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***SCHOOL OF COMMERCE***

***DEPARTMENT OF MARKETING MANAGEMENT***

***POST GRADUATE PROGRAM***

***DETERMINANTS OF CUSTOMER SATISFACTION:***

***IN CAS OF ADDIS ABABA LIGHT TRAIN***

***A THESIS SUBMITTED TO ADDISABABA UNIVERSITY***

***SCHOOL OF COMMERCE IN PARTIAL FULFILLMENT OF  
THE REQUIREMENT FOR THE DEGREE OF MASTERS ART IN  
MARKETING MANAGEMENT***

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### **Statement of Certification**

This is to certify that Berhanu Molla's research, entitled "Determinants of Customer Satisfaction: in the Case of Addis Ababa Light Train," was independent and original work conducted under my direction as a university research adviser and submitted to Addis Ababa University, School of Commerce Department of Marketing Management MMA Program in Partial Fulfillment in the degree of Master of Marketing Management.

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## **Declaration**

I, Berhanu Molla, declared that the thesis "Determinants of Customer Satisfaction in case of Addis Ababa Light Train Transit " is my original work and It has not been submitted for any other degree or diploma at any college or university. It is presented in partial completion of the Master of Art in Marketing Management requirement.

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## ABSTRACT

*Customer satisfaction is a measurement which determines how happy the customers are with a company's products and services. Determinants of customer are used to measure customers' satisfactions. The primary goal of this research is to look into the determinant factors which affect the passengers' satisfaction of Addis Ababa light train transit. The study employed both qualitative and quantitative research approaches. In qualitative research approach semi structured interview was used. Where as in case of quantitative research approach descriptive and inferential analysis was used in order to understand the overall satisfaction of the passengers and to identify determinant factors which have significant effect on passengers' satisfactions. Pearson correlation analysis and multiple regression models were employed to investigate the relationship between service quality measures and passengers' satisfaction. The findings obtained from all analyses revealed that the passengers are dissatisfied with the service of Addis Ababa light train Transit Corporation. Based on the results of the multiple regression model, service tangibility, service reliability, service assurance, service comfort and service frequency are found to have significant effect on passengers' satisfaction.*

**Key Words:** Passengers' satisfaction, service quality dimensions, qualitative analysis, multiple regression model, light train transit, Addis Ababa

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## **ABBREVIATIONS**

**AA-LRT**- Addis Ababa Light Railway Transit

**ERC** - Ethiopian Railway Corporation

**LR** – Light Rail

**LRT** - Light Rail Transit

**CRC**- Customer Relation Coordinator

**PAS** – Passenger

**SERVQUAL** – Service Quality

**SERVPER** – Service Performance

**SPSS** – Statistical package for social science

**TCRP** – Transit Cooperative Research Plan

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

Customer satisfaction is the overall emotional response of customers to a perceived difference between prior expectations and perceived performance after consumption (Oliver, 1980). Customer satisfaction mostly described as the solid outcome of what we expect and in comparing with what we obtained). Service delivery organizations are always expected to make assessment what are the services they deliver to their customer look like. And also, their service must ensure quality.

Scholars have undertaken studies on various aspects of railway services. The services of Indian Railways can be divided into three broad categories: ticketing, on-board services, and facilities at platforms (S. N. Geetika, 2010). Another study of customer satisfaction in railway conducted in Bangladesh: Behavior, security, refreshment, lighting, information and basic is the most determinants railway platforms (Blayet H. and Mohamed S., 2013). Service quality is a result of the difference between expectation and reality, Parasuraman et al. (1985).

AALRT has encountered various difficulties: a long period of waiting, over capacity loading, inconvenience for elderly and disable people, outdated ticket payment, poor safety and security overcrowding, shortage of power, providing incomplete journey , denying(ignoring) the services and railroads stealing. Perception and expectation of the passengers is significantly related to their satisfaction. This study analyzed the gap passengers' expectation and perceived performance.

### 1.2 Statement of the problem

Satisfaction is an experience-based construct determined by market expectations and performance perceptions in any given period. It is also measured or compared with past satisfaction from period to period through users' response to the service (Johnson MD, Anderson EW, Fornell C, 1995).

AA-LRT project was supposed to provide services to about 60,000 passengers per day. It vowed to make the city cleaner, more prosperous, and more attractive. It also aims to contribute to make Addis Ababa an even better place to live, work and play in (ERC, 2015). It has been almost more than six years since the AA-LRT started providing service to its customers. ERC vowed to provide service to its customers by ensuring safety, comfort, efficiency, reliability, affordable cost, environment friendliness, and accessibility to the physically challenged people.

However, it has always been common practice to watch and hear the customers complaining about the poor service quality provision from different mass media.

Moreover the researcher observed there is inconsistencies and unpredictable services provision that becomes so hard to the city dwellers to easily perform their day today activities. If the current complaining actions remain unchanged the customers will be leading to the dissatisfactions situation that forced the customers to turn their face towards other alternatives than AALRT service.

The researcher believed that for very complaining action there may be some root determinant factors that need to be investigated. This may be arising from the provision of services quality delivery. Customer satisfaction can be influenced using various service quality factors. Some Service quality determinants may have a direct or indirect role in deciding the fate of customer satisfaction. This research, therefore, investigated the determinant factors affecting the level of customer satisfaction in AA-LRT users.

### **Research Question**

1. What are the factors that determine customers' satisfaction in relation to the service of AA-LRT?
2. To what extent do customers are satisfied with the service of AA-LRT?
3. Is there a difference in satisfaction as a result of where one boards and gets off?

### **1.3 Objectives of the study**

#### **1.3.1 General objective of the study**

- Is to investigate the determinant factors influencing customer satisfaction in AA-LTR users.

#### **1.3.2 Specific objectives of the study**

- ✓ Identify factors that determine customers' satisfaction in relation to the service of AA-LRT.
- ✓ Identify the extent of customers' satisfaction in relation to the service of AA-LRT.
- ✓ Identify the impact of service quality on customer satisfaction.
- ✓ Examine the influence of service quality on customers' satisfaction.
- ✓ Identify whether there is a difference in satisfaction as a result of where one boards and gets off.

### **1.4 Definition of Operational Terms**

**Customer Satisfaction:** The difference of what service customers expect with that of what he or she actual recognized (Philip Kotler, 1997)

**Service Quality:** is the desire of meeting the demands of customers by resembling to their expectations.

**Tangibility:** Something being tangible in physical form or providing physical facilities.

**Responsiveness:** the willingness to help services users and to provide genuine service on a continuous basis. (Dale, 2003)

**Assurance:** The declaration of confident on something design to give or help.

**Empathy:** The capacity to perceived, understand and share the feelings of others by observing their demands. The ability or the desire being approachable in helping others

**Comfort:** is a state of being free from physical and psychological pain.

**Reliability:** the quality of being trustworthy or certainty in performing business activities

**Service delivery:** mean a way of how service is delivered to services users

### **1.5 Significance of the study**

This study has both theoretical and practical contributions. The study brings new insights and extends the existing body of knowledge in customer satisfaction in service provision which is new to the context. This study also has the capability of enhancing policies and practices at institutional and national levels by providing empirical knowledge and in-depth information regarding issues of customer satisfaction of AA-LRT. At institution level, it provides information about the current customer satisfaction with AA-LRT which contributes to evaluate the performance of the Ethiopian Railway Corporation vis-à-vis its standards and expectation, and thereby improve its service provision. At national level, it can be used as an input in designing policy, strategy and action plan with regard to providing quality service in the railways transport in the country in general.

### **1.6 Scope of the Study**

The study was conducted in Addis Ababa city where the two directions AA-LRT travel: the East-West Line from Ayat to Torhailoch and the South-North line from Kality to Menelik II Square. It was given a focus in some selected stations where passengers that could be more available. Since the researcher believes that are very important areas in gathering data.

The study was delimited only assessing the satisfaction from passengers' points of view. It does not look at from the service provider's perspective. It involves passengers that are available in some selected stations. This is mainly at the interest of time and resource needed to conduct such a broad study with short time and limited individual resource.

### **1.7 Limitation of the study**

Ethiopia is one of the first African countries to build and owned railway infrastructure in the beginning of early 20th century with the initiative of Emperor Menelik II and with the assistance of France. The rail line was 784 km in length stretching from the port of Djibouti to the capital city of Ethiopia. ([http://www.train-francoethiopien.com/histoire\\_en.php](http://www.train-francoethiopien.com/histoire_en.php)). Railway construction started in 1897; one year after Ethiopia preserved its independence against *Italian imperialism* at the *Battle of Adwa* ([https://en.wikipedia.org/wiki/Italian\\_Empire](https://en.wikipedia.org/wiki/Italian_Empire)). Even though Train service has more than hundred years old, there is lack of published material in Ethiopia like journals, which deals with in railway industry. Despite of the available of some journals portrayed about train service at international level, very finger counted journals with content of light train services are very strict to access and also demand subscriptions fees using foreign currency.

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

The research report is organized into five chapters. The first chapter contains back ground of the study, statement of the problem, basic research questions, objectives of the study, scope of the study, Limitation of the study, and definition of basic terms. Chapter two focus on previous theoretical and empirical that are related to the research topics that have been reviewed. Chapter three describes research design, population and sampling techniques, procedures of data collection, data validity and reliability, ethical Concerns, organization of the study,

The third chapter presented with the methodology used for the study. The fourth chapter was explains data analysis, interpretation and presentation of the result. The final chapter appears with summary of findings, conclusions, recommendations, managerial implications and suggestions for future studies would have been addressed.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Theoretical Review**

##### **2.1.1 Theories of Customer Satisfaction**

Various theoretical approaches were used to explain the association between service and customer satisfaction and consistency theory is one of them (Anderson, 1973). There are several theories of customer satisfaction. Some of them are summarized as follow:

###### **2.1.1.1 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)

###### **2.1.1.2. Assimilation theory**

The basis for the theory of assimilation was formed from Festinge's theory of dissonance (1957). Dissonance theory hypothesizes that consumers make some kind of cognitive comparison between expectations about the product and the perceived product performance. If there is inconsistency between expectations and the product's perceived performance, the dissonance will not fail to appear. This point of view on post-usage evaluation was introduced in the literature discussing satisfaction under the form of the theory of assimilation (Anderson, 1973). According to Anderson, 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. The theory assumes that consumers are motivated enough to regulate and adjust both their expectations and their product performance perceptions. If the consumers adjust their expectations or product performance perceptions, dissatisfaction would not be a result of the post-usage process. Consumers can decrease the tension resulting from a discrepancy between expectations and product/service performance either by

distorting expectations so that they correspond with perceived product performance or by increasing the level of satisfaction by minimizing the relative importance of the disconfirmation experienced (Olson and Dover, 1979) Some researchers have discovered that the control on the actual product performance can lead to a positive relationship between expectations and satisfaction (Anderson, 1973). Consequently, it is assumed that dissatisfaction could never appear unless the evaluation process began with the customer's negative expectations.

### **2.1.1.3 Contrast theory**

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

According to this 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. On the other hand, under promising in marketing communications and over-delivering will cause positive disconfirmation also to be exaggerated.

### **2.1.1.4 Assimilation-contrast theory**

Assimilation-contrast theory was introduced by Anderson (1973) and tries to illustrate the fact that both the assimilation and the contrast theory paradigms have applicability in the study of consumer's satisfaction. Various researchers tried to test this theory empirically. Olson and Dover (1979) and Anderson (1973) found some evidence to support the assimilation theory approach. Referring to these studies, Oliver (1980) argues that there were perceptual differences between disconfirmation and satisfaction. This 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.

#### **2.1.1.5 Negativity theory**

This theory, just like the other three, is also based on the disconfirmation process. Carl Smith and Aronson (1963) who developed this theory suggest that any discrepancy of performance from expectations will disrupt the individual, producing „negative energy”. Negative theory states that when expectations are strongly held, consumers will respond negatively to any disconfirmation. Anderson (1973) posits that when the expectations are strongly sustained, the consumers will negatively answer any information. According to Peyton, and Kamery (2003) dissatisfaction will happen if the perceived performance falls beneath expectations, or if the perceived performance goes beyond the expectations.

#### **2.1.1.6 Expectancy Disconfirmation Theory**

The literature has established the significance of expectations in the consumer decision-making process. In the decision-making process of consumers, expectations are quite important (van Raaij, 1991; Spreng et al., 1993). Expectations shape consumers' choices of which brand, category of goods or service to purchase during the pre-purchase phase. Expectations can be impacted during consumption by the attitudes of service employees, other customers, and equipment. In the post-purchase phase, evaluations of satisfaction (Oliver, 1980; Kurtz and Clow, 1998) and service quality are based on expectations (Parasuraman et al., 1988; Brown and Swartz, 1989).

The majority of researches have viewed expectations as a constant factor that affects consumer satisfaction in both a direct and indirect way (Cadotte et al., 1987; Tse and Wilton, 1988). Prior to consumption, in these studies, consumer expectations were developed; they functioned as comparable referents for quality judgements, for figuring out customer contentment, and eventually for deciding behavioral intentions. According to some, marketers that want to comprehend and positively impact customer pleasure must comprehend and have influence over customer expectations (Anderson, 1973). Understanding how consumer expectations are created and revised may be a key to successfully influencing customer happiness. As a result of the customer's experience, expectations in this situation are seen as dynamic. According to a review of the

research, consumers may assess their level of satisfaction using a variety of expectations (Cadotte et al., 1987; Tse and Wilton, 1988). Predictive expectations and normative expectations, however, are the categories that are mentioned the most frequently. Consumers perceptions of the quality of service that a certain service provider is expected to provide are often referred to as predictive expectations. The majority of the times, these expectations serve as a benchmark against which satisfaction assessments are made (Churchill and Surprenant, 1982). Normative expectations are typically conceived of as the optimum level of service that customers would want to get. As previously indicated, several studies have tried to adapt consumer behaviorists' theories of customer satisfaction to other fields and sectors. The expectation disconfirmation theory was used to explain customer satisfaction in the late 1980s. Although there are several ways to explain why customers are satisfied or dissatisfied, the expectation disconfirmation theory is the one that is most frequently employed (Oliver, 1980).

According to this theory's explanation from the late 1980s, customer satisfaction in the context of marketing is the result of consumer perception, assessment, and psychological responses to the experience of consuming a good or service (Yi, 1990). According to this hypothesis, the magnitude and direction of the gap between expectations and actual performance determine satisfaction. As a result, users' opinions about how well a product or service performs are described as expectations (Teas, 1993; Szajna and Scamell, 1993).

Using the expectation theory, expectations are described as "predictive expectations" or "anticipated expectations" in the disconfirmation domain (Miller, 1977). It states that a comparison of consumers' expectations for the quality of their consumption with their actual consumption experiences determines whether they are satisfied or dissatisfied with their purchases (Oliver, 1980). According to Anderson and Sullivan (1993) and Churchill and Surprenant (1982), this model provides the theoretical underpinnings for understanding the development of consumer happiness as well as the evaluation of service quality (Brown and Swartz, 1989; Parasuraman et al., 1988).

Customers purchase goods and services with pre-purchase expectations about expected performance, according to this theory, which has been evaluated and confirmed in various researches (Oliver and DeSarbo, 1988; Tse and Wilton, 1988). Results are compared to expectations after the product or service has been purchased and used. When the result is as expected, confirmation takes place. Disconfirmation happens when expectations and results don't

match up. Due to its significant impact on client retention, practitioners are also quite interested in satisfaction (Patterson et al., 1997; Neal, 1999).

In accordance with this view, satisfaction is defined by the disparity between actual performance and cognitive standards like expectations and wishes. The expectation disconfirmation models were initially created and verified in the context of physical products (primarily brand names), where customers were familiar with the product's qualities and could form expectations based on their prior experience/knowledge. Expectation disconfirmation can occur in three different ways: positively when performance is regarded as exceeding expectations, satisfactorily when performance is perceived as meeting expectations, and negatively when performance is perceived as falling short of expectations. If the service performance meets (confirms) or exceeds (positive disconfirms) the customer's expectations, the customer is more likely to be satisfied (Oliver and DeSarbo, 1988). On the other side, if the service performance falls short of his or her expectations, they are more likely to be disappointed (negative disconfirmation).

This theory does not take into account the likelihood that the confirmation of high expectations is more likely to result in pleasure than the confirmation of low expectations because it proposes expectation disconfirmation as the only factor determining contentment. Perceived performance was added as an extra factor of satisfaction by Tse and Wilton (1988) in order to address this problem. They argued that if real perceived performance is anticipated to be poor and is subsequently proven to be so, it may still have a negative influence on satisfaction and outweigh the effects of confirmation or positive disconfirmation, leading to unhappiness. According to the authors, contentment is directly and independently determined by perceived performance. When a product or service performs less well than anticipated, negative disconfirmation develops. When a product or service performs better than anticipated, this is referred to as positive disconfirmation. Customer expectations are either confirmed or positively confirmed, while consumer expectations are negatively confirmed to produce unhappiness

### **2.1.1.7 Desire Disconfirmation Theory**

Alternative models for desire have been offered in more recent studies (e.g., Suh et al., 1994; Spreng et al., 1996). They view preferences as a more important factor in determining consumer satisfaction than expectations. It is unclear; however, which cognitive standard (expectations or wishes) provides a more compelling justification for contentment. The empirical findings lack a clear conclusion (Spreng and Page, 2001). They differ depending on whether the service interaction involves technology or interpersonal interaction (Srijumpa et al., 2002). Early researchers put out expectations, whereas more recent studies (e.g. Suh et al. 1994; Spreng et al. 1996) put forward wants; however neither group offered a convincing case or empirical data to back up their claims.

The way the cognitive standard is specified is the primary difference between the expectation counterpart and the want disconfirmation hypothesis. Due to this limitation, Khalifa and Liu (2002) established a contingency theory that takes both desire and expectation disconfirmation into consideration. This theory was conceptually justified and empirically supported. Recenter study suggests using wishes as the comparison standard in the disconfirmation process rather than expectations. Desires are described as an internally held and aspired ideal.

According to the means-end theory (Gutman, 1982), inner emotional demands or wants that are not always bound by logical cognitive knowledge of scenario circumstances underlie the construction of desires instead of realistic expectations of actual performance (such as practical feasibility). On the other hand, expectations are more practical because they are developed mostly based on prior experience and the knowledge that is now available (Zeithaml et al., 1990). In addition, compared to expectations, which are comparatively more future-focused and flexible, desires are typically more present-focused and constant (Spreng and Olshavsky, 1993). Despite having a desire or wanting a given service to be excellent, a person may nevertheless anticipate it to be subpar based on prior encounters and their awareness of the real world. According to the desire theory, poor performance might fall short of the desired performance (negative disconfirmation) even when it meets the individual's expectations, increasing the likelihood that they would be unsatisfied.

