, & Shin, 2015). CSR is an effort and responsibility of company to avoid the hurdles or reduces harmful effects and maximizing long run positive impact and image on society (Moon, 2002). In earlier thoughts organizations were only think and seeking for the maximization of the profit and shareholders’ wealth only. CSR is the commitment of organization to improve community by business practices and contribution of resources (Kotler & Lee, 2008).

There are lots of researches that shown the support as well as detract the concept of Social Corporate Responsibility. Where articles argued for CSR, some were against the CSR (Carroll & Shabana, 2010). CSR is a commitment of companies to reducing all harmful effects and maximizing wealth and its long-run beneficial impact on society or community (Mohr, Webb, & Harris, 2001). Companies have become increasingly interested in CSR, as it seems to have a positive impact on consumers’ affective and behavioral responses (Sen & Bhattacharya, 2001).

Planning and initiatives to the social problem is better than to react against them (Carroll, Buchholtz, & Business, 2000). Widely accepted and implemented definition of (Carroll, 1979, 1991) about CSR is stating “the social responsibility of business encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations.” This

definition has become fairly widely accepted (Mohr, Webb, & Harris, 2001) and emphasizes four principle types of responsibilities; economic, legal, ethical and philanthropic (Matten & Crane, 2005).

2.6. Conceptual Framework

The conceptual frame work states that an effect of five service quality dimensions on customer satisfaction. If the customer highly satisfied generally, buys more repeatedly as the company introduces new products and upgrading existing products and talks favorably to others about the company and its products.

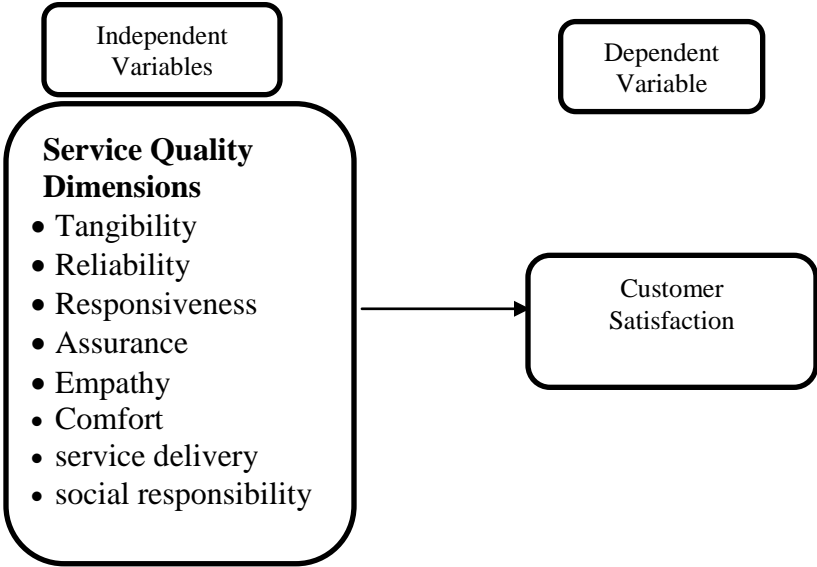


Fig.1. Conceptual Framework
(Buluma,2014)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Approach & Method

This study is a descriptive and correlational types of research based on survey method. This was employed because this study required determining existence of relationships among variables. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables (Bryman & Bell, 2003). Thus, this approach is appropriate for this study as it helped to describe the state of affairs as they existed without manipulation of variables (Kothari, 2004). The survey questionnaires in this study is developed based on service dimensions such as Tangibility, Reliability, Responsiveness, Assurance and Empathy, comfort, service delivery and social responsibility. Users that were waiting their travel at each randomized selected station of the rout from Torhailoch to Hayat were part of the respondents. Therefore, other user of the AALRT system who was not at the selected stations of the rout at the time of the data collection was considered.

In addition, in order to enrich the findings of the study interview with three users is conducted and analyzed.

According to Dawson (2002) there are three types of research approach, quantitative, qualitative and mixed approach. Based on this, the researcher used both quantitative and qualitative (Mixed) approaches in order to answer the study objectives on service quality and customer satisfaction in AALRT. The purpose of quantitative research is to gather, analyze and measure statistical data. On the other hand, the purpose of the qualitative approach is to explore the condition or situation of AALRT that could be the main drivers of satisfaction of passengers as it is observed and perceived by the researcher. For this approach attributes observed and listed and their condition is narrated.

3.2. Population and Sampling Techniques

According to Hair, et al (2008) defined a targeted population as consisting of the complete group of elements (people or objects) that are identified in the investigation based on the objectives of the research. The target population for this study was Addis Ababa Light rail

users in the East-West (Torhailoch to Ayat) line. Age 20 and above were included in the study. Those individuals below 20 were not part of the study. The population of the study is 64850.

The line has a total of 22 stations, among these stations; the researcher has got the estimated passengers' data that traveled per day in the line of stations.

The basic idea of sampling is selecting some units for example people, organizations from a population of interest so that by studying the sample researcher can draw conclusion about the entire population (Social research method, 2015). To eliminate systematic bias and due to large population of User's using train services, the study has taken a survey approach.

For this study, the researcher selected sample of respondents by non-probability sampling technique, convenient sampling basis. Passengers nominated from randomly picked waiting stations on arrival at the right time as a representative of the target population. Tull and Hawkins (1990 in Edwards, 2004) define survey research as the systematic gathering of information from respondents in order to understand and predict some aspect of behavior of the population of interest, generally in the form of a questionnaire and interview.

Table.3.1. Estimated average passengers per day in each line

Station Name(E-W)	Estimated Daily Average passenger/ridership	Adjusted daily average passenger
Ayat	8077	8077
Meri	1982	1982
CMC	2393	2393
St. Michael	1657	1657
Civil Service College	1193	1193
Management Institute	727	727
Gurd Shola I	2507	2507
Gurd Shola II	886	886
Megenagna	7847	7847
Lem Hotel	1458	1458
Hayahulet I	2101	2101
Hayahulet II	2055	2055
St.Urael	2362	2362
Bambis	1605	1605
St.Estifanos	2123	2123
Stadium	6075	3038

Leghar	4235	2118
Mexico	3555	1778
Tegbared	5158	2579
St.Lideta	-	-
Cocacola	1959	1959
Torhailoch	14405	14405
Total	74630	64,850

Source: AALRT Service data generated, 2017

Table.3.2. Total number of population and proportion of samples taken from each station

Station name	Number of passenger in each branche	Numner of sample in each branch
Ayat	8077	70
CMC	2393	21
Mangement Institute	727	6
Megenagan	7847	68
Hayahulet 1	2055	18
Urael	2362	21
Estifanos	2123	19
Stadium	3038	27
Tegbared	2579	23
Torhailoch	14405	126
Total	45606	398
Total number of sample size respondents 398		

Source: AALRT quality control office 2017

To this study to determine the sample size, the researcher used formula. The ample size determined by the statistical formula that was developed by Taro Yamane in 1967.

$$n = \frac{N}{1 + N(e^2)}$$

Where: n=number of sample size

N=Number of total targeted population

e=error (at 95 % confidence interval)

$$n = \frac{64,850}{1 + 64,850(0.0025)}$$

$$n = \frac{64,850}{163.12}$$

$$=397.55$$

$$=398$$

Hence the study used 398 sample populations. In this study 398 questionnaires distributed randomly to meet up to the required level of number of response from the target respondents for 16 days from (January 18 up to February 02/2018 and From February 03-09,2018) to voluntary respondents at the station and when the rail was traveled. Respondents were asked during peak, off and weekend time.

3.3. Study Area

Addis Ababa is the capital city of Ethiopia. It is located on a plateau high in the central mountains of Ethiopia. Addis Ababa is the highest city in Africa and located at 8,000 feet (2,450 meters) above sea level. These days, Addis Ababa found in the lines of development due to rural to urban migration, foreign direct investment, accessibility of jobs and infrastructure and the sum effects of these creates challenges in transportation in the city like a traffic accident, collusion, long waiting times, high fare and congestion. To solve this problem, the government builds a light rail transit line which extended from North-South and East-West direction.

The light rail transit has a total length of 34.25 km. The North-South line covers 17.35km (from Kality to Menelik) and opened in September 2015. Similarly, the East-West line tautens 16.9 km (from Ahyat to Toreayloch) and started its operation in November 2015. The two lines run parallel for 2.7 km (Ethiopian railway gazette, 2015). The rail transit has a total of 39 stations' and the passenger can buy tickets from all stations with the exception of Lideta. The rout from East - West stations is our study area and listed below in the following table (3.3) based on its direction, meaning East –West route.

