AN ASSESSMENT OF MEKELLE DRY PORT SERVICE QUALITY

By

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This is to certify that the research paper prepared by **Sara Habtu** entitled: **"DRY PORT SERVICE QUALITY IN ETHIOPIA: THE CASE OF MEKELLE DRY PORT"** Submitted to Addis Ababa University School of Commerce in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Logistics and Supply Chain Management complies with the regulations of the university and accepted for defense standard with respect to originality and quality.

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Declaration

I, Sara Habtu, declare that this research paper entitled “DRY PORT SERVICE QUALITY IN ETHIOPIA: THE CASE OF MEKELLE DRY PORT” is my own and I dare to say it is my original research work that has not been produced by others in any other universities for any other requirements in any form. To this end, I acknowledged all sources of information that I used to produce the study appropriately and I would say perfectly.

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ABBREVIATIONS AND ACRONYMS

CEO - Chief Executive Officers

DPSE- Dry Port Service Enterprise

ESLSE -Ethiopian Shipping and Logistic Service Enterprise

GTP-Growth and Transformation Plan

ISO- International Standards Organization

SERVQUAL- Service Quality

SERVPERF- Service Performance

UNECA - United Nations Economic Commission for Africa

UNCTAD - United Nations Conference on Trade and Development

ABSTRACT

The aim of this research is to assess quality of service delivery, to measure the level of customers satisfaction and to evaluate the relative importance of the five service quality Dimensions towards Customer Satisfaction in Mekelle dry port. The study has incorporated both primary and secondary data. Primary data was collected from selected customers of the dry port's customers through questionnaire from 105 sample customers. the sample size in this study was determined based on the formula derived from the binomial theorem. Thus, 126 sample customers were selected in a simple random sampling method taken one week customer's of Mekelle dry port as survey sample. Accordingly the final questionnaire was distributed to 126 customers and 105 of them was completely filled and returned. The study incorporated both descriptive and inferential statistics to analyze the collected data from sample customers. The outcome of this study show that the dry port service rendered by the Mekelle dry port is still expected to go a long way in improving the quality of its service to improve the satisfaction level of its customers. But measuring satisfaction is only half the story. It is also necessary to determine customers' expectations or the importance they attach to the different dimensions, otherwise resources could be spent raising satisfaction levels of things that do not matter. According to the result of the study Empathy is identified as the first priority and Tangibles, Responsiveness, Reliability and Assurance are prioritized from second to fifth respectively. Furthermore, the study revealed that from the five dimensions 25 items of measurement provided for customers so that among 25 items, in 4 items customers got the service better and better than they expected and in 18 items customers got the service equal to their expectation, but in 3 items they got the service worse and much worse than they expected. This implies that, in the overall, Mekelle dry port is not providing the level of service quality demanded by customers. The findings suggest that Mekelle dry port need to improve all the five dimensions of service quality. Finally, managers at Mekelle dry port should assess service quality satisfaction continuously to keep the services corresponded with customers' point of view.

Key words: ***Mekelle, dry port, service quality, satisfaction, customers***

CHAPTER ONE
1. INTRODUCTION

In this chapter, the researcher discussed the service quality concept, its importance for practitioners and academicians. The researcher relate service quality to dry port concept. Also, the researcher discussed how the concept is being measured and outline the models of service quality and introduce the SERVQUAL model in particular. The researcher also discussed about customer satisfaction and how it is been related to service quality.

Furthermore, the researcher introduced the empirical context by highlighting why it is of particular interest to study service quality and customer satisfaction in dry ports and why the researcher choose to use the SERVQUAL model for this research paper. These then lead us to clearly stating the research questions and research objective in order to have a roadmap for this study.

1.1. Background of the Study

Ports are well known playing a key role in multimodal transport systems and international supply chains. They engage in various activities: loading/discharging cargo onto/from vessels, providing value added services such as labeling, packaging, cross-docking, and others; and acting as warehouse and distribution centers (World Bank, 2007). Ports add more value to shipments that are in the port area by further integrating themselves into value chains. Many ports are increasingly being perceived as integrated and inseparable nodes in their customers' supply chains.

According to Werikeg and Jinzhihong (2015), establishment and explosion in global supply chains in the 1990s, coupled with export oriented growth strategies adopted by developing countries resulted in a paradigm shift of freight distribution systems. Multi modal transport and dry ports turned out to be the focal point in the new supply chain and logistics strategy formulation, it was first developed Europe and later implemented by USA followed by East Asian countries and then more recently by African countries (Werikeg and Jinzhihong, 2015).

Many landlocked developing countries continuously face the challenge of physical isolation, supply chain related barriers from the sea and the high costs of trading with the rest of the world (United Nations Economic Commission for Africa, 2011). In order to counter these challenges associated with landlockedness, the dry port concept evolved. Dry ports also evolved out of the challenges that faced existing sea ports i.e., due to the increase in size and capacity of container vessels, sea ports increasingly faced the challenge of inability to handle

import and export cargo in a regular manner. This regularly resulted into congestion at different sea ports due to long waiting time of trucks and haulage vehicles (Woxenious *et al.,* 2004).