### **2.1.1.8. Disconfirmation Theory**

The disconfirmation paradigm, according to Szymanski and Hendra's meta-analysis, is the most accurate predictor of customer happiness. The modified definition of the disconfirmation theory by Oliver, which is quoted by Ekincik et al. (2004), reads: "Satisfaction is the guest's fulfilling response. It is an assessment of whether a feature of a good or service, or the good or service itself, has supplied (or continues to offer) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment. According to research, the results of the service process are less important than how the service was provided. Customer dissatisfaction with the service frequently just results from prior research failing to provide clear results regarding what cognitive standard to use in explaining or predicting satisfaction. Some researchers felt that wants were preferable to expectations, while others supported the use of both comparison criteria at once. Khalifa and Liu (2002) created the disconfirmation model to solve these issues by differentiating between satisfaction at adoption and post-adoption satisfaction by taking into account perceived performance, expectation disconfirmation, and desire disconfirmation simultaneously.

As was previously mentioned, more contemporary models have been established by Chin and Lee (2000) and Khalifa and Liu (2002) to explain overall satisfaction with information systems and online services, respectively. These models incorporate both expectations and wishes. Asserting that expectations and wishes might have direct and independent influence over satisfaction, they both adopted reflective items that measure overall satisfaction directly (i.e., "Overall I am satisfied with..."). Chin and Lee (2000) offered the argument, but Khalifa and Liu (2002) experimentally supported it by looking at how satisfied users were with online services during the adoption stage.

Their findings demonstrated that expectations and wishes are both significant elements that must be taken into account in combination when attempting to understand satisfaction. Their work makes significant theoretical and applied contributions. By exploring the evolution and diversity of its factors, they fundamentally improved our idea of how satisfaction is formed. Their empirical findings help us understand the relative roles and practical implications of the factors that determine satisfaction. When expectations are imprecise, they serve less purpose as a benchmark for comparison, which makes desires more important factors in determining fulfillment because they are formed with less reliance on prior experience or knowledge. Therefore, they argued that in order to more fully explain/predict satisfaction, the expectation disconfirmation theory that has been

developed in the marketing literature should be further refined by including desire disconfirmation. This theory will then be referred to as the disconfirmation theory.

## **2.2 Models of Customer Satisfaction Measurement**

Several firms use various customer satisfaction models to analyze customer satisfaction. Various models shed light on various philosophies of customer satisfaction.

### **2.2.1 SERVQUAL**

The SERVQUAL instrument has been widely applied in several of service industries, including tourism and hospitality (Mesfin W., 2018). The tool was also used to assess the quality of hotel employees. Parasuraman et al. (as reported by Mesfin W., 2018) developed SERVQUAL, a 22-item measure for assessing customer perceptions of service quality. Many aspects of service quality are addressed by SERVQUAL, which is separated into five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The SERVQUAL model has been used by a variety of researchers to assess service quality in the hospitality business, with adjusted constructs to suit unique hospitality circumstances. The anticipation disconfirmation theory is the most widely accepted formulation of the customer satisfaction idea. Oliver (as referenced by Mesfin W., 2018) stated that satisfaction levels are determined by the gap between expected and perceived performance. Satisfaction (positive disconfirmation) occurs when a product or service performs better than expected, whereas disappointment (negative disconfirmation) occurs when a performance falls short of expectations.

### **2.2.2 Kano Model**

Professor Noriaki Kano and his colleagues at Tokyo Rika University came up with the Kano model in the 1980s (Mesfin W., page 15, 2018). The Kano et al (as referenced by Mesfin W., page 15, 2018) model of customer happiness divides qualities into categories based on how customers perceive them and their impact on satisfaction. Three sorts of attributes are used in the model: There are three types of qualities: (1) basic or anticipated attributes, (2) performance or spoken attributes, and (3) surprise and delight (Mesfin W., page 15-16, 2018). The customer's declared expectations are known as performance or verbal qualities. The fundamental or anticipated features are, as the name suggests, basic attributes that aren't worth addressing. The surprise and delight traits, on the other hand, are those that go above and beyond what clients expect. (2018, Mesfin W., p. 16).

According to Mesfin (2018), the Kano model compares customer perceptions of attribute performance to satisfaction levels, grades customer requirements, and determines satisfaction levels. Kano's method is based on the notion that consumer satisfaction is not always proportionate to how completely functional a product or service is, or, in other words, that more quality does not always imply higher satisfaction for all product features or service requirements. (2018, Mesfin W., p. 16).Kano (Kano, 1984, as referenced by Mesfin W., page 16, 2018) specifies three sorts of basic needs that impact consumer satisfaction in his model. They are as follows: (1) There must be requirements - The consumer will be severely displeased if these requirements are not met. However, because the buyer expects these standards to be met, their fulfillment will not boost his satisfaction. (2) Requirement with only one dimension – The client normally expresses one-dimensional requirements: the higher the level of fulfillment, the higher the customer's happiness, and vice versa. (3) Requirement That Is Attractive – Kano's criteria influence consumer choices and decide the amount of satisfaction with the service. Indifferent characteristics, Questionable attributes, and Reverse attributes are among the other attributes mentioned by Kano. (Mesfin W., 2018, citing Kano, 1984)

### **2.2.3 SERVPERF**

Cronin and Taylor came up with the term "performance-based service quality" (SERVPERF) ( as cited by Mesfin W., 2018). Cronin and Taylor proposed the SERVPERF instrument (as referenced by Mesfin W., 2018), which is a more succinct performance-based scale and an alternative to the SERVQUAL model. The model stated unequivocally that an individual's assessment of quality is solely dependent on its performance. Cronin et al. continue to question the usefulness of SERVQUAL and SERVPERF for assessing service quality (as reported by Mesfin W., 2018).

Furthermore, Lee et al. (as reported by Mesfin W., 2018) compare SERVQUAL (performance minus expectations) to a performance-only model (SERVPERF). The quality of service is one of the most essential factors in customer happiness and corporate success. Managers must also detect flaws and evaluate how to improve quality, resulting in increased efficiency, profitability, and overall performance. As a result, interest in this subject (service quality) has grown in recent decades, and researchers have continued to look for the best way to measure quality from the perspective of the customer (Rohaizat Baharun and SetarehFeiz, 2012, as cited by Mesfin W., 2018).Customers are obviously extremely important in the corporate world. To increase their

profitability and capture a large market share, businesses must continue to strive to satisfy their customers. Firms must determine what their customers truly require, as well as what and how they value. Scientists have discovered in recent decades that the quality of services has a substantial impact on consumer happiness, loyalty, and thus profitability (Baharunetal, 2012, as cited by Mesfin W., 2018). The service quality hypothesis, according to researchers, is based on customer satisfaction and product quality literature (Brady & Cronin, 2001, as cited by Mesfin W., 2018). Scientists are unable to come to an agreement on a model.

Despite the fact that different service quality models exist, scientists are unable to establish a consensus. Despite the fact that service quality has different dimensions in different service sectors (Pollack, 2009, as cited by Mesfin W., 2018), service quality measurement allows managers to identify quality issues and improve the efficiency and quality of services in order to exceed customer expectations and achieve customer satisfaction. Many models for measuring service quality have been developed in recent decades, with Gronroos (Gronroos 1984, cited by Mesfin W., 2018) being the first to do so. Gronroos distinguishes between technical quality as an outcome of service performance and functional quality as a subjective perception of service delivered. Various scholars have addressed various aspects of service quality, and there are numerous service quality models available, however scientists are divided on these models and measurements (Baharun, et al, 2012, cited by Mesfin W., 2018).

## **2.3 Factors Affecting Customers Satisfaction**

### **2.3.1 Tangibility**

The appearance of facilities, equipment, personnel, and communications is referred to as tangibles (Bateson and Hoffman, 2011, as cited by Mesfin W., 2018). And customers will evaluate service quality through physical representations. On a human level, employees should present themselves in a neat and orderly manner. Service quality should be assessed in a variety of ways. Most businesses use a combination of tangibles and other factors to develop a service quality strategy (Zeithaml, et al, 2006, as cited by Mesfin W., 2018).

### **2.3.2. Reliability**

One of the most serious issues in the everyday operations of a railway system is reliability (Berger et al, 2011, as cited by Mesfin W., 2018). It refers to the consistency with which passengers' services are supplied. According to a study given by Van (as referenced by Mesfin W., 2018), rail

quality and efficiency have an impact on transportation reliability. Furthermore, reliability is defined as the consistency of travel times across different routes, hours of day, days of the week, and months of the year (Vincent & Hamilton, 2008, as cited by Mesfin W., 2018). Both commuters and operators are concerned about reliability (Parasuraman et al, 2004, as cited by Mesfin W., 2018).

Passengers perceive that public transportation has a high level of dependability in terms of getting customers to their destinations on time. Operators become more dependable as a result of their increased reliability, which reflects others' trust in them and allows them to save resources (Kaas et al, 2008, as cited by Mesfin W., 2018). Furthermore, according to a study conducted in China on railway passengers' satisfaction, punctuality and reliability have a substantial impact on commuter satisfaction (Rabiul et al, 2014, expressed by Mesfin W., 2018).

### **2.3.3. Responsiveness**

Responsiveness, according to Dale (as described by Mesfin W., 2018), is the willingness to help consumers and deliver prompt service on a consistent basis. The ability to develop tailored solutions for clients, as well as the time it takes for customers to receive support, answers to their questions, or attention to their concerns, demonstrates responsiveness. Customers must be served and assisted by the organization's workers.

It is critical that employees have a thorough understanding of the service they represent. Whether the interaction is face-to-face or over the phone, Blose and Tankersley (2004) argue that the degree to which service personnel demonstrate the ability to handle such matters effectively and whether they care about the customers' requests will undoubtedly influence perceptions of service quality.

### **2.3.4. Assurance**

Assurance refers to the staff's ability to provide a courteous and secure service. According to Arasli, et al. (as cited by Mesfin W., 2018), assurance refers to an employee's knowledge, courtesy, and capacity to inspire trust and confidence in a customer. Customers are faced with a high amount of risk or uncertainty regarding their ability to evaluate results; hence this dimension is critical to services. According to Dhurup, et al. (as cited by Mesfin W., 2018), assurance is associated with the service provider's capability to deliver the output, particularly in terms of knowledge, politeness, and trustworthiness of the employees. Bruhn and Georgie advocate (as cited by Mesfin W., 2018)

believe that assurance is associated with the service provider's capability to deliver the output, especially in terms of knowledge, politeness, and trust

### **2.3.5. Empathy**

Empathy refers to giving the consumer compassionate and personalized care. The notion that customers are unique and special is emphasized through empathizing with them. Empathy, according to Curry and Sinclair (as referenced by Mesfin W., 2018), is defined as giving clients caring, personalized attention. The amount of personalized attention offered to each customer is influenced by the quantity of consumers the service provider has to deal with at any given moment. According to Yeo (as cited by Mesfin W., 2018), there is a greater need for managers to adopt a customer-oriented approach by demonstrating a human component to their interactions with consumers through listening, comprehending, and interacting with them.

### **2.3.6. Comfort**

The phrase "comfort" refers to how well travelers are shielded from dissatisfaction while traveling (Emmanuel and Solomon, 2015; Mammo, 2010; cited by Mesfin W., 2018 ). According to certain research, the overall cleanliness of the train defines comfort (Hundal and Kumar, 201; cited by Mesfin W. 2018 ). When a traveler boards the train in search of a seat, he or she is greeted by trash and junk left by other passengers, causing dissatisfaction.

Nobody enjoys being in a filthy environment. Passengers regard station and train hygiene to be essential and needed. It is customary to have a cleaning of the public space on a regular basis (Parasuraman et al, 2004; Hundal and Kumar, 2015 :quoted by Mesfin W. ,2018).

### **2.3.7. Service Delivery**

User satisfaction and quality service have long been linked (Kotler & Armstrong, 2010; Lee, 2013, as outlined by Mesfin W., 2018), and evidence of the cumulative effects of quality service and customer better position to decide on customer loyalty, company performance, and optimum performance is well documented in the marketing literature (Lee, 2013; Reichheld & Sasser, 2000; Disney, 1999; Heskett, Sasser, & Schlesinger, 1997, as cited by Mesfin W., 2018).

Various findings have suggested that high-quality service and customer satisfaction are linked to loyal customers, repeat purchases, and an organization's ability to keep clients for longer periods of time (Lee, 2013; Anderson, Fornell, & Lehman, 1994; Berry, et. al, 1983, as cited by Mesfin W.,

2018). 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. (Mesfin W., 2018)

Second, it is widely believed that when customers are satisfied, they become loyal to the company and take part in customer loyal behavior outcomes such as repeat purchases and positive word-of-mouth advertising, and third, that such positive behavior outcomes lead to increased financial, company effectiveness, and competitiveness (Naumann, Williams & Khan, 2009; Jones & Sasser, 1995, as cited by Mesfin W., 2018). As technology advances, the satisfactory criteria varies from time to time for me.

What is satisfactory today may not be so tomorrow! According to Disney (as reported by Mesfin W., 2018), customer expectations vary frequently, and competition, technology, and demographic issues all play a role in these regular shifts. According to Alexander (as cited by Mesfin W., 2018), commercial organizations are increasingly confronted with the stark reality that delighting customers on a fundamental or routine level is insufficient to ensure client loyalty.

## **2.4 Empirical Review**

### **2.4.1 Customer's Satisfaction**

Customers' pleasure is measured from a variety of angles. Customer satisfaction does not have a broadly acknowledged definition McCollough (cited by Mesfin W., 2022). One point of contention in consumer satisfaction circles is whether it is a cognitive or emotional process. According to Howard and Sheth (1969), satisfaction is defined as "the buyer's cognitive state of being adequately or inadequately rewarded for the sacrifice he has made." "An appraisal (cognitive) that the chosen alternative is consistent with prior views with respect to that alternative," Engel and Blackwood (1982) define it. It's most likely a multi-person process with "extensive cognitive, affective, and other psychological and physiological processes that have yet to be completely studied" Parks and Haemoon are two of the most well-known couples in Korea (1997; Haemoon and Parks, 2000). Hunt (as referenced by Mesfin W., 2022) points out that contentment is a way of discarding and judging experience while discussing the concept of consumer happiness.

A nice experience can lead to dissatisfaction since, as enjoyable it was, it did not turn out to be as pleasant as anticipated. As a result, "satisfaction/dissatisfaction is not an emotion, but an emotion's appraisal." Similarly, according to Oliver (1988, p. 34), contentment is an assessment of the perceived gap between prior expectations and the product's actual performance.

In the context of services, perceived pleasure is linked to expectations being confirmed or disproved (Parasuraman, Zeithaml, & Berry, 1985). Gaining a perspective on initial client expectations and the outcomes of the service experience is critical to understanding how contentment is developed.

Customer satisfaction, in other words, can be defined as an attitude coming from the fulfillment or disconfirming of expectations. Before purchasing or using a service, the customer generates expectations based on the product's performance; after purchasing or using, the client receives the actual product performance. Then he or she compares the difference between expected and actual performance, which is referred to as "disconfirmation." Positive disconfirmation leads to contentment, while negative disconfirmation leads to unhappiness, according to the theory.

If a product exceeds expectations (positive disconfirmation), the customer will be satisfied after purchase; if a product falls short of expectations (negative disconfirmation), the customer will be disappointed (Oliver, 1988 as cited by Meskerem T., 2018). Customer satisfaction is critical for service providers to determine which components of their services offer value and improve satisfaction, which simply meet basic criteria and dissatisfactions, and which do both.

Several academics have looked into various aspects of service quality. Gronoos (1884) evaluated technical, functional, and reputation quality, and Hedvall and Paltschik (1989) evaluated willingness and capacity to serve, as well as physical and psychological access to the service. Overall service satisfaction is determined by eight distinct service quality attributes such as security inside the train, environment inside the train, waiting arrangement, station information, space for moving on the train, security in the station, behaviors of the station staff, and train waiting time, according to Rahaman R.K. and Rahaman Md. A. (2009). Refreshments, behavior, information system effectiveness, basic facilities, and security factors are the most essential elements for determining satisfaction with railway stations, according to Geetika & Nandan, S. (2010 )

To formulate the SERVQUAL service quality framework, Parasuraman et al. (as cited by Mesfin W. 1985a) identified ten key determinants of service quality as perceived by the service provider

and the consumer: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding / knowing the customer, and tangibility. Reliability, assurance, tangibles, empathy, and responsiveness, or RATER, were added to the framework by Parasuraman et al. (1988b).

#### **2.4.2. Service Quality and its Dimensions**

There should be service if a corporation needs to contact its customers. This service varies each company and depending on the sort of goods. Depending on the context, the term service can be defined in a variety of ways. "Any intangible act or performance that one party offers to another that does not result in the ownership of anything," according to one author (Kotler & Keller, 2009, p. 789; stated by Mesfin W., 2018). In general, service is described as an intangible offer made to another party in exchange for money or pleasure (Kotler & Keller, 2009).