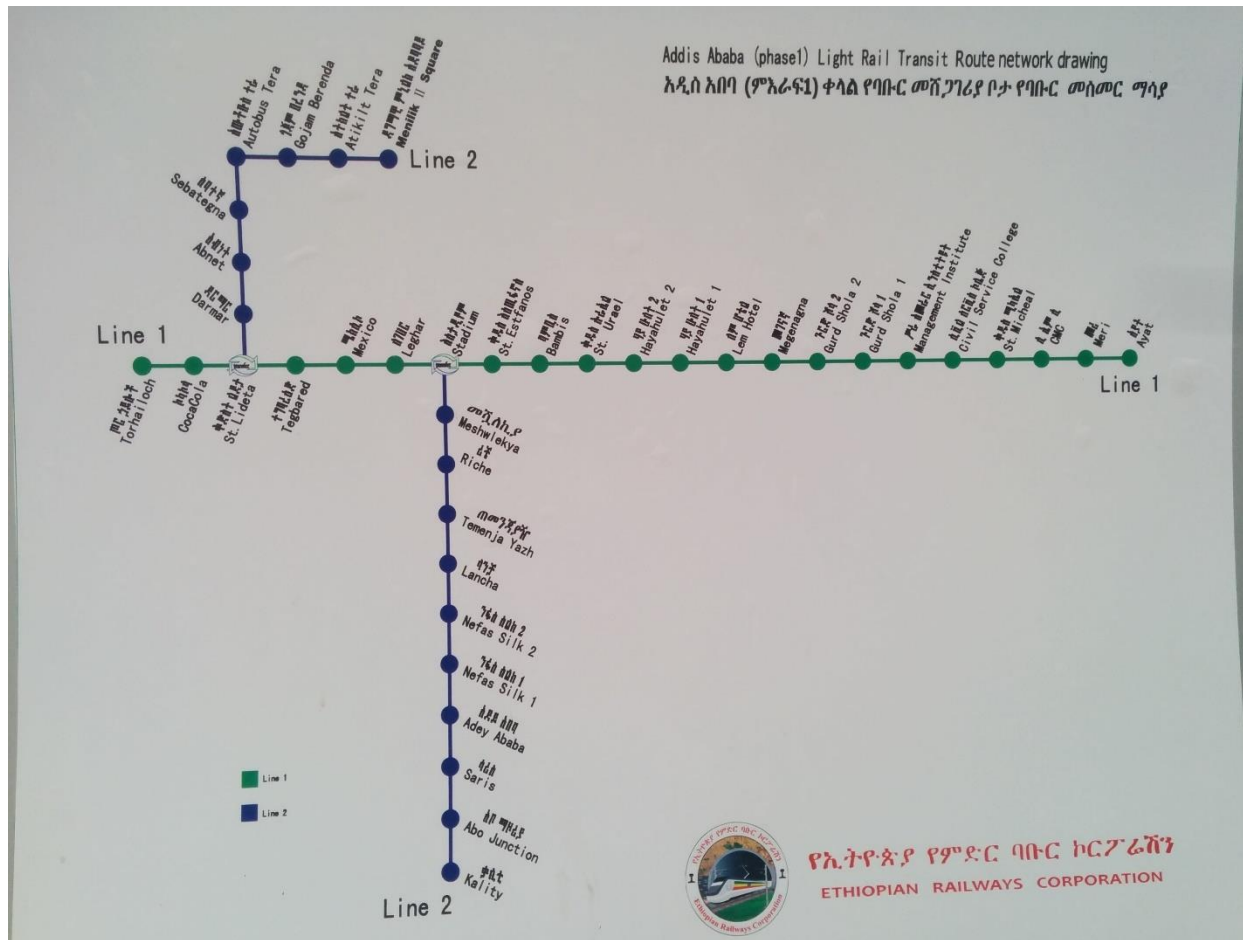
Table 3.3. List of 22 stations of AALRT East-West rout

No	Direction	Station Area
1	EW1	Ayat
2	EW2	Meri
3	EW3	Cmc
4	EW4	Micaeal
5	EW5	Civil service
6	EW6	Sera amerar
7	EW7	Gurd shola 1
8	EW8	Gurd shola 2
9	EW9	Megengna
10	EW10	Leme hotel
11	EW11	Hayhulet 1
12	EW12	Hayhulet 2
13	EW13	Urael
14	EW14	Bambise
15	EW15	Estifanos
16	NS16	Stadium
17	NS17	Laghar
18	NS18	Mexico
19	NS19	Tagibare eid
20	NS20	Lideta
21	EW21	Coca
22	EW22	Torayeloch

Source: (AALRT Office, 2017)

- ❖ Ew.....East-West.
- ❖ NS20: Station is not functional (excluded from the study).
- ❖ From: NS16-NS20 are **Common stations**.

Fig1.2. Addis Ababa Light Rail Transit Route Network Map



Source: Camera Snap shoot ,2018

3.4. Methods of Data Collection

Primary data had collected using a questionnaire. The questionnaire consisting of 39 statements that was grouped and related to one of the eight service quality dimensions of the SERVQUAL model is administered to 398 User’s (respondents) so as to understand the importance and satisfaction of each quality dimensions. Likert scale with five response categories was used 1=Strongly dissatisfied, 2= Dissatisfied, 3=Somewhat Satisfied 4=Satisfied, 5=Strongly Satisfied. “The Likert scale method is preferred to make questions interesting to respondents and thereby enhance their cooperation, ultimately to ensure maximum response rate” (Robson Colin, 2002).

Semi-structured interviewing, according to Bernard (1988), is best used when you won't get more than one chance to interview someone and when you will be sending several interviewers out into the field to collect data.

According to Bless & Higson (2000) interviews in qualitative research has many implications such as; to empower the respondent, allow clarifications of data, provide a good balance between richness and replicability and give researchers access to people's ideas, thoughts and memories in their own words, rather than in the words of the researcher

Semi-structured interviews are often preceded by informal and unstructured interviewing in order to allow the researchers to develop a keen understanding of the topic of interest necessary for developing relevant and meaningful semi-structured questions.

The inclusion of open-ended questions and training of interviewers to follow relevant topics that may stray from the interview guide does, however, still provide the opportunity for identifying new ways of seeing and understanding the topic at hand. Semi structured interview is conducted with three selected customers/users to get their intention regarding the AALRT service.

3.5. Testing Questionnaires

The questionnaire is tested to identify whether the questionnaire is able to capture the required data as expected by the researcher. The test was conducted mainly to find out whether the questionnaire was easily-understandable as well as whether there were any vague and confusing questions in the questionnaire. Thirty questionnaires were distributed to the AALRT users approached to answer the questionnaire. The 20 questionnaires were prepared in English Language and the rest 10 of them were prepared in Amharic language. This small size was guided by the suggestion of (Saunders et al 2007) that the minimum of ten (10) members for pre-testing is adequate.

3.6. The Selection & Definition of Variables

The study aimed at evaluating the AALRT passenger's service quality by referring to Zeithmal and others' SERVQUAL model, which is a universal model and contains the common elements. However, specifically regarding to railway passenger service, it should be adjusted accordingly. Through the interviews with some passengers, railway security officers we established 39 items

about passenger's evaluation of light rail passengers service quality based on the eight service elements. Three new transport dimensions (comfort, Service Delivery and social responsibility) are added to the original five SERVQUAL dimensions (i.e. assurance, empathy, reliability, responsiveness and tangibles).

Table 3.4. Independent Variable definition, Measurement and Expected sign

No	Variables	Concepts	Measurement	Expected sign effect
1	Tangibility	Physical facilities, equipment, and appearance of personnel	1=Highly dissatisfied 5=Highly satisfied	+
2	Reliability	Ability to perform the promised service dependently and accurately	1=Highly dissatisfied 5=Highly satisfied	+
3	Responsiveness	Willingness to help customers and provide prompt service	1=Highly dissatisfied 5=Highly satisfied	+
4	Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence	1=Highly dissatisfied 5=Highly satisfied	+
5	Empathy	Caring and individualized attention that the firm provides to its customers	1=Highly dissatisfied 5=Highly satisfied	+
6	Comfort	A state of physical ease and freedom from pain or constraint, the easing or alleviation of a person's feelings of grief or distress	1=Highly dissatisfied 5=Highly satisfied	+

7	Service delivery	It refers how the service is rendered to the customer	1=Highly dissatisfied 5=Highly satisfied	+
8	Social responsibility	Developing business with a positive relationship to the society in which they operate ultimately can create benefit/satisfaction	1=Highly dissatisfied 5=Highly satisfied	+

3.7. Methods of Data Analysis

Before processing the responses, the filled questionnaire by the respondents is edited for completeness and consistency. Quantitative data collected analyzed and interpreted in line with study objectives through use of statistical package for social sciences (SPSS) 23 Computer program. Quantitative data collected is analyzed by use of descriptive statistics to generate percentages, means, standard deviations and frequencies. The advantage of this package is that it can be used to analyze questionnaires with many questions including both closed ended and open-ended questions (Kothari, 1995).

The researcher collected qualitative data using semi-structured questionnaire from the selected informants of Addis Ababa city light rail transit service passengers.’ The responses of informants were analyzed using the narrative method.

Pearson correlation analysis is also employed to examine the relationship between customer satisfaction (Dependent Variable) and independent variables. Finally, logistics regression analysis is done to investigate the contributions of each variable (the five SERV QAL and comfort, Service Delivery, and Social responsibility) on the development of customer satisfaction.

3.8. Validity & Reliability

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004). In order to achieve validity, the researcher ensured

the measuring instrument provides adequate coverage of the topic by containing adequate representative sample of the AALRT users. Numbers of different steps was taken to ensure the validity of the study: Data was collected from the reliable sources, from respondent who has experiences in using the AALRT.

3.8.1. Internal Validity

As Cook (1976) and Campbell (1979) proposed that, internal validity assessed whether or not an observation covariation should be considered causal relationships. Internal validity is the extent that an experimental variable is truly responsible for any variance in the dependent variable (Kothari, 2004).

In line with this other researcher argued that internal validity is the degree to which a study establishes the cause-and-effect relationship between the treatment and the observed outcome (Marion & Jolaine, 2001). Internal validity also defined as a logical rather than statistical issue (Campbell & Stanley, 1963). The logical framework of the research is provided by the report's structure of the study. The method section describes how the study was designed and what procedures were followed to reduce or eliminate specific threats to internal validity (Campbell & Stanley, 1963). The results section reports the data relevant to establishing the internal validity and the discussion section provides the investigators' assessment of the influence of bias. In all, in this study, the researcher made internal validity using a logical process in each part of the research design, results, and discussions.

3.8.2. External validity

External validity is the accuracy with which experimental results can be generalized beyond the scope of the study (Creswell, 2014). External validity examines whether or not an observed causal relationship should be generalized to and across different measures, persons, settings and times (Campbell and Stanley, 1963). To assure the existences of external validity in the study participants selected randomly.

3.8.3. Reliability

Reliability is defined as the quality of consistency or reliability of a study or measurement. Measuring instrument is reliable if it provides consistent results (Kothari, 2004). That means if the same or different researcher repeats the study it should produce more or less the same results. This improves reliability by standardizing the conditions under which the measurement took place.

Finally, to make sure the reliability of this study, triangulation (using via survey and interview) and Cronbach alpha test has been employed. The Cronbach alpha coefficient is the most common method used for assessing the reliability of a measurement scale (Hayes & Bob, 1998). The coefficient, which reflects homogeneity among a set of items, varies from 0 to 1.

The literature regarding test and scale construction suggests that an acceptable level of reliability is a function of the intended use of the test results. Nunnally (1967) suggests that when a test or scale is used to make decisions about individuals, the reliability coefficients should be at least 0.90. However, it is impossible to achieve this number, especially assessing personality and feelings. Others are somewhat less conservative, suggesting that a reliability coefficient of 0.80 is acceptable for a test or scale that will be used for making decisions about an individual (Batjelsmit, 1977).

Based on the criterion of Cronbach's alpha > 0.9 Excellent, alpha > 0.8 Good, alpha > 0.7 Acceptable, alpha > 0.6 Questionable, alpha > 0.5 Poor, and alpha < 0.5 Unacceptable (George and Mallery, 2003) the items were accepted or rejected. Numbers of different step was taken to ensure the reliability of the study.

