



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

**ASSESSMENT OF USER'S LEVEL SATISFACTION
ON ADDIS ABABA LIGHT RAILWAY PROJECT**

**BY
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ID:SGS/ 0556/2012A**

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DECLARATION

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

Addis Ababa

Dec, 2021

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Table of content	page No
ACKNOWLEDGMENTS	vii
ACRONYMS AND ABBREVIATIONS	viii
LIST OF TABLES	ix
ABSTRACT	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.1. Background of the Study	1
1.2. Statements of the problem.....	2
1.3. Research Question.....	4
1.4. Objective of the Study.....	4
1.4.1. General Objectives	4
1.4.2. Specific Objectives.....	4
1.5. Significance of the study	4
1.6. Scope of the study.....	4
1.7. Limitations of the study	5
1.8. Organization of the Paper	5
CHAPTER TWO	6
REVIWE OF RELATED LITERATURE	6
2.1. Customer Satisfaction	6
2.2. Service Quality and Customer Satisfaction	6
2.3. Theories of Customer Satisfaction.....	7
2.3.1. Assimilation Theory.....	7
2.3.2. Contrast Theory	8
2.3.3. Expectancy Theory	8
2.3.4. Consistency Theory	8
2.3.5. Assimilation –Contrast Theory.....	8
2.3.6. Negativity Theory	9
2.3.7. Disconfirmation Theory.....	9
2.3.8. Cognitive Dissonance Theory	10

2.3.9. Adaptation-Level Theory.....	10
2.3.10. Equity Theory	10
2.3.11. Dissonance Theory	11
2.3.12. Cue Utilization Theory.....	11
2.3.13. Hypothesis Testing Theory	11
2.4. Models of Customer Satisfaction Measurement.....	11
2.4.1. SERVQUAL	11
2.4.2. Kano Model	12
2.4.3. SERVPERF	13
2.4.4. Service Quality	14
2.5. Users Perception and Satisfaction of LRT.....	15
2.6. Empirical Reviews.....	15
CHAPTER THREE	18
REASARCH DESIGN AND METHODOLOGY	18
3.1. Introduction	18
3.2. Research Design.....	18
3.3. Research Approach	18
3.4. Sampling Design	18
3.4.1. Target Population	18
3.4.2. Sampling Technique	18
3.4.3. Sample Size.....	19
3.5. Sources of Data	21
3.5.1 Primary Data.....	21
3.5.2 Secondary Data.....	21
3.6. Data Collection Methods	21
3.7. Data Analysis Method.....	21
CHAPTER FOUR.....	22
DATA ANALYSIS ,INTERPRATATION AND PRESENTATION	22
4.1. Introduction	22
4.2. The socio-economic background of the respondents	22

(1) Description of age respondent.....	22
(2) Description of sex of respondents.....	23
Table 4.2.The table of sex of the respondent.	23
(3) Description of marital status of respondents.....	23
Table 4.3.The table of marital status of the respondent.	23
(4)Description of education status of respondents.....	24
(4) Description of family size of respondents.....	25
(5) Description of occupation of respondents	26
4.3. Practice of using Addis Ababa Light Railway.....	26
(1) Travel distance of users	26
(2) Frequency of using LRT	27
(3) The time of the day use LRT.....	28
(4) Monthly income of the users	28
Table 4.10. The table of monthly income of the users.....	28
(5) Purpose use of LRT	29
4.4. User's level satisfaction of Addis Ababa Light Railway Project.....	30
Table 4.12. The table of User's level satisfaction of Addis Ababa Light Railway Project	30
CHAPTER FIVE	32
SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATIONS.....	32
5.1. Summary of Findings.....	32
5.2. Conclusion.....	32
5.3. Recommendations	33
5.4. Suggestion for future Studies	34
References	35
ANNEXES	39

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ACRONYMS AND ABBREVIATIONS

AALRTS: Addis Ababa Light Rail Transit service **LRTS:** Light Rail Transit Service:

AATA: Addis Ababa Transport Authority

CSS: Customers satisfaction Survey

LRT: Light Rail Transit

ERC: Ethiopian Railway Corporation

FDRE: Federal Democratic Republic of Ethiopia

AACPC: Addis Ababa City Plan Commission

SQ: Service quality

PT: Public transport

ACBSE: Anbassa City Bus Service Enterprise

CA : Cluster Analysis

UITP :International Association of Public Transport

SERVQUAL: Service quality

SPSS: Statistical Package for Social Sciences

LIST OF TABLES

Table 3.1. Estimated average passengers per day in each station	17
Table 3.2. Total number of population and proportion of samples taken from each station	18
Table 4.1. The table of age of the Passenger.....	20
Table 4.2. The table of Sex of the Passenger.....	21
Table 4.3. The table of Marital Status of the Passenger.....	22
Table 4.4. The table of Education Status of the Passenger.....	22
Table 4.5. The table of Family Size of the Passenger.....	23
Table 4.6. The table of Occupation of the Passenger.....	24
Table 4.7. The table of Travel distance of the Passenger.....	25
Table 4.8. The table of use LRT of the Passenger.....	25
Table 4.9. The table of the time of the day use LRT of the Passenger.....	26
Table 4.10. The table of Monthly Income of the Passenger.....	27
Table 4.11. The table of the Purpose use of LRT of the Passenger.....	28
Table 4.12. The table of the Satisfaction LRT of the Passenger.....	29

ABSTRACT

In the world in any organization or sector the main ultimate goal and objective is to gain profit but the company before to think get profit first to check themselves how to the customer satisfied on product or services. This is maybe due to the fact that managers sometimes do not really know of what actually goes on in a customer's mind. As such, this difficulty has provided as a challenging task to most business companies that places strong weight on customer satisfaction. Addis Ababa, Ethiopia light rail transit service and practicing the service to overcome problems of the transportation system in the city. When implemented the light rail transit, it was expected to serve the residents with potential benefits and criteria of reduced cost, safety, reliability, comfort, environmental friendliness, efficiency and attractiveness for residents. However, unlike these expectations currently, the light rail transit service is characterized by train waiting time, train passengers behaviors, crowdedness in the train and travel information are significantly the most dissatisfied.

The general objective of this study is to determine the level satisfaction of the passengers on AALRT.

The survey method containing closed-ended and open-ended questionnaires were used to identify the level satisfaction of the passengers on light rail transit services. The Questionnaires distributed to 396 passengers and 375 questionnaire returned and the survey questionnaire was distributed randomly that used the train on selected 7 stations. The sample size was calculated using Taro Yamane formula based on the number of passengers traveled per day on each selected seven station. Additionally simple random sampling techniques from the selected stations of the East -West line of the rail using the list randomly. The collected questionnaire survey data were analyzed using SPSS version 25.