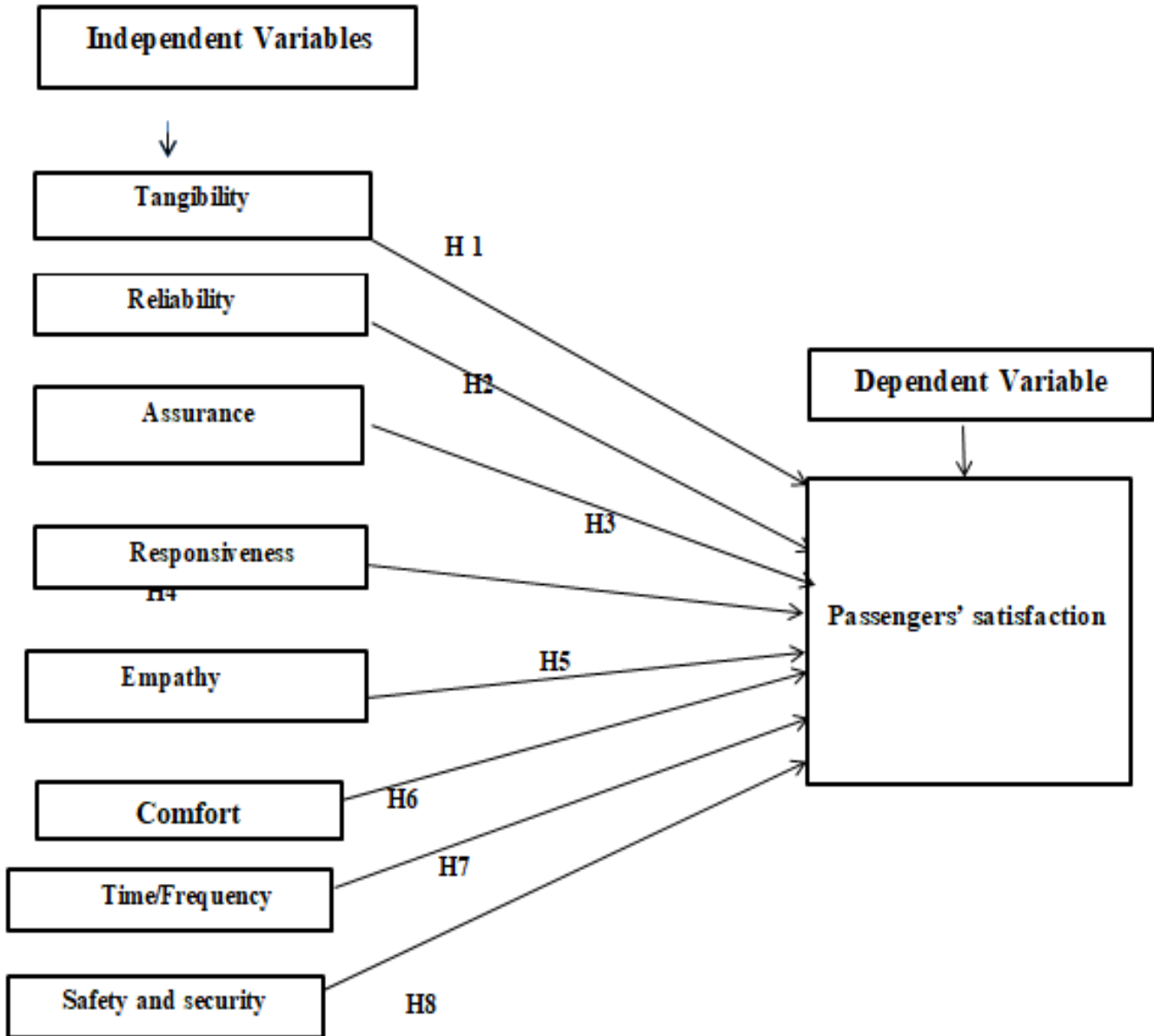
As a result, service quality can be described as how well a service meets or exceeds the expectations of a consumer (Czepie 1990; Stated by Mesfin W.). Customer perception, anticipation, satisfaction, and attitude are all variables that can be used to evaluate service quality (Sachdev and Verma 2004). Ekinici claims that measuring service quality contributes to client satisfaction. Various academics have looked at different aspects of service quality. The pioneers in the conception of the service quality construct, Gronroos (1984) and Parasuraman, Zeithaml, and Berry 1988(Stated by Mesfin W), believed that the overall sense of quality was a disconfirmation of a customer's expectation and evaluation of a service. Technical (physical characteristics of service delivery) and functional (expressive performance of the service) are two essential dimensions of service quality, according to Gronroos (stated by Mesfin W., 2018). Rust and Oliver (as mentioned by Mesfin W., 2018) created a three-component dimensional model and concluded that the service product (i.e., technical quality), service delivery (i.e., functional quality), and service environment were all important dimensions of service quality. As indicated by Mesfin W., 2018, Hedvall and Paltschik emphasize on willingness and ability to serve, as well as physical and psychological access to the service. Interactive, physical, and corporate qualities are all factors considered by Lehtinen (as described by Mesfin W., 2018).

When it comes to conceiving the basic service quality is modelty. To construct a service quality conceptual model, SERVQUAL, Parasuraman et al. (as noted by Mesfin W., 2018) identified 10 key determinants of service quality as perceived by the service provider and the consumer, namely,

reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer, and tangibility. Parasuraman et al. then updated the framework to five determinants: dependability, assurance, tangibles, empathy, and responsiveness, or RATER, as Mesfin W., 2018 pointed out. Customer satisfaction study approaches allow for the identification of essential parts of provided services and a rise in customer satisfaction. According to a range of literatures, academics have identified many quality features in the context of diverse services. The Transit Cooperative Research Plan (TCRP) Report states that "from the passenger's point of view, the whole measured or perceived performance of transit service is considered as dynamic." The TCRP Report lists five categories of measures that fully or partially reflect the viewpoint of passengers in transit services: (1) Transit service accessibility; (2) transit service monitoring; (3) travel time; (4) safety and security; and (5) passenger trip upkeep and construction activity According to Vanniarajan and Stephen, passengers assess the quality of Indian Railways' service using dependability, assurance, empathy, tangibles, and responsiveness (2008). Passengers were rated as "satisfactory" to "moderately satisfied" based on these criteria. According to Agrawal, employee behavior is the most significant determinant of customer (passenger) satisfaction with Indian Railway service (2008).

## **2.5 Conceptual Framework**

According to the conceptual framework, consumer satisfaction is influenced by eight determinants. If a consumer is generally satisfied, he or she will buy more from the company as new products are introduced and existing ones are upgraded, and they will communicate positively about the company and its products to others.



**Fig.2.1 Factors contributing to Customer Satisfaction (Modified Parasuraman, 1985 concentration, as cited by Yirgalem Fanta.2018)**

### 2.6 Hypothesis of the study

According to the literature assessment, client satisfaction and service quality are inextricably linked. Customer satisfaction is influenced by service quality, hence service quality is a key antecedent (Cronin and Taylor, 1992 as mention in Yirgalem F.,2018). The following hypotheses are formulated based on the literature review:

**H1:** The association between tangibility and consumer satisfaction is favorable and significant.

**H2:** Customer satisfaction and reliability are linked in a positive and significant way.

**H3:** Customer satisfaction and assurance have a good and significant relationship.

**H4:** Between responsiveness and customer satisfaction, there is a positive and significant relationship.

**H5:** Customer satisfaction and empathy have a favorable and significant relationship.

**H6:** Comfort and Customer satisfaction are linked in a positive and significant way.

**H7:** Frequency and customer satisfaction have a favorable and significant link

**H8:** Customer satisfaction and safety and security have a favorable and significant relationship

## **CHAPTER THREE**

### **METHODOLOGY AND RESEARCH DESIGN**

#### **3.1 Introduction**

This part of the research deals with research methodology. And that includes research approach, research design, sources of data, data collection techniques, population sample size and sampling techniques, Method of data analysis, validity and reliability and Ethical consideration.

#### **3.2. Research Approach**

There are three sorts of research approaches, according to Dawson (as described by Mesfin W., 2018): quantitative, qualitative, and mixed approaches. In order to respond to the study objectives on drivers of customer satisfaction in AALRT, the researcher used both quantitative and qualitative (Mixed) methodologies. These two approaches represent different paradigms which consist of assumptions that are distinct in nature. The choice of one of these paradigms depends on the purpose of the research at hand. The primary goal of this research is to have a better knowledge of the situation determinants or factors of customer satisfaction of Light Train Transit in Addis Ababa from participants' point of view.

As a result, the researcher believes that using a diversification method is the best way to accomplish this goal. Because there is a lack of empirical research on customer satisfaction with AA-LRT services, it is difficult to know how satisfied customers are with the service. In this situation, assessing the participants' satisfaction with the services and their level of satisfaction with the services aids in understanding the entire picture of the problem and encourages more in-depth research.

#### **3.3. Research Design**

Among the three types of research design, i.e. descriptive, exploratory and explanatory, the researcher intendeds to use explanatory (causal). Explanatory (causal) research focuses on the cause-effect relationships between variables, explaining what causes produce what effects (Yin 1994). The reason why the researcher prefers to use explanatory is because it will help the researcher to dig out the root cause or factors that have a potential in determining what the nature of customer satisfaction look like.

Both descriptive and inferential analysis methods were used in this study. To summarize demographic features of the respondents, various summary statistics such as proportion, mean, and

standard deviation are employed. Multiple regression models were also employed to discover important parameters that influence consumer satisfaction with Addis Ababa light train transit.

### **3.4 Sources of Data**

Data was gathered from both primary and secondary sources. Primary data was gathered directly from AA-LRT service users or consumers, as well as the concerned management. Secondary data was gathered from books, journals, and articles, as well as unpublished documents such reports, project plans, organizational manuals, organizational bulletins, magazines, and brochures.

### **3.5 Data Collection Techniques**

The researcher gathered data from both primary and secondary sources, as noted in the data sources section. As a result, a self-administered questionnaire was employed to collect primary data from AA LRT users or consumers. There were three key portions of the questionnaire. The first component of the questionnaire asked about employee demographics, and the second piece asked about a Likert scale ranking (5-point Likert scale), with 5 denoting highly agree, 4 denoting agree, 3 denoting neutral, 2 denoting disagree, and 1 denoting severely disagree. Such questions are straightforward and provide specific possibilities for the respondent to express his or her point of view on the subject. From April 5, 2022 to April 15, 2022, the surveys were distributed.

In addition, as a third component of the questionnaire, a few extra open-ended questions were added in order to obtain detailed explanations and customer satisfaction about the subject under research. This study also used semi-structured interviews with AA LRT managers to collect additional primary data. In addition to the original data, secondary data was gathered by evaluating the previously stated secondary sources.

## **3.6 Population Sample size and Sampling Technique**

### **3.6.1 Population of the study**

A targeted population is defined by Hair, et al (as described by Mesfin W., 2018) as the entire group of items (people or things) identified in the investigation depending on the research objectives. All passengers waiting for their journey in selected LRT stations, as well as managers of the Addis Ababa Light Train Transit accountable for the AA-service, LRT's were included in this study's population.

### 3.6.2 Sampling Technique

There are two forms of sampling, according to Saunders et al. (quoted by Yirgalem Fanta, 2018): Probability sampling is a strategy in which every unit in the population has a chance (non-zero probability) of being selected in the sample, and this likelihood can be measured correctly. Data was obtained in this study using a non-probability sampling strategy, which the researcher found to be quite suitable for obtaining the required data.

### 3.6.3 Sample Size Determination

According to AALTT data, approximately 80,000 passengers use the service each day. To determine sample size, the researcher employed a formula devised by Taro Yamane (as quoted by Meskerem T., 2018) to calculate the required sample size. As a result, the sample size for this investigation was estimated as follows:

$$1 + N / (e)^2$$

$$80,000 / 1 + 80,000(0.05)$$

$$1 + N (e)^2 = 80,000 / 1 + 80,000(0.05) = 399.9 \text{ percent}$$

Where n represents sample size,

N represents population size, and

Where n represents sample size,

## 3.7 Data Preparation, Presentation and Analysis Techniques

The data was then sorted, modified, and presented as needed using tables, charts, and graphs. In addition, descriptive analysis techniques such as percentages, mean, and standard deviation were used to assess the quantitative data gathered by questionnaire.

Furthermore, qualitative data was gathered and presented as a table and a percentage. On the other hand, a multiple regression model was employed to assess the outcome of drivers of customer satisfaction on the AA LRT. In addition, correlation analysis was used to investigate a relationship between variables. SPSS version 26 statistical software was utilized to achieve this goal.

## **3.8 Data Validity and Reliability**

### **3.8.1 Validity**

The degree to which data gathering methods accurately measure what they were designed to assess is referred to as validity (Sounders et.al, 2003, as cited by Yirgalem F., 2018). Data was collected from credible sources from target respondents in order to meet the study's objectives, and questionnaires were constructed based on the study's empirical and literature reviews. The researcher performed these steps to validate the relevant data: First and foremost, the created questionnaire was pre-tested with other similar purpose service provider firms in the form of a pilot test. Second, the researcher conducted three days of role play training for data enumerators on how to administer and collect the survey. Finally, the researcher was involved in the data collection process monitoring.

### **3.8.2 Reliability**

The consistency or dependability of a study or measurement is known as its reliability. If the results of a measuring tool are consistent, it is dependable (Kothari, 204, as cited by Mesfin W., 2018). That is to say, if the study is repeated by the same or a different researcher, the results should be similar. This increases the measurement's reliability by standardizing the conditions. Finally, triangulation (using a survey and an interview) and the Cronbach's alpha test were performed to ensure that this study was reliable. Cronbach's alpha coefficient is the most widely used metric for determining a measuring scale's reliability (Hayes & Bob, 1998, as cited by Mesfin W., 2018). The coefficient ranges from 0 to 1, indicating how homogeneous a group of items is. When using a test or scale to make conclusions about individuals, Nunnally recommends that the reliability coefficients be at least 0.90 (as quoted by Mesfin W., 2018).

Different items were measured using a Cronbach's alpha coefficient to preserve data dependability, which is to measure the measurement's internal consistency. Finally, descriptive and inferential statistics approaches were utilized to assess quantitative data. In the case of inferential analysis, the researcher used statistical techniques such as regression and correlation analysis. 0.90.

### **3.9. Ethical Considerations**

To begin with, and for the most part, the researcher remained impartial and objective throughout the research process. Personal data of individuals and organizations is collected and retained during the research process in order to answer a specific research topic. Throughout the study process, it is critical to maintain a high level of ethical and moral integrity. There are a variety of ethical considerations that must be examined. In this study, the researcher asked AA LRT service users or customers to take part in the survey; the privacy of the participants as well as the institution had to be protected, and the respondents were notified that participation was completely voluntary, with the option to withdraw at any moment..

To avoid pressure, tension, discomfort, suffering, or harm, the respondent must be treated with respect. Throughout this study, a number of ethical factors were taken into account. When participants gave their permission, the research topic was presented to AA-LRT service users who volunteered to participate. The surveys also made it clear that participation was entirely optional, that it was solely for academic purposes, and that participant confidentiality would be maintained. As a result, this study attempted to garner as much respect as possible from those who would offer information and on whom information will be collected, as well as regard for the knowledge gained and respect for social science research

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### 4.1. Introduction

This chapter is about the findings of the study and discussion of the final results. The demographic characteristics of the customers of Addis Ababa light train transit have been summarized using frequencies and percentages. Mean and standard deviation are also used to summarize age and monthly income of the passengers. Correlation analysis of the independent variables with the dependent variable has been done and the findings are discussed. Finally, multiple regression analysis was used to identify independent variables which have significant effect on the satisfaction of the passengers. The interpretations of the findings are also given accordingly. The whole data analysis is done using SPSS 26.

#### 4.2 Response Rate

*Table 1: Response rate of the questionnaires*

	Correctly filled and returned questionnaires	Not returned/not correctly filled questionnaires	Total questionnaires distributed	Percentage of the correctly filled and returned questionnaires
Number of questionnaires	349	51	400	87.7%

Among the total questionnaires distributed to the passengers (400), 349 (87.7%) were correctly filled and returned. The researcher used the data obtained from these 349 questionnaires for the data analysis.

#### 4.3 Reliability

Reliability is the extent to which a variable or a set of variables is consistent with what it is intended to measure. The questionnaires and interview questions of this study are well designed in a simple, clarified and interrelated form to increase the reliability of the study. Cronbach's alpha was used to test the reliability of the questionnaires of the study (Table 2).

Results of Cronbach’s alpha for all independent variables (tangibility, reliability, responsiveness, assurance, empathy, comfort, frequency and safety and security) are above 0.70 which indicates a high level of internal consistency and reliability for all items.

**Table 2: Result of the reliability test**

Dimension of service quality	Number of attributes	Cronbach’s alpha	
		Expected	Perceived
Tangibility	5	0.886	0.850
Reliability	5	0.926	0.820
Responsiveness	5	0.981	0.874
Assurance	4	0.998	0.845
Empathy	4	0.988	0.822
Comfort	4	0.999	0.794
Frequency	2	0.927	0.964
Safety and Security	5	0.960	0.853
Overall reliability analysis	34	0.990	0.974

#### **4.4 Demographic Characteristics of the Respondents**

The demographic characteristics of the respondents including gender, occupation, education status, marital status and travel details. The descriptive analysis result on these passengers’ characteristics is summarized in Table 3. The Table depicts that most (58.7%) of the passengers considered in this study are male. The rest 144 (41.3%) of the 349 passengers included in the study are female. There were most respondents (35.2%) in the NGO occupation category as compared to the other categories. 106 (30.4%) of the 349 respondents were self-employed whereas the rest 24 (6.9%), 51 (14.6%) and 45 (12.9%), are laborer, unemployed and government employers, respectively.