Table.3.5. Reliability test of the variable by Cronbach's Alpha

Variable	Number of items	Cronbach's alpha
Tangibility	6	0.850
Reliability	5	0.862
Responsiveness	4	0.910
Assurance	4	0.933
Empathy	4	0.863
Comfort	4	0.834
Service Delivery	4	0.874
Social Responsibility	5	0.844

Passengers' Satisfaction	3	0.921
Total items	39	0.967

Source : (SPSS output 2018)

As the table above 3.5 depicts that, Cronbach's alpha values of Assurance 0.933, Passengers' Satisfaction (the dependent variable) 0.921 and Responsiveness 0.910 respectively are interpreted as excellent.

Similarly, variables like, reliability (0.862), Empathy (0.863), Comfort (0.834), Service Delivery (0.874) and Social Responsibility (0.844) interpreted as good.

By the conclusion, the overall Cronbachs' alpha value of the study was **0.967**, which indicates that there was an excellent internal consistency in the scale (Saad et al,1999).

3.9. Ethical Consideration

For any social science research ethical issues can really arise in all phases of the research process: data gathering, data analysis, and interpretation, conclusions and recommendations (Merriam, 1998). Before administering the questionnaire to the respondents, prior arrangement was made with the route managers and quality controllers on the date and the time to administer the questionnaire to the commuters. The purpose of the study was explained to the respondents and they were not forced to give their response, allowed to participate voluntarily to the study. An explanation about the objective of the research was done before undertaking the research for clarity purpose on the direction of the study. Utmost confidentiality about the respondents' response was assured by way of keeping all responses secure and using them only for academic purpose. Before embarking on the field research, I have got the permission from the Head Office of the Addis Ababa Light Rail Transit Service. I had a discussion with the General Manager, Mr.Muluken and the public relations Manager,Mr.Awoke Mulu on how to roll out the data collection for the intended research.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

This chapter analyzes the socio-demographic profile of the respondents in the sample station. The profile consists of sex, religion, age, educational qualification, occupational status, monthly income and travel details (trip characteristics) of the respondents that can help to know their socio-demographic status. The demographic data were presented using frequency and percentage. In addition, in this chapter the data collected on service qualities, customers satisfaction and their factors is presented in tabular format for the purpose of analyzing them to expose the major finding in conformity with the null hypothesis earlier formulated.

4.1. Response Rate

(Kothari.2008). refers to the response rate as the extent to which the collected et of data includes all sample members of the targeted population. To ascertain in-depth of the data collected, stating response rate of respondents is essential. The rate is calculated by the number of collected questionnaires divided by the number of entire sample. Among the 398 distributed questionnaires, 352 were valid and employed for analysis, the response rate is 88.4%. Berg (2004) stated that the response rate of 70 percent and above is credible for analysis.

4.2. Demographic Characteristics of Respondents (N=352)

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Sex	Male	231	65.6	65.6	65.6
	Female	121	34.4	34.4	100
Religion	Christian	236	67	67	67
	Muslim	115	32.7	32.7	99.7
	Pagan	1	0.3	0.3	100

Age	<=20	17	4.8	4.8	4.8
	20-30	137	38.9	38.9	43.8
	31-40	114	32.4	32.4	76.1
	>=41	84	23.9	23.9	100.0
Educational Qualification	Elementary	4	1.1	1.1	1.1
	High School	43	12.2	12.2	13.4
	Diploma	134	38.1	38.1	51.4
	>=degree	171	48.6	48.6	100
Occupational Status	Government Employee	159	45.2	45.2	45.2
	NGO Employee	46	13.1	13.1	58.2
	Self-Employee	92	26.1	26.1	84.4
	Agriculture/Farming	7	2	2	86.4
	Daily Laboror/Housemaid	8	2.3	2.3	88.6
	Unemployed	38	10.8	10.8	99.4
	Student	2	0.6	0.6	100
Family Monthly Income	<=1000	38	10.8	10.8	10.8
	1000-2000	32	9.1	9.1	19.9
	2001-3000	26	7.4	7.4	27.3
	3001-4000	57	16.2	16.2	43.5
	4001-5000	62	17.6	17.6	61.1
	>=5000	137	38.9	38.9	100
With whom do you travel?	Alone	179	50.9	50.9	50.9
	With Spouse & Children	20	5.7	5.7	56.5
	With Friends/Relatives	118	33.5	33.5	90.1
	With Business Partners	35	9.9	9.9	100.0
Frequency of Travel by train	Daily	139	39.5	39.5	39.5
	Weekly	70	19.9	19.9	59.4
	Monthly	11	3.1	3.1	62.5
	Occasionally	132	37.5	37.5	100.0

Source of Data (Questionnaire analysis, 2018)

As the above table (4.1) shows that, from the total respondents 231 (65.6%) are males and the remaining 121 (34.4%) are females. This indicates that the service consumption/usage/proportion of males are larger than females. In regarding with their, 236(67%) were Christians, whereas, the remaining 115(32.7%) and 1(0.03%) were Muslim and Pagan respectively. Of the total participants, 137 (38.9%) passengers aged between (20-30), 114 (32.4%) passengers aged between (31-40), 84 (23.9%) passengers aged between (≥ 41), and the remaining passengers 17 (4.8%) aged between (≤ 20). This reveals that majority of the users of the rail transit service are Youngs followed by adults and old aged passengers'.

The educational levels of respondents counted that, 4(1.1%) have attended elementary school, 43(12.2%) have completed their secondary school, 134(38.1%) have Diploma, 171(48.6%) have Degree and above degree. This implies that most of the passengers are degree and above holders. It may be assumed that the better educational level, the better the opportunity to salaried. Passengers' of Addis Ababa light rail transit asked the occupation what they have. Accordingly, 159(45.2%) passengers are salaried in the governmental organizations, whereas 46(13.1%) of the respondents are working in the non -governmental organizations, 92(26.1%) are self-employed, 7(2%) passengers are working in Agriculture/farming sector;8(2.3%) passengers are daily laborer/housemaids,38(10.8%) passengers are unemployed/job seekers and the remaining 2 (.06%) respondents are students. This shows that the light rail transit service provides more service for salaried employees and the least services for labor workers, Agriculture/farming and students. Of the total respondents the average monthly income level for passengers', 38(10.8%) generates below 1000 Birr, 32(9.1%) earn between (1000-2000) Birr, 26(7.4%) earn between (2001-3000), 57(16.2%) makes between (3001-4000), 62(17.6%) generates (4001-5000) and the remaining 137(38.9%) earn above 5000 Birr per month. The majority of respondents earn above 5000 Birr and 10.8% of the respondents generate less income. This indicates that the respondent income generation level found in the two extremes (high and low). The other main variable that to show whether the passengers travel alone or not. 179(50.9%) of the respondents travel alone, 20(5.7%) of the respondents use the rail with their spouse and children, whereas, 118(33.5%) travel with their friends/relatives, the remaining respondents 35(9.9%) travel together with their business partners. This shows that half of the respondents (51%) travel alone, on the other hand the least number of the respondents (6%) travel with their families. The last question

from the above table reflects that passengers' frequency to use rail transit. 139 (39.5%) of passengers are traveled daily, 70 (19.5%) of passengers traveled weekly, 11 (3.1%) of passengers traveled monthly and 132 (37.5%) of passengers traveled occasionally.

This reflected that the rail transit service has almost a fundamental role in daily travelers followed by the occasional transits of passengers.

4.3. Descriptive Analysis

The descriptive statistical results were presented by tables, frequency distributions and percentages to analyze the data. This was achieved through summary statistics, which includes the mean values and standard deviation which were computed for each variable in this study

Table.4.1. Descriptive result

Independent Variables	Mean	Std. Deviation
Tangibility	3.58	.843
Reliability	3.10	.978
Responsiveness	2.97	1.150
Assurance	2.74	1.156
Empathy	2.96	1.049
Comfort	3.23	1.031
Service Delivery	3.24	1.017
Social Responsibility	3.64	.905

Source: (SPSS output, 2018)

As it is depicted from the data in table 4.1, the mean score and standard deviation values of Tangibility($\mu = 3.58, \sigma = .843$)Reliability($\mu = 3.10, \sigma = 0.978$),Responsiveness ($\mu = 2.97, \sigma = 1.15$),Assurance, ($\mu = 2.74, \sigma = 1.15$)Empathy ($\mu = 2.96, \sigma = 1.04$),Comfort ($\mu = 3.23, \sigma = 1.03$) Service Delivery, ($\mu = 3.24, \sigma = 1.02$)Social Responsibility($\mu = 3.64, \sigma = .91$). Social responsibility has the highest mean score value (3.64) followed by Tangibility (3.58), Service Delivery (3.24), Comfort (3.23), Reliability (3.10), Responsiveness (2.97), Empathy (2.97), and Assurance (2.74).