The bottlenecks commonly inhibited productivity at sea ports with an upward bearing on shippers' transportation and operational costs, in addition to other negative counter effects like, carbon emissions as a consequence of congestion, accidents, boredom of drivers and loss of morale among port workers. According to McCalla (1999), expanding the physical port area would be the solution, however, seaports are extensive land consumers in metropolitan areas, (Jarzemskis and Vasiliauskas, 2007). Pellegram (2001) pointed out that, committing too much land to port expansion may not necessarily translate into benefits hence posing a dilemma.

Ethiopia, as a landlocked country, has established its trade route along the Ethio-Djibouti corridor. It is the main route for Ethiopia's import and export trade which is dominated by freight transport. Due to economic deregulation that has been enacted in many sectors including freight transit and a program of privatization, state assets in combination with a rapidly growing economy powered by the Ethio-Djibouti corridor resulted in the growth of the transport industry.

However, as many landlocked developing country, Ethiopia faces a number of challenges in mobilizing domestic financial resources to finance the massive investment demands for its rapid growth (United Nations Economic Commission for Africa, 2011). Thus, dry ports could be the solution to this challenge, as it helps to save hard earned foreign currency and alleviate the load from the Djibouti international port.

Ethiopian Shipping and Logistics Enterprise (ESLSE) was established by the council of ministers regulation no. 255/2011 (Gazetta, 2011) and the Dry Port Service Enterprise (DPSE) manages and administer the operations of dry ports by providing effective and efficient foreign trade cargo movement to and from the sea ports, to promote competitiveness of the Ethiopian international trade through reduced corridor costs and save foreign exchange for country.

DPSE has setup additional dry ports in Mekelle and Dire-Dawa to ease congestion of Modjo, Akaki and Semera Dry Ports in 2012.The Enterprise has picked Mekelle as additional dry port because Mekelle was booming an industrial city with growing cargo flow from time to time.

Handling large volumes at a minimum unit cost and shortest time is vital in positively impacting the supply chain network; the evolution of dry ports was seen as the cycle in the

continuous development of containerization and intermodal transport (Jean-Paul Rodrigue, 2009).

According to Patrick *et al.,* (1996), due to intense competition and hostility of environmental factors, service quality has become a cornerstone marketing strategy for companies. This highlights how important improving service quality is to organizations for their survival and growth since it could help them to tackle the challenges they face in competitive markets. This means that service-based companies are compelled to provide excellent services to their customers in order to have a sustainable competitive advantage. There is however, a need for these organizations to understand what service quality is needed by their customers in order to achieve their objectives. Many firms including port industries begin to track their customers' satisfaction through measuring their level of service quality perceived by their customers. The most widely used model to measure perceived service quality is SERVQUAL, an instrument developed by Parasuraman *et al.,* (1985; 1988). According to this model, five dimensions of service quality are: Tangibles, Reliability, Responsiveness, Assurance and Empathy.

Therefore, the focus of this paper is to assess the quality of service delivery and its effect on customer satisfaction at one of Ethiopia's dry ports the Mekelle dry port

1.2. Statement of the Problem

In Ethiopia for the first time Mojo Dry Port was established in 2007 and additional three dry ports that have been established after five years in different parts of the country that aims to provide effective and efficient foreign trade cargo movement to and from the sea ports, to promote competitiveness of the Ethiopian international trade through reduced corridor costs and save foreign exchange for country.

Unless dry port service managed properly and providing quality services, the impact of increasing cost on goods as result of delays the services in turn this cost has implication on prices of imported goods in public which have inflation and economic imbalance of the country. On the other hand, on export goods it would inflate the price of goods which would be exported and sell in the foreign trade that would not be competitive price in global market.

According to Peter (2005), physical distribution and transportation are said to be the last commercial frontier for cost reduction and winning the competitive edge particularly in foreign trade. This led to the rapid development of containerization, multimodal transport system and dry port network that reduce cost (Yusuf, 2009).

What so ever the service provider is, be it governmental or private sector, the key for its existence and success lie in its ability to provide effective service and satisfying the customer. It is the quality of service that creates customers who buy more and who influence others to buy.

A business can achieve success only by understanding and fulfilling the needs of customers. From a total quality perspective, all strategic decisions a company makes are 'customer-driven'. In other words, the firm should constantly assess and controls sensitivity to emerging customer and market requirements. According to the study by Collart (2000), one of the determinants of success of a firm is how the customers perceive the resulting service quality, as this is the key driver of perceived value. It is the perceived value which determines customer satisfaction. Many firms including port industries begin to track their customers' satisfaction through measuring their level of service quality perceived by their customers. Several studies have been done on service quality and customer satisfaction in service organization in Ethiopia. However, most of these studies were conducted on service organizations such as bank, airlines, hotel etc. There is lack of literature concerning customer service quality of dry port organizations in Ethiopia. In various performance report and discussion forum concerning Ethiopian dry port services, there are a number of complaints on the service delivery system of dry port services. This means that quality of service supplied by Ethiopian dry ports is not fulfilling customers' wants consistently. As Annual Progress Report for F.Y. 2011/12 GTP pointed out that due to limited institutional capacity to manage logistics, delay in implementation of management information system of Ethiopian dry port including custom clearance procedure causing slow customer services which in turn creates suffocation and lack of space for incoming cargos were a major challenges in the fiscal year under review (MoFED, 2013).