The results showed that the train speed, transport price, station cleanness, sense of safety and inside cleanness most passengers were satisfied .While the passengers dissatisfied with train waiting time, train passengers behaviors, crowdedness in the train and travel information so AALRT may be improve train waiting time, train passengers behaviors, crowdedness in the train and travel information.

Keywords: SERVQUAL, tangibility, reliability, responsiveness, assurance, empathy and Passenger's satisfaction

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

In today's fast changing competitive world, providing a superior service quality through an adequate and a strong focus on customer (Chiara G., 2007), is one of the key factors enabling firms to gain a lasting competitive advantage in winning the market. For this, nowadays marketers, according to R. Ladhari (2011), are trying to focus more on a continuous monitoring and evaluation of service quality, involving various innovative offerings and service developments, which have a direct influence on customer's service experiences. Because, for instance, better service quality increases perceived service value and satisfaction improves the service provider's customer retention and financial performance and also enhances a firm's corporate image (Nguyen and Leblanc, 1998).

According to Piercy (1995) in the service industry keeping current customers and developing relationships with new ones is a key business strategy. If customers are satisfied with a product, service or brand, they will be more likely to continue to use it and to tell others of their favorable experience with it. If they are dissatisfied however, they will be more likely to switch brands and complain to management and tell everyone else they meet. This indicates that, satisfaction of customers also happens to be the cheapest means of promotion and advertisement.

Thus, service quality is defined as customer perception of how well a service meets or exceeds their expectations (Czepiel, 1990). Service quality can be measured in terms of customer perception, customer expectation and customer satisfaction (Sachdev and Verma, 2004). Ekinici (2003) indicates that the evaluation of service quality leads to customer satisfaction. Rust and Oliver (1994) define satisfaction as the "customer fulfillment response," which is an evaluation as well as an emotion-based response to a service.

Therefore, transport plays great roles for satisfaction of society and economic growth of nations.

Transportation in general, among other modes and road transport in particular is the most widely used transport sector all over the world. It also provides a base for local, national, regional and international flow of goods and passengers (Asnake 2006).

In Addis Ababa, which is the capital city of Ethiopia and the seat for African Union transport service is

being delivered to the public through publicly owned Anbessa City Bus, public bus and different privately owned vehicles, such as small buses and taxis.

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

The operation began revenue service on September 20, 2015. From North –South and East-West line began operation on November 10, 2015. Each train was planned has a capacity to carry 286 passengers and the Fares cost is 2-6 Ethiopian birr and tickets are bought at orange colored kiosks next to each station. This was enable the light rail transit to provide a transportation service to many passengers per day and per direction. The Addis Ababa light rail transit light railway transportation extends East-West direction covering 17.4 kilometers (10.8 m), this line stretches from Ayat to Torhailoch passing through Megenagna, MeskelSquare, Legehare and Mexico Square and North-South line extending 16.9 kilometers (10.5m) in length passing from Menelik II square through Mercato, Lideta, Legehare, Meskelsquare, Gotera, and Kaliti. (ERC,2009). But the study only focuses on the East-West line having seven LRT stations namely: Ayat station, Civil Service Station, Megenagna Station, St. Uriel station, Stadium, Mixco, Torhailoch. The passengers easily identify the trains they marked with different colors with green and white color provide service from East –West and trains with blue and white color run from North to South direction. LRT system plays a role in reducing the transport crowdedness on the road. Nevertheless, issues and customer complaints of LRT system problem are increasingly in years. Hence, this study focused on the assessment of user's the level satisfaction on Addis Ababa light railway EW line on selected seven station.

1.2. Statements of the problem

The need to increase mobility of passengers in Addis Ababa municipality and the emergence of transport sustainability led to the development of a light railway system in the city. It was expected that Addis Ababa light railway system delivers quality service, reduce the transportation problem grounded for long years and the overflow of passengers in the city. It was about improving the communities' life by making Addis Ababa an even better place to live and work in. It was about encouraging rapid economic development, industrialization and international competitiveness with efficient, high quality

and modern transport infrastructure. The government intended with such project to encourage the downtown citizen and creating conducive transport system to the city.

Currently, much is not known on the service delivery system of the light rail transit as the passengers' needs and wants are growing in variety. In such an instance, AALRT need to be aware of the newest shift and trend to be able to respond to customer demands on time. Precise and timely information on a wide range of customer needs and expectations become critically important in that way. Thus, the main issue is to evaluate the current status of the service quality and customer satisfaction in the AALRT services and whether there is any discrepancy between the expectations and perceptions of commuters towards the service provided. Some studies has been done from different perspective of the railways service specially from the technical construct measures of the rail system in Ethiopia. Accordingly, Fasil, (2014) from Engineering in Railway Study conducted research on 'Service Quality Indicator for Ethiopian Freight Railways'. Similarly, improving traffic safety at railroad level crossings "Pedestrian Level Crossing Safety on the East-West Line of AALRT"(Haptamu, 2015); Effective railway time table generation in Ethiopia (Tekle,2014);the actual safe movement of passengers and freight through implementation of signaling and train control systems in AALRT (Tebebu, 2014) and assessment of the operation and stations facility of the light rail transit (Kefele, 2016). None of these studies focused on the evaluation of the service quality delivered and customer satisfaction level in AALRT. In fact the service year of AALRT was short and the result of all these studies mentioned above were pre-requisite for the operation of the system than evaluation of the service it delivered. After more than one service year, one study conducted on determinants of passengers' satisfaction in AALRT (Haileyesus, 2016) from psychology department. According to him further improvement need to be taken to improve the service and to increase the level of customer satisfaction.

At the present, there is no evidence that shows the current status of the service quality and passengers Satisfaction in Ethiopian rail way context particularly AALRT. The situation calls for the need of studies to fill the gap. It is essential for the Railway Corporation in general and AALRT in particular and as well for responsible bodies of government to know about the opinion of the passengers regarding the services offered to them and their satisfaction level in order to make future policies, provisions, standard for quality service and improvement action decision. Hence, a research should be conducted to understand both the expectations and perceptions of customers and also measure them from their perspective in order to identify gaps in delivering service quality to ensure customer satisfaction.

1.3. Research Question

The study had focused on the following research questions:

- What was the user's expectation of light railway transportation services?
- What are the practices and actual light railway transportation services?
- What is the level satisfaction of the passengers on Addis Ababa light rail railway transport?

1.4. Objective of the Study

1.4.1. General Objectives

The general objective of the study is level satisfaction of the passenger the case of Addis Ababa light railway transport.

1.4.2. Specific Objectives

The study was based on the following four specific objectives.

- To identify the user's expectation of light railway transportation services.
- To analyze the practices and actual light railway transportation services.
- To identify the level satisfaction of the passengers on Addis Ababa light railway transportation.