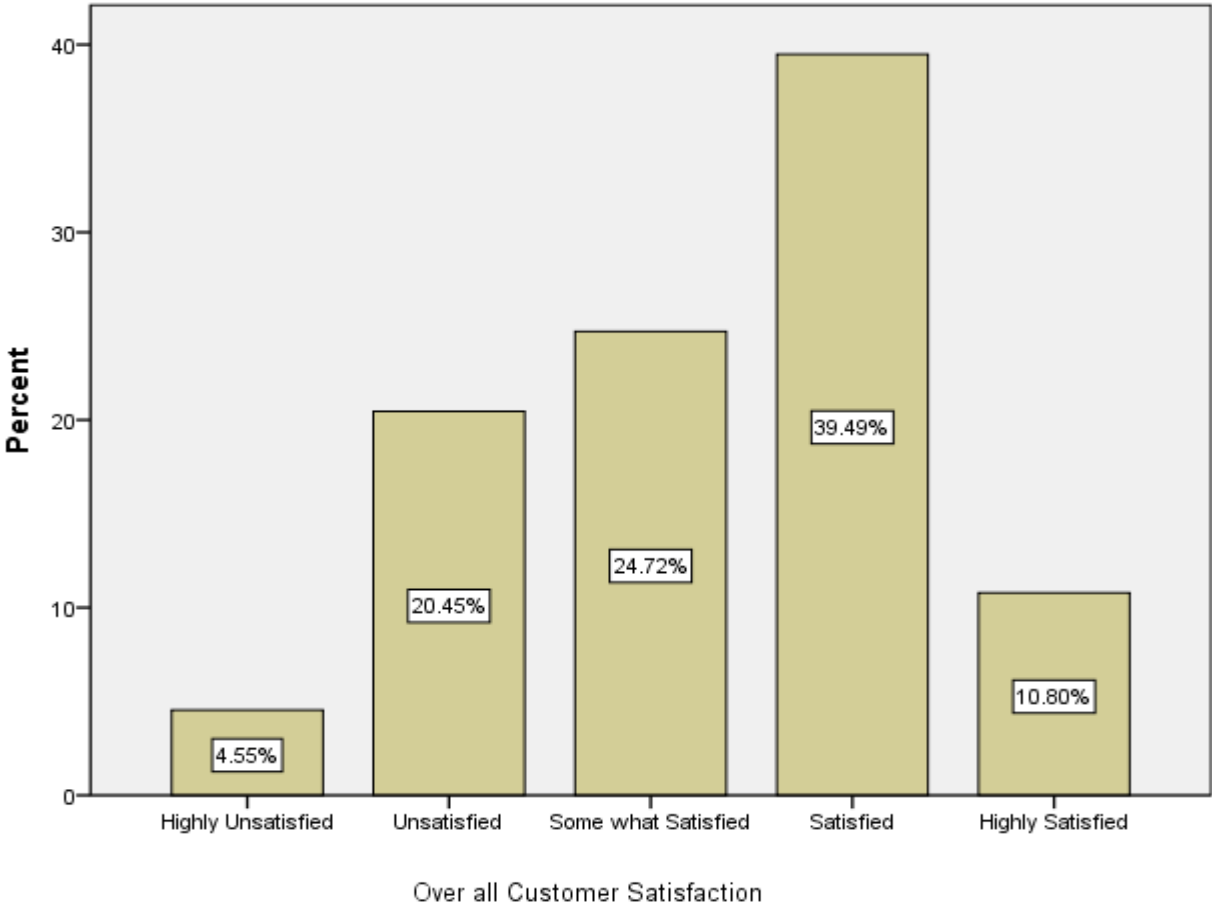
The first two variables mean score rounded to 4 and it represents the satisfied categories on a Likert scale. Hence, passengers are satisfied with social responsibility and tangibility of the LRTS. The mean score of the remaining six variables rounded to 3 (somewhat satisfied). This

indicates that passengers are somewhat satisfied with Assurance, Comfort, Reliability, Responsiveness, Empathy and Service Delivery. Additionally, all the variables have approximately equal numbers standard deviation values, i.e 1, which depicts that there is highest data invariability in the variables.

4.4. Overall Customer Satisfaction

One of the objectives of the research which measured the overall levels of passengers’ satisfaction for the service provided in AALRT would have been answered here.

Fig.4.1 Customer Satisfaction Graph



Source: (SPSS output, 2018)

As figure 4.1 shows that the overall level of passengers' satisfaction, 39.49 % of passengers are satisfied, 25 % of passengers are somewhat satisfied, 20 % of passengers are unsatisfied, where as 11% of passengers are highly satisfied and the remaining 5% of passengers are highly dissatisfied in AALRT service.

This implies that the majority of respondents are satisfied with the provided service followed by somewhat satisfied, unsatisfied, highly satisfied and highly unsatisfied.

Table 4.2. Overall Passengers Satisfaction Mean

N	Valid	352
	Missing	0
Mean		3.37
Std. Deviation		.961

Source: (SPSS output, 2018)

Additionally, as depicted in the above table the overall mean of passengers' satisfaction is 3.37 \approx 3 (somewhat satisfied) and a standard deviation of 0.961. Nearly 25 % of passengers are somewhat satisfied in AALRT service.

4.5. Pearson Correlation Analysis

Pearson's correlation, is a measure of the strength and direction of association that exists between two continuous variables. The Pearson correlation generates a coefficient called the Pearson correlation coefficient, denoted as r . A Pearson's correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, r , indicates how far away all these data points are to this line of best fit (i.e., how well the data points fit this new model/line of best fit). Its value can range from -1 for a perfect negative linear relationship to +1 for a perfect positive linear relationship. A value of 0 (zero) indicates no relationship between two variables.

To determine the relationship between customer satisfaction and service quality dimensions (tangibility, reliability, responsiveness, assurance, and empathy, comfort, service delivery and social responsibility) and customer satisfaction, Pearson correlation was computed. Table --- below presents the results of Pearson correlation on the relationship between service quality dimension and customer satisfaction.

Table 4.3. Pearson Correlations

Pearson Correlation		T	R	RE	AS	E	C	SD	SR
	Pearson Correlation	1	.683**	.522**	.484**	.547**	.554**	.512**	.564**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	352	352	352	352	352	352	352	352

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

Source: (SPSS output, 2018)

The results in table 4.3 indicated that, there is positive perfect relationship between tangibility and customer satisfaction ($r = 1^{**}$, $p < 0.01$), reliability and customer satisfaction ($r = 0.683$, $P < 0.01$), responsiveness and customer satisfaction ($r = .522$, $p < 0.01$), assurance and customer satisfaction ($r = 0.484$, $P < 0.01$), empathy and customer satisfaction ($r = 0.547$, < 0.01), Comfort and customer satisfaction ($r = 0.554$, $P < 0.01$), Service delivery and customer satisfaction ($r = 0.512$, $P < 0.01$), Social Responsibility and customer satisfaction ($r = 0.564$, < 0.01).

The finding on table 4.3 above further indicates that the highest relationship was found between Tangibility and customer satisfaction ($r = 1$, $p < 0.01$).

4.6. Logistics Regression Model

Logistic analysis is satisfactory. Pampel (2000) and Long (1997) recommended sample size for logistic regression analysis not to be less than 100 otherwise the result will be misleading. A minimum of 50 cases per independent variable is recommended (Wright, 1995). In all cases sample size used fulfil the requirement.

An odds ratio (OR) is a measure of association between an exposure and an outcome. The OR represents the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. Odds ratios are most commonly used in case-control studies; however, they can also be used in cross-sectional and cohort study designs as well (with some modifications and/or assumptions).

4.7. Odds Ratios & Logistics Regression

When a logistic regression is calculated, the regression coefficient (b1) is the estimated increase in the log odds of the outcome per unit increase in the value of the exposure. In other words, the exponential function of the regression coefficient (eb1) is the odds ratio associated with a one-unit increase in the exposure.

Table 4.4. Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step1 ^a								
T	-.079	.446	.031	1	.860	.924	.385	2.217
R	.134	.365	.135	1	.714	1.143	.559	2.337
RE	.484	.551	.770	1	.380	1.622	.551	4.775
AS	.750	.596	1.582	1	.208	2.116	.658	6.804
E	.530	.620	.730	1	.393	1.698	.504	5.722
C	1.534	.468	10.718	1	.001	4.634	1.850	11.607
SD	-.268	.412	.423	1	.515	.765	.341	1.715
SR	2.171	.429	25.612	1	.000	8.764	3.781	20.315
Constant	-8.763	3.933	4.964	1	.026	.000		

a. Variable (s) entered on step 1: T, R, RE, AS, E, C, SD, SR.

In the above table 4.4 it can be seen that only Social responsibility and Comfort variables are significant (sig = 0.000 < 0.05 and 0.001 < 0.05) while others are insignificant. This shows that, users are more satisfied with the two significant variables.

The Exp (B) column presents odds ratio and indicates that excellent social responsibility is 8.764 times more likely to make passengers satisfied than being dissatisfied, excellent Comfort is 4.634 more likely to make passengers satisfied than being dissatisfied. Excellent Assurance is 2.116 times more likely to make passengers satisfied than being dissatisfied, excellent Empathy is 1.698 times more likely to make passengers satisfied than being dissatisfied. Moreover, on responsiveness was 1.622 times more likely to make passengers satisfied than being dissatisfied while reliability was 1.143 times more likely to make passengers satisfied than being dissatisfied. On the other hand, excellent tangibility is 0.924 times more likely to make passengers satisfied than being dissatisfied. Finally, excellent service Delivery is 0.765 times more likely to make passengers satisfied than being dissatisfied.

Confidence interval for social responsibility and comfort are 3.781 to 20.315 and 1.850 to 11.607 which indicates that excellent social responsibility and comfort is between 3.781 to 20.315 and 1.850 to 11.607 times as likely to make passenger satisfied that being not satisfied. The two variables have higher confidence interval compared to other variables. This is because both are the only variables which are significant. This shows that the variables have explanatory power compared to others.

The table above shows that the estimated model is now:

$$\text{Logit}(Y) = -8.763 + -0.079x_1 + 0.134x_2 + 0.484x_3 + 0.750x_4 + 0.530x_5 + 1.534x_6 + -0.268x_7 + 2.717x_8$$

Y=Satisfaction, X1=Tangibility, X2=Reliability, X3=Responsiveness, X4 Assurance, X5=Empathy, X6=Comfort, X7=Service Delivery, X8=Social Responsibility

Whereby; Satisfaction, Tangibility, Reliability, Responsiveness, Assurance, Empathy, Comfort, Service Delivery and Social Responsibility.

From the model it can be seen that, Reliability, Responsiveness, Assurance, Empathy, Comfort Social Responsibility are positive related to passengers' satisfaction because of positive sign. Furthermore, since their odds ratio is greater than 1. Two variables, Tangibility and Service Delivery have negative relationship with satisfaction as its odds ratio is below 1.

4.7. Qualitative Analysis Findings

In order to enrich the findings of this paper, a discussion was held with three passengers. All the three discussions were held in different place, time and commute. Using Amharic as a language of discussion, I raised a general and introductory question like “how you got the AALRT service?” in order to understand briefly their opinion, the discussion was followed by some specific questions like the travel experiences of the interviewees, frequency of the train, the availability of seats in each station and inside the train and the like. They were free to express their ideas on the matter. The result of the discussion is narrated as follows.