A number of reasons are behind these customer discontents. Whatever the reasons may be, once the customer is dissatisfied, it would have negative consequence on selling price of general public. In this regard, a research should be carried out to urge a major reform, to assesses the root causes of the problem and get the problem rectified. This study aims to examine the gap between customers' expectations and perceptions of Mekelle dry port service in Ethiopia using the SERVQUAL model (Gap Model).

1.3. Research Questions

The basic question of the research was to assess the level of customer satisfaction in Mekelle Dry Port? In order to analyze this basic question the researcher formulates the following sub questions.

1. What is the perceived level of service quality provided by the Mekelle dry port?
2. Does the five service quality dimensions sufficiently explain the overall service quality in Mekelle dry port?
3. What is the dominant service quality dimension that has strong relation with customer satisfaction in Mekelle dry port?
4. How is the importance of five service quality dimensions ranked by Mekelle dry port customers?
5. What strategy should be evolved to improve the service quality of Mekelle dry port?

1.4. Objectives of the study

1.4.1. General objectives:

The main objective of this study is to assess service quality at Mekelle dry port using the five dimensions of SERVQUAL model and its subsequent effect on customer satisfaction. In so doing, it aims to identify gaps in delivering service quality in order to ensure customer satisfaction.

1.4.2. Specific objectives:

The specific objectives of the study are:

1. To examine the perceived level of quality and customer satisfaction of the dry port service provided to customers by Mekelle dry port,
2. To evaluate that the Five service quality Dimensions are sufficiently explained overall service quality in dry port service of Mekelle dry port
3. To identify the dominant service quality dimension that has strong relation with customer satisfaction by Mekelle dry port's customers.
4. To assess the level of importance ranked to each of the five dimensions of service quality by Mekelle dry port's customers.
5. To evolve strategy that would improve the service quality of Mekelle dry port.

1.5. Significance of the study

The study would help managers of Mekele dry port to consider the level of service quality as per point view of customers so that based upon customer feedbacks the managers might be design the operation and their procedure in such way that would be help to improve the service quality of the port. In addition to these further researches would be undertaken considering this study as initial effort of literature.

1.6. Scope of the study

This will be delimited to assess the service quality of Mekelle dry port and terminal from its customers' perception on service quality for the year 2017. The research is delimited geographically on the Mekelle dry port and terminal service quality because this port is relatively new.

1.7. Limitation of the Study

It might need to conduct comprehensive and detail study of service quality in all branches of dry ports of Ethiopia by taking large sample. However, due to finance and time constraints the study area is limited to Mekelle Dry Port. SERVQUAL model which has weak points both theoretically and operationally can also be seen as a limitation. Besides to these, there are not as such literature sources on dry port; even studies on sea port are limiting.

1.8. Organization of the study

The research is organized into five chapters. The first chapter deals with the introductory part which covers the background of the study, research problem, basic research questions, objectives of the study, definition of terms, scope of the study, limitation of the study and organization of the study will be presented. Chapter 2 will present review of both theoretical and empirical literature on determinants the service quality of dry port subsequently; methods of the study will be presented in Chapter 3. Then, Chapter 4 will summarize and discuss the finding of the study. Finally, on chapter 5, the main findings of the study will be summarized and conclusions will be drawn and appropriate recommendations and policy implications will be forwarded.

1.9. Definition of Terms

Dry Port:- A common user facility with public authority status, equipped with fixed installations and offering services for handling and temporary storage of any kind of goods carried under custom transit by any applicable mode of transport, placed under customs control and with customs and other agencies competent to clear goods for home use, warehousing, temporary admission, re-export, temporary storage for onward transit and outright export (UNCTAD, 1991).

Quality*:-* is a perceptual, conditional, and somewhat subjective attribute and may be understood differently by different people (Wicks and Roethlein, 2009).

Satisfaction*:-* is personal feeling of pleasure or disappointment resulting from comparing a

product's performance (outcome) in relation to his/her expectation" (Kotler and Kevin, 2006).

Customer:- is commonly used to refer to end-user of a product or a service. *"Customer is a generic term referring to anybody who receives a service or a product from some other person or group of people"* (Hayes, 1997). In the case of Mekelle dry port, customers or users of service are importers of goods, freight forwarders and custom clearing agents (ELSE, 2014).

CHAPTER TWO

2. RELATED LITERATURE REVIEW

In this chapter various literature related to concept of service, service quality, dry port service, model of service quality, customer satisfaction, and relationship of service quality and satisfaction have been be addressed. The literature has tried to assess the model to measure service quality, SERVQUAL (Gap analysis = P-E). Lastly conceptual framework has been displayed so as to clear the idea of research area.

2.1. Theoretical Literature Review

In this section, the researcher review relevant literature connected to the study topic. This will involve bringing up the theories that the researcher is using in this study. The researcher discusses issues on service quality and customer satisfaction and defines relevant concepts in order to enhance our understanding of the topic and provide answers to the research questions. Summarily, this theoretical review will enable the researcher build a conceptual model that will be the road map for the present study.