1.5. Significance of the study

The researcher expectations this study has a contribution for different purposes. Since the study was conduct on perception study of the Addis light rail transit, it has significant input for the improvement of satisfaction levels of the services. The researcher also believes the study was indicate the gap and how to improve level satisfaction of light railway transport and how to maximize the service and level satisfaction of passengers. Finally, this study can serve as a starting point for the other researchers light railway transportation services offices and other experts.

1.6. Scope of the study

The research stress on single light railway transport line of the two Addis Ababa single light railway transport routes and this was the East-West line extends 17.4 kilometers (10.8 m), stretching from Ayat to Torhailoch, and passing through Civil Service, Megenagna, Meskel Square, Legehare and Mexico Square. This route has 22 light railway transport stations, but to assess the level of satisfaction of Addis Ababa light railway transport only the seven selection station on EW line. The select seven light railway transport stations are Ayat station, Civil Service Station, Megenagna Station, St. Uriel station, Stadium, Mixco, Torhailoch. This research mainly employed random sampling considering the volume of the

respondents within the select light railway transport station to conduct representative sampling within the randomly was select from the population.

1.7. Limitations of the study

This research mainly employed random sampling considering the volume of the respondents within the select light railway transport station to conduct representative sampling within the randomly was selected from the population. Select sample for data collection and this take more time when collect the data. Getting the secondary data were also very challenge from Addis Ababa light railway transit services office. On other hand due to the national current security situation I had problem obtaining permission from obtaining Addis Ababa police commission to collect information from the passengers at train station. Relate to the respondent some passengers a train station were not the willingness to fill questionnaire due to Covid19 epidemic . But I try to pass the above challenges to give the solution and collect data from the passengers and to identify the level satisfaction of users on Addis Ababa light railway transport.

1.8. Organization of the Paper

This study paper is prepared in to five chapters. The first chapter holds that the introduction; the second chapter deals with review of literature related to the research; the third chapter is methodology; the fourth chapter about data analysis, interpretation and presentation; the fifth chapter is about summary of findings, conclusions, and recommendations. Finally also include the reference and Annex.

CHAPTER TWO

REVIWE OF RELATED LITERATURE

In this chapter discussions about the comprehensive theoretical concepts that the researchers believe they provide a good back ground to carry out the research work. concepts like customer satisfaction , service quality and customer satisfaction, theories of customer satisfaction, models of customer satisfaction measurement and users perception and satisfaction of LRT are the main focuses.

2.1. Customer Satisfaction

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

2.2. Service Quality and Customer Satisfaction

Customer satisfaction and service quality are quite often used interchangeably, which has caused confusion. While both concepts are related and appear to be merging, there are still gaps in the understanding of the two constructs, their relationship to each other, and their antecedents and consequences (Gwynne, Devlin, and Ennew, 1998). A distinction needs to be made between both. According to Cronin and Taylor (1992), this distinction is important to both managers and researchers alike, because service providers need to know whether their objective should be to have consumers who are satisfied with their performance or to deliver the maximum level of perceived service quality." Oliver (1981) takes the view that satisfaction is "the emotional reaction following a disconfirmation experience." Getty and Thompson (1994) define it as a "summary psychological state experienced by the consumer when confirmed or disconfirmed expectations exist with respect to a specific service transaction or experience."

The most commonly used representation of customer satisfaction is the disconfirmation approach (Ramaswamy, 1996), in which satisfaction is related to the variation between a customer pre-purchase expectations and their post purchase perceptions of the actual service performance. According to disconfirmation theory, the extent of satisfaction or dissatisfaction that a customer has with a particular service is determined by the difference between the customers' expectations of performance and the actual perceived performance of the service (Oliver, 1996). Any difference between them is referred to as disconfirmation. If the service experienced is better than expected, then positive disconfirmation or high levels of satisfaction will result. If, however, the service performance falls short of what was expected, then negative disconfirmation or dissatisfaction will result. Confirmation or zero disconfirmation results when perceived performance just meets the customer's expectations or when the service experience is much as expected in the customers. Parasuraman et al (1988) defined service quality and customer satisfaction as follows: Service quality is a global judgment, or attitude, relating to the superiority of the service, whereas satisfaction is related to a specific transaction. Satisfaction is a post consumption experience which compares perceived quality with expected quality, whereas, service quality refers to a global evaluation of a firm's service delivery system. Siddiqi (2011) described that all the service quality attributes are positively related to customer satisfaction and customer satisfaction is positively related to customer loyalty in the transport sector.

Furthermore, Daniel O. Auka (2012) also stated that high quality of service will result in high customer satisfaction and increase loyalty.

2.3. Theories of Customer Satisfaction

2.3.1. Assimilation Theory

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

2.3.2. Contrast Theory

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

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

2.3.3. Expectancy Theory

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

2.3.4. Consistency Theory

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

2.3.5. Assimilation –Contrast Theory

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

Assimilation-contrast theory suggests that if performance is within a customer's latitude (range) of acceptance, even though it may fall short of expectation, the discrepancy will be disregarded –

assimilation will operate and the performance will be deemed as acceptable. If performance falls within the latitude of rejection, contrast will prevail and the difference will be exaggerated, the produce/service deemed unacceptable.

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

2.3.6. Negativity Theory

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

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

2.3.7. Disconfirmation Theory

Disconfirmation theory argues that „satisfaction is related to the size and direction of the disconfirmation experience that occurs as a result of comparing service performance against expectations .Szymanski and Henard found in the meta-analysis that the disconfirmation paradigm is the best predictor of customer satisfaction. Ekinici et al (2004) cites Oliver’s updated definition on the disconfirmation theory, which states “Satisfaction is the guest’s fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment”.

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

2.3.8. Cognitive Dissonance Theory

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

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

2.3.9. Adaptation-Level Theory

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

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

2.3.10. Equity Theory

This theory is built upon the argument that a “man’s rewards in exchange with others should be proportional to his investments”. An early recognition of this theory first came out of research by Stouffer and his colleagues in military administration. They referred to „relative deprivation“ (equity) as the reaction to an imbalance or disparity between what an individual perceives to be the actuality and what he believes should be the case, especially where his own situation is concerned.

In other words, the equity concept suggests that the ratio of outcomes to inputs should be constant across participants in an exchange. As applied to customer satisfaction research, satisfaction is thought to exist when the customer believes that his outcomes to input ratio is equal to that of the exchange person.

2.3.11. Dissonance Theory

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

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

2.3.12. Cue Utilization Theory

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

2.3.13. Hypothesis Testing Theory

Deighton (1983) suggested a two-step model for satisfaction generation. "First, Deighton hypothesizes, pre-purchase information (largely advertising) plays a substantial role in creating expectations about the products customers will acquire and use. Customers use their experience with products / services to test their expectations. Second, customers will tend to attempt to confirm (rather than disconfirm) their expectations. This theory suggests customers are biased to positivity confirm their product/service experience.