The first discussion was held while I was traveling from Torhailoch to Ayat. I got a chance to sit next to a person who was around 50 plus years old. I tried to get his opinion to know whether he was satisfied or not by AALRT service. He replied, “I am very happy that the government is taking the initiative to look into the transportation issue. It is my pleasure to see such type of service in my age”. For my second question about the frequency of the train in each station, the interviewee replied, “There are some people who tried to exaggerate and see as

a trouble the minor delay of the train. Why don't we try to discuss or argue things in a positive way like suggestions for betterment solution? As citizen of the country, I hope we have to stop complaining, rather, we have to try to be a part of the system. If you see the developed countries, their citizens don't complain much, instead they find solutions the people are happy and satisfied". After some silence, he continued and said, "Coming to your question, even though minor delays are frequent, it is not a big problem for me, because I remember many mornings that I had waited for long and unpredictable amounts of time for buses and taxis. In addition, it is a newly launched service; it can be improved through time". He also believed that "Since the operators (drivers) are at the training level, they drive slowly, but after they got the experience, they can improve their driving speed and the present slight delay observed in the frequency of the trains will be solved soon". The next point of discussion was related with station facilities such as availability of seats and shelters in each station. He said, "I am not confident enough to say there are adequate seats in each station; they are very few in number. At the same time, I will not expect that there would be sufficient seats in each station due to limited space and high number of passengers". Regarding the shelters, he verified that, "The shelters are not protective especially at rainy times; there should be some kind of modification to be done". Being surprised by his critical point of view, for the last discussion I raised the last question that was related with the service charge. He answered, "From my home, around Torhailoch, to my work place, Ayat, I pay only six birr for a single journey ticket, and 12 birr per day. But if it had been in Taxi, I have to pay minimum of 12 birr for a single trip and twenty-four birr per day. The difference between twenty-four birr and 10 birrs is visible. So how can I complain the service charge of AALRT?" Even if he is very glad about the price of the ticket, he suggested that the Addis Ababa Light rail office has to strengthen the ticket inspection team to control those who deceive. He also commented that he will be very happy if there is a system that allows free commute for those persons who are with disabilities, students and elderly people.

The second discussion was made with a passenger while she was waiting for the train at Tegbared station to go to Civil Service College; she has shop in front of Police Hospital. I approached to her and held my discussion with greetings. I asked her when the rail left and how many minutes were left for waiting the next rail. From her response, I realized that she had been waiting for 15 minutes before I met her. As she told me, she missed the first rail because

she was pregnant and unable to enter to the rail since the inside was a full of passengers and there was no place to be in and travel. For my first and general question, “how you got the AALRT service?” she responded by saying “It is nice and playing key role in transportation sector”. Adding her justification, she said that, “as far as I am the daily customer of the rail, I found the AALRT as a good alternative means of transport even though it has problems”. The delay of the train (slow frequency), according to her daily commute experience, was the main problem which was very disappointing and intolerable. Moreover, getting on and off is very difficult especially at the peak hours”. I asked her to know whether she has any complain regarding the price of the ticket. She confirmed that it is not as such a matter for her. She believed that the price was faire for the majority of the traveller. But what makes her to be surprised in her observation, there are some people who cheat and travel a long distance using a ticket that is supposed to be used only for a short distance. “As a principle”, she said, “Tickets may be valid for a single (or return) trip, or valid within a certain area for a period of time. The fare is based on the travel class, either depending on the traveled distance, or based on zone pricing. The tickets may have to be shown or checked automatically at the station platform or when boarding, or during the ride by a conductor. But practically, I have not seen, except the irregular checking in the station, any responsible man who is able to control those cheaters.” In general, the first interviewee was happy by the service given by AALRT system.

The last and third discussion was held with the person whom I met while traveling from Ayat to Hayahulet. She seldom uses AALRT system,she said “the service that I found was not what I had perceived”, when I heard that the light rail transit service was launched, I was very delightful, hopping that the transportation problems I face every day would no longer continue. But that was only a dream”. Concerning the service charge for the railway service, the interviewee replied, “it is advantageous only for those who are long commuters; but for those who travel short, the charge is unfair with all the discomfort and waiting. One could get the same service on the same line by city bus for only two Birr,” she complained. This person, who had expected a lower fare, less waiting time, less crowding and more speed, also continued to elaborate more and more her dissatisfaction on the inside atmosphere of the train. She said, “The ventilation facility of some of the train is very poor; there is no any window to be opened;(of course, it may not be allowed), it is really suffering to travel without ventilation

and standing all the way and pushing with the big crowd inside”. According to this passenger, the challenge to quality and efficient services given by AALRT was not only the limited frequencies, and facilities in the station, but also, and more importantly, the lack of well integrated service management system. Illustrating her argument, she said, “One of my major issues with AALRT system is the lack of timely information. For instance, I experienced a delay a couple of weeks a go; I’m okay with the occasional delay. I can deal with other types of transport services and I can plan for that, if I’m given the information to do so”. She also added that “when a service disruption is occurred, it is not only your time that you lose but also your money. The ticket that you bought can’t be returned to the office”. In general, this person suggested that it is all well and good to do a better job notifying passengers when service disruptions occur.

In general, based on the result obtained from informal discussion it is possible to deduce that passengers were satisfied by the service given by AALRT system. They confirmed that the existing problems such as inadequate seats in each station, and inside the train, delay and low frequency of the train are tolerable and minor challenges; and they can be solved easily if there is well integrated management system.

4.8. Research Discussions

The aim of this paper was to analysis factors influencing passengers’ satisfaction with the provided services in Addis Ababa city light rail transit service. The passengers of the light rail transit were the respondents of the study. The research was a cross-sectional study, which covered only the year 2017. Both qualitative and quantitative research approaches were conducted. Simple random sampling technique was utilized to select 398 samples for survey study and three informants for an interview. Data were collected using survey questionnaire method and semi-structured interview. The data collection instrument was developed using reviewed literature.

The qualitative data of the research which has been collected using semi-structured interviews analyzed and interpreted as follows. The theory of expectancy developed by Oliver (1980) and he proposed that satisfaction level is a result of the difference between expected and perceived performance. The informants would have high expectation to the light rail transit before its

operation. Because they assume that public transportation problems could not be challenging for any more as before; nevertheless, its problems are presented even after the operations of the light rail transit service in the city. This indicates that the light rail transit in Addis Ababa City does not serve as expected. As Kano (1984), asserts in his model three requirements; basic, one-dimensional and attractive requirements influences customer satisfaction. All the informants prefer light rail transit service over the other public transport because of the attractive requirements of speed, price (fare), traffic congestion and accident advantages. This implies that the light rail transit provides better services in price, speed, traffic congestion, and accidents. Informants were fussing to access the station because of the distance between the fare collector and the station, absence of an elevator and lift, problem inside the rail and the absence of a supervisor at the gate in and gateway arena. Additionally, informants were dissatisfied with the service because of the problems/lack/ of the Kano basic requirements of adequate seat both inside the rail and at the station, suffocation, theft and robbery, ventilator capacity, rapid frequency, cleanness of the stations, numbers of rails and money exchange problems (Bilgili & Unal, 2008). In addition, the interviewed people respond that the light rail transit in the city experienced with poor information delivery and awareness creation problem on passengers. This shows that informants complain the qualities of the above-mentioned service attributes of the light rail transit. Finally, informants commented that the light rail transit has to have a generator to fix any transit problem when electric power interruption happened.

Item descriptive analysis of the independent variables found that, Tangibility ($\mu = 3.58, \sigma = .843$) Reliability ($\mu = 3.10, \sigma = 0.978$), Responsiveness ($\mu = 2.97, \sigma = 1.15$), Assurance, ($\mu = 2.74, \sigma = 1.15$) Empathy ($\mu = 2.96, \sigma = 1.04$), Comfort ($\mu = 3.23, \sigma = 1.03$) Service Delivery, ($\mu = 3.24, \sigma = 1.02$) Social Responsibility ($\mu = 3.64, \sigma = .91$). This indicates that, based on the Likert scale, the results of passengers' satisfaction for the independent variable items; found that respondents are satisfied with the Tangibility, and social responsibility and somewhat satisfied with the reliability, responsiveness, empathy, assurance, comfort and service delivery variables. Of the study population, 39% of passengers were satisfied with the rail service, 25 % of passengers were somewhat satisfied with the rail service, 11% of passengers were highly satisfied with the rail service, 20 % of passengers were dissatisfied with the rail service and the rest 4% of passengers

were highly dissatisfied with the rail service. Additionally, the overall mean of passengers' satisfaction of the study was ($\mu = 3.37, \sigma = .961$) and 39 % of passengers were satisfied on AALRT. This implies that the majority of respondents are satisfied with the service provided.

The Pearson's correlation analysis found that all independent variables, tangibility and ($r = 1, P = .000$), reliability ($r = 0.683, P = .000$), responsiveness ($r = .522, P = .000$), assurance ($r = 0.484, P = .000$), empathy ($r = 0.547, P = .000$), Comfort ($r = 0.554, P = .000$), Service delivery ($r = 0.512, P = .000$), Social Responsibility and ($r = 0.564, P = .000$) ,this implies that all the independent variables had a positive and significant relationship with passengers' satisfaction.

The Logistics regression models analyzed using variables of Tangibility, Reliability, Assurance, Empathy, Responsiveness, Comfort, Service Delivery and Social Responsibility as independent variables and passengers' satisfaction as the dependent variable. The independent variables of the standardized beta coefficient results showed that Tangibility ($\beta = -.079, t = .924, \rho = .860$), Reliability ($\beta = .134, t = 1.143, \rho = .7141$), Responsiveness ($\beta = .484, t = 1.622, \rho = .380$), Assurance ($\beta = .750, t = 2.116, \rho = .028$), Empathy ($\beta = .530, t = 1.698, \rho = .393$), Comfort ($\beta = 1.534, t = 4.634, \rho = 0.001$), Service Delivery ($\beta = -.268, t = .765, \rho = .515$), Social Responsibility ($\beta = 2.171, t = 8.764, \rho = .000$)

This indicates that reliability, responsiveness, Assurance and empathy have a positive statistically insignificant effect on the customer satisfaction variable and. However, service delivery and Tangibility have negatively affect customer satisfaction.

Moreover, comfort and social responsibility variables have positive significant effect on passengers' satisfaction at 5% confidence level had the highest absolute beta value and therefore it was the most important variable in explaining the variation in the dependent variable of passengers' satisfaction.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provided with a summary of the findings, conclusions, and recommendations based on the collected and analyzed data. Additionally, managerial implications and suggestions for future research were addressed.

5.1. Summary of Findings

The study was carried out concerning the main objective of assessing the factors affecting customer's satisfaction. Based on the data gathered and analyzed, the following findings were discovered:

- ✓ Comfort and social responsibility variables have positive significant effect on passengers' satisfaction at 5% confidence level
- ✓ Passengers' were satisfied with Social responsibility and Comfort, they are also somewhat satisfied with reliability, assurance, responsiveness, Empathy, and service delivery
- ✓ The overall level of users satisfaction is low, somewhat satisfied(3.37)
- ✓ All independent variables of the study had a positive significant relationship with the dependent variable.
- ✓ Service attributes like, Tangibility, reliability, responsiveness, Assurance, empathy and service delivery have a positive and statistically insignificant effect on the customer satisfaction variable.
- ✓ Informants complained the qualities of some service attributes (reliability, responsiveness & Assurance) in the light rail transit.