2.1.1. Service Concept

A study carried out by Johns, (1998) points out that the word ‘service’ has many meanings which lead to some confusion in the way the concept is defined in management literature, service could mean an industry, a performance, an output or offering or a process. He further argues that services are mostly described as ‘intangible’ and their output viewed as an activity rather than a tangible object which is not clear because some service outputs have some substantial tangible components like physical facilities, equipment and personnel. This is because, according to (Gummesson, 1994), a service design which details a service, service system and the service delivery process must consider customers, staff, technology, the physical environment, and the consumption goods. In summary, it is eminent for service firms to consider the physical aspects of quality in order to offer high service quality.

In a study carried out by (Gummesson, 1994), he identified three management paradigms; manufacturing paradigm which focuses on goods and mainly concerned with productivity technical standards, the bureaucratic-legal paradigm used mainly in the public sector is more concerned with regulations and rituals before end results. Thirdly, the service paradigm mainly focuses on service management particularly in the marketing area and stresses the importance of customer interaction with service provider in delivering service and creating value. In his study, he lays emphasis on the service paradigm pointing out that, there has been a shift from

the goods-focused to service-focused management due to automation of manufacturing and the introduction of electronics and technology. He sees service marketing moving from a normal marketing mix (focused on solely on price, product, promo and place) to relationship marketing where people, process and physical evidence adding to the 4 'P' (product, price, promotion and place) play a role in increasing an interactive relationship between service provider and consumer and long term profitability and customer satisfaction. The current study investigates at intangible services in dry port and terminals from the customer's perspective. From the customer's perspective that service can be considered as an experience whereby the customer is expected to make choice to satisfy needs in an emotional way through the interaction with service provider.

Service experience is defined by John, (1998) as the balance between choice and perceived control which depends upon the relative competences of customer and service provider (that is to make the choice or to exert control). Aspects of service experience include core benefit, performance, approaching the service, departing from it, interacting with other customers and the environment in which the service transaction takes place (services cape), and Service interaction involves interpersonal attentiveness from the service personnel who are to provide core services and this contributes to customer satisfaction with the service offered.

2.1.2. Quality Concept

According to Hardie and Walsh, (1993); Sower and Fair, (2005); Wicks and Roethlein, (2009), quality has many different definitions and there is no universally acceptable definition of quality They claim it is because of the elusive nature of the concept from different perspectives and orientations and the measures applied in a particular context by the person defining it. In current study, quality defined in the context of dry port and terminals and focus on various dimensions of service. This therefore means the definition of quality varies between manufacturing and services industries and between academicians and practitioners. These variations are caused by the intangible nature of its components since it makes it very difficult to evaluate quality which cannot be assessed physical implying other ways must be outlined in order to measure this quality.

Quality has been considered as being an attribute of an entity (as in property and character), a peculiar and essential character of a product or a person (as in nature and capacity), a degree of excellence (as in grade) and as a social status (as in rank and aristocracy) and in order to control and improve its dimensions it must first be defined and measured (Ghylin *et al.,* 2008).

Some definitions of quality pointed out by Hardie and Walsh (1994) include; "Quality is product performance which results in customer satisfaction freedom from product deficiencies, which avoids customer dissatisfaction" – (Juran, 1985) "Quality is the extent to which the customers or users believe the product or service surpasses their needs and expectations" – (Gitlow *et al.,* 1989) "Quality: the totality of features and characteristics of a product that bear on its ability to satisfy stated or implied needs"– International Standards Organization (ISO). "Quality is the total composite product and service characteristics of marketing, engineering, manufacture and maintenance through which the product in use will meet the expectations of the customer" (Feigenbaum, 1986)

Quality is anything which can be improved (Imai, 1986); Quality is the loss a product causes to society after being shipped (Taguchi, 1986). We must define quality as "conformance to requirement (Crosby, 1979). Quality is the degree or grade of excellence etc. possessed by a thing (Oxford English Dictionary).

2.1.3. Service quality Concept

Service quality is considered an important tool for a firm's struggle to differentiate itself from its competitors (Ladhari, 2008). The relevance of service quality to companies is emphasized here especially the fact that it offers a competitive advantage to companies that strive to improve it and hence bring customer satisfaction.

Service quality has received a great deal of attention from both academicians and practitioners (Negi, 2009) and services marketing literature service quality is defined as the overall assessment of a service by the customer (Eshghi *et al.,* 2008). Ghylin *et al.,* (2008) points out that, by defining service quality, companies will be able to deliver services with higher quality level presumably resulting in increased customer satisfaction. Understanding service quality must involve acknowledging the characteristics of service which are intangibility, heterogeneity and inseparability, (Parasuraman *et al.,* 1985); (Ladhari, 2008). In that way, service quality would be easily measured. In this study, service quality can be defined as the difference between customer's expectation for service performance prior to the service encounter and their perception of the service received. Customer's expectation serves as a foundation for evaluating service quality because, quality is high when performance exceeds expectation and quality is low when performance does not meet their expectation (Asubonteng *et al.,* (1996). Expectation is viewed in service quality literature as desires or wants of consumer i.e., what they feel a service provider should offer rather than would offer (Parasuraman *et al.,* 1988). Perceived service is the outcome of the consumer's view of the service dimensions, which are both

technical and functional in nature (Gronroos, 1982). The customer's total perception of a service is based on his/her perception of the outcome and the process; the outcome is either value added or quality and the process is the role undertaken by the customer (Edvardsson, 1998). Parasuraman *et al.,* (1988) define perceived quality as a form of attitude, related but not equal to satisfaction, and results from a consumption of expectations with perceptions of performance. Therefore, having a better understanding of customer attitudes will help know how they perceive service quality in dry port and terminal.