2.4. Models of Customer Satisfaction Measurement

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

2.4.1. SERVQUAL

The SERVQUAL instrument has been widely applied in a variety of service industries, including tourism and hospitality. The instrument was used to measure hotel employee quality as well. Parasuraman, Zeithamal and Berry (1988) built a 22-item instrument called SERVQUAL for measuring consumer perceptions of service quality. SERVQUAL addresses many elements of service quality

divided into the dimensions of tangibles, reliability, responsiveness, assurance, and empathy. A number of researchers have applied the SERVQUAL model to measure service quality in the hospitality industry, with modified constructs to suit specific hospitality situations. The most widely accepted conceptualization of the customer satisfaction concept is the expectancy disconfirmation theory. “The theory was developed by Oliver (1980), who proposed that satisfaction level is a result of the difference between expected and perceived performance. Satisfaction (positive disconfirmation) occurs when product or service is better than expected. On the other hand, a performance worse than expected results with dissatisfaction (negative disconfirmation)”. Providing services those customers prefer is a starting point for providing customer satisfaction A relatively easy way to determine what services customer prefers is simply to ask them.

2.4.2. Kano Model

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

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

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

have the greatest influence on how satisfied a customer will be with a given product". The additional attributes, which Kano mentions, are: Indifferent attributes, Questionable attributes, and Reverse attributes.

2.4.3. SERVPERF

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

Moreover, Lee et al (2000) empirically compare SERVQUAL (performance minus expectations) with performance-only model (SERVPERF). The authors also conclude that the results from the latter appeared to be superior to the former. It has been acknowledged that such approach limits the explanatory power of service-quality measurement.

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

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

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

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

2.4.4. Service Quality

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

According to the research of Parasuraman *et al.* (1988) and Sasser, Olsen and Wyckoff (1978), service quality, as perceived by consumers, stems from a comparison of what they feel service firms should offer with their perceptions of the actual performance of firms providing the service. According to Van Pham and Simpson (2006), various factors are thought to influence consumer expectations and that service quality expectations are based on the notion of what a consumer feels a service provider should offer (desires or wants) and can be construed as predictions rather than what they would offer (satisfaction association).. Parasuraman *et al.* (1988) intimates that perceived service quality is the degree and direction of discrepancy between consumer’s perceptions and expectations. Perceived service quality could be due customer’s previous experience, opinion leaders or communication about a service in an organization. Customer satisfaction has been commonly accepted as an indicator of service quality (Geetika *et al.* 2008; Sachdev and Verma 2004; Ekinici 2003; Czepiel 1990). However, the literature

shows that there is no consensus on the determinants of service quality and different dimensions of service quality have been considered by various researchers in different sectors.

2.5. Users Perception and Satisfaction of LRT

Satisfaction is experience based construct that is determined by market expectations and performance perceptions in any given period. It is also measured or compared to the past satisfaction from period to period (Johnson, et al., 1995). Customer's satisfaction level is measured by customers' response to a product or service (Yi, 1990). These makes a CSS a key intermediary objective in service operations as evaluation of organizational performance (Ranaweera&Prabhu, 2003); in order for business to be successful and profitable (Shin & Elliot, 2001). Whereas, service quality is evaluated with expectations of customers. Which means if the customers expectation is conforming to service, then a firm is delivering quality service (Joewono& Kubota, 2007; Lai & Chen, 2011). Service quality is measured by surveying customers' perception, expectation, satisfaction, and attitude to toward the intended services (Sachdev&Verma, 2004; Nandan, 2010).

In the same way, evaluation of any transport system's service quality from passengers' point of view is a key component in healthy functioning of system. Since the passengers are the users of the system, they can be judge well, whether the service meets their expectations or not (Berry, et al., 1990; Eboli, &Mazzulla, 2011). The SQ in mass transits could be evaluated in two ways; the first is measured by service operators based on efficiency and effectiveness of that PT, while the second is based on passengers' perception, expectation and attitude. These can be done by using methods of customer satisfaction surveys (CSS).

2.6. Empirical Reviews

There are many research works done related with this study. However the researcher tries to see three of them which are more related to the topic. The titles with their objectives and major findings are discussed below to have an insight about these studies.

The first one thesis done by Geetika (2010) with the title of determinants of customer satisfaction on service quality: a study of railway plat forms in India. The main purpose of the study is to examine the impact of service quality on passenger's satisfaction and have depth interviews to find out dissatisfying factors and customers reported that waste time, too crowded, lack of comfort, time uncertainty, unreliability, long waiting times, lack of flexibility, long walking time, punctuality and information were important factors causing dissatisfaction

The second thesis done by (Mesfin wondafrash, 2018) with the title of assessing factors affecting users' satisfaction in Addis Ababa light railway transit services .The main objective of this study is to determine the relationship between implementation of service quality and user satisfaction in Addis Ababa rail transit service. To determine factors that affect AALRT users satisfaction and to improve the services and also to satisfied the users. The study showed that Passengers were complained while they use the rail because of the poor qualities of service attribute provision, like the absence of sufficient seat both inside the rail and at the station, suffocation, theft and robbery, poor ventilator capacity, stumpy rail frequency, pitiable cleanness of the stations, few numbers of rails, poor information delivery, awareness creation problems and absences of automatic generator. Hence, all these problems will expose the future success of the light rail transit because both actual and potential customers may hesitate to use its service.

The third one is MBA thesis done by (Vincent Buluma, 2012) with the title of Service quality and passenger satisfaction in Rift valley railways corporation – Kenya. The main purpose of the study is to examine the effect of service delivery process and service quality on satisfaction of passengers with the following specific objectives: To establish customer expectations, perceptions in rift valley customer transport in Kenya to determine the level of passenger satisfaction on service quality dimensions and service quality gap in rift valley customer transport in Kenya and To determine the relationship between service quality and passenger satisfaction in rift valley customer transport. The result showed that factors that influence passenger's satisfaction are the reliability of the system, the punctuality of the transport, the price of it and the time of journey needed to go from one point to another. Additionally, Safety, Pick pocketing, overcharging facilitates by overcrowding and lack of supervisor is important factors. Kenya Department for Transport (2012) reported that young people (mostly male) involved in assaulting behavior, theft, vandalism and criminal damage are a problem for train transport users. Lastly he recommends information provision, a simple ticketing service and a helpful staff, can attract more passengers' to use train transport.