5.2. Conclusion

Based on the preceding findings of the study, the following conclusions were set out:

- ✓ Passengers' had different levels of satisfaction for the service attributes of the light rail transit. Because users satisfied with the tangibility and social responsibility and also somewhat satisfied with reliability, assurance, responsiveness, empathy, comfort, and service delivery

- ✓ The light rail transit provides better services by speed, fare, congestion. Due to that reason, passengers would like to travel their trips using the rail.
- ✓ Passengers' were complained while they use the rail because of the poor qualities of service attribute provision, like the absence of sufficient seat both inside the rail and at the station, suffocation, theft and robbery, poor ventilator capacity, stumpy rail frequency, pitiable cleanness of the stations, few numbers of rails, poor information delivery, awareness creation problems and absences of automatic generator. Hence, all these problems will expose the future success of the light rail transit because both actual and potential customers may hesitate to use its service.
- ✓ Nearly half of the commuters were accounted (somewhat satisfied and Unsatisfied) with the light rail transit service. This indicates that the overall service of the company has a problem to give better service to the users.

5.3. Recommendations

Based on the findings of the research the following recommendations were forwarded:

- ✓ The AALRTS need to improve all the dimensions of service quality
- ✓ AALRT should conduct ongoing research on service quality and customer satisfaction to understand the changing customers satisfaction levels against offerings on what should be done and what strategies to be implemented in order to achieve users' satisfaction goals.
- ✓ So as to change users, attitude towards the service ,the Addis light rail transit service management should change the lower user service expectations by increase its actual service provision performances by introducing better options to services like constructing toilets around stations, introducing and implementing digital payment systems ,arranging special seat rooms for pregnant female, disable and old users'.
- ✓ The light rail transit service management should sustain and continue its better provisions by speed, fare and crowding in order to attract numerous users' and finally this will probably make the company more profitable and competence in the transportation service sector.
- ✓ In order to improve the poor quality attributes and to facilitate the smooth transit service, the light rail transit service management should have more rail, enhance local maintenance experts, restrict carrying/loading capacities and theft using supervisor and police at the

door and inside the rail in order to achieve a better comfort, safety and security, ventilating windows, assembling flexible seat inside the rails and at the stations, creating rail usage awareness when passengers' wait the rails at the stations through educated and fluent staffs. Besides, the management should integrate passenger assistance intercommunication devices in the vehicle and at the station. Because it helps passengers to communicate with crew-members or operator through a hands-free two-way communication system when the emergency happened at both places.

- ✓ The light rail transit management should have to maximize passengers' satisfaction by offering a service that is more affordable to lower income population, more reliable by delivering consistent service to commuters without speculation to the service absences and interruptions like scheduling furgo rail (two-joined rails) at peak hours, using accessible and ease ticket payment systems like digital payment systems, teaching staff (drivers and ticket sellers) more on ethics, maintenance and driving skills and paying good salaries and creating pleasant work environments. Because all these actions directly or indirectly help the company to enhance the overall levels of passengers' satisfaction for the light rail transit service stipulations.

5.4. Suggestion for future Studies

Based on the findings, the study suggested that further studies should be conducted on assessing factors affecting customer satisfaction on other modes of public transport like Public Bus, Anbessa, Sheger, Alliance, and mini buses. Further research should be carried out in order to enhance the understanding of the concepts of service quality and customer satisfaction, how they are measured because they are very important for service organizations in terms of profitability and growth .The researcher suggested future researchers to conduct a study on the light rail transit of the two lines (E-W and N-S). Finally, the researchers could also include more variables apart from the eight employed variables in this study.

REFERENCES:

- Ahmed, Nawaz, Usman, Shaukat, Ahmed and Iqbal (2010). *The Effects of Customer Satisfaction, Relationship Commitment Dimensions, and Triggers on Customer Retention*.
- Anderson, R.E. (1973). "Consumer dissatisfaction: The effect of disconfirmed expectancy on Perceived Product Performance", *Journal of Marketing Research*, 10 February: 38-44.
- Anderson, S., Pearo, L.K. and Widener, S.K. (2008), "Drivers of service satisfaction: linking customer satisfaction to the service concept and customer characteristics", *Journal of Service Research*, 10(4):365-381
- Barsky, J.D., (1995), *World- Class Customer Satisfaction*, Chicago, IL, Irwin Publishing.
- Buluman. V. (2014). *Service quality and passenger satisfaction in rift valley railways corporation*
- Carlsmith, J., Aronson, E. (1963)- *Some Hedonic Consequences of the Confirmation and Disconfirmation of Expectations*", *Journal of Abnormal and Social Psychology*, 66(2), p.151-156
- Cardozo, R. (1965), "An experimental Study of Customer Effort, Expectation, and Satisfaction", *Journal of Marketing Research*, 2(8), 244-249
- Cronin, J. and Taylor, S. SERVPERF versus SERVQUAL (1994). "Reconciling performance based and perceptions minus expectations measurement of service quality", *Journal of Marketing*, Vol.58, No.1
- Cronin. J., & Taylor. S. (1994). SERVPERF versus SERVQUAL: Reconciling performance based and *perceptions minus expectations measurement of service quality*. *Journal of marketing*, vol 58 (1).
- Deighton. (1983).Theories Of Consumer's Satisfaction And The Operationalization Of The Expectation Disconfirmation Paradigm*
- Fekadu, D. (2014, Semptember). *A study on railway transport demand model in Ethiopia (A Case Study on Addis Ababa-Djibouti Line)*.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- Helson, H. (1964). Current trends and issues in adaptation-level theory. *American Psychologist*,
- John A. Czepiel(1990).*Service encounters and service relationships: Implications for research* *Journal of Business Research*, 1990, vol. 20, issue 1, 13-21 19(1), 26-38

- Kothari. C. (2004). Research Methodology methods and Techniques (Second Revised edition ed.).
- Kaltheier, R. M. (2009). Urban Transport and Poverty in Developing Countries.
- Kang, D. S., & Shelly. G. (2009). Customer Satisfaction, Its Antecedents and Linkage Between Employee Satisfaction and Customer Satisfaction. *Asian Journal of Business and Management Sciences* .
- Kanuk, L., & Schiffman. L. (2004). *Consumer Behavior*.
- Kotler, P., Brown,J, & Makens. J. (2003). *Marketing for Hospitality and Tourism* (3rd ed.). Prentice Hall.
- Kottenhoff.K, Dziekan.K, & Lindstrom. O. (2003). *Theory of planned Behavior*
- Matzler(1996). *International Journal for Quality research*
- Oliver(1993). *Journal of Consumer Psychology*, 4(3), 277-303
- Oliver (1980) “Theoretical Bases of Consumer Satisfaction Research: Review, critique, and future direction. In C. Lamb & P. Dunne (Eds), *Theoretical Developments in Marketing* (pp.206-210). Chicago: American Marketing Association
- Parasuraman,A., Zeithmal,V.A and Berry,L.L(1985,) *A conceptual Model of service Quality and its implications for future research..Journal of Marketing* 49(4), 41-42
- Peyton, R.M., Pitts, S., and Kamery, H.R. (2003). “Consumer Satisfaction/Dissatisfaction (CS/D): A Review of the Literature Prior to the 1990s”, *Proceedings of the Academy of Organizational Culture, Communication and Conflict*. Vol. 7(2). p.42
- P. A., Valarie. A., Zeitamal, & Berry. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of retailing* , vol 64 (1), pp 2 40.
- Proietti, Gerenska, Bigotte & Marinov (2014),“customer satisfaction factors; Light Rail; city logistics; Docklands Light Rail; Metro Sul do Tejo
- Raposo, M.L., Alves, H.M. and Duarte, P.A. (2009), “Dimensions of service quality and satisfaction in healthcare: a patient’s satisfaction index”, *Service Business*,3, 85-100
- Rivière, V., A. J. LaSalle, R. Khorramshahgol, and Y. Gousty. (1999). Hospital information systems quality: A customer satisfaction assessment tool. *Thirty-Second Annual Hawaii International Conference on System Sciences* 4: 4011
- Rohaizat Baharun, Setareh Feiz (2012). *A Review of Service Quality Models*.

Sherif, M., & Hovland, C. I. (1961; rpt. 1980). Social judgment: Assimilation and contrast effects in communication and attitude change

Spreng, R. A., Mackenzie, S. B. And Olshavsky, R. W. (1996), "A re-examination of the Determinant of customer satisfaction", *Journal of Marketing*, 60(3), 15-32

Spreng, R.A. & Mackoy, R.D (1996), "An empirical examination of a model of perceived service quality and satisfaction", *Journal of Retailing*, 72 (2), 201-14

Agrawal, R. (2008). "Public transportation and customer satisfaction", *Global Business Review*,9(2): 257-272.