2.1.4. Customer Satisfaction

Different definition of satisfaction has been given by several authors. "Satisfaction is a consumer's post purchase evaluation of the overall service experience (process and outcome). It is an affective (emotion) state of feeling reaction in which the consumer's needs desires and expectations during the course of the service experiences have been met or exceeded" (Hunt, 1977). "Satisfaction is a post choice evaluation judgment concerning a specific purchase decision, on the other way it can be approximated by the equation: satisfaction = perception of performance – expectations" (Oliver and Richard, 1980).

"Satisfaction is a summary, affective and variable intensity response centred on specific aspects of acquisition and/or consumption and which takes place at the precise moment when the individual evaluates the objectives" (Giese and Cote, 2000).

Zeithaml *et al*., (1990) defined satisfaction as an overall judgment, perception or attitude on the superiority of service. The judgment is based on the discrepancy between expectations and actual experiences of customer.

Rust and Oliver (1994) defined satisfaction as "the customer's fulfilment response which is an evaluation as well as an emotion-based response to a service." Customer satisfaction is "a collective outcome of perception, evaluation, and psychological reaction to the consumption expectation with a product or services" (Yi, 1990). Kotler (2000) defined satisfaction as "a person's feelings of pleasure or disappointment resulting from comparing product's perceived performance or outcome in relation to his or her expectations."

According to Hansemark and Albinson (2004) satisfaction is "an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfilments of some needs, goals or desire." Satisfaction is "merely the result of things not going wrong; satisfying the needs and desires of consumers" (Besterfield, 1994).

2.1.5. Dry Ports in East Africa

Mombasa and Dares Salaam Sea ports found in Kenya and Tanzania respectively are the current gateways to East Africa from the Indian Ocean, although a third Sea port in Lamu (Kenya) is under construction by China Communications construction Company in a deal worth $478.9million to directly link the coast, Kenya, Ethiopia and Southern Sudan. Traditionally, dry ports development and expansion was linked to economic growth and increase in volume of trade. The growth in the volume of trade turned such regions or places into the centers of attraction (Grishi, 2010).Key South East Asian ports like Singapore, Hong Kong, Mumbai and Shanghai are a classic example. Continuous rise in trade resulted in a rapid rise in demand for port services, of which failure to meet capacity needs created inefficiency and operational bottlenecks. Challenges to expansion in original sea ports included limited land or high cost of land, together with the high cost of relocating people and compensations for the destroyed property to pave way for port expansion. Many nations beginning with the most developed and industrialized established dry ports as a solution. Although East Africa lags behind Europe and Asia, in terms of volume of trade and port development, it has not been an exception to the above assertion. For example, according to the China State Council's Information office white paper (2013), between 2000 and 2013, trade volume between China's and Africa increased rapidly from about $10.5Bn to $200Bn.This increase in trade together with impressive economic growth figures averaging 5% perannum in the region impacted on the operations of ports because of a sharp rise in cargo (containers) and rise in demand for port related services.

2.1.6. Dry port in Ethiopia

As one of the landlocked developing countries Ethiopia continuously face the challenge of physical isolation, supply chain related barriers from the sea and the high costs of trading with the rest of the world (UNECA, 2011). In order to counter these challenges associated with landlockedness, Ethiopia established several dry port to take the advantage of dry port.

The Economic Commission for Africa has undertaken a feasibility study that could see the construction of more dry ports in Ethiopia. Ethiopia started developing dry ports following a 2007 study by the Ministry of Transport & Communication, which suggested that the country could save foreign currency from seaport expenses at Djibouti, by building an inland port within the country. Such ports handle the customs inspections, documentation of cargo and packaging for import and export.

2.2. Empirical Literature Review

2.2.1. Benefits of measuring service quality

According to Parasuraman *et al.,* (1997) and Ham *et al.,* (2003), information on service quality gaps can help managers to diagnose where performance improvement can best be targeted. It is important to understand and measure customer's expectations in order to identify any gaps in delivering services with quality that could ensure satisfaction, Negi, (2009). Identifying the largest negative gaps, combined with assessment of where expectations are highest, facilitates prioritization of performance improvement. Equally, positive gap scores will imply expectations are not just being met but exceeded. This information will allow managers to review whether they may be "over-supplying" this particular feature of the service and whether there is potential for re-deployment of resources into features which are underperforming (Shahin, 2008).

2.2.2. Models of Service Quality

To measure quality of service various researches have been tried to develop quality measurement models in the light of the changed business scenario and analyze the models for the suitability/need for modification in the current context (Nitin and Deshmukh, 2004). Thus in this research brief explanations of major models have been given in the following manner:

2.2.2.1 Technical and functional quality model (Gronroos, 1984)

A firm in order to compete successfully must have an understanding of consumer perception of the quality and the way service quality is influenced. Managing perceived service quality means that the firm has to match the expected service and perceived service to each other so that consumer satisfaction is achieved. The author identified three components of service quality, namely: technical quality; functional quality; and image.

2.2.2.2 GAP model (Parasuraman *et al.*, 1985)

Parasuraman *et al.,* (1985) proposed that service quality is a function of the differences between expectation and performance along the quality dimensions. They developed a service quality model based on gap analysis.