**Table 3: Characteristics of the respondents**

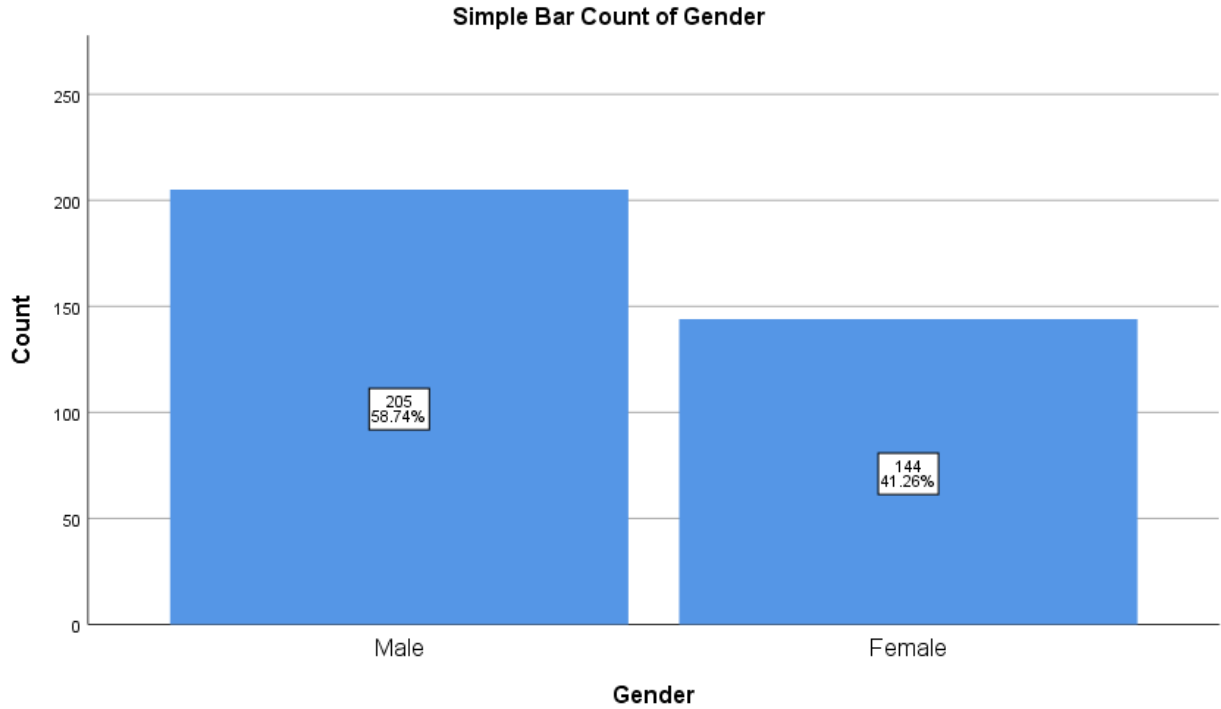
<b>Characteristics</b>		<b>Frequency</b>	<b>Percent (%)</b>
<b>Gender</b>	Male	205	58.7
	Female	144	41.3
<b>Occupation</b>	Laborer	24	6.9
	Unemployed	51	14.6
	Self	106	30.4
	NGO	123	35.2
	Government	45	12.9
<b>Education</b>	High School	19	5.4
<b>Status</b>	Certificate	28	8.0
	Diploma	64	18.3
	Degree	177	50.7
	Masters	61	17.5
<b>Marital Status</b>	Single	130	37.2
	Married	163	46.7
	Divorced	38	10.9
	Widowed	18	5.2
<b>Travel Details</b>	Daily	120	34.4
	Weekly	71	20.3
	Monthly	43	12.3
	Occasionally	115	33.0

From the 349 respondents, 177 (50.7%) are degree holders, 19 (5.4%) high school graduates, 28 (8%) certificates, 64 (18.3%), diploma holders and 61 (17.5%) are master's degree holders. Among the 349 respondents, 163 (46.7%) were married which took the highest number as compared with the other marital status groups.

The next marital status group with highest number of respondents is 'single' with 130 (37.2%) respondents in It. 38 (10.9%) and 18 (5.2%) of the respondents were divorced and widowed, respectively.

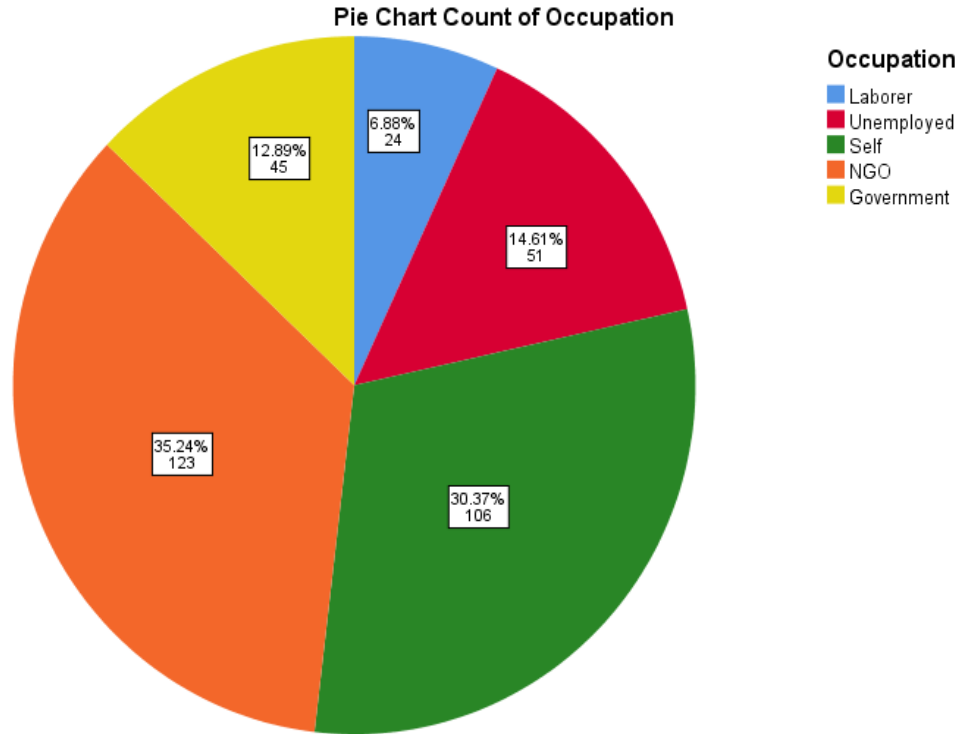
The travel detail of the respondents was also considered in the study and summarized in Table 3. As can be seen from the Table, 120 (34.4%) of the respondents uses the light train transport daily. The number of the respondents who use the light transport train occasionally is 115 (33.0%) of the 349 respondents. The rest 71 (20.3%) and 43 (12.3%) of the respondents use the light train transport weekly and monthly, respectively.

The demographic characteristics of the respondents can also be presented using graphical methods. The gender of the respondents is presented in Figure 1 using simple bar chart. The chart shows that there is a high proportion of male respondents as compared with female respondents. More than half of the respondents are male.



**Figure 4.1: Graphical presentation of the gender of the respondents**

The occupation status of the respondents is also displayed using pie chart in Figure 2. The Figure depicts that the employees of the non-governmental organization have high proportion followed by self-employed respondents as compared to the other occupations. The unemployed persons, daily laborers and government employees have smallest proportion as compared with the self employed and NGO employees.



**Figure 4.2: Graphical presentation of the occupation status of the respondents**

The continuous independent variables are summarized in Table 4 using mean and standard deviation. The minimum age of the respondents was 17 years and the maximum was 62 years. The average age of the respondents was 32.3 years with standard deviation of 9.7 years. The minimum and maximum monthly incomes of the respondents were 700 and 62,100, respectively. The average monthly income of the respondents was 5678.97 birr with standard deviation of 5061.93 birr.

**Table 4: Summary of the continuous independent variables**

	N	Minimum	Maximum	Mean	Std. Deviation
Age	349	17	62	32.30	9.705
Monthly income	349	700	62100	5678.97	5061.928

#### **4.5. Descriptive Analysis of the Service Quality Dimensions**

In this section the passengers' expectations and perceptions about the specific features of service quality dimensions have been summarized using mean and standard deviation. The difference between the mean expectations and mean perceptions was also presented for each service quality dimensions.

##### **4.5.1 Service Tangibility**

The most important factor determining satisfaction on Indian railway platforms was found to be "Basic Facility,( ample seating space at platform, availability of fans, lighting facilities)" since the Eigen value and percent of variation explained by this factor are 5.312 and 15.354, respectively (Vishal S., 2012). Eboli and Mazzula (2007) found that basic facilities consist of sitting space, fans, and lighting. Basic facilities pertaining to different sectors are important determinants of customer satisfaction. Table 5 indicates that the mean passenger's satisfaction of perception towards the train station and the train neatness and cleanness (3.31) is high as compared to the other features of tangibility. On average, the passengers are equally satisfied in physical facilities (TV, DVD player, etc.) at the station and on the train with mean of 3.31. The lowest observed mean passengers' satisfaction is on adequate shed for passenger which is 2.40. The passengers have almost similar mean satisfaction in the other features of service tangibility. The overall observed average satisfaction of the Addis Ababa light train passengers was 3.087 with standard deviation of 1.173. The overall average indicates that the passengers are averagely dissatisfied in the service tangibility. The average expectation of the passengers on sufficient information on the train regarding the journey was 4.31 which is the highest as it is compared to the other features of service tangibility.

The minimum mean expectation of the passengers was on the station and train neatness and cleanness with mean value of 4.24. The passengers had similar mean expectations on the other features of service tangibility. The overall average expectation of the passengers on service tangibility was 4.288. The average expectations of the passengers on all features of service tangibility are higher than the respective perceptions of the passengers. The mean differences of the passengers' expectations and perceptions on service tangibility features range from -0.93 to - 1.93. The overall mean difference of the passengers' perception and expectation on service tangibility was -1.201 (3.087-4.288).

This figure implies that the passengers of Addis Ababa light train transit passengers are not satisfied in service tangibility since their expectations from the light train transit enterprise is greater than what they observed when getting the service. This indicates that the passengers' expectations are not met so that passengers' dissatisfaction occurred.

**Table 5: Summary of Service Tangibility**

Tangibility	Expectation		Perception		Gap (P –E)
	Mean	Std.	Mean	Std.	
		Deviation		Deviation	
The station and train appear neat and clean	4.24	0.736	3.31	1.537	-0.93
Employees professionally well dressed and appear neat	4.30	0.721	3.18	1.491	-1.12
There is sufficient information on the train regarding the journey	4.31	0.720	3.24	1.511	-1.07
Platforms have adequate shed for passengers	4.30	0.728	2.40	1.412	-1.90
Physical facilities (TV, DVD player, etc.) at the station and on train are appealing	4.30	0.721	3.31	1.467	-0.99
Average mean score	4.288	0.601	3.087	1.173	-1.201

#### **4.5.2 Service Reliability**

The satisfaction of the passengers on the features under service reliability is summarized in Table 6. According to a study given by Van (as referenced by Mesfin W., 2018), rail quality and efficiency have an impact on transportation reliability. The table shows that, on average, higher (3.26) satisfaction is observed on 'the update when the train is going to stop in every station' as compared to the other features of service reliability. The minimum passengers' satisfaction was observed on service provider dependability which averages 2.29. The average passengers' satisfactions on all features (except the one mentioned above as the highest) of the service reliability are less than three.

In general, minimum passengers' satisfaction is observed in the service reliability dimension with an overall mean of less than 3 (2.594) and standard deviation of 1.133. This is an indication of the passengers' dissatisfaction on the service reliability of Addis Ababa light train transportation.

The average expectations of the passengers on 'providing on time service' and 'informing any failure ahead of Time' were 4.28 which is the highest as compared to the other features of service reliability. The minimum mean expectation of the passengers was on 'when a customer has a certain problem, service provider will show a sincere interest in solving it' with mean value of 4.26. The passengers had similar mean expectations on the other features of service reliability. The overall average

expectation of the passengers on service reliability was 4.27 with standard deviation of 0.642. The average passengers' expectations on all features of service reliability are higher than the respective perceptions. The mean differences of the passengers' expectations and perceptions on service reliability are all greater than -1 which range from -1.01 to -1.98. The overall mean difference of the passengers' perception and expectation on service reliability was -1.678 (2.594-4.272). This figure implies that the passengers of Addis Ababa light train transport passengers have had high expectation from the service of the Addis Ababa light train transport but what they observed was highly different from what they expected. This results in high dissatisfaction of the passengers.

**Table 6: Summary of Service Reliability**

Reliability	Expectation		Perception		Gap (P -E)
	Mean	Std. Deviation	Mean	Std. Deviation	
Providing on time service	4.28	0.734	2.55	1.437	-1.73
The train when going to stop in every station it updated the passengers during travel	4.27	0.721	3.26	1.488	-1.01
Service Provider inform any failure ahead of Time	4.28	0.726	2.35	1.487	-1.93

When a customer has a certain problem, Service provider will show a sincere interest in solving it	4.26	0.737	2.53	1.549	-1.73
Service provider should be Dependable	4.27	0.732	2.29	1.477	-1.98
Average mean score	4.272	0.642	2.594	1.133	-1.678

### 4.5.3 Service Responsiveness

The mean expectation and perception of the passengers on the features of service responsiveness is displayed in Table 7. The table depicts that, on average, higher (2.67) satisfaction is observed on ‘willingness to help you’ as compared to the other features of service responsiveness. The minimum passengers’ satisfaction was observed on informing passengers when the service exactly be "which averages 2.50. The average passengers’ satisfactions on all features of the service responsiveness are less than three. In general, minimum passengers’ satisfaction is observed in the service responsiveness dimension with an overall mean of less than 3 (2.592) and standard deviation of 1.231. This is an indication of the passengers’ dissatisfaction on the service responsiveness of Addis Ababa light train transportation.

The average expectations of the passengers on ‘compliant handling system’ and ‘willingness to help you’ were 4.28 which is the highest as compared to the average expectations of the other features of service responsiveness. The minimum mean expectation of the passengers was on ‘informing customers when the service exactly be’ with mean value of 4.23. The passengers had mean expectations between 4.23 and 4.28 on the other features of service responsiveness. The overall average expectation of the passengers on service responsibility was 4.258 with standard deviation of 0.715.

The average passengers’ expectations on all features of service responsiveness are higher than the corresponding perceptions. The mean differences of the passengers’ expectations and perceptions on service responsiveness are all greater than -1.5 which range from -1.61 to – 1.73. The overall mean difference of the passengers’ perception and expectation on service responsiveness was -1.666 (2.592-4.258). This figure implies that the passengers of Addis Ababa light train transit have

had high expectation from the service of the Addis Ababa light train transit but what they observed was highly different from what they expected. This results in high dissatisfaction of the passengers.

**Table 7: Summary of Service Responsiveness**

Responsiveness	Expectation		Perception		Gap (P –E)
	Mean	Std. Deviation	Mean	Std. Deviation	
Informing customers when the service exactly be	4.23	0.75	2.50	1.536	-1.73
Availability of staffs in handling requests	4.24	0.742	2.61	1.415	-1.63
Prompt service	4.26	0.750	2.56	1.503	-1.7
Compliant Handling System	4.28	0.734	2.60	1.462	-1.68
Willingness to help you	4.28	0.732	2.67	1.62	-1.61
Average mean score	4.258	0.715	2.592	1.231	-1.666

#### 4.5.4 Service Assurance

The summaries of items (features) of service assurance are presented in Table 8. The mean expectations and perceptions with the corresponding standard deviations of the passengers are given in the Table. The Table shows that the mean observed passenger’s satisfaction on ‘staff having knowledge to answer your questions’ (3.34) is the highest as compared to the other features of assurance. The lowest observed mean passengers’ satisfaction is on ‘providing you with information about any travel change’ which is 2+

.31. The overall observed average satisfaction of the Addis Ababa light train passengers on service assurance was 2.680 with standard deviation of 1.248. The overall average indicates that the passengers are dissatisfied in the service assurance.

The passengers’ average expectation on ‘courtesy (politeness) of staff on train’ was 4.29 which is the highest as compared to the other features of service assurance. The minimum mean expectation of the passengers was on ‘being informed if there are delays’ with mean value of 4.27. The

passengers had similar mean expectations on the other two features of service assurance which is 4.28. The overall average expectation of the passengers on service assurance was 4.282. The average perceptions of the passengers on all features of service assurance are higher than the respective expectations of the passengers. The mean differences of the passengers' expectations and perceptions on service assurance features range from -0.94 to -1.97.

The overall mean difference of the passengers' perception and expectation on service assurance is -1.602 (2.680-4.282). This indicates that the Addis Ababa light train transit passengers are not satisfied in service assurance since their overall mean expectation from the light train transit is greater than what they observed when getting the service. This indicates that the passengers' expectations are not satisfied which results in passengers' dissatisfaction.

**Table 8: Summary of Service Assurance**

Assurance	Expectation		Perception		Gap (P -E)
	Mean	Std. Deviation	Mean	Std. Deviation	
Courtesy(politeness) of staff on train	4.29	0.734	2.48	1.515	-1.81
Being informed if there are delays	4.27	0.734	2.59	1.554	-1.5
Staff having knowledge to answer your Questions	4.28	0.734	3.34	1.546	-0.94
Providing you with information about any travel change	4.28	0.735	2.31	1.421	-1.97
Average mean score	4.282	0.732	2.680	1.248	-1.602

#### **4.5.5 Service Empathy**

The summary of passengers' average satisfaction on the service empathy of Addis Ababa light train transit is presented in Table 9. Like the other service quality dimensions, the passengers of the Addis Ababa light train transit have had higher expectation on all features of service empathy than their perceptions. Except on one feature, the passengers' perceptions were less than 3 which indicate dissatisfaction of the passengers on Addis Ababa light train transit service empathy.

The higher expectation of the passengers might contribute to the dissatisfaction of the passengers. The gap between the passengers' expectation and the corresponding perceptions ranges from -0.75 to -1.94 which indicates as there is high difference between the passengers' expectation and perception.

The overall average expected satisfaction on service empathy was 4.266 and the corresponding mean perception was 2.754. The difference (gap) between the average perception and expectation of the passengers on the service empathy of the light train transit is -1.512. This implies that there is high difference between the expectations and perceptions of the passengers towards service empathy which results in high dissatisfaction of the passengers.

**Table 9: Summary of Service Empathy**

Empathy	Expectation		Perception		Gap (P –E)
	Mean	Std.	Mean	Std.	
		Deviation		Deviation	
Operating hours convenient to all its customer	4.27	0.728	3.52	1.513	-0.75
Understanding customer needs	4.24	0.750	2.56	1.541	-1.68
Having your best interest, a heart	4.28	0.735	2.34	1.512	-1.94
Availability of coach attendant/helper in the train	4.28	0.735	2.60	1.456	-1.68
Average mean score	4.266	0.724	2.754	1.216	-1.512

#### 4.5.6 Service Comfort

Service comfort features in Addis Ababa light train transit are summarized in Table 10 using mean and standard deviations as well as the gaps between the passengers' expectations and perception on the service comfort AALTT. The passengers have high mean expectation on 'availability of enough seating on the train, and station and smoothness of ride of the train' which is 4.28. The corresponding passengers' mean perceptions were 2.20 and 2.34, respectively. The gaps between the passengers' expectations and perceptions on the aforementioned features of service comfort were -2.08 and -1.94, respectively.

These huge gaps indicate that the high expectations on these features results in low perception of the passengers which implies high dissatisfaction of the passengers. The other features of service comfort have gaps less than -1 between passengers' mean perception and expectation. The overall mean perception of the passengers was 2.859 with standard deviation of 1.158. The overall gap between the overall men expectation and perception of the passengers was -1.424 which indicates high dissatisfaction of the Addis Ababa light train transit passengers on the corporation's service comfort.