The above the three researchers to examine that related to passenger's satisfaction the thesis done by Geetika (2010) with the title of determinants of customer satisfaction on service quality: dissatisfying factors and customers reported that waste time, too crowded, lack of comfort, time uncertainty, unreliability, long waiting times, lack of flexibility, long walking time, punctuality and information were important factors causing dissatisfaction and thesis done by (Mesfin wondafrash, 2018) with the title of assessing factors affecting users' satisfaction in Addis Ababa light railway transit services The study

showed that Passengers were complained while they use the rail because of the poor qualities of service attribute provision, like the absence of sufficient seat both inside the rail and at the station, suffocation, theft and robbery, poor ventilator capacity, stumpy rail frequency, pitiable cleanness of the stations, few numbers of rails, poor information delivery, awareness creation problems and absences of automatic generator. And also finally thesis done by (Vincent Buluma,2012) with the title of Service quality and passenger satisfaction in Rift valley railways corporation – Kenya. The result showed that factors that influence passenger’s satisfaction are the reliability of the system, the punctuality of the transport, the price of it and the time of journey needed to go from one point to another. Additionally, Safety, Pick pocketing, overcharging facilitates by overcrowding and lack of supervisor is important factors. But the main purpose of this study is to identify the present status passengers’ level satisfaction of AALRT and the gap.

CHAPTER THREE

REASARCH DESIGN AND METHODOLOGY

3.1. Introduction

This part of the research deals with over all approach of the research methodology and it includes research design, research approach, sampling design, sources of data, data collection methods, data analysis method the study was use.

3.2. Research Design

To investigate research objective the descriptive research study used. The reason behind using descriptive research to describe the existing situation under study Creswell (1994) stated that the descriptive method of research is a technique of gathering information about the present existing condition. This research design to find the study with adequate and accurate interpretation of findings.

3.3. Research Approach

This study was follow quantitative research approach using survey design in order to determining the relationship between variations of independent and dependent variables. The reason quantitative research approach to meet the purpose of examining how an independent variable affects a dependent variable.

3.4. Sampling Design

3.4.1. Target Population

Population is “the entire group of people, events, or thing of interest that the researcher wishes to investigate” (Sekeran, 2001). The target population of the study is number of average passengers per day whom used Addis Ababa light rail transport specially passengers whom travel from Ayat to Torhailoch,.

3.4.2. Sampling Technique

Creswell (1994) define that it is the way of drawing inference about a population without studying the entire population under study. It is also advantageous in time consuming and cost saving. Thus, the researcher selects passengers who use LRT from Ayat to Torhailoch by using purposive sampling method. I was select seven LRT stations: Torhaliloch station, Mixco ,Legahare station, St. Uriel station, Megenagna station, Civil Service station and Ayat station

Lastly, after determining the area the researcher employed convenience sampling technique were distribute questionnaire for the respondent. The justification behind employing convenience sampling method was use because all passengers are not available in the LRT at the same time and it is not possible to contact all passengers who may be sample.

3.4.3. Sample Size

Sample size is actually the total number of units which are to be selected for the analysis in the research study. Passenger's whom travel from Ayat to Torhailoch selected for collecting data.

Table 3.1. Estimated average passengers per day in each station

Station No.	Station Name	Number of passenger in each station from October 25-13/2021 (per week)	Number of average passengers per day in each station
EW1	Ayat station	40432	5776
EW2	Meri	13061	1866
EW3	CMC	10568	1510
EW4	St. Michael	8129	1161
EW5	Civil Service Station	4927	704
EW6	Management Institute	2637	377
EW7	Gurd Shola I	8919	1274
EW8	Gurd Shola II	1938	277
EW9	Megenagna Station	29458	4208
EW10	Lem Hotel	3582	512
EW11	Hayahulet I	7208	1030
EW12	Hayahulet II	7661	1094
EW13	St. Uriel station	6769	967
EW14	Bambis	---	--
EW15	St.Estifanos	7765	1109
NS16	Stadium	25051	3579
NS17	Legahare station	12834	1833
NS18	Mexico	19034	2719
NS19	Tegbared	20241	2892

NS 20	St.Lideta	19500	2786
EW21	Coca cola Station	6001	857
EW22	Torhailoch	45212	6459
Total		300,927	42,290
Total number of sample size respondents 396			

Source : AALRT ticket department ,2021

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

	Station Name	Estimated Daily Average passenger/ridership	Adjusted daily average passenger
EW1	Ayatstation	5776	111
EW5	Civil Service Station	704	14
EW9	MegenagnaStation	377	7
EW13	St. Uriel station	967	19
NS16	Stadium	3579	69
EW18	Mixco	2719	52
EW22	Torhailoch	6459	124
	Total	20581	396

Source : AALRT ticket department ,2021

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

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

Where: n=number of sample size

N=Number of total targeted population

e=error (at 95 % confidence interval)

$$n = \frac{42,290}{1 + 42,290(0.0025)}$$

$$n = \frac{42,290}{106.7} = 396$$

Therefore the study used 396 sample populations. In this study 396 questionnaires distributed randomly to meet up to the required level of number of response from the target respondents for 7 days from From

October 25/10/2021 up to 31/10/21) to voluntary respondents at the seven selected station and when the rail was traveled. The information I collected from the Respondents during the working day and at night.

3.5. Sources of Data

The study was use both primary and secondary source of data. Based on the nature, scope, objectives and availability of time and resource, the researcher was use questionnaires and secondary data source existing research papers and AALRTS operation control center division transport center and ticket department daily traveler report.

3.5.1 Primary Data

Primary data was collect by the managed questionnaires distribute to the respondents.

3.5.2 Secondary Data

The secondary data was be collected from existing research papers that have relevant for this study and AALRTS operation control center division transport center and ticket department daily traveler report.

3.6. Data Collection Methods

The study was based on both primary and secondary data sources. It was begun by secondary data analysis through the detail review of relate literature and survey questionnaire was use as the main data gathering instrument for this study. Also used Primary data had collected using a questionnaire that consists of different statement that related to light rail way level satisfaction of 375 user.

Likert scale with five response categories was used VS= Very satisfied S=satisfied N=Neither DS= Dissatisfied VD = Very Dissatisfied

“The Likert scale method is preferred to make questions interesting to respondents and thereby enhance their cooperation, ultimately to ensure maximum response rate” (Robson Colin, 2002).

3.7. Data Analysis Method

Before processing the responses, the filled that prepared Amharic language questionnaire by the respondents is edited for completeness and consistency. Quantitative data collected analyzed and interpreted in line with study objectives through use of statistical package for social sciences (SPSS) 25 Computer program. Quantitative data collected is analyzed by use of descriptive statistics to generate percentages and frequencies. The advantage of this package is that it can be used to analyze questionnaires with many questions including both closed ended and open-ended questions (Kothari, 1995)

CHAPTER FOUR

DATA ANALYSIS ,INTERPRATATION AND PRESENTATION

4.1. Introduction

This chapter analyzes the socio-demographic profile of the passenger in the sample station. The profile consists of Description of age of respondents, sex of respondents, marital status of respondents, education status of respondents, family size of respondents, occupation of respondents that can help to know their socio-demographic status. The demographic data were presented using frequency and percentage And also, in this chapter the data collected the practice of using Addis Ababa Light Railway and user's level satisfaction of Addis Ababa Light Railway Project are presented and interpretation of the data.