2.2.2.3 Attribute service quality model (Haywood-Farmer, 1988)

This model states that a service organization has 'high quality' if it meets customer preferences and expectations consistently. In general, services have three basic attributes: physical facilities and processes; people's behaviour; and professional judgment. Too much

concentration on any one of these elements to the exclusion of other may be appropriate it may lead to disaster.

2.2.2.4 Synthesized model of service quality (Brogowicz *et al.,* 1990)

A service quality gap may exist even when a customer has not yet experienced the service but learned through word of mouth, advertising or through other media communications. Thus there is a need to incorporate potential customers' perceptions of service quality offered as well as actual customers' perceptions of service quality experienced.

2.2.2.5 Performance only model (Cronin and Taylor, 1992)

The authors investigated the conceptualization and measurement of service quality and its relationship with consumer satisfaction and purchase intentions. They compared computed difference scores with perception to conclude that perceptions only are better predictor of service quality. They developed SERVPEF that is service quality is evaluated by perceptions only without expectations.

2.2.2.6 IT alignment model (Berkley and Gupta, 1994)

This model links the service and the information strategies of the organization. It describes in detail where IT had been used or could be used to improve specific service quality dimensions including reliability, responsiveness, competence, access, communications, and security, understanding and knowing the customers. According to the model, it is important that service quality and information system (IS) strategies must be tightly coordinated and aligned.

2.2.2.7 Attribute and overall affect model (Dabholkar, 1996)

The author proposed two alternative models of service quality for technology-based self-service options. The attribute model based on cognitive approach to decision making, where consumers would use a compensatory process to evaluate attributes associated with the technology based self service option in order to form expectations of service quality. The overall affect model is based on an affective approach to decision making where consumers would use overall predispositions to form expectation self-service quality for a technology-based self-service option.

2.2.2.8 PCP attribute model (Philip and Hazlett, 1997)

The authors propose a model that takes the form of a hierarchical structure – based on three main classes of attributes – pivotal (outputs), core and peripheral (jointly representing inputs and processes). According to the model, every service consists of three, overlapping, areas

where the vast majority of the dimensions and concepts which have thus far been used to define service quality. When a consumer makes an evaluation of any service encounter, he is satisfied if the pivotal attributes are achieved, but as the service is used more frequently the core and peripheral attributes may began to gain importance.

2.2.2.9 Service quality, customer value and customer satisfaction model (Oh, 1999)

The author proposed an integrative model of service quality, customer value and customer satisfaction. The model provides evidence that customer value has a significant role in customer's post-purchase decision-making process. It is an immediate antecedent to customer satisfaction and repurchases intentions.

2.2.2.10 Internal service quality model (Frost and Kumar, 2000)

The authors have developed an internal service quality model based on the concept of GAP model. The model evaluated the dimensions, and their relationships, that determine service quality among internal customers (front-line staff) and internal suppliers (support staff) within a large service organization. The gap is based on the difference between front-line staff's expectations and perceptions of support staff's (internal supplier) service quality.

2.2.2.11 Model of e-service quality (Santos, 2003)

Service quality is one of the key factors in determining the success or failure of electronic commerce. It is proposed that e-service quality have incubative (proper design of a web site, how technology is used to provide consumers with easy access, understanding and attractions of a web site) and active dimensions (good support, fast speed, and attentive maintenance that a web site can provide to its customers) for increasing hit rates, stickiness, and customer retention.

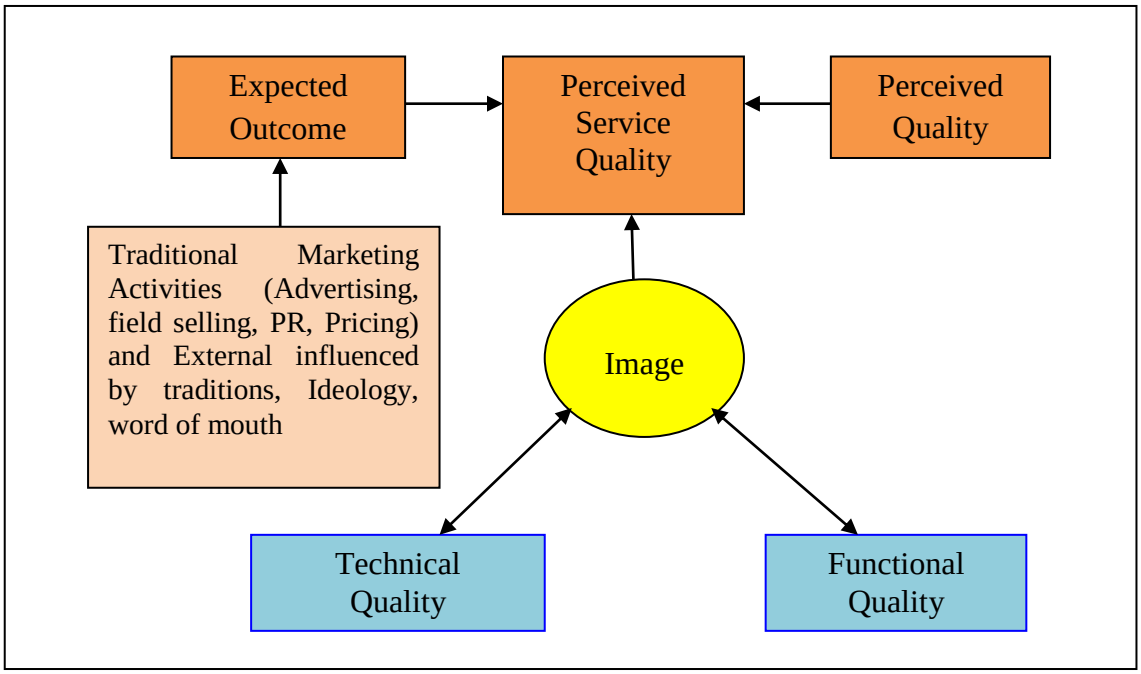
Since the study depends on two models are selected in this research to demonstrate their content: Technical and Functional Quality Model (Gronroos, 1984) and the Gap Model (Parasuraman *et al.,* 1985) since both are used to measure service quality and to establish relationship between service qualities with customer.