**Table 10: Summary of Service Comfort**

Comfort	Expectation		Perception		Gap (P –E)
	Mean	Std. Deviation	Mean	Std. Deviation	
Availability of enough seating on the train and station	4.28	0.733	2.20	1.417	-2.08
Availability of waiting space at the station	4.24	0.730	3.44	1.501	-0.8
Smoothness of ride of the train	4.28	0.733	2.34	1.445	-1.94
Stations determine comfort as where to board and gets off	4.23	0.723	3.44	1.524	-0.79
Average mean score	4.283	0.732	2.859	1.158	-1.424

#### 4.5.7 Service Frequency

Sun et al. (2015) pointed out that operating hours and frequency of the transit should be paid more attention. According to a study conducted in China on railway passengers' satisfaction, punctuality and reliability have a substantial impact on commuter satisfaction (Rabiul et al, 2014). The service frequency is measured using two features. These features are summarized in Table 11. The table depicts that the mean expectations of the passengers on 'the train arrives on schedule time' and on 'the frequency of the train (time between different journeys) is very good' are 4.26 and 4.24, respectively. The corresponding perceptions are also 2.14 and 2.20, respectively.

The gaps between the passengers' mean perception and expectation for both features are greater than -2. The overall average passengers' expectation and perception on service frequency are 4.246 and 2.168, respectively. The difference between the passengers' overall mean perception and expectation on service frequency is -2.078. This implies that the Addis Ababa light train transit passengers are highly dissatisfied with the service frequency of the light train transit.

**Table 11: Summary of Service Frequency**

Frequency	Expectation		Perception		Gap (P -E)
	Mean	Std. Deviation	Mean	Std. Deviation	
The Train Arrives based on schedule time	4.26	0.759	2.14	1.393	-2.12
The frequency of the train (time between different journeys) is very good	4.24	0.753	2.20	1.409	-2.04
Average mean score	4.246	0.730	2.168	1.377	-2.078

#### **4.5.8 Service Safety and Security**

As a developing country, people in China are paying more attention to the safety and availability of rail transit rather than the comfort (Yuning W. et al., 2020). The service safety and security dimension of service quality is summarized in Table 12. This dimension is related with measures taken to keep the passengers' safety and security inside the train and the train stations. The passengers have had high expectations from the light train corporation in keeping their safety and security. When using the train, the passengers found the service safety and security below their expectation. This doesn't mean the light train transit corporation has no tools to keep its passengers' safety and security but these available services didn't meet the passengers' expectations.

The overall mean expectation of the passengers on the service safety and security is 4.276 with standard deviation of 0.705. The overall mean perception of the passengers is 3.019 with standard deviation of 1.208.

The gap between the overall mean perception and expectation on service security and safety of the Addis Ababa light train transport passengers is -1.257. This implies that there is high difference between the expectations and perceptions of the passengers. This results in dissatisfaction of the passengers on the service safety and security.

**Table 12: Summary of Service Safety and Security**

	Expectation		Perception		Gap (P –E)
	Mean	Std. Deviation	Mean	Std. Deviation	
<b>Safety and Security</b>					
Theft, and other crimes are not committed	4.24	0.768	3.42	1.517	-0.82
There are enough Camera Surveillances in the inside the train and in the stations	4.27	0.768	2.78	1.428	-1.49
There are enough fans and Ventilations in the train	4.32	0.744	2.33	1.553	-1.99
Fire extinguisher is available in the train	4.29	0.758	3.53	1.483	-0.76
Availability of Emergency Window	4.26	0.755	3.03	1.627	-1.23
Average mean score	4.276	0.705	3.019	1.208	-1.257

#### **4.5.9 Overall Passengers Satisfaction toward Service Quality**

The overall average passenger’s satisfaction on the service quality dimensions and the gap between the means passengers’ expectations and perceptions is presented in Table 13. The Table displays that the overall observed mean satisfaction of the light train transit passengers is higher in the service tangibility as compared with the other service quality dimensions. The observed overall passengers’ satisfaction is minimum (2.168) in frequency of the service as compared with the other dimensions. The passengers’ mean satisfaction is below 3 for most of the service quality dimensions which indicates dissatisfaction of the light train transit passengers. The only service quality dimensions with passengers observed mean satisfaction greater than three are tangibility and safety and security.

The observed overall mean satisfaction of the light train transit passenger in all of the service quality dimensions is 2.719 which indicate an overall dissatisfaction of the passengers in the service of AA – LTT.

**Table 13: Summary of Overall Passengers Satisfaction toward Service Quality**

Dimensions	Mean		Gap (P-E)
	Perception	Expectation	
Tangibility	3.087	4.288	-1.201
Reliability	2.594	4.272	-1.678
Responsiveness	2.592	4.258	-1.666
Assurance	2.680	4.282	-1.602
Empathy	2.754	4.266	-1.512
Comfort	2.859	4.283	-1.424
Frequency	2.168	4.246	-2.078
Safety and security	3.019	4.276	-1.257
Average score	2.719	4.271	-1.552

According to Geetika & Nandan, S., (2010 ) the most important aspects for determining satisfaction with railway stations are refreshments, behavior, information system effectiveness, basic facilities, and security issues

The Table also presents the mean expectation of the passengers on each service quality dimension before using the light train transit. As presented in the Table, the passengers have had almost similar expectations on all of the service quality dimensions. The average expectations from all dimensions of service are greater than four. There are big differences between the mean expectations and perceptions of the passengers ranging from -1.201 to -2.078 which imply the passengers are highly dissatisfied with the Addis Ababa light train transit in all service quality dimensions.

The minimum gap between expectations and perceptions of the passengers is in service tangibility. This indicates that the passengers’ expectations are satisfied more in this dimension as compared to the other dimensions. There is highest difference in the expectation and perception of the passengers in service frequency which implies the passengers are highly dissatisfied with this

dimension. According to Agrawal, employee behavior is the most significant determinant of customer (passenger) satisfaction with Indian Railway service (2008).

This might be an indication for that the train doesn't arrive based on the prescheduled time and the frequency of the train (time between different journeys) is bad. The gap between the overall mean passengers' expectations and perceptions in all dimensions of service quality is -1.552. This implies that, on average, the Addis Ababa light train transit didn't meet the expectations of its passengers in terms of service quality dimensions.

#### **4.6 Correlation Analysis of Service Quality Dimensions and Passengers' Satisfaction**

Correlation analysis was conducted to examine the linear relationship between service quality dimensions and customer satisfaction. Pearson correlation coefficients between the service quality dimensions and passengers' satisfaction were computed and their significance was tested. The findings of the correlation analysis are presented in Table 14. The Pearson correlation coefficient ( $r$ ) values for all service quality dimensions (tangibility, reliability, responsiveness, assurance, empathy, comfort, frequency and safety and security) positive linear relationship between service quality dimensions and passenger satisfactions were occurred.

All correlation coefficient values are greater than 0.75 which might be indications for strong positive linear relationship between the service quality dimensions and passengers' satisfaction.

In addition to, the strong positive linear relationship, the result of the correlation analysis presented in Table 14 depicts a significant linear relationship between the service quality dimensions and passengers' satisfaction. The Table shows that there is significant (since all  $p$ -values are less than 0.05) positive relationship between the eight service quality dimensions and passengers' satisfaction. The highest correlation (0.893) is between comfort and passengers' satisfaction as compared to the other service quality dimensions. The weakest correlation (0.776) is between tangibility and passengers' satisfaction as compared to the other service quality dimensions.

**Table 14: Correlations of service quality dimensions and passengers' satisfaction**

<b>Service quality dimensions</b>	<b>Passengers' satisfaction</b>
<b>Tangibility</b>	
Pearson correlation	.776
P-value	0.000
<b>Reliability</b>	
Pearson correlation	.856
P-value	0.000
<b>Responsiveness</b>	
Pearson correlation	.825
P-value	0.000
<b>Assurance</b>	
Pearson correlation	.823
P-value	0.000
<b>Empathy</b>	
Pearson correlation	.791
P-value	0.000
<b>Comfort</b>	
Pearson correlation	.802
P-value	0.000
<b>Frequency</b>	
Pearson correlation	.809
P-value	0.000
<b>Safety and Security</b>	
Pearson correlation	.834
P-value	0.000

In general, the results of correlation coefficient values indicated that there is a strong positive linear correlation between all dimensions of service quality and the satisfaction of Addis Ababa light train passengers. The test also confirmed the significance of the strong positive linear relationships. This implies that improving these service quality dimensions will increase the satisfaction of Addis Ababa light train transit passengers.

#### 4.7 Test of Multiple Regression Model Assumptions

##### *Linear relationship*

The Pearson correlation analysis in Section 4.7 indicated that there is a linear relationship between each predictor variable and the dependent variable. This implies that the linear relationship assumption is satisfied.

##### **No Multicollinearity**

The VIF values of all independent variables, except one variable, are less than 10 which indicate that multicollinearity is not a problem for the multiple linear regression models.

**Table 15 Multicollinearity**

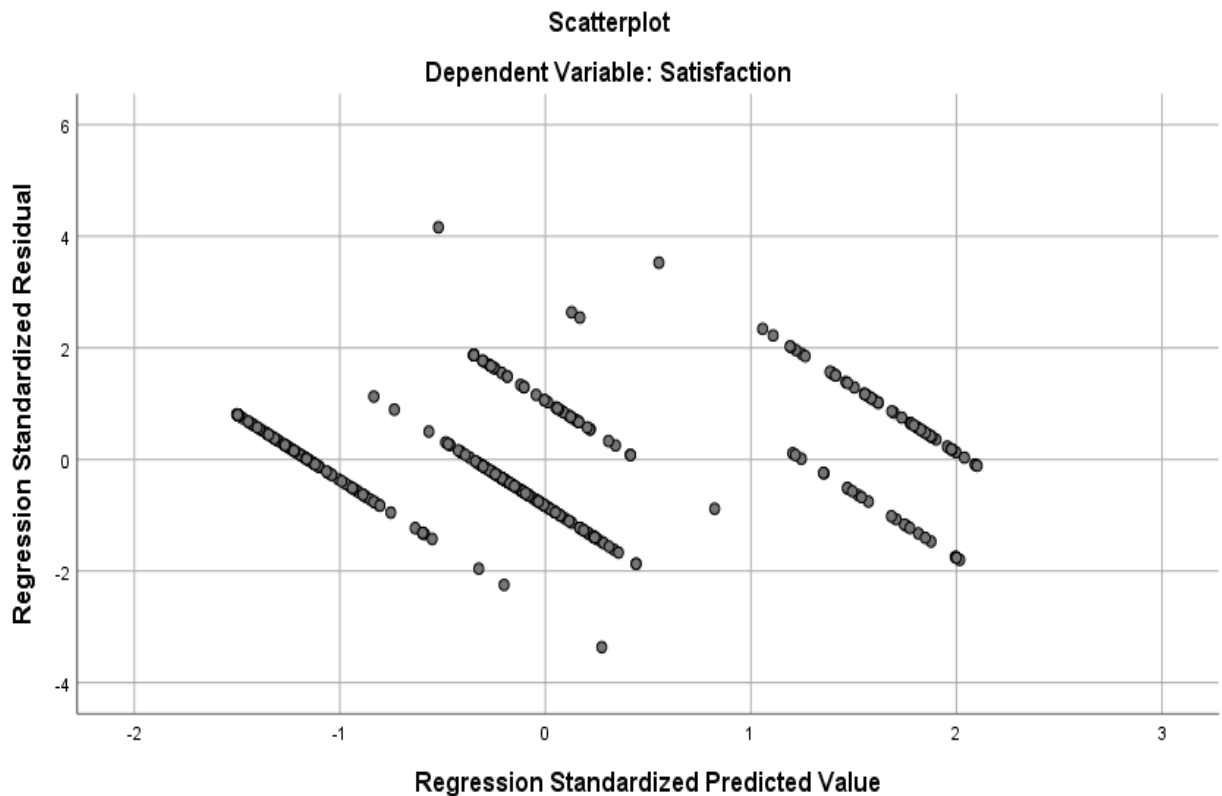
<b>Variables</b>	<b>Collinearity Statistics</b>	
	<b>Tolerance</b>	<b>VIF</b>
Tangibility	.200	4.990
Reliability	.173	5.774
Responsiveness	.145	6.918
Assurance	.218	4.594
Empathy	.190	5.252
Comfort	.071	13.997
Frequency	.248	4.035
Safety and Security	.107	9.337

## Independence

The value of the Durbin-Watson test obtained from the multiple regression analysis is 2.117 which is between 1.5 and 2.5. This indicates that the observations (data values) are independent.

The following scatter plot of the regression standardized predicted values and regression standardized residuals shows the same breadth for all projected dependent variable values. This implies that the assumption of homoscedasticity is met.

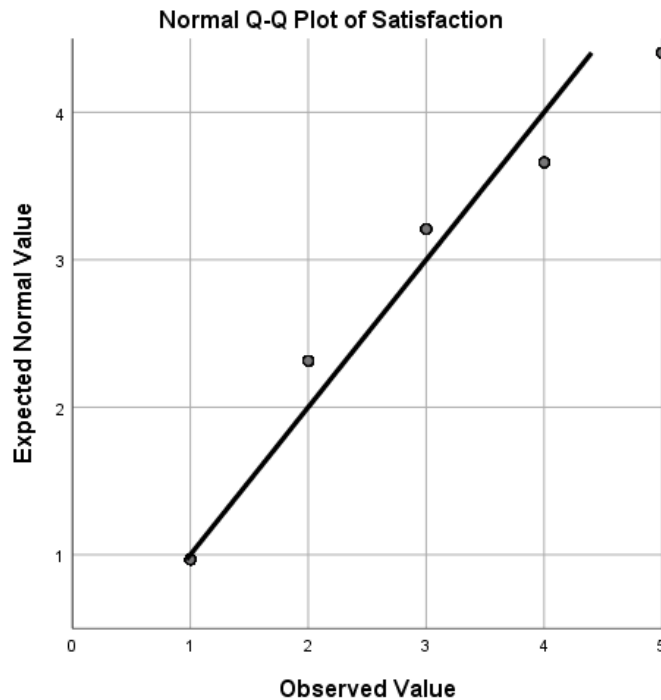
**Table 16 Assumption of Homoscedasticity**



## Normality

The data points in the following Normal Q-Q plot lie around the straight line which indicates that the residuals of the model are normally distributed.

**Table 17 Normality**



#### **4.8 Multiple Regression Model Results**

Multiple regression models were employed to examine the extent and significance of the effect of the service quality dimensions on passenger’s satisfaction in Addis Ababa light train transit. The results of the multiple regression models are presented in Tables 14, 18 and 19. The results in the tables show the overall fitness and significance of the multiple regression model and the significance of the effect of the individual service quality dimensions on passengers’ satisfaction.

Table 18 presents the estimates of R square and adjusted R square. The result in the Table indicates that the value of R square is 0.850 which implies that about 85% of variation in the satisfaction of Addis Ababa light train passengers is explained by the service quality dimensions included in the model (tangibility, reliability, responsiveness, assurance, empathy, comfort, frequency and; safety and security). This means that the rest 15% of variation in passengers’ satisfaction is explained by other variables not included in the multiple regression model.

**Table 18: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.922	.850	.846	.530

**Table 19: ANOVA**

Model		Sum of Squares	Mean Square	F	Sig.
	Regression	540.423	67.553	240.193	.000
	Residual	95.623	.281		
	Total	636.046			

Table 19 also presents the result of the overall significance (model fitness) test. As can be seen from the Table, the value the F test is large and the p-value is small (0.000) which is less than 0.05 (5%). This confirms the overall model significance which means at least one of the independent variables included in the multiple regression model have significant effect on the dependent variable (passengers' satisfaction).

**Table 20 Results of the multiple regression model**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-.535	.082		-6.494	.000
	Tangibility	.144	.054	.125	2.663	.008
	Reliability	.180	.060	.151	2.982	.003
	Responsiveness	.008	.061	.007	.127	.899
	Assurance	.129	.049	.119	2.650	.008
	Empathy	-.048	.054	-.043	-.897	.370
	Comfort	.479	.092	.410	5.215	.000
	Frequency	.254	.041	.259	6.126	.000
	Safety and Security	-.030	.072	-.026	-.411	.682

The estimates of the multiple regression model coefficients corresponding to the service quality dimensions are given in Table 20 with their corresponding standard error estimates. The t-test for the significance of individual coefficients is presented in the Table and the corresponding p-values are given. Based on the p-values, at 5% level of significance tangibility, reliability, assurance, comfort and frequency are found to have significant positive effect on the satisfaction of Addis Ababa light train transit passengers. As it was discussed in the correlation analysis section and demonstrated here, these service quality dimensions have positive significant effect on passengers' satisfaction since all of the significant variables have positive coefficients.

This implies that as the values of these dimensions increases the passengers' satisfaction also increases. On the other hand, if the values of these significant dimensions decrease, the satisfaction of the passengers also decreases. Although the Pearson correlation coefficient values of responsiveness, empathy and safety and security indicate a positive linear relationship between these dimensions and passengers' satisfaction, here in the multiple regression models they are found to be insignificant (their coefficients are not significantly different from zero). This implies that at 5% level of significance these variables (service quality dimensions) have no significant effect on the satisfaction of Addis Ababa light train transit passengers. The p-values of these variables are all greater than 0.05 which allows us not reject the null hypothesis which is 'the regression coefficient of the variable is not significantly different from zero'.

The regression coefficients of tangibility, reliability, assurance, comfort and frequency are all positive and the corresponding p-values are less than zero so that we can reject the null hypothesis and conclude that at 5% level of significance, the regression coefficients of these variables are significantly different from zero. Therefore, using the significant variables, the researcher can construct the regression equation as follows.

$$PS = 0.144 \times ST + 0.18 \times SR + 0.129 \times SA + 0.479 \times SC + 0.254 \times SF$$

Where, PS = Passengers' Satisfaction

ST = Service Tangibility

SR = Service Reliability

SF = Service Frequency

SA = Service Assurance

SC = Service Comfort

#### **4.9 Tests of the Hypotheses of the study**

The hypotheses of the study are tested on 95% confidence level (5% level of significance).

##### **Hypothesis 1**

Relationship between tangibility and passengers' satisfaction in AA LRT

H0: There is no positive and significant relationship between tangibility and passengers' satisfaction.

H1: There is positive and significant relationship between tangibility and passengers' satisfaction

As can be seen from Table 20, the p-value of tangibility (p-value=0.008) is less than the level of significance (0.05) in which we reject the null hypothesis and at 5% level of significance we conclude that there is positive and significant relationship between tangibility and passengers' satisfaction.