4.2. The socio-economic background of the respondents

A total of 396 questionnaires were distributed to the passengers from the selection light rail way of seven selection station out of this, 375 questionnaires were filled and returned. 12 questionnaires were rejected due to incompleteness and 9 questionnaire not returned. Hence, out of the 396 questionnaires 375 were found to be suitable for data analysis.

(1) Description of age respondent

Table 4.1. The table of age of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 18 years old	32	8.1	8.5	8.5
	18 – 25 years	75	18.9	20.0	28.5
	26 – 35 years	132	33.3	35.2	63.7
	36 – 45 years	43	10.9	11.5	75.2
	46 – 55 years	62	15.7	16.5	91.7
	above 55 years	31	7.8	8.3	100.0
Total		375	100.0		

Source: The researcher, 2021

Table 4.1 show that the age groups from 26-35 years were the dominant users of the LRT taking 33.3 % and the next highest age groups using the LRT were those from 18-25 years accounted to 18.9 % of the respondents. The third largest percentage of age group were those within 46-55 years covering 15.7% of the respondents. The fourth largest percentage of age group were those with 36-45 years covering 10.9% The least groups of the LRT users were below 18 years old and above 55 years old covering 8.1% and 7.8% are respectively. The above practice of the LRT user was very low that the age 18 years old and above 55 years old this indicate that might be those groups make fewer trip than the rests of the age groups are use LRT.

(2) Description of sex of respondents

Table 4.2. The table of sex of the respondent.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	172	43.4	43.4	48.7
	Male	203	51.3	51.3	100.0
Total		375	100.0	100.0	

Source: The researcher, 2021

As the above table 4.2 show that the male respondents use LRT than female respondents were used at seven LRT stations, From the respondent 203 (51.3%) of the users were males and the remaining 172 (43.4%) were females. This reason behind that males maybe most use LRT , while females uses others alternative transportation like private cars, taxi and public bus.

(3) Description of marital status of respondents

Table 4.3. The table of marital status of the respondent.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	71	17.9	17.9	23.2
	Divorced	68	17.2	17.2	40.4
	Married	171	43.2	43.2	83.6
	Widow/	65	16.4	16.4	100.0

	Widower				
	Total	375	100.0	100.0	

Source: The researcher, 2021

Table 4.3 show that the marital status of out of 375 passengers, 71(5.3%) passengers are single 68(17.2%) passengers are divorced,171(43.2%) passengers were married and others or 65(16.4%) Widow/Widower. The result show that the majority of passengers are married. May be this passengers have the opportunity and more used this train transport for any life activity than others so they have better idea about Addis Ababa light railway transport services.

(4)Description of education status of respondents

Table 4.4. The table of education status of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	28	7.1	7.5	7.5
	Secondary School	45	11.4	12.0	19.5
	Preparatory School	25	6.3	6.7	26.1
	10+2	69	17.4	18.4	44.5
	Diploma	47	11.9	12.5	57.1
	TVET	63	15.9	16.8	73.9
	Degree	77	19.4	20.5	94.4
	Masters	15	3.8	4.0	98.4
	PHD	6	1.5	1.6	100.0
Total		375	100.0		

Source: The researcher, 2021

When the LRT users were categorized according to their educational status, the persons with degree have great experience in using the AALRT accounting 19.4 % of the respondents. The second groups of persons using the LRT for their trip purpose were those with (10+2) accounted to 17.4% of the respondents. The third highest percentage of the LRT users were those with TVET taking 15.9 % of the respondents and fourth group of person using the LRT for their trip purpose were those with diploma

taking 11.9%. The analyzed data shows that most of the persons with degree, 10+2, TVET and diploma level travel by LRT. The lowest percentage of educational levels that uses the LRT were Masters and PHD covering 3.8% and 1.5% respectively. The result shows that Masters/PhD holders, most of them use either their own car, the government car or public services transport than the LRT.

(4) Description of family size of respondents

Table 4.5. The table of family size of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One person	41	10.4	10.9	10.9
	Two person	80	20.2	21.3	32.3
	Three person	42	10.6	11.2	43.5
	Four person	68	17.2	18.1	61.6
	Five person	51	12.9	13.6	75.2
	Above Five person	93	23.5	24.8	100.0
Total		375	100.0		

Source: The researcher, 2021

Related to family size 41(10.4%) passengers are one person, 80(20.2%) passengers two person, 42(10.6%) passengers are three, 68(17.2%) passengers are four, 51(12.9%) passengers are five and the remaining 93(23.5%) passengers are above five person. The result shows that they have above five person family size passengers more use light railway transport than other that have less than five family size may be this is a positive relationship between the number of the LRT users and the family sizes. This is to say that when there are large family size there might be higher numbers of LRT users. There for they have higher family size passengers were used LRT and better interest than they have other small number of family size.

(5) Description of occupation of respondents

Table 4.6. The table of occupation of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	62	15.7	15.7	21.0
	full time	89	22.5	22.5	43.4
	part time	45	11.4	11.4	54.8
	Unemployed	56	14.1	14.1	68.9
	home maker	65	16.4	16.4	85.4
	Retired	22	5.6	5.6	90.9
	Other	36	9.1	9.1	100.0
	Total	375	100.0	100.0	

Source: The researcher, 2021

Accordingly, 62(15.7%) passengers are student, whereas 89(22.5%) of the respondents are working full time in different organizations, 45(11.4%) are working part time, 56(14.1%) passengers are unemployed; 65(16.4%) passengers are home maker daily, 22(5.6%) passengers are retired and the remaining 36 (9.1%) passengers are working different work. Therefore, from this occupation data analysis one can observe that the majority of the passengers were civil servants in different organization followed by respondents who were home maker, student, unemployed, part time ,other and retired.

4.3. Practice of using Addis Ababa Light Railway

(1) Travel distance of users

Table 4.7. The table of travel distance of the users

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 5 Km	94	23.7	25.1	25.1
	5.1-10 Km	73	18.4	19.5	44.5
	10.1-15Km	99	25.0	26.4	70.9
	15.1-20Km	109	27.5	29.1	100.0
Total		375	100.0		

Source: The researcher, 2021

Table 4.7 shows that the other critical variable considered again under travel details, distance of travel. The majority respondents (27.5%) replied that they travel 5km-20km by using the LRT service and almost the same numbers of respondents (25.5% and 23.7%) who travel for travel a distance 10.1-15km , 1-5km and 5.1-10km are respectively. The other 18.4 % of the respondents answered that they travel using the light rail service from 5.1-10km is small percentage compared to others were respondents who travel daily journey with LRT service. Mostly these people travel almost more than 5km per day on average. From this it is understood that passengers well know about the service given by LRT.