2.2.3. Technical and functional quality model

In line with the disconfirmation paradigm, Gronroos(1984) developed a model in which he stressed that consumers compare the service as experienced with the service as expected in evaluating service quality. Gronroos' model attempts to capture how the quality of a given service is perceived by customers. In addition to this, it divides the customer's experience of

any particular service into two dimensions: technical quality (i.e. what the consumer receives or the technical outcome of the service delivery process) and functional quality (i.e. how the consumer receives that technical outcome). Gronroos proposed that, in the context of services, functional quality is generally perceived to be more important than technical quality, assuming that the service is provided at a technically satisfactory level. Gronroos Model of Service Quality has been depicted in figure 1.

Figure 1 Gronroos Model of Service Quality



Source: Gronroos (1984)

Good perceived quality is obtained when the experienced quality meets the expectations of the customer; that is the expected quality. The level of perceived quality is not determined simply by the level of technical quality and functional quality, but rather by the gap between the expected and experienced quality. Consequently, every quality program should involve not only those involved in operations, but also those responsible for marketing and communications. Gronroos's model is important because it reminds us that service quality must include the manner in which it is delivered.

2.2.4. Gap model

The GAP model was proposed by Parasuraman *et al.,* (1985). The model presupposes that that service quality is the differences between expectation and performance relating to quality dimensions. These differences are referred to as gaps. The gaps model (figure 2) conceptualises five gaps which are:

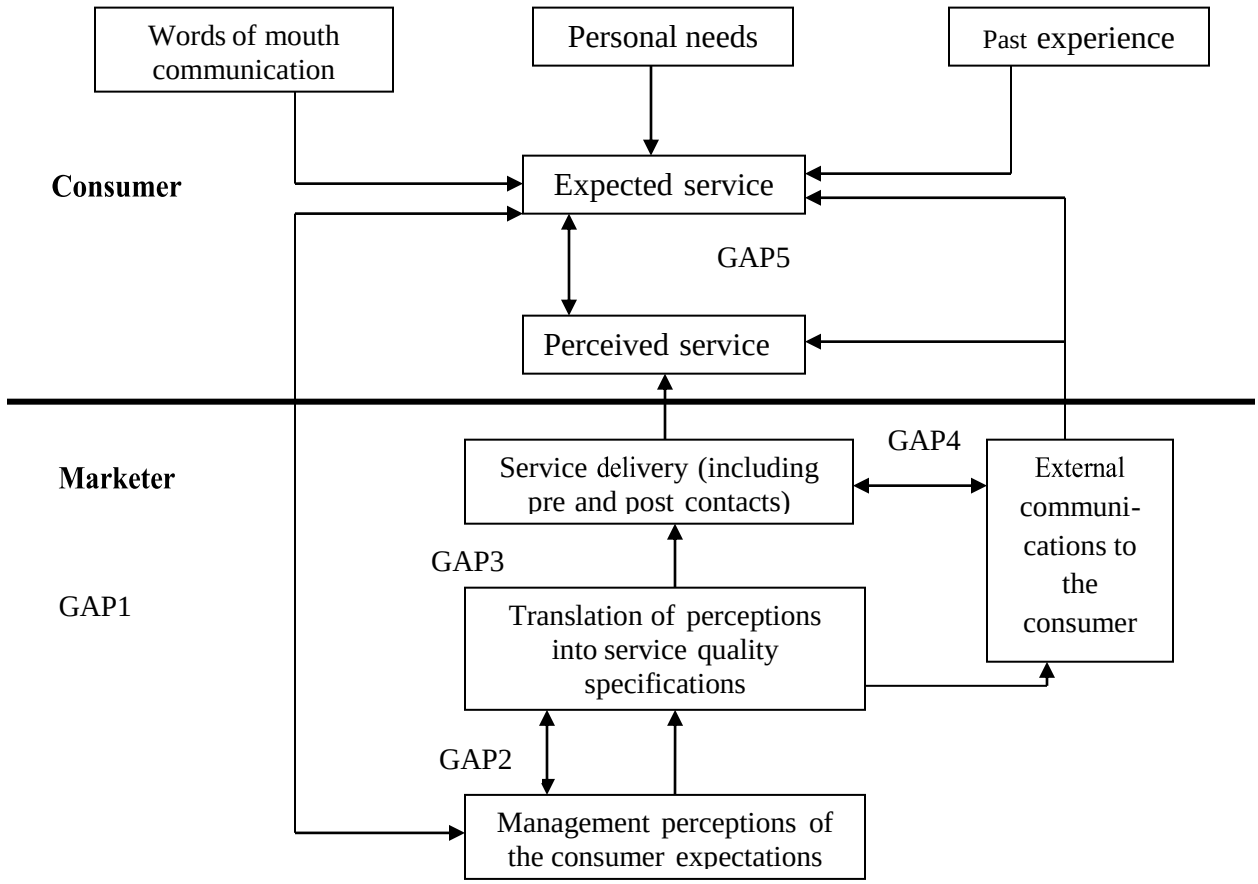
- Gap 1: Difference between consumers' expectation and management's perceptions of those expectations, i.e. not knowing what consumers expect.
- Gap 2: Difference between management's perceptions of consumer's expectations and service quality specifications, i.e. improper service-quality standards.
- Gap 3: Difference between service quality specifications and service actually delivered i.e. the service performance gap.
- Gap 4: Difference between service delivery and the communications to consumers about service delivery, i.e. whether promises match delivery?
- Gap 5: Difference between consumer's expectation and perceived service. This gap depends on size and direction of the four gaps associated with the delivery of service quality on the marketer's side.