##### **Hypothesis 2**

Relationship between safety and security and passengers' satisfaction in AA LRT

H0: There is no positive and significant relationship between safety and security and passengers' satisfaction.

H1: There is positive and significant relationship between safety and security and passengers' satisfaction

We can see from Table 20 that the p-value of safety and security (p-value=0.682) is greater than the level of significance (0.05) in which we do not reject the null hypothesis and at 5% level of significance we conclude that there is no positive and significant relationship between safety and security and passengers' satisfaction.

##### **Hypothesis 3**

Relationship between responsiveness and passengers' satisfactions in AA LRT

**H0:** There is no positive and significant relationship between responsiveness and passengers' satisfaction

**H1:** There is positive and significant relationship between responsiveness and passengers' satisfaction.

Since the p-value (0.899) is greater than 0.05, we do not reject the null hypothesis and conclude that there is no positive and significance relationship between responsiveness and passengers' satisfaction.

#### **Hypothesis 4**

Relationship between reliability and passengers' satisfactions in AA LRT

**H0:** There is no positive and significant relationship between reliability and passengers' satisfactions.

**H1:** There is positive and significant relationship between reliability and passengers' satisfactions

The p-value of reliability given in Table 20 depicts that there is positive and significance relationship between reliability and passengers' satisfactions since the p-value (0.003) is less than 0.05.

#### **Hypothesis 5**

Relationship between comfort and passengers' satisfactions in AA LRT

**H0:** There is no positive and significant relationship between comfort and passengers' satisfactions.

**H1:** There is positive and significant relationship between comfort and passengers' satisfactions.

At 5% level of significance, we can conclude that there is positive and significance relationship between comfort and passengers' satisfactions as the p-value (0.000) given in table 20 is greater than 0.05 and the null hypothesis is rejected.

#### **Hypothesis 6**

Relationship between assurance and passengers' satisfactions in AA LRT

**H0:** There is no positive and significant relationship between assurance and passengers' satisfactions

**H1:** There is positive and significant relationship between assurance and passengers' satisfactions

We can see from Table 20 that the p-value of assurance (p-value=.008) is less than the level of significance (0.05) in which we reject the null hypothesis and at 5% level of significance, we conclude that there is positive and significant relationship between assurance and passengers' satisfaction.

### **Hypothesis 7**

Relationship between frequency and passengers' satisfactions in AA LRT

**H0:** There is no positive and significant relationship between frequency and passengers' satisfactions

**H1:** There is positive and significant relationship between frequency and passengers' satisfactions

As can be seen from Table 20, the p-value of frequency (p-value = .000) is less than the level of significance (0.05) in which we reject the null hypothesis and at 5% level of significance we conclude that there is positive and significant relationship between frequency and passengers' satisfaction.

### **Hypothesis 8**

Relationship between empathy and passengers' satisfactions in AA LRT

**H0:** There is no positive and significant relationship between empathy and passengers' satisfactions

**H1:** There is positive and significant relationship between empathy and passengers' satisfactions

The result of the multiple regression model revealed that the p-value (.370) of empathy is greater than 0.005. Therefore, we do not reject the null hypothesis and conclude that there is no positive and significance relationship between empathy and passengers' satisfactions. The multiple regression model results indicate that a unit change in the Addis Ababa light train transit service tangibility changes its passengers' satisfaction by 0.144. This means if the service tangibility increases by one then the passengers' satisfaction also increases by 0.144 or if service tangibility decreases by one unit the satisfaction of the passengers will also decrease by 0.144. When the service reliability changes by one unit, then the passengers' satisfaction will also change by 0.18.

A unit change in service assurance changes the satisfaction of the passengers by 0.129. Service comfort of the Addis Ababa light train transit changes the passengers' satisfaction by 0.479 when its value changes by one unit. A unit changes in the service frequency of Addis Ababa light train transit changes its passengers' satisfaction by 0.254. Since their regression coefficients are highest as compared to the other service quality dimensions, service comfort and service frequency, respectively have higher effect on the satisfaction of Addis Ababa light train transit passengers.

#### 4.10 Qualitative analysis of Detailed Interviews

The study has addressed customers' satisfaction based on the predefined services that the AA-LRT provides to its customers. Accordingly, the analysis was also made based on the data obtained regarding detailed services including schedule/punctuality and frequency of journeys, fare (ticket price), facility and convenience (ticket booth, access, connectivity, and comfort and neatness), safety and security, and complaint management. Train frequency The ERC has planned that trains run every 12 minutes from each station and from all directions. However, both qualitative and quantitative data did not support what is planned by the AA-LRT. As can be seen from Table 21, most passengers are either very much (24%) dissatisfied on unsatisfied (52%) with the frequency (the time between two journeys in a station) of the train.

**Table 21: Train arrival frequency**

<b>Interview Question</b>	<b>Train arrival frequency</b>	<b>Percentage</b>
The train frequently arrives. No delays from one station to the other.	Strongly Disagree	24
	Disagree	52
	Not decided	19
	Agree	9
	Strongly Agree	3
	<i>Total</i>	<i>100</i>

The data collected through interview also indicated passengers' dissatisfaction with the train frequency. They mentioned that they were very happy when the corporation made statement that passengers can catch trains every 12-15 minutes to any direction. Yet, what the corporation promised and what they witnessed are completely unrelated. They stated that let alone 12-15 minutes, there are cases in which they have been waiting for train for an hour. The following excerpts reflect passengers' reflections on the frequency of the train.

It is good that we have an opportunity to use the train service in addition to other transport systems that we have such as bus and taxi. However, in terms of waiting to get service, train service is very poor even compared to public bus and taxi. Sometimes it comes after 20 minutes; sometimes after 30 or 50 minutes or one hour. You never know. (PAS 18)

The frequency of the train is very unpredictable and so annoying. You cannot tell that you will go and catch the train at a defined time. For example, one day I caught the train from here [Megenagna] at four o'clock, but the next day and after that it was not here. This happened to me many times. So, what I do now is that I will come here at least 30 minutes before the time which I think I may get a train. I am not sure but there is a rumor which indicates that this is happening because most of the trains are not functional and there is lack of spare parts. (PAS 3)

: I am not going to hide what is visible and what we all felt very much. ...The problem related to frequency of the train is fully acceptable. However, what you have to understand is that this is happening not only because of our problem but also problems of other agencies' that we closely work with. For example, there is an electric cut off which is seriously affecting our service. (CRC2)

The result has shown that the train frequency is not what it was expected to be, and passengers are dissatisfied with the service of AA-LRT with regard to this. Such dissatisfaction was well noted by the cooperation but it was indicated that the source of the problem is not only because of the cooperation but also related electric power cut off and lack of spare parts.

#### 4.10.1 Train schedule/punctuality

The train is expected to serve the customers from morning to evening and the train travel time should be always on schedule. Therefore, it must have a schedule of their arrival and departure time (DeGoma, Ello, and Paed, 2010). This should be to the extent of passengers know what time a train arrives in which stations. However, the quantitative data showed that passengers are dissatisfied (49%) with the train schedule/punctuality (see Table 22)

**Table 22: Train Schedule/ Punctuality**

<b>Interview question 2</b>	<b>Train Schedule/ Punctuality</b>	<b>Percentage</b>
We know at what time the train arrives and leaves.	Strongly Disagree	27
	Disagree	49
	Not decided	7
	Agree	9
	Strongly Agree	8
	<i>Total</i>	<i>100</i>

Interview result also indicated that passengers are not satisfied with the schedule/punctuality of the train. They mentioned that no one knows when the train comes and leave from a certain station. When they were asked how could then make their own plan to catch the train in the time they want, they mentioned that it is not possible to plan. The best way is just to go ahead of time and wait for luck.

No one knows when the train comes because there is no schedule. This is one of the weakest points of the train service. I heard people saying that this is not the case in other countries that provide train service. I remember when they [the cooperation] were saying that people will know when the train arrives in each station, but that remains a dream at least for now. (PAS 5)

These indicate that the AA-LRT has no time table and passengers cannot plan their journey based on a predefined train schedule. This has been mentioned as one of the major problems of the AA-LRT and also the major source of dissatisfaction for passengers. The limitation has been known by the service provider since it begins providing service

#### 4.10.2. Fare (Ticket Price)

One of the promises that the government of Ethiopia made before it starts providing train service to the people was ensuring that the price is affordable by all people regardless of their income. In relation to the qualitative results shown passengers are satisfied with the ticket price regardless of direction and distance of travel.

**Table 23: Fare/Ticket price**

<b>Interview Question 3</b>	<b>Number and quality of shelter and seat</b>	<b>Percentage</b>
The ticket price affordable and faire	Strongly Disagree	8
	Disagree	11
	Not decided	0
	Agree	46
	Strongly Agree	35
	<i>Total</i>	<i>100</i>

As can be seen above (Table 23), most passengers are either satisfied (46%) or very much satisfied (35%) with the ticket price that the AA-LRT asks for different trips. Interview result also clearly indicated passengers' satisfaction with the fare mainly in comparison with the price of other transport services in the city. In relation to this one passenger said:

Compared to the price for taxi [mini-bus], I think this one is fair. I have no problem with the ticket price. What you need to take into consideration is that the maximum you pay is four birr and this is from one end to the other. So, I would say this is really fair. (PAS 11)

Passengers also indicated that the longer distance one travels even the ticket price become cheaper.

The ticket price is affordable. I think it is affordable to many people. It is even cheaper the longer you travel. I am not sure if it will continue like this in this unpredictable market. If it does, I am very happy and hope many people will be happy. (PAS 3)

One of the customer relations coordinators at AA-LRT also noted that the ticket price is very cheap and they have never received any complaints regarding fare. Yet, she noted that this is despite the fact that the infrastructure maintenance costs are increasing significantly. We are very happy to provide cheap service which is affordable by our society. I am not sure about Ambessa Bus, but I can say that the train is the cheapest transport service compared to other service providers. I am not sure how many people know about this. We are doing this while we are struggling to address the ever-increasing infrastructure maintenance costs. (CRC 1)

The above excerpt indicates that both customers and the service provider are happy with the fare of the passenger-rail-services. Yet, from the interviews it can be understood that the unpredictable economic fluctuation, highly increasing maintenance costs, and overhead expenses which are very high as compared to other modes of transport, may have an impact on the ticket price in the near future, which will not be good news for passengers who praise the service cost.

### **4.6.3 Facility and Convenience**

Passengers were asked about the facility and convenience of the service and facilities provided by the AA-LRT. These include ticket booth, accessibility of platforms, access to information, and connectivity.

#### **A. Ticket booth**

The other issue that passengers raised in relation to convenience was where they buy train tickets. The practice around the world shows that there are at least three options: ticket office, vending machine and online booking. Both online booking and automatic vending machines enable passengers to buy their tickets without queuing at the ticket booths (De Goma, Ello, B., and Paed,

2010). This also allows for faster mobility of people and added convenience to commuters (travelers). When it comes to the case of AA-LRT, passengers said:

I have traveled to some European and Asian countries and I saw people buying from vending machines which are more convenient than the ticket booths which we have here. Having ticket shops in each station is good and often there is no long queue to buy a ticket. However, it is not convenient to buy a ticket by crossing the road during rush hours, which is somehow dangerous here in Ethiopia. (PAS 3)

The ticket shops are somehow inconvenient. I am saying this because they are located only one side of the road and we are forced to cross the road and the railway to buy a ticket. This is sometimes dangers because of the huge traffic and the accident that happens when people cross the road. (PAS 21)These indicate that there are no problems related to long queue to buy a ticket, but the location of the ticket booths is found to be inconvenient because they are located only in one side of the road, which obliges passengers from the other side of the road to cross the road and the railway itself which is not convenient. It can be imagined that it is even more inconvenient for elderly people, people traveling with their children and people with disabilities.

### **B. Accessibility of platforms**

When the Government of Ethiopia was building the AA-LRT, it has vowed to ensure that both the plat forms/stations and the trains are accessible to all people regardless of their age and physical ability. In relation to this passenger were asked about the accessibility of platforms and trains and the result was not in line with what the government initially promised.

Data obtained from the interview indicated that most passengers (60 %) were not satisfied with the accessibility of the platform.

**Table 24: Accessibility of platforms**

<b>Interview Question 4</b>	<b>platforms Access</b>	<b>Percentage</b>
Platforms are easily accessible for elder and disable people.	Strongly Disagree	60
	Disagree	22
	Not decided	2
	Agree	10
	Strongly Agree	6
	<i>Total</i>	<i>100</i>

Passengers also indicated that it has been more than six years since the train starts providing service, but they don't know why the corporation is not still considering the problems of people

with physical disabilities and of those who uses wheelchair. A passenger at Megenagna station said:" Almost all stations have facilities to help these people [people with physical disability] get to the platform but they have never been functional." Another passenger also noted the ignorance of the ERC and even the government when it comes to providing services for elderly people and people with disabilities. She said:

It is so sad to see that the government spends millions of birr in constructing escalators, elevators and ramps which are symbolic and non-functional. They are built with a purpose which is providing service for people in need but that is not the case. You see them providing no service at all. I don't really know why. (CRC 2)

...If you ask many people, they will tell you that the platforms are not accessible for people with disability and elderly people. Yet, I argue that it is not also accessible by people who temporarily had problem in their leg and who feel tired for many reasons. What surprises me is that, the infrastructure is there but no one makes sure that it provides service. This is a very annoying thing. (PAS 15)

The result has shown that despite the promise from the government of Ethiopia and physical availability of infrastructures that eases the movement of all passengers, because non-functionality of the escalators and elevators, elderly people and people with disability, do not have access to the train stations and thereby to the train. This has been considered one of the main sources of dissatisfaction with the service provided by the AA-LRT even for those who do not need such facilities very much.

### **C. Access to information**

Access to information is one of the key services that passengers want to have. According to (Buluma, 2014), information is a very important aspect of service provision, and it plays a significant role in enhancing business and profitability by ensuring customers' satisfaction. Information is also regarded as one of the basic things that customers want to get in transport service, and it is not different for AALRT. As can be seen from the table below, the result from the questionnaire indicated that most of the passengers (38%) in different stations are not satisfied with the information provided by the AA-LRT regarding their journey.

Table 25: Information in the platform regarding the journey

<b>interview Question 4</b>	<b>Availability of information in the plat form</b>	<b>Percentage</b>
Enough information is available on the train	Strongly Disagree	38
	Disagree	44
	Not decided	5
	Agree	11
	Strongly Agree	2
	<i>Total</i>	<i>10</i>

The qualitative data also showed passengers dissatisfaction with the information provided by the AALRT. They indicated that their information regarding what the next station is, leaving seats in courtesy for elderly people and people in need, and what is not allowed to bring onboard.

Regarding availability information on routes at the platform and in the train, passengers said the following

There is clear information in each station regarding the name of the station which is good for passengers that are not familiar with the stations. However, there is lack of information which shows different routes in the platform. I heard there is used to be but as you can see here, it does not exist anymore. The information we get in the train through audio is fine but such information is not inclusive, for example, for people with hearing impairment.

There must be clear information which shows the journey and where exactly we are. By the way recently I don't know why but even the information we used to get in the train from Ayat to Torhailoch has been stopped. (P AS7)

The information you get in the platform is very poor. There is no information regarding where the train is and what time it will arrive here. This is embarrassing I will say. They did the big job which is constructing the railway and buying the trains, but they failed to provide small services. There are even no brochures for tourists or people coming outside Addis Ababa which shows the route of the train. We just keep looking to the direction that the train comes from and this is too traditional. (PAS 5)

As can be seen from the above qualitative and quantitative results, there is lack of information provision regarding the journey both in the platforms and in the train. Passengers noted that there is

audio information regarding stations and some other information regarding courtesies, but this information excludes people with hearing impairment.

In the 21 centuries, it is not only availability of information that matters to customers' satisfaction but also sufficiency, quality of the information and how easily information reaches to customers are great deals. Passengers were not also satisfied with the way information is transmitted and the quality of information they get. Most passengers are not satisfied with the quality of the information they get in the platform (56%) and in the train (66%) (see table 7 and table 8).

**Table 26: Information in the train**

	<b>Information gain in the Train</b>	<b>Percentage</b>
There are quality information on the train	Strongly Disagree	28
	Disagree	38
	Not decided	10
	Agree	19
	Strongly Agree	5
	<i>Total</i>	<i>100</i>

Interviewees noted that the written information in some platforms is scratched and difficult to read, and there is no one who is trying to take measure to correct this. They also noted that the audio is too loud and repetitive which is not convenient for customers who use the service on daily or weekly basis. Passengers were not also happy with the adverts they see in the scree inside the train.

I have been using the train service from the very beginning. I am bored of the adverts that I see in the screen. It has been there since the first day and it shows the ceremony of the inauguration of the train service. That might be good for a week or a month but not for two year or more. I am wondering why they are not able to attract business. If you look at the number of people who use train is amazing. So, I think it will be very good if they have some business advert, otherwise it is boring. (PAS 11)

As can be seen from qualitative data, the result revealed that passengers are not satisfied with the quality of the information provided by the AA-LRT. This is mainly related to sound pitch and boringness of the advert that passengers have been watching for many years.

***D. Connectivity***

One of the disadvantages of rail transport is that it cannot provide door to door service as it is tied to a particular track (Geetika and Nandan, 2010). Thus, passengers need to have easy connection

between the train and other transport services. Unlike in some other countries, in Ethiopia there is no integrated transport system, which enables passengers to easily transfer from one transport system to the other (e.g., from train to bus and vice versa) without additional cost in a certain limited time. In relation to connectivity, passengers see no problem as there are other transport services in each train station.

The train stops in stations where there are bus and taxi services. I haven't seen any station where you get off the train and walk for long to take a bus or a taxi. ...you just get off and go to the direction you want by using whatever you want [bus or taxi]. This is not a problem at all. (PAS7)

Connection with other transport system is not a problem. This is mainly because there is taxi and bus transport service available in each station. ...some people even complain that the bus and taxi service is very close to the station and it make difficult to cross the road and also become a reason for traffic jam. (PAS 21)

The result has shown that passengers are satisfied with connectivity of the train to other transport services. This can be because of two reasons, either the stations are located in a place where there is other transport service or other transport services come to provide service to the place where they think will have a great number of passengers.