Taylor & Baker (1993). An Assessment of the Relationship Between Service Quality and Customer Satisfaction in the Formation of Consumers' Purchase Intentions

Sachdev and Verma (2004). *Journal of Services Research*, Volume 4, Number 1

Shahin, A. (. 2006.). SERVQUAL and model of service quality gaps: A framework for determining and prioritizing critical factors in delivering quality services

Sasser, Olsen, and Wyckoff. (1978). Comparing customers' expectations with firms' actual service performance

Shek (2007). Perceived Parental Control in Chinese Adolescents in Hong Kong: A Three-Year Longitudinal Study

ANNEXES:

Annex 1

AALRTS, Average Passenger per Day in 2017

Station Name	Daily Average Passenger/ Ridership
Ayat	8,077
Meri	1,982
CMC	2,393
St.Micheal	1,657
Civil Service College	1,193
Management Institute	727
Gurd Shola 1	2,507
Gurd Shola 2	886
Megenagna	7,847
Lem Hotel	1,458
Hayahulet 1	2,101
Hayahulet 2	2,055
St.Urael	2,362
Bambis	1,605
St. Estifanos	2,123
<i>Stadium</i>	6,075
<i>Leghar</i>	4,235
<i>Mexico</i>	3,555
<i>Tegbared</i>	5,158
<i>St, Lideta</i>	
Cocacola	1,959
Torhailoch	10,405





የአዲስ አበባ ቀላል ባቡር ተሬንዚት አገልግሎት
 Addis Ababa Light Rail Transit Service
 የቀረጻ እና የዘገባ ስቴ ጊዜያዊ ፊቃድ
 Temporary Camera Shooting & Reporting Permit

ፊቃድ የተሰጠው ተቋም ስም /Name of permit holder/ ጠክረን ገብረ
 ቀረጻውን የሚያከናውነው ስው ስም /Name of Reporter & Camera Man ጠክረን ገብረ
 ቀረጻው የሚካሄድባቸው ቦታዎች /Camera shooting locations/ ገበያ ጠገን ገበያ ጠገን
 ቀረጻው የሚካሄድበት ቀን /Date of Camera shooting 10-05-2010 - 18-05-2010
 ፊቃድን የሰጠው ሰነድ ስም /Authorized by/ የገበያ ጠገን
 ፊርማ /Signature/ [Signature]



Annex II

Annex III

የአዲስ አበባ ቀሳሳ ባቡር ትራንዚት አገልግሎት
Addis Ababa Light Rail Transit Service
የቀረጻ ስና የዘገባ ስፊት ጊዜያዊ ፊቃድ
Temporary Camera Shooting & Reporting Permit

ፊቃድ የተሰጠው ተቋም ስም /Name of permit holder/ መከላ መንግሥት

ቀረጻውን የሚያከናውነው ስው ስም /Name of Reporter & Camera Man/ መከላ መንግሥት

ቀረጻው የሚካሄደባቸው ቦታዎች /Camera shooting locations/ በተለያዩ ገቢ ጠባቂዎች ገቢ ማረጋገጫ

ቀረጻው የሚካሄደበት ቀን /Date of Camera shooting/ 26-05-2010 - 02-06-2010

ፊቃድን የሰጠው ኃላፊ ስም /Authorized by/ Yoonf A.A.

ፊርማ /Signature/ [Signature]



Annex IV

Correlations

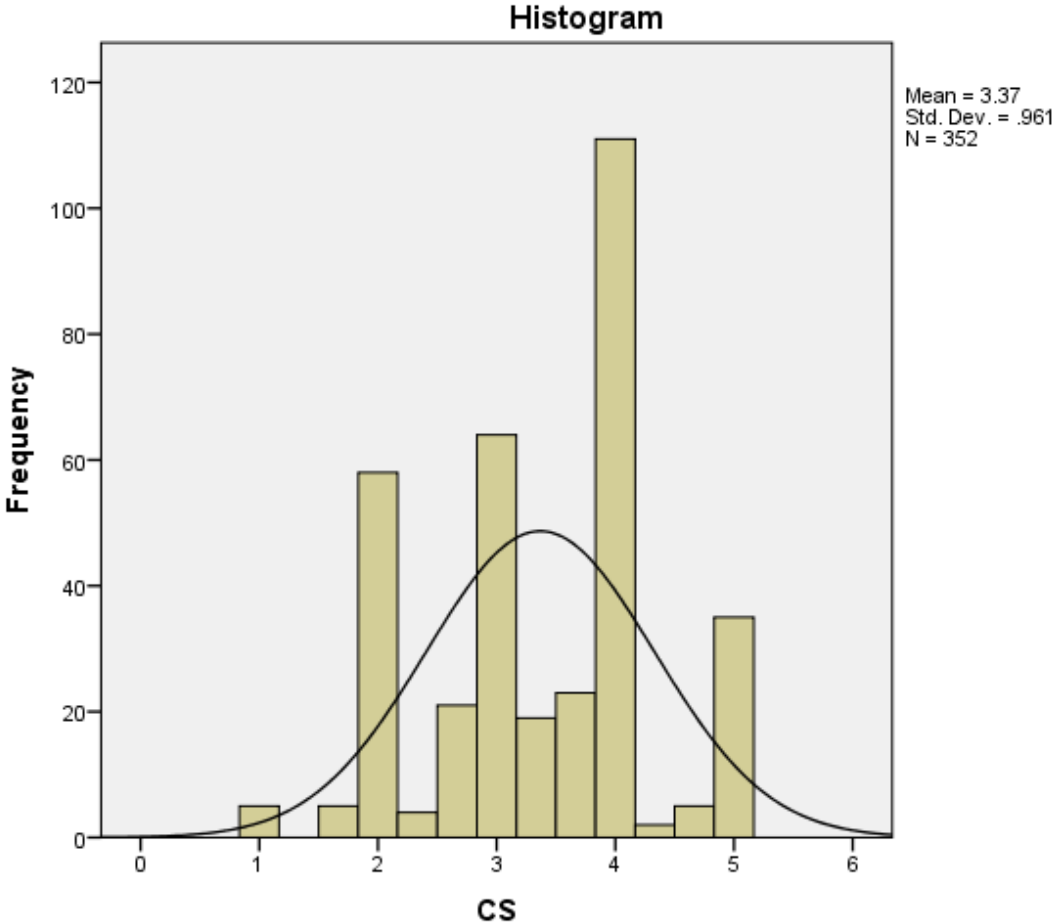
		T	R	RE	AS	E	C	SD	SR
Tangibility	Pearson Correlation	1	.683**	.522**	.484**	.547**	.554**	.512**	.564**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	352	352	352	352	352	352	352	352
Reliability	Pearson Correlation	.683**	1	.694**	.582**	.563**	.599**	.626**	.454**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	352	352	352	352	352	352	352	352
Responsiveness	Pearson Correlation	.522**	.694**	1	.817**	.755**	.627**	.648**	.417**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
	N	352	352	352	352	352	352	352	352
Assurance	Pearson Correlation	.484**	.582**	.817**	1	.755**	.561**	.585**	.395**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	352	352	352	352	352	352	352	352
Empathy	Pearson Correlation	.547**	.563**	.755**	.755**	1	.610**	.626**	.497**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	352	352	352	352	352	352	352	352
Comfort	Pearson Correlation	.554**	.599**	.627**	.561**	.610**	1	.762**	.580**
	Sig. (2-tailed)								
	N								

	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
	N	352	352	352	352	352	352	352	352
Service Delivery	Pearson Correlation	.512**	.626**	.648**	.585**	.626**	.762**	1	.684**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	352	352	352	352	352	352	352	352
Social Responsibility	Pearson Correlation	.564**	.454**	.417**	.395**	.497**	.580**	.684**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	352	352	352	352	352	352	352	352

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

Source: (SPSS output, 2018)

Annex V



Source: SPSS output, 2018

APPENDIXS:

St. Mary's University
School of Graduate Studies
Department of Master of Business Administration

The purpose of this questionnaire is to collect primary data for conducting a study on the topic "An assessment on factors affecting customer's satisfaction, a case of Addis Light rail transit " East-West line, as the partial fulfillment to the completion of the Master's Program in Business Administration at St. Mary's University .This questionnaire has two parts: the first part has demographic questions about the respondents; the second part has a five- point Likert scale used to measure user's satisfaction level. The information you provide has a very important input in the direction and completion of this study, so please try to be honest, and careful. There is no one to judge you because there is not right or wrong answer for the questions.

The information will be kept confidential and be only applied for the study. Your right information helps to reach the goals of the study.

Thank you for investing your time and honesty completing this questionnaire.

Part one: Background Information

Direction: please indicate your answer by putting a tick (√) in the appropriate box or write the correct answer on blank space

I. Personal details

1.1. Gender

Male

Female

1.2. Religion

Christian

Muslim

Pagan (non-believer)

Others (specify) _____

1.3. Age (years)

Less than 18- 29 30-40 41 and above

1.4. Educational qualification

Illiterate

Elementary

High school

Diploma

Degree and above

Others (specify) _____

1.5. Occupational status

Govt. Employee

NGO employee

Self-employee

Agriculture/farming

Day laborer Housemaid

Unemployed

Others (please specify)

1.6. Family monthly income (in Birr)

Below 1000

1000-2000

2001-3000

3001-4000

4001-5000

Above 5001

II. Travel details

2.1. How often do you travel by train?

Daily

Weekly Monthly

Occasionally

2.2. With whom do you travel?

Alone

With spouse and Children

With friends (relatives)

With business partners

Others (please specify)

Part three: Questionnaire details

The following set of ideas deal with how you might feel about your level of satisfaction on services offered by the AALR System to passengers. Please remember that there are neither rights nor wrong answers. Put “x” mark that best describes the degree to which you are satisfied or dissatisfied with each idea.

Sr.no	Dimension of Service Quality	Level of satisfaction				
		Highly Satisfied	Satisfied	Somewhat Satisfied	Unsatisfied	Highly un satisfied
Tangibility						
1	Cleanliness of the station	5	4	3	2	1
2	Cleanliness of the train	5	4	3	2	1
3	A neat Professional staff	5	4	3	2	1
4	Availability of ICT both in the train & the station	5	4	3	2	1
5	Clarity of information given in timetables	5	4	3	2	1
6	Overall appearance of the train	5	4	3	2	1
Reliability						

7	Maintaining the frequency of trains as scheduled	5	4	3	2	1
8	Providing on time train services	5	4	3	2	1
9	Updated information about status of train during travel	5	4	3	2	1
10	Complaint Handling System	5	4	3	2	1
11	Dependability in handling your service problems'	5	4	3	2	1
Responsiveness						
12	Informing customers when the service exactly be	5	4	3	2	1
13	Availability of staff in handling requests	5	4	3	2	1
14	Prompt service	5	4	3	2	1
15	Willingness to help you	5	4	3	2	1
Assurance						
16	Courtesy(politeness) of staff on train	5	4	3	2	1
17	Being informed if there are delays	5	4	3	2	1
18	Saff having knowledge to answer your questions.	5	4	3	2	1
19	Providing you with information about any	5	4	3	2	1
Empathy						
20	Operation of trains in convenient time to most	5	4	3	2	1
21	Understanding your needs when	5	4	3	2	1

22	Having your best interest at heart	5	4	3	2	1
23	Availability of coach attendant/helper in the train	5	4	3	2	1
Comfort						
24	Availability of enough seating in the train	5	4	3	2	1
25	Comfortable seats in the train of Station	5	4	3	2	1
26	Availability of waiting space at the station	5	4	3	2	1
27	Smoothness of ride of the train	5	4	3	2	1
Service Delivery						
28	Traveling time of the train	5	4	3	2	1
29	Punctuality of trains	5	4	3	2	1
30	Smoothness of rail journey	5	4	3	2	1
31	There is sufficient ticketing process	5	4	3	2	1
Social Responsibility						
32	Availability of Safety signs on the train and at the stations	5	4	3	2	1
33	Safety Equipment and Signs should be clearly labeled	5	4	3	2	1
34	adequate security on the train and at the station	5	4	3	2	1
35	Provision of affordable travel to the society	5	4	3	2	1