(2) Frequency of using LRT

Table 4.8. The table of frequency of using LRT of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		21	5.3	5.3	5.3
	Always	118	29.8	29.8	35.1
	Very often	103	26.0	26.0	61.1
	Sometimes	88	22.2	22.2	83.3
	Rarely	66	16.7	16.7	100.0
Total		375	100.0	100.0	

Source: The researcher, 2021

Table 4.8 we can see the other main variable that the respondents were asked, the frequency of travel that they make using LRT service. The information is presented on the above table. For this question the majority number of respondents 29.8% answered that they make a travel with the LRT always and followed by respondents (26% and 22.2%) who travel very often and sometimes respectively. In other words, as for their trip characteristics the participants were always, very often and sometimes riders. The other (16.7%) respondent answered that they were rarely use the light railway from place to place. From the analysis of this data it is possible to say that the highest percentages of the respondents were the always passengers use LRT service. Therefore, one can conclude as the LRT service is used frequently by a large number of respondents as revealed from the sample taken in this study and shows that respondents are well experienced about the nature of service delivered in LRT.

(3) The time of the day use LRT

Table 4.9. The table of the time of the day use LRT of the Passenger

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12:00-3:00AM	75	18.9	20.0	20.0
	AM 3:00- 6:00AM	49	12.4	13.1	33.1
	6:00 -8:00 PM	65	16.4	17.3	50.4
	8:00 -10:00 PM	46	11.6	12.3	62.7
	10:00-1:00 PM	95	24.0	25.3	88.0
	1:00 -3:00 PM	45	11.4	12.0	100.0
Total		375	100.0		

Source: The researcher, 2021

On the other hand, 75(18.9%) passengers who use the LRT during the morning from 12:00-3:00 AM, 49(12.4%) passengers who use the LRT during the morning from 3:00-6:00 AM, 65(16.4%) passengers who use the LRT during the morning from 6:00-8:00 PM, 46(11.6%) passengers who use the LRT during the morning from 8:00-10:00 AM, 95(24%) passengers who use the LRT during the morning from 10:00-1:00 AM and 45(11.4%) passengers who use the LRT during the morning from 12:00-3:00 AM. The result show that the majority passengers travel morning time from 12:00-3:00 AM , night time 10:00-1:00 PM and followed 6:00 -8:00 PM, 3:00- 6:00AM, 8:00 -10:00 PM and 1:00 -3:00 PM passengers use the train.

(4) Monthly income of the users

Table 4.10. The table of monthly income of the users

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 1000 birr	72	18.2	19.2	19.2
	1001-3000 birr	68	17.2	18.1	37.3
	3001- 4000 birr	64	16.2	17.1	54.4
	4001-5000 birr	52	13.1	13.9	68.3

	5001-6000 birr	42	10.6	11.2	79.5
	6001-7000 birr	28	7.1	7.5	86.9
	7001-9000 birr	26	6.6	6.9	93.9
	9001-10000 birr	13	3.3	3.5	97.3
	more than 10001 birr	10	2.5	2.7	100.0
Total		375	100.0		

Source: The researcher, 2021

Relate the income of house hold of passengers 72(18%) passengers monthly income less than1,000 birr,68(17.2%) passengers monthly income 1001-3000 birr ,64(16.2%) passengers monthly income 3001-4000 birr,52(13.1%) passengers monthly income 4001-5000 birr,42(10.6%) passengers monthly income 5001-6000 birr,28(7.1%) passengers monthly income 6001-7000 birr, 26(6.6%) passengers monthly income 7001-9000 birr,13(3.3%)passengers monthly income 9001-10,000and more than 10(2.5%) passengers monthly income more than 10,001.This study shows that the practice of public transportation usage has strong relationship with the income level of house holder. When there is a low income there is a tendency to use public transportation than those of high income level of householder. Like when the passengers have higher income were used taxi or others better alternative transport.

(5) Purpose use of LRT

Table 4.11. The table of the Purpose use of LRT of the Passenger

Passenger use transport for what purpose					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	7	1.8	1.8	7.1
	Walk	5	1.3	1.3	8.3
	Taxi	120	30.3	30.3	38.6
	Bus	27	6.8	6.8	45.5
	Train	204	51.5	51.5	97.0
	privet car	12	3.0	3.0	100.0
Total		375	100.0	100.0	

Source: The researcher, 2021

Table 4.11. shows that Trips purpose and possible mode available in Addis Ababa was included in the survey questionnaire in order to understand more trips purpose and mode mostly used by the passengers. Accordingly, the surveyed data shown that, more than half of the passengers that making their trips to work 204 (51.5%) are using train followed by taxi 120 (30.3%), The train usage for all trips purpose constitute about 43% followed by trips to recreation and school which make 25% and 19% respectively.

However, taxi is the mode mostly used for all trips purpose except for work in this sample followed by train and bus respectively. Walking and private car are used for recreation purpose, when compared to other trips purpose, by making 42% of walking and 29% of private car for recreation. From this travel purpose analysis, one can conclude that work purpose were the dominance purpose for what customers were used LRT service. This conclusion expose further conclusion that regardless of its inconvenience, LRT considered as the better transportations means for the work hours based on the response of the respondents

4.4. User's level satisfaction of Addis Ababa Light Railway Project

Table 4.12. The table of User's level satisfaction of Addis Ababa Light Railway Project

Statement	Very satisfied		Satisfied		Neither		Dissatisfied		Very dissatisfied	
	Frequ ency	%	Freq uenc y	%	Frequ ency	%	Frequ ency	%	Frequ ency	%
The Speed of the train	86	21.7	203	51.3	21	5.3	65	16.4	---	--
The Price the train	95	24	198	50	33	8.3	49	12.4	--	-
Station cleanliness	67	16.9	250	63.1	35	8.8	23	5.8	--	-
Train inside clean	73	18.4	225	56.8	25	6.3	39	9.8	13	3.3
Waiting time	38	9.6	79	19.9	45	11.4	131	33.1	82	20.7
Travel sense of safety	32	8.1	254	64.1	17	4.3	41	10.4	31	7.8
Passengers behavior	44	11.1	44	14.4	51	12.9	34	8.6	189	47.7
Crowdedness in the Train	-----	----	53	13.4	67	16.9	91	23	164	41.4
Information/map/audio notice	25	6.3	71	17.9	62	15.7	43	10.9	174	43.9

Source: The researcher, 2021

The above tables 4.12 show that the most passengers were satisfied with the train speed, price, station cleanness, sense of safety and train inside cleanness by 73%, 74% ,80%,72.2% and 75.2% respectively. While such as waiting time, passengers behaviors, crowdedness in the train and travel information are significantly the most dissatisfying characteristic that rated as 53.8%, 56.3%,64.4% and 54.8% by sampled passengers respectively and the rest of the passengers are that listed the above not response about Addis Ababa Light railway transport service. The study show that the number of the train not enough for the passengers that want to travel by the train each station/demand and supply are not balanced/ and the passengers raise before they don't have any information the train there is a delay. And also passengers behavior and crowdedness other challenges for travel by train who are lack of priority for the elders and disabled as well as women during the trip and the presences some pocket thieves in the train.