#### **4.6.4 Comfort**

Literatures indicate that in addition to availability of different services, passengers also want to have comfortable journey (De Goma, Ello, B., and Paed, 2010). In this study, passengers' comfort was examined both before departure and in their journey; i.e., their comfort in the platform and their comfort in the train.

##### **A. Passengers comfort in the platform**

Passengers comfort in the platform was assessed by examining passengers' satisfaction with the neatness of the platform and comfortability of seats and shelters. The data obtained from the interview indicated that most of the passengers (38%) are satisfied with the neatness of the platforms.

**Table 27: Neatness of the platforms**

<b>Interview Question</b>	<b>Platforms neatness</b>	<b>Percentage</b>
The train is very clean and neat	Strongly Disagree	4
	Disagree	16
	Not decided	21
	Agree	38
	Strongly Agree	21
	<i>Total</i>	<i>100</i>

The interview results also indicated passengers’ satisfaction with the neatness of the platform. They mentioned that despite the fact that there are some irresponsible people who throw rubbishes when they cross the rail way or waiting for the train in the platform, it is always clean.

If you are asking me about the cleanness of the platform, I would say it is very good. I think the people who clean platforms in every station are really good. I don’t know how many times they clean per day, but it is always clean, and I can’t complain on that. (PAS 13)

As you can see the station is clean. This is mainly because of the hard work of people assigned to do that. It is very common to have people who are not responsible and make the platform dirty. However, now a day when they see the platform always clean, I think they are afraid of doing the wrong deeds. (PAS 1)

Both qualitative and quantitative results shown that passengers are satisfied with the cleanness of the platforms and they gave the credit for the hard work of the janitors who are responsible to do the cleaning job. AALRT have built shelters and put seats in all stations. Passengers were asked about the sufficiency and quality of the seats and shelters in the platforms. In relation to this the quantitative result revealed that although there are some people who are satisfied with number and quality of the shelter and seat (37%) most of them are not satisfied (17%) (see Table 28)

**Table 28: Number and quality of shelter and seat**

<b>Interview Question</b>	<b>Number and quality of shelter and seat</b>	<b>Percentage</b>
---------------------------	---	-------------------

There are enough and quality shelters in every platform	Strongly Disagree	24
	Disagree	37
	Not decided	10
	Agree	17
	Strongly Agree	12
	<i>Total</i>	<i>100</i>

Passengers indicated that the platform is very small compared to the number of people who are there. Although there are some platforms, such as the one in Megenagna, that are bigger than the others, still they are considered as not enough because of the passengers they host a time. Thus, this was found to be one of issue that compromises passengers' comfort. Passengers also noted that the shelters are very small and in case of rain they cannot host even one tenth of the people. Moreover, they do not have a side glass or block which protects people from wind and rain

The platform is small and it has only one or two chairs in each side and that is not enough at all. I don't know why they want to have such a small platform. If they are considering having extra trains, the size of the platforms becomes a serious challenge. ... The seats are fine but they are not enough as well. Generally, I am not happy with the shelter and the seat. You can see many people standing or laying their back on the fence. (PAS11)

As can be seen from the above discussion and excerpt, passengers are not satisfied with the number and quality of shelters and seats in the stations.

### **B. Neatness of the train**

There are different services that please and make passengers comfortable on board. Some of these include neatness of the train, quality of seats in the train, and ventilation system in the train. In relation to these, the quantitative result showed that most passengers (45%) from different stations are satisfied with the neatness of the train.

**Table 29: Neatness of the train**

<b>Interview Question</b>	<b>Trains neatness</b>	<b>Percentage</b>
The train is neat	Strongly Disagree	7
	Disagree	13
	Not decided	3
	Agree	45
	Strongly Agree	32
	<i>Total</i>	100

Passengers indicated that compared to the number and types of people that use the service, the neatness of the train is considered to be very good. Some passengers associated with lack of space which gives time and space people to enjoy their journey and do some extra works, which in turn potentially leads to throwing rubbishes or used stuffs that make the train look dirty

You remember that I said the cleanness of the platform is the result of the janitors' hard work. However, I don't think that is the case when it comes to the train. I assume that the trains are clean but not because of the care given to the train which is working like 16 hours a day. It is rather there is space for passengers to move inside let alone do things which end up in throwing some rubbishes. (PAS 13)

The trains are always neat. This is not only in the morning but the whole day. I am not sure if there are people who clean at the very end of the journey which I have not used so far. Any ways, for what so ever reason, the trains are clean. I think no one will complain about that. (PAS 9)

Despite the different reasons suggested by passengers for the cleanness, the result indicated that trains are neat and passengers are satisfied with that. Although the distance covered by the AA-LRT is not that far, passengers should be provided with seats that are not only clean but also comfortable and less

crowded. Studies also indicate that comfortable seats can attract passengers (Esmaeili, Manesh, Golshan, 2013; Vink, Bazley, Kamp and Blok, 2012).

To attract passengers, seats should take into account this increasing expectation of passengers and the activities that they want to perform during travel. Passenger seats should allow people to feel fit in travelling without experiencing discomfort (Van Mastrigta, Groenesteijna, Vink, and Kuijt-Evers, 2017).

#### 4.10.3 Quality of seats in the train

The data obtained through interview indicated that most passengers (53%) are satisfied with the quality of the seat in the train.

*Table 30: Quality of seat in the train*

<b>interview questions</b>	<b>Quality of seat in the train</b>	<b>Percentage</b>
The seats in the are made with strong materials.	Strongly Disagree	7
	Disagree	10
	Not decided	2
	Agree	53
	Strongly Agree	28
	<i>Total</i>	<i>100</i>

However, interview data indicated that although passengers are satisfied with quality of the seats available in the train, they are not happy about space between seats.

Passengers also indicated that although the trains are new and look good both inside and outside, their seats are not friendly and accommodative for passengers with disabilities and those who would like to board with their wheelchairs.

Trains have no seat which can accommodate people coming with wheelchair. Moreover, every space in the train is always full with people who can stand. Therefore, the spaces that can be potentially used by people with physical disability are always taken by other peoples. Thus, it becomes unthinkable for people with disability to use the service of the train. ...look, are there any people with disability here. No. this is because they are not welcome here, which is very sad. (PAS 4)

Moreover, it is also noted that unlike in other parts of the world, there are no seats reserved for elderly and people and people with physical disability. In relation to this a passenger said

The announcement that comes from the train now and then tells passengers to leave their seat in courtesy for people in need. This is a good reminder but it should not be the case all the time. They should do something so that people won't seat in chairs reserved for elderly and people and people with physical disability. (PAS 9)

Thus, from these data it can be argued that the train seats are comfortable for people with physical disability and there is no space reserved for these people. On the other hand, the available seats are found to be comfortable for most passengers.

The other issue in relation to comfort in the train and assessed in this study was the ventilation system in the train. With regard to the ventilation studies (Vanniarajan and Stephen, 2008) indicated that ventilation system is required to achieve the necessary air exchange and grant users of the train a comfortable condition. It is also noted that ventilation facilities bring fresh air to trains, and thus, ventilation systems have been a primary concern in the design of trains (Vanniarajan and Stephen, 2008).Data collected from the interview indicated that the numbers of passengers who are dissatisfied with the ventilation in the train (40%) and who are satisfied with the ventilation in the train (16%)

**Table 31: Ventilation in the train**

	<b>Quality of Ventilation in the train</b>	<b>Percentage</b>
The train has good ventilation	Strongly Disagree	40
	Disagree	21
	Not decided	9
	Agree	16
	Strongly Agree	14
	<i>Total</i>	<i>100</i>

When the quantitative result is substantiated with the qualitative data, it can be understood that, the response obtained through questionnaire refers to the time one uses the train service. For example, passengers who often use the train during rush hours likely to feel that the ventilation systems in the train are not good, and this is mainly because the number of passengers in the train is too much.

At times it is difficult to use the train because it is highly suffocated mainly in the morning and in the evening. People even jock that if you want to have a steam bath on open air the best place is the train cooperation. (PAS 22)

On the other hand, passengers who use the train service at times when it is not considered to be rush hours believed that the ventilation system is good.

The above excerpts indicated that despite the fact that trains have similar ventilation system, because of the number of people who uses the train in times which are often considered as rush hours, some passengers believed that the ventilation system in the train is poor. Those who often avoid or did not use the train service during rush hours believed that the ventilation system in the train is good. Thus, it can be argued that the train has a ventilation system which is important, but because the number crowded passengers onboard at rush hours, people do not feel the function of the system as it becomes very difficult to facilitate the necessary air exchange.

#### **4.10.4 Safety and security**

Safety and security is the number one priority for all transport service providers and the train service is no different (Victoria Auditor-General’s Office, 2010). Hence, ensuring the safety and security of passengers both in the platform and the train should be taken very seriously. Accordingly, the ERC also strives to provide public transport where travelers feel safe and free from crime. Based on these assumptions passengers were asked about their satisfaction on the safety and security of using the train service.

Responses obtained through interview indicated that majority of the passengers (36%) are dissatisfied with the safety and security facility in traveling by train. However, the number of passengers who are satisfied (4%) or not able to decide (16%) also says something about the satisfaction of passengers regarding safety and security.

***Table 32: Safety and security in traveling by train***

<b>Interview Question</b>	<b>Safety and security in traveling by train</b>	<b>Percentage</b>
I feel very safe and secured during my Journey in the train	Strongly Disagree	36
	Disagree	34
	Not decided	16
	Agree	4
	Strongly Agree	15
	<i>Total</i>	<i>100</i>

In the interview passengers were asked on the availability and quality of services related to safety and security. There are a number of things that transport service providers can do to make their passengers train journey safer and more secure; and one of the basic strategies is providing detail information regarding safety and security. In relation to this passenger mentioned that the awareness creation strategy used by the ERC through television and radio is poor or inexistent.

I strongly believe in preventive than the curative measures. So, if you look at what they [ERC] have been doing in relation to precaution it is almost none. There is some announcement onboard but that is almost nothing. There is no leaflet; there is no guidance from the security or any other officer; and there is no much information on the media about safety and precaution

The other basic strategy is installing and monitoring all stations and trains by closed-circuit television (CCTV) cameras by control room staff located at premium or central stations. Passengers were not clear about this service and they are full of doubts.

I see CCTV in every station but I am not sure whether they are functional or symbolic like the escalators and elevators. I have not also heard anything as a result of the CCTV monitoring system. (PAS 3)

It is good to use technology assisted monitoring system for the safety of passengers. However, I am not sure if these CCTVs are functional at all. I am not certain if there is one in the train and if they are functional as well. It is good if people know that they are functional. These helps, first passengers to feel secured, second, trouble makers know that I am being watched; so, there will be less intimidation and security problem. But since there is overcrowded of passengers, particularly in morning and in the afternoon around 5 pm various crimes have been committed i.e. pick pocket, stealing purse, wallet and mobiles. (PAS 1)

These indicated that despite the satisfaction of majority passengers, there are issues related to safety and security which passengers are not happy about or have no information at all. Lack of detail information on precaution measure regarding safety stands out among major weaknesses of the AALRT.

Literatures also suggest that to ensure safety passengers and other people have to cross by the footbridges or subways only, and do not trespass on the track or beyond platform limits (Victoria

Auditor-General's Office, 2010). Moreover, there should be close monitoring by trained uniformed officers patrol in each station (Rekila, 2013). In relation to these the study showed that because of poor construction plan and attention given to pedestrian, in most cases there are no footbridges and subways that people can cross by safely. Passengers rather trespass on the track which is not only inconvenient but also very risky.

...One of the most annoying things that the government has done in relation to the train is the attention given to alternatives provided for people to cross the road and the railway. As you can see, we all cross over the rail and that is because it is the only way to go from one side of the road to the other. It is very surprising how such a simple thing was not taken into consideration when they were planning constructing rail way. (PAS 12)

This also indicates that despite the result obtained through interviews which indicates satisfaction of majority passengers on safety and security. Some of the basic criteria for ensuring safety have not been addressed by AA-LRT and this includes but is not limited to availability of alternatives to cross from one side of the road to the other by avoiding crossing the railway track.

#### **4.10.5. Complaints management**

Any service providing organization in principle should expect to receive complaint regardless of how they think the service they provide is good (Geetika and Nandan, 2010). In relation to this AALTT managers and customer relations coordinators reported that there are no complaints except train schedules, which they also see it as a major challenge in their service provision. However, as can be seen from the above discussions, there are several complaints, for example, in relation to accessibility of platforms, frequency, schedule, etc.

This may indicate that the AALRT have poor communication strategy which is not open to listen to the challenges that its customers are faced with. According to a concern passenger there are many issues they want to complain about but there is no systemic way to do this. He said:

I don't know why the platforms are too small and no enough seats at least for elderly people, people who are physically challenged and people who are not able to stand for long for different reasons. Plus at times the public address system seems to be crackling so bad that I can't even understand the operator's voice, I can only hear some kind of electronic sound or something like that. I want complain on these issues, but I don't know how. The AA-LRT

needs to improve a lot. There are many complaints from customers. I just hope, they just don't look at this problem with a blind eye, and a deaf ear. (PAS 5)

Are you asking me if I have a complaint or if there is a complaint management system by the service provider? ...If it is about complaint management, I would say it is very poor. I can confidently say it doesn't exist. They are may be afraid of receiving feedback and complaints and do nothing. Otherwise, like many other passengers, I have thousands of complaints.

(PAS 11)

These excerpts indicated that despite the fact that there are complaints from passengers; the AALTT does not have a system at least known by its customer to receive and work on complaints. This indicates that the compliant management system is poor and passengers are not satisfied with services related to this. From the AALRT points of they have informally received complaints about train schedule and it also accepted as true and justifiable, from passengers' points of view even this has been considered as the response for their compliant has been ignored by the management of the AALTT.

#### **4.11 Enhancing customer satisfaction**

Companies with high levels of customer satisfaction generate greater returns than companies with lower levels of customer satisfaction. Thus, enhancing customer satisfaction should be the target of all service providers regardless of the type of business and capacity of the service provider (Matzler & Sauerwein, 2002). Moreover, regardless of how poor or good they are in addressing the needs of their customers, service providers have to strive to enhance the satisfaction of their customers (Shahin and Nassibeh, 2011). Accordingly, one of the questions that this study was interested to address was the efforts that have been exerted by AA-LRT authorities to enhance level of customer satisfaction. The result has shown that although the train service has been in place for some years, the ERC has not made any attempt to collect feedbacks from its customers in any formal way. This was despite that fact that the management board of the ERC has information about customer satisfaction in different ways. In relation to this, the customer relation coordinator and managers of ERC were asked about if the corporation has data on its customer satisfaction.

We know that our customers have some dissatisfaction in the service we provide. Yet, this is based on what we hear informally. We did not try to systematically collect data to understand the satisfaction of our customers. We also know that it is our mandate to address customers compliant and enhance their satisfaction. However, we are not there yet, but we are working on it.

(MAN 1)

What do you mean by data? If you are referring to the data that we formally collected, my answer is no, we do not have that. If you are asking me about information about our customers, I would say yes because we hear a lot about customers' complaint on our service informally. ...By the way I personally believe that this is one of the weaknesses of our corporation.

(CRC 1)

Managers and customer relation coordinators were also asked about the plan of the cooperation to enhance customer satisfaction. In relation to this the ERC has a plan to enhance customer satisfaction by (1) improving the train frequency through increasing the number of trains in all direction; and (2) introducing the system of pick hour and off hour which is related to the number of passengers using the service in different hours.

The ERC also aspires to enhance its service related to schedule by closely working with agencies that are contributing to problems related to schedule. These include working with the Ethiopian electric power authority and companies that import spare parts. The other issue that ERC is planning to enhance is the convenience of the ticket booth. ERC has accepted that the locations of the ticket booths are not convenient to passengers and this will be addressed through study.

As can be noted from previous the discussions in previous sections, passengers have lots of complaints regarding the service provided by the AA-LRT. However, the above result indicated that the ERC has a plant to improve only a few of them.

## **CHAPTER FIVE**

### **SUMMARY CONCLUSION AND RECOMMENDATIONS**

This final chapter of the thesis presents first, a brief summary of the study. Then, it presents conclusion drawn from the major findings of the study. Finally, it presents some recommendation based on conclusion of the study.

#### **5.1 Summary**

Customer satisfaction is an important aspect that every service provider need to address in the best possible way, and the train service in Addis Ababa is no different. Thus, the purpose of this study was investigating customers' satisfaction of light rail transit in Addis Ababa, in the year of 2022. The study was guided by the following research questions: To what extent do customers are satisfied with the service of AALRT? Is there a difference in satisfaction as a result of where one boards and gets off? What are the factors that determine customer satisfaction in relation to the service of AA-LRT? What efforts have been exerted by AA-LRT authorities to enhance level of customer satisfaction? The necessary data was collected from passengers and managers and coordinators at the Addis Ababa Light Train Transit through interview and questionnaire.

According to (Geek &N., 2010 ) among the five factors of determinants of customer satisfaction: refreshments, behavior, information system efficiency, basic facilities, and security - The most important factor determining satisfaction on railway platforms was found to be “refreshments,” since the Eigenvalue and percent of variation explained by this factor are 4.866 and 30.412. The study also assessed customer satisfaction from different points of view and it revealed that customers are not satisfied with the train frequency, train schedule or punctuality, the ticket booth (where it located), accessibility of platform mainly by people with disability and elderly people, access to information, sufficiency of the seats and shelters in the platform, the seat arrangement and space in the train, safety and security facility and compliant management system.

On the other hand passengers are satisfied with the train connectivity with other transport system, the neatness of the platform and the train, the quality of the seat in the train, and Ensuring customer satisfaction requires closely monitoring and evaluating how customers perceive and experience service provision. However, despite the fact that there are dissatisfaction and complaints from passengers, there is compliant management system which is known by customers. The result has also shown that there is no significance satisfaction difference among customers

from different age category on the list of services provided by AA-LRT. There are several factors that determine customer satisfaction. Among money other factors that determine customer satisfaction in train service, this study identified schedule, ticket price, frequency, comfort, accessibility of platforms, and information as the major ones. Although there are several issues that passengers want to be improved, ERC has a plan to enhance its customer satisfaction in relation to (1) train frequency through increasing the number of trains in all direction and introducing the system of pick hour and off hour which is related to the number of passengers using the service in different hours; (2) schedule by closely working with agencies that are contributing to problems related to schedule; and (3) convenience of the ticket booth.