36	Accessibility of the infrastructure to disables	5	4	3	2	1
Overall Customers' Satisfaction						
37	I am satisfied with the AALRT services	5	4	3	2	1
38	I will use the AALRT for future	5	4	3	2	1
39	I will tell the AALRT quality services to others	5	4	3	2	1

Appendix B

ቅድስት ማርያም ዩኒቨርሲቲ

የድኅረ ምረቃ ት/ቤት

ቢዝነስ አስተዳደር ትምህርት ክፍል

የዚህ መጠይቅ ዋና ዓላማ የአዲስ አበባ ቀላል ባቡር የሚሰጠውን የትራንስፖርት አገልግሎት መሠረት በማድረግ የተሳፋሪዎችን የእርካታ መጠን መለካትና የባቡሩን አገልግሎት ወደ ተሻለ ደረጃ ክፍ ለማድረግ ይረዳ ዘንድ የተዘጋጀ መረጃ መሰብሰቢያ መጠይቁ ሁለት ዋና ዋና ክፍሎች አሉት። የመጀመሪያው ክፍል አጠቃላይ በጥናቱ ተሳታፊዎች የግል መረጃን የሚመለከቱ ጥያቄዎች ሲሆኑ ሁለተኛው ክፍል ደግሞ የተሳታፊዎችን የእርካታ መጠንን በተመልከተ የቀረቡ ጥያቄዎች ናቸው። የሚሰጡት መረጃ የጥናቱን አቅጣጫ የሚመራና ጥናቱን ለማጠናቀቅ የሚረዳ ስለሆነ መ ነው። ጥናቱ ውስጥ ትልቅ ግብአት መሆኑን ተገንዝበው በጥንቃቄና በታማኝነት እንዲሞሉ በትህትና እጠይቃለሁ።

በምትሰጡት መልስ ይዘት የማትገመገሙ መሆኑን የማረጋገጥላችሁ ሲሆን የእርስዎን መረጃ ምስጢራዊነት ለመጠበቅ ያስችል ዘንድ ስምዎን እና አድራሻዎን መጥቀስ አያስፈልግዎትም። መረጃው ለጥናቱ ዓላማ ብቻ የሚውል መሆኑን በተጨማሪም የምትሰጡት መረጃ ምስጢራዊ እና

ማን እንደሞላው ሊታወቅ የሚችሉባቸው ሁኔታዎች አለመኖራቸውን ለምሳሌ፡- ስም፣ የሥራ ቦታ፣

የሚማሩበት ት/ቤት ወይም ድርጅት የማይጠቀስ መሆኑን ልገልጽ እወዳለሁ።

ይህን መጠይቅ በመሙላት ለምትሰጡኝ መረጃና ለምታደርጉልኝ ትብብር በቅድሚያ ከልብ አመሠግናለሁ!!

ክፍል አንድ የተሳታፊዎች ጠቅላላ መረጃ

መመሪያ፡- መልሳችሁን በህጥን ምልክቱ ውስጥ የ(✓) ምልክት ያስቀምጡ፤ በተጨማሪም ባዶ መስመር በሚያገኙበት ቦታዎች ላይ መልስዎትን ይጻፉ።

I. ግላዊ መረጃ

1.1.ጾታ

ወንድ

ሴት

2. ሃይማኖት

ክርስቲያን

ሙስሊም

ሃይማኖት የለሽ

የተለየ ካለ ይጠቁሙ_____

1.3. እድሜ

ከ20 ዓመት በታች

ከ20 እስከ 30

ከ31- 40

40 ዓመት በላይ

1.4. የትምህርት ደረጃ

ትምህርት ያልተማረ

መጻፍና ማንበብ

አንደኛ ደረጃ

ሁለተኛ ደረጃ

ዲፕሎም

ዲግሪና ከዚያ በላይ

የተለየ ካለ ይጠቁሙ_____

1.5. የሥራ ዓይነት

ግብርና

የመንግሥት ሠራተኛ

መንግሥታዊ ያልሆነ ድርጅት ሠራተኛ

የግል ቢዝነስ

የቀን (የጉልበት) ሰራተኛ

የቤት ሠራተኛ

ሥራ አልባ

የተለየ ካለ ይጠቁሙ_____

1.6. ወርሃዊ የገቢ መጠን

ከ 1000 ብር በታች

ከ 1000-2000

ከ 2001-3000

ከ 3001-4000

ከ 4001-5000

ከ5000 ብር በላይ

II. ስለ ጉዞ ዝርዝር ሁኔታ።

2.1. ምን ያህል ጊዜ በባቡር ይጓዛሉ?

በየቀኑ

በየሳምንቱ

በየወሩ

አልፎ አልፎ

2.2. ከማን ጋር ሁነው ይጓዛሉ?

ብቻዎትን

ከባለቤትዎ ጋር

ከባለቤቱዎና ከልጆችዎ ጋር

ከጓደኞች ጋር ከስራ ባለደረባ ጋር የተለየ ካለ ይጠቁሙ-----

ክፍል ሁለት

I. የሚከተሉት ነጥቦች እናንተ ስለምትገለገሉበት (ስለምትሳፈሩበት) ባቡር የሚሰማዎት ስሜት ላይ ሲያውጠነጥኑ ለየትኛውም ጥያቄ ትክክል ወይም ትክክል ያልሆነ መልስ አለመኖሩን ተገንዝባችሁ የሚከተሉትን ነጥቦች መሠረት በማድረግ በምን ያህል መጠን መርካታችሁን ወይም አለመርካታችሁን ይህን ምልክት (✓) በማስቀመጥ ይግለጹ።

ተራ ቁጥር	ጥያቄዎች	የእርካታ ደረጃዎች				
		በጣም እርካታ	እርካታ	በመጠኑ እርካታ	አልረካም	ፈጽሞ አልረካም
ተጨማሪ ሁኔታዎች						
	የባቡር ጣቢያው ንጽህና					
	የባቡሩ ንጽህና					
	የባለሙያዎች ንጽህና					
	በባቡሩ እና በባቡር ጣቢያው የመረጃ መገናኛ ቴክኖሎጂ መኖር					
	በግዜ ሰሌዳ መሰረት የሚሰጠው የመረጃ ጥራት					
	አጠቃላይ የባቡሩ ገጽታ					
ታማኝነት						
	ባቡሩ በተያዘለት የጊዜ ሰሌዳ መሰረት የጉዞ ዑደቱን የጠበቀ ነው					
	ግዜውን የጠበቀ የባቡር አገልግሎት ይሠጣል					
	ባቡሩ በሚጓዝበት ጊዜ ወቅቱን የጠበቀ መረጃ ለተጓዦች መስጠት					
	ቅሬታ የሚሰጥናገድበት ሥርዓት አለ					
	የአገልግሎት ችግሮች የሚሰጥናገድበት ሥርዓት አስተማማኝነት					

ምላሽ ሰጭነት/ግልጽነት						
ለተገልጋይ ደንበኞች አግልግሎት የሚሰጥበትን ትክክለኛ ጊዜ መንገር						
የባቡሩ ሠራተኞች ጥያቄዎችን ለማስተናገድ በቦታው መኖር						
የተቀላጠፈ/ፈጣን አግልግሎት መስጠት						
ሠራተኞች ተገልጋይን ለመርዳት ያላቸው ፈቃደኝነት						
ዋስትና/መተማመኛ						
ሠራተኞች በባቡሩ ውስጥ ቅን ናቸው						
የባቡር መዘግየት በሚኖርበት ጊዜ በወቅቱ ለተገልጋዮች ማሳወቅ						
ሠራተኞች የተገልጋዮችን ጠያቂ ለመመለስ በቂ እውቀት አላቸው						
የጉዞ ለውጥ በሚኖርበት ጊዜ መረጃ ለተጠቃሚዎች መስጠት						
ችግር ተካፋይነት						
የባቡሩ ለተጠቃሚዎች ምቹ በሆነ ሰዓት አገልግሎት ይሰጣል						
ሠራተኞች ተገልጋዮች ጥያቄዎች በሚኖሯቸው ጊዜ ፍላጎታቸውን ተረድተው መልስ መስጠት						
ቀላል ባቡር የተገልጋዮችን የውስጥ ፍላጎት ያውቃል						
ባቡሩ ውስጥ ተገልጋዮችን ለመርዳት የባቡር ሠራተኞች መኖር						
ምቹነት						
ባቡሩ ውስጥ በቂ መቀመጫ አለው						
በባቡሩ ፊርማታ ምቹነት ያለው መቀመጫ ቦታ አለ						
በባቡሩ ፊርማታ በቂ የመቆያ ቦታ አለ						
ባቡሩ በሚጓዝበት ጊዜ ምቹነት አለው						

የአገልግሎት አሰጣጥ						
የባቡሩ የጉዞ ሰዓት						
ባቡሩ በተቀመጠለት የጊዜ ገደብ መድረስ						
ባቡሩ ያልተጓተተ የጉዞ አገልግሎት መስጠት						
ትኩት ለመቁረጥ ግልጽ የሆነ የአሠራር ሂደት አለ						
ማህበራዊ ኃላፊነት						
በባቡር ውስጥ እና በባቡር ጣቢያዎች/ፌርማታዎች ላይ ምልክቶች መኖር						
የጥንቃቄ ዕቃዎች እና ምልክቶች በግልጽ ተቀምጠዋል						
በቁ የሆነ ጸጥታ በባቡር እና በፌርማታ ላይ መኖር						
ለማህበረሰቡ ርካሽ የትኩት ዋጋ ማቅረብ						
አጠቃላይ የደንበኞች እርካታ						
አጠቃላይ የቀላል ባቡሩ በሚሰጣቸው አገልግሎቶች እረክቻለሁ						
ወደፊትም የቀላል ባቡርን አገልግሎት ለመጠቀም ወስኛለሁ						
ለሌሎችም የአዲስ አበባ ቀላል ባቡር አገልግሎት ጥሩ እንደሆነ እነግራለሁ						

Appendix C.

Semi-structured interview questions:

1. How do you find, the service of the light rail transit?

2. Do you prefer a journey using light rail transit?

3. What factors influence you while you are using light rail transit?

A. Factors to easily access the rail station:

B. Factors while you traveled:

C. Other factors:

4. Do you have any comments for future service improvement?