CHAPTER FIVE

SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATIONS

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

5.1. Summary of Findings

Addis Ababa light train transport mainly solved city transport problem of the community and provide different benefit for city development .But now a day the community also raise some question on Addis Ababa train transport services gap. The study was carried out concerning the main objective to assess the passengers level satisfaction the case of Addis Ababa light railway transit. Based on the data gathered and analyzed, the following findings were discovered:

The study's finding indicated that relate to passengers level satisfaction of Addis Ababa light railway transit from sampled respondent 73% of passengers with the train speed,74% of passengers with train transport price,80% of passengers with train station cleanness ,72.2% of passengers with train sense of safety and 72.2% of passengers with train inside cleanness most passengers were satisfied. While some service quality variables such as; train waiting time, train passengers behaviors, crowdedness in the train and travel information are significantly the most dissatisfied.

5.2. Conclusion

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

- Passengers' had different levels of satisfaction for the service attributes of the light rail transit. Because users satisfied with the train speed, price, station cleanness, sense of safety and train inside cleanness. Due to that reason, passengers would like to travel their trips using the rail.
- Passengers' were complained while they use the rail because of the poor qualities of service attribute provision, like train waiting time, train passengers behaviors, crowdedness in the train and travel information are significantly the most dissatisfied. Hence, all these problems will expose the future success of the light rail transit because both actual and potential customers may hesitate to use its service.

- Almost half of the commuters were accounted (some what satisfied and unsatisfied) with the light rail transit service. This indicates that the overall service of the company has a problem to give better service to the users.

5.3. Recommendations

Based on the findings of this study the following recommendations are proposed to help improve level satisfaction of AALRT.

- AALRT institution should plan to improve level of satisfaction of the passengers first I advise need continuous supervision and emergency inspection about the services delivery. Then identified the strength and weaknesses finally give a feedback to continue the strength and improve the weakness for all department that exist in AALRTS and also need to improve all the dimensions of service.
- AALRT should conduct ongoing research on level satisfaction of the passengers to understand the changing passengers satisfaction levels against offerings on what should be done and what strategies to be implement in order to achieve passengers satisfaction.
- In different occasions passengers are not informed whenever there is a delay and they are kept at the station until so late before they are either informed that the train will be late AALRT must be inform the passengers at the point of ticketing offices in order passengers decided whether to wait the train or will use other option.
- The finding of the study show that the majority of passengers are unhappy with the behavior of train passengers. This include some passengers mention the lack of priority for the elders and disabled as well as women during the trip and the presences some pocket thieves so my recommendation is AALRT post various posters on the train passengers to give priority to the elders and disabled during travel time .And also informed Passengers from Professional thieves are to protect themselves and bring the thieves to justices.
- To decrease the crowdedness in the train AALRT may be increase numbers of trains and increasing the frequency of the train.
- Related to the travel information, the system should provide stations media. It has to be implemented and installed to improve the travel information's related to the dissatisfaction of the passengers. And also when the travel time passengers recreation service that set the screen inside the train like different television program , music and others recreation programs..

5.4. Suggestion for future Studies

Based on the findings, the study suggested that further studies should be conducted on assessing passengers level of satisfaction to identify the gap of AALRT and also increase the satisfaction of the users it is very important. When the institution improve the service that can create trust on the users as well as may have many customer. Finally the institution profitable, grow and competitive with other company that give the same services so the researcher suggested future researchers to conduct a study on the level satisfaction of AALRT both lines.

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ANNEXES SURVEY QUESTIONNAIRES

I am a graduate at St.Mary's university. Currently, I am conducting a research study on services passengers level satisfaction in Addis Ababa light railway for the completion for my masters in project management.

Your response is highly valuable the study and there are no identified risk from participation in the survey is unknown Participation is completely voluntarily.

Dear passenger's this questionnaire is intended to gather information about passenger's level satisfaction and other related issues in light rail . The information that you provide in the questionnaire will be kept confidential and be used only for academic purpose.

Section A:-Personal Data

1. Age

(a) below 18 years old

(b) 18 – 25 years

(d) 36 – 45 years

(c) 26 – 35 years

(e) 46 – 55 years (f) above 55 years

2. Sex: Male

Female

3. Marital Status

(a) Single

(c) Married

(b) Divorced

(d) Widow/Widower

4. Educational Status

(a) illiterate

(g) BA/BSC Degree

(b) Primary school

(h) Masters

(c) Secondary school

(i) PHD

(d) 10+2

(e) Certificate

(f) College Diploma

5. Including you, how many people live in your household (family size)? -----

6. Occupation: - (a) Student (b) full time (c) part time (d) unemployed
 (e) home maker (f) retired (g) other -----

7. Approximately, how far is from your home to work/shopping: ----- kilometer

8. How often do use LRT (Light Rail Transport)?

(a) Always (b) Very often (c) Sometimes (d) Rarely (e) never

9. If you use LRT (Light Rail Transport) always and very often when do you use LRT(Light Rail Transport)?

(a) Weekday (b) weekend (c) both (d) Neither

10. What time of the day you usually use LRT from home to work/shopping?

(a) 12:00-3:00 (b) AM 3:00- 6:00AM (c) 6:00 -8:00 PM (d) 8:00 -10:00 PM
 (e) 10:00-1:00 PM (f) 1:00 -3:00 PM

11. Approximately, how long does it take from your home to work/shopping while using LRT?

_____ minutes

12. Household monthly income: (a) less than 1000 birr (b) 1000-2000 birr
 (c) 2001-3000 birr (d) 3001- 4000 birr (e) 4001-5000 birr
 (f) 5001-6000 birr (g) 6001-7000 birr (h) 7001-8000 birr
 (i) 8001-9000 birr (j) 9001-10000 birr (k) more than 10000 birr

Section B:-

In each of the following statements, tick the level of agreement or disagreement that you personally feel.

VS= Very satisfied S=satisfied N=Neither DS= Dissatisfied VD = Very Dissatisfied

13. What is your main method of transportation for the following trip purposes?

		Privet car	Train	Bus	Taxi	Walk	Other
1	Work						
2	Shopping						
3	Visit						
4	School						
5	Recreation						

12. How satisfied are you with the following components of the light rail transport?

		Very satisfied	satisfied	Neither	Dissatisfied	Very dissatisfied
1	Speed					
2	Price					
3	Ticketing					
4	Station seat and shelter					
5	Station cleanliness					
6	Stations' crowdedness					
7	Train inside clean					
8	Train seat comfort					
9	Waiting time					
10	Stations' elevators					
11	Stations' stair					
12	Travel sense of safety					
13	Passengers behavior					
14	Crowdedness in the Train					
15	Ticket available					
16	Information/map/audio notice					

13. Do you have any comments or recommendation on the light train system?