## **5.2 Conclusion**

The AA-LRT provides service for people from different background including gender, family income, occupational status and age. However, most of its customers are male and in the age of adulthood. Compared to what the ERC promised at the beginning of its service provision and customers' expectation, most passengers are not satisfied with many of the services provided by the AA LTR. Based on the qualitative data gathered that are related to train schedule, train frequency, the ticket booth, access to information, accessibility of platform, sufficiency and quality of seats and shelters in the platform, seat arrangement and space in the train, and compliant management system what the ERC promised at the beginning of its service provision and customers' expectation, most passengers are not satisfied with many of the services provided by the AA-LRT.

However, this is not what ERC personnel think about. They often associate customer dissatisfaction with train schedule irregularity and inconvenience of ticket booth. Passengers are satisfied with train easy connectivity with other transport systems such as bus and taxi, neatness of platforms and train, and quality of the seat in the train, As an ambitious organization which provides service to millions of people in a year, ERC was expected to have an established system which is open to listen to the perception and evaluation of their customers.

However, the Corporation does not have a system which enables to collect feedback from passengers. This implies that the complaint management system at ERC is very poor Most of the issues that have been identified as major factors that determine customer satisfaction are similar to those which are identified in previous studies in other contexts. Except train schedule and location of ticket booth, ERC does not know as the other factors are also major determinants for

customer satisfaction. That is also why its enhancement plan is limited to improving the train schedule and accessibility of ticket booths for passengers coming from different directions.

The main purpose of this study is to investigate the determinant factors affecting passengers' satisfaction in Addis Ababa light train transit. To address the objective of the study, 349 passengers were selected from Addis Ababa light train transit and the data obtained from these passengers was analyzed using both descriptive and inferential data analysis techniques. The results obtained from both analyses revealed that, on average, the passengers of Addis Ababa light train transit are dissatisfied with services of the light train corporation.

The correlation of the service quality dimensions and passengers satisfied was examined using Pearson correlation coefficient and obtained that all of the service quality dimensions that have positive linear relationship with passengers' satisfaction. But in the multiple regression models only service tangibility, service reliability, service assurance, service comfort and service frequency are found to have positive significant effect on passengers' satisfaction of Addis Ababa light transport transit. . The findings of this study revealed that these determinants of customer satisfaction contribute to the high variation in the satisfaction of passengers.

### **5.3 Recommendations**

The findings of this study revealed that the Addis Ababa light train transit passengers are highly dissatisfied according to the service quality dimensions. The passengers highly expected from the light train transport in terms of service quality but found it different when using the train.

Therefore, based on the above results and conclusion, the researcher forward the following recommendations the Addis Ababa Transit Train:

The researcher recommends the Addis Ababa light train corporation to revise its services according to service quality dimensions, and set up policies and perform consistence and continuous monitoring and evaluation and follow ups.

Since the passengers are highly dissatisfied in service frequency, AALTR should work hard in availing train based on the preschedule time and minimizing the time between different journeys.

the researcher recommends the Addis Ababa light train corporation to revise its services according to service quality dimensions and set up policies accordingly and perform consistence and continuous monitoring and follow ups the ERC need to address problems related to the location of ticket booths through:

1. Having ticket booths in both directions which is convenient for both passengers coming from the two sides of the road;
2. Installing automatic vending machines in each stations and linking with electronic bank card service; Selecting close by shops as affiliate to sell train tickets;
3. Availing train ticket using mobile banking which more convenient and an additional option for many customers; and Providing monthly, biannual or yearly pass which is also more convenient and contributes to have more customers even with some discounts.
4. In order to address issues related to frequency and schedule, ERC needs to: Increase the number of trains; Work on the maintenance of existing trains; and Be led by good time management ERC needs to make sure that the escalators and elevators that found in different stations work properly and provide service to people in need particularly
5. ERC also needs to enhance its public relation system to enhance its capacity for providing detail information that passengers want to know in relation to their journey. This includes both audio and print information.
6. The management must establish a system which allows receiving complaints/feedback from their customer; For example, Suggestion boxes should be prepared and placed in every stations or technologically advanced means of communication like shot text line better to use to get feedback from passengers.
7. To feel customers more secure and safe and avoid various crimes those are committed on the train functional CCTV camera better to be installed. And also police officers must be available
8. In order to elevate stealing and robbing rail way roads in midnight, AALTR should work closely with Security organs.
9. In order to speed up the frequency of the train arrival AA LRT should work closely with other agencies like Ethiopian Electric Power Corporation and Ethio - Telecom.

## References

1. Anderson, E.W., Fornell, C., and Mazvancheryl, S.K. (2004). Customer Satisfaction and Shareholder Value”, *Journal of Marketing*, 68, 172–185.
2. Anderson, R.E. (1973). “Consumer dissatisfaction: The effect of disconfirmed expectancy on Perceived Product Performance”, *Journal of Marketing Research*, 10 February: 38-44.
3. 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
4. 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
5. Belayet H.& Mohammed S.(2013) Determinants of Customer Satisfaction on Service Quality of Railway Platforms in Banglaish: A study on Chittgongand Dhaka Railways Platforms: *Journal of business Studies*, Vol 34(1)
6. Barsky, J.D., (1995), *World- Class Customer Satisfaction*, Chicago, IL, Irwin Publishing.
7. Brown, S.W., Swartz, T.A. (1989) "A Gap Analysis of Professional Service Quality"; *Journal of Marketing*; Vol. 53; No.2; 92-98
8. Buluman. V. (2014). Service quality and passenger satisfaction in rift valley railways corporation
9. Cadotte, E.R., Woodruff, R.B., Jenkins, R.L. (1987) Expectations and Norms in Models of Consumer Satisfaction"; *Journal of Marketing Research*; Vol.24; No. 3; 305-314
10. Cardozo, R. (1965), An experimental Study of Customer Effort, Expectation, and Satisfaction”, *Journal of Marketing Research*, 2(8), 244-249
11. 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
12. Churchill, G.A., Surprenant, C. (1982) "An Investigation into the Determinants of Customer Satisfaction"; *Journal of Marketing Research*; Vol.19; No. 4; 491-504
13. Clow, K.E., Vorhies, D.W. (1993) "Building a competitive advantage for service firms: measurement of consumer expectations of service"; *Journal of Services Marketing*; Vol. No.1

14. Eboli, L., and Mazzulla, G. (2007). Service quality attributes affecting customer satisfaction for bus transit. *Journal of Public Transportation*, 10 (3): 21-34.
15. Ethiopian Railway Corporation (ERC). (2015). Retrieved on 11 November 2017 from <http://www.erc.gov.et/AddisAbaba-LRT>
16. Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
17. Geetika & Nandan, S., (2010) " Determinants of customer Satisfaction on Service Quality: A Study of Railway Platforms in India" *Journal of public Transportation*, Vol 13, No 1
18. Gutman, J. (1982) "A Means-End Chain Model Based on Consumer Categorization Processes"; *Journal of Marketing*; Vol. 46; No.2; 60-72
19. Hedvall, M. B., and Paltschik, M. (1989). An investigation in and generation of service quality concepts. In *Marketing Thought and Practice in the 1990s*, ed. Avlonitis, G.J. et al., *European Journal of Marketing Academy*, Athens.
20. Johnson MD, Anderson EW, Fornell C (1995) Rational and adaptive performance expectations in a customer satisfaction framework. *J Consum Res* 21(4):695–707
21. Khalifa, M. and V. Liu (2002) "Satisfaction with Internet-based Services: The role of Expectations and Desires," *International Journal of Electronic Commerce*; Vol. 7; No. 2; 31-50
22. Khalifa, M. and V. Liu (2004) "The State of Research on Information System Satisfaction," *Journal of Information Technology Theory and Application*; 5;m4; 37-
23. Kotler, P., Brown, J, & Makens. J. (2003). *Marketing for Hospitality and Tourism* (3rd ed.). Prentice Hall.
24. Kurtz, D.L., Clow, K.E. (1998) "Services marketing"; J. Wiley & Sons New York, NY
25. McCollough, M. A. (2000), The Effect of perceived justice and attributions regarding service failure and recovery on post-recovery customer satisfaction and service quality attributes, 24 (4), 423-447.
26. Mesfin Fantaw (2018). *Assessing of Factors Affecting Users' Satisfaction: A case study on Addis Ababa Light Rail Service*
27. Meskerem Terefe (2018), *Service quality and passengers satisfaction: The case of Light Train in Addis Ababa*
28. Neal, W.D., (1999) "Satisfaction is nice, but value drives loyalty"; *Marketing Research*

29. Noor Hafiza Nordin, Masirin, M. I. M., Mohd Imran Ghazali, & Muhammad IsomAzis. (2015). Passenger rail service comfortability in Kuala Lumpur urban transit system. *MATEC*, 47, 1-6.
30. Olson, J., Dover, P. (1979), Disconfirmation of consumer expectations through product trial. *Journal of Applied Psychology*, 64, 179-189.
31. Oliver, R. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions, *Journal of Marketing Research*, 17, 460 – 469.
32. Oliver, R.L. (1993). A conceptual model of service quality and service satisfaction: compatible goals, different concepts. In Swartz, T.A., Bowen, D.E. and Brown, S.W. (Eds), *Advances in Services Marketing and Management*, Vol. 2, JAI Press, Greenwich, CT, pp. 65-85.
33. Oliver, R.L., & DeSarbo, W. S. (1988). Response determinants in satisfaction judgments. *Journal of Consumer Research*, 14, 495-507.
34. Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17, 460–469.
35. 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
36. Ribière, V.,A.J. LaSalle, R.Khorramshahgol, and Y. Goust y. (1999). Hospital informationsy stems quality: A customer satisfaction assessment tool. *Thirty-SecondAnnual Hawaii I nternational Conference on Sy stem Sciences* 4: 40
37. Sherif, M., &Hovland, C. I. (1961; rpt. 1980). Social judgment: Assimilation and contrast effects in communication and attitude change
38. Spreng, R.A., Olshavsky, R.W. (1993) "A Desires Congruency Model of Consumer Satisfaction"; *Journal of the Academy of Marketing Science*; Vol. 21; No. 3; 169-177
39. Spreng, R .A. M a c k e n z i e , S . B. And Olshavsky, R .W. (1996), “ A re -examination of the Determinant of customer satisfaction”, *journal of Marketing*, 60(3), 15-32
40. 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
41. Swanson, S.R., Kelley, S.W. (2001) "Attributions and Outcomes of the Service Recovery Process"; *Journal of Marketing Theory and Practice*
- 42.

43. Suh, K., Kim, S., Lee, J. (1994) "End User's Disconfirmed Expectations and the Success of Information Systems"; *Information Resources Management Journal*
44. Sun, H., Zhang, Y., Wang, Y., Li, L., & Sheng, Y. (2015). A social stakeholder support assessment of low-carbon transport policy based on multi-actor multi-criteria analysis: The case of Tianjin. *Transport Policy*, 4, 1103–1116
45. 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* vol.49(3&4), pp 41-50
46. Patterson, P.G., Spreng, R.A. (1997) "Modeling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, services context: an empirical examination"; *International Journal of Service Industry Management*; Vol. 8
47. 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.
48. Peyton, R., Pitts, S., Kamery, R.H., (2003). Consumer satisfaction/dissatisfaction: A review of the literature prior to the 1990's. *Proceedings of the Academy of Organizational Culture, Communication, and Conflict*, 7(2).
49. Tse, D.K., Wilton, P.C. (1988) "Models of Consumer Satisfaction Formation: An Extension"; *Journal of Marketing Research*; Vol. 25; No. 2; 204-21
50. Van Raaij, F.W. (1991) "The Formation and Use of Expectations in Consumer Decision Making"; *Handbook of Consumer Behavior*, Prentice-Hall
51. Yi, Y. (1990) "A critical review of consumer satisfaction"; *Review of Marketing*
52. Yin, R.K. (1994) "Case study research. Design and methods", Thousand Oaks; SAGE Publications.
53. Yuning W. et al., (2020). The Impact of Service Quality and Customer Satisfaction on Reuse Intention in Urban Rail Transit in Tianjin, China, [journals.sagepub.com/home/sgo DOI: 10.1177/2158244019898803](https://doi.org/10.1177/2158244019898803) , <https://doi.org/10.1177/2158244019898803>
54. Yirgalem Fantaw (2018). Analyzing the influence of service quality on customer satisfaction: in case of Addis Ababa Light Train Transit Service

## **Appendices**

### **Appendix A: Questionnaire**

**Addis Ababa University**

**School of Commerce**

#### **Questionnaire to customers**

**Dear respondent,**

The purpose of this questionnaire is to collect information regarding to passengers' satisfaction of Service offered by Addis Ababa Light Rail Transit. The data is used for research conducted in partial fulfillment of the Master Degree Marketing Management. The questionnaire has three sections. The first section deals with demographic questions; the second section has close-ended questions which focus on your satisfaction on the service rendered by AA-LRT. This section is based on five- point Likert scale to measure your satisfaction level; and the third section has open-ended question which enables you to provide more information in relation to your satisfaction on the service rendered by AA-LRT and to describe the determinants for your satisfaction on the service provided by AA-LRT. The information you provide has a very important input in the direction and completion of this study. Thus, I highly appreciate your honesty and carefulness in responding the questions. 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. No need writing your name.

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

**Appendix 1: Questionnaire**  
**Section 1: Socio-Demographic Information**

**Direction: please indicate your response by putting (√) or (X) in your choice for each item.**

**1.1. Gender**

Male

Female

**1.2. Age (years)**

---

**1.3. Occupational status**

Day laborer

Government Employee

NGO employee

Self-employee

Unemployed

**1.4 Educational Status**

High school

Certificate

Diploma

Degree

Masters

### 1.5 Marital Status

Single  Married

Divorced  Widowed

### 1.6. Family Monthly income (in Birr)

### Section 2:

The following set of ideas deal with how you might feel about your level of satisfaction on Services offered by the AA-LRT System. Please remember that there are neither rights nor wrong answers. Put a circle to a number that best describes your level or degree of satisfaction on each idea determinants.

Note: Strongly Agree (1) Agree (2) Neutral (2) Disagree (4) Strongly Disagree (5)

R.No	Determinants of Passengers Satisfaction	Levels of Expectation					Levels of Perception				
		S.A (1)	A (2)	N (3)	D (4)	S. DA (5)	S.A (1)	A (2)	N (3)	D (4)	S. DA (5)
	<b>Tangibility</b>										
1	<i>The station and train appears neat and clean</i>										
2	Employees professionally well dressed and appear neat										
3	There is sufficient information on the train regarding the journey										

4	Platforms have adequate shed for passengers											
5	<i>Physical facilities</i> (TV, DVD player, etc) <i>at the station and ontrain are appealing</i>											
	<b>Reliability</b>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
6	<i>Providing on time service</i>											
7	<i>The train when going to stop in every station it updated the passengers during travel</i>											
8	<b>Service Provider inform any failure ahead of time</b>											
9	<i>When a customer has a certain problem, Service provider will show a sincere interest in solving it</i>											
10	<i>Service provider should be Dependable.</i>											
11	<b>Service Provider inform any failure ahead of time</b>											
	<b>Responsiveness</b>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
12	<i>Informing customers when the service exactly be</i>											
13	<i>Availability of staffs in handling requests</i>											
14	<b>Prompt service</b>											
15	<b>Compliant Handling System</b>											

16	<i>Willingness to help you</i>											
17	<i>Assurance</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
18	<i>Courtesy(politeness) of staff on train</i>											
19	<i>Being informed if there are delays</i>											
20	<i>Staff having knowledge to answer your Questions.</i>											
21	<i>Providing you with information about any travel change</i>											
	<i>Empathy</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
22	<i>operating hours convenient to all its customer</i>											
23	<i>Understanding customer needs</i>											
24	<i>Having your best interest a heart</i>											
25	<i>Availability of coach attendant/helper in the train</i>											
	<i>Comfort</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
25	<i>Availability of enough seating on the train and station</i>											
26	<i>Availability of waiting space at the station</i>											
27	<i>Smoothness of ride of the train</i>											

28	<i>Stations determine comfort as where to board and gets off.</i>											
	<b>Frequency</b>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
29	<i>The Train Arrives based on schedule time</i>											
30	<i>The frequency of the train (time between different journeys) is very good</i>											
	<b>Safety and security</b>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
31	<i>Theft, and other crimes are committed</i>											
32	<i>There are enough Camera Surveillances in the inside the train and in the stations</i>											
33	<i>There are enough fans and Ventilations in the train.</i>											
34	<i>Fire extinguisher is available in the train</i>											
35	<i>Availability of Emergency Window</i>											
	<b>Your Overall Satisfaction About AA LRT</b>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
36	<i>Your overall satisfaction with the light rail transport</i>											



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## **Appendix B: Interview with Passengers**

### **1.1 Interview Themes**

- ✓ Social demography data
- ✓ Time (Punctuality)
- ✓ Availability of transit service (connection to bus and taxi)
- ✓ Affordability
- ✓ Safety and security

- ✓ Comfort ability – Platform (seats, neatness, accessibility) and
- ✓ Train (ventilation, seats, neatness, accessibility)
- ✓ Access to information
- ✓ Factors determining satisfaction

## **1.2. Guiding Questions**

1. Would you please tell me about your age, job, and monthly income (in Birr)?
2. Do you have any physical disability? If yes, is the platform and the train accessible?
3. How often do you use the LRT?
4. Can you tell me about the punctuality of the train?
5. Would you please tell me about the time between different journeys?
6. How affordable is the ticket price for the train?
7. What is your thought on the safety and security in relation to traveling by train?
8. How comfortable are the platforms in terms of enough seat and shelter?
9. How neat are the platforms?
10. Could you please tell me about the accessibility of platforms?
11. Do the lift and escalators work properly?
12. How comfortable (space and seat) and neat are the trains?
13. What is your perception about the ventilation inside the train?
14. Do you have access to information in the platform and the train regarding your journey?
15. How is the quality of information provided by the service provider?
16. What are the major factors that determine your satisfaction on service provided by AA-LRT?

## **Appendix 3: Interview with managers**

## **2.1. Interview Themes:**

Perception about customers' satisfaction Efforts exerted to enhance customers' satisfaction

Plans to enhance customers' satisfaction

## **2.2. Guiding questions**

1. Would you please tell me about your perception regarding customers' satisfaction with the Service you provide?
2. Is there a system where you get feedback from your customers?
3. What efforts are in place to improve the service you provide and thereby enhance customers satisfaction?
4. What plans do you have to enhance customers' satisfaction?