According to this model, the service quality is a function of perception and expectations and can be modelled as:

$$SQ = \Sigma_{k\ j=1}(P_{ij}-E_{ij})$$

Where: SQ = overall service quality; k = number of attributes.
P_{ij} = Performance perception of stimulus i with respect to attribute j.
E_{ij} =Service quality expectation for attribute j that is the relevant norm for stimulus i.

Figure 2 The Gap Model of Service Quality



Source: Parasuraman *et al.*, (1985)

So as to measure customer satisfaction with respect to different aspects of service quality and to overcome problems that are created as a result of the gap between management and customers, a survey instrument was developed by Parasuraman *et al.,* (1988). The instrument is called SERVQUAL. The basic assumption of the measurement was that customers can evaluate a firm's service quality by comparing their perceptions with their experience. Normally, it is designed to measure service quality as perceived by the customer.

The concept of measuring the difference between expectations and perceptions in the form of the SERVQUAL gap score proved very useful for assessing levels of service quality. Parasuraman et al., argue that, with minor modification, SERVQUAL can be adapted to any service organization. They further argue that skills of SERVQUAL (Gap model) used to identify diagnose where performance improvement can best be targeted. Therefore, in this research with some minor modification on SERVQUAL, it tried to apply to Mekelle dry port service quality.

Based on their study Parasuraman *et al.,* (1985) identified ten key determinants of service quality. They are: Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Understanding the customer, and Tangibles.

In their work, Parasuraman *et al.,* (1988) discovered an instrument for measuring consumers' perception of service quality, after that it became known as SERVQUAL. They prepared a quantitative research and the previous 10 components were collapsed into 5 dimensions:-

1. **Reliability**: is ability to perform the promised service dependably and accurately.
2. **Responsiveness**: willingness/readiness of employee or professionals to provide service.
3. **Assurance**: knowledge and competence of service providers and the ability to convey trust and confidence.
4. **Empathy**: Caring, individualized attention the firm provides to its customers.
5. **Tangibles**: Physical facilities, equipments and appearance of personnel. Reliability, tangibles and responsiveness remained distinct, but the remaining seven components collapsed into two aggregate dimensions, assurance and empathy (Andersson, 1992).

2.2.5. The Relationship between Satisfaction and Service Quality

In order to achieve a high level of customer satisfaction, majority of researchers suggest that a high level of service quality should be delivered by the service provider as service quality is normally considered an antecedent of customer satisfaction (Cronin *et al.,* 2000; and Taylor,

1992). Nevertheless, the exact relationship between satisfaction and service quality has been described as a complex issue, characterized by debate regarding the distinction between the two constructs and the casual direction of their relationship (Brady *et al.,* 2002). Parasuraman *et al.,* (1994) concluded that the confusion surrounding the distinction between the two constructs was partly attributed to practitioners and the popular press using the terms interchangeable, which make theoretical distinctions difficult.

As to delineate the role of service quality and satisfaction have varied considerably. Parasuraman *et al.,* (1988) confined satisfaction to relate to a specific transaction as service quality was defined as an attitude. This meant that perceived service quality was a global judgment, or attitude, relating to the superiority of the service

Fen and Lian (2005) found that both service quality and satisfaction have a positive effect on customer's re-patronage intentions showing that both service quality and customer satisfaction have a crucial role to play in the success and survival of any business in the competitive market. This study proved a close link between service quality and customer satisfaction.

As Chingang and Lukong (2010) quoted from Su *et al.,* (2002) carried a study to find out the link between service quality and customer satisfaction, from their study, they came up with the conclusion that, there exist a great dependency between both constructs and that an increase in one is likely to lead to an increase in another. Also, they pointed out that service quality is more abstract than customer satisfaction because, customer satisfaction reflects the customer's feelings about many encounters and experiences with service firm while service quality may be affected by perceptions of value (benefit relative to cost) or by the experiences of others that may not be as good.

2.3. Conceptual Framework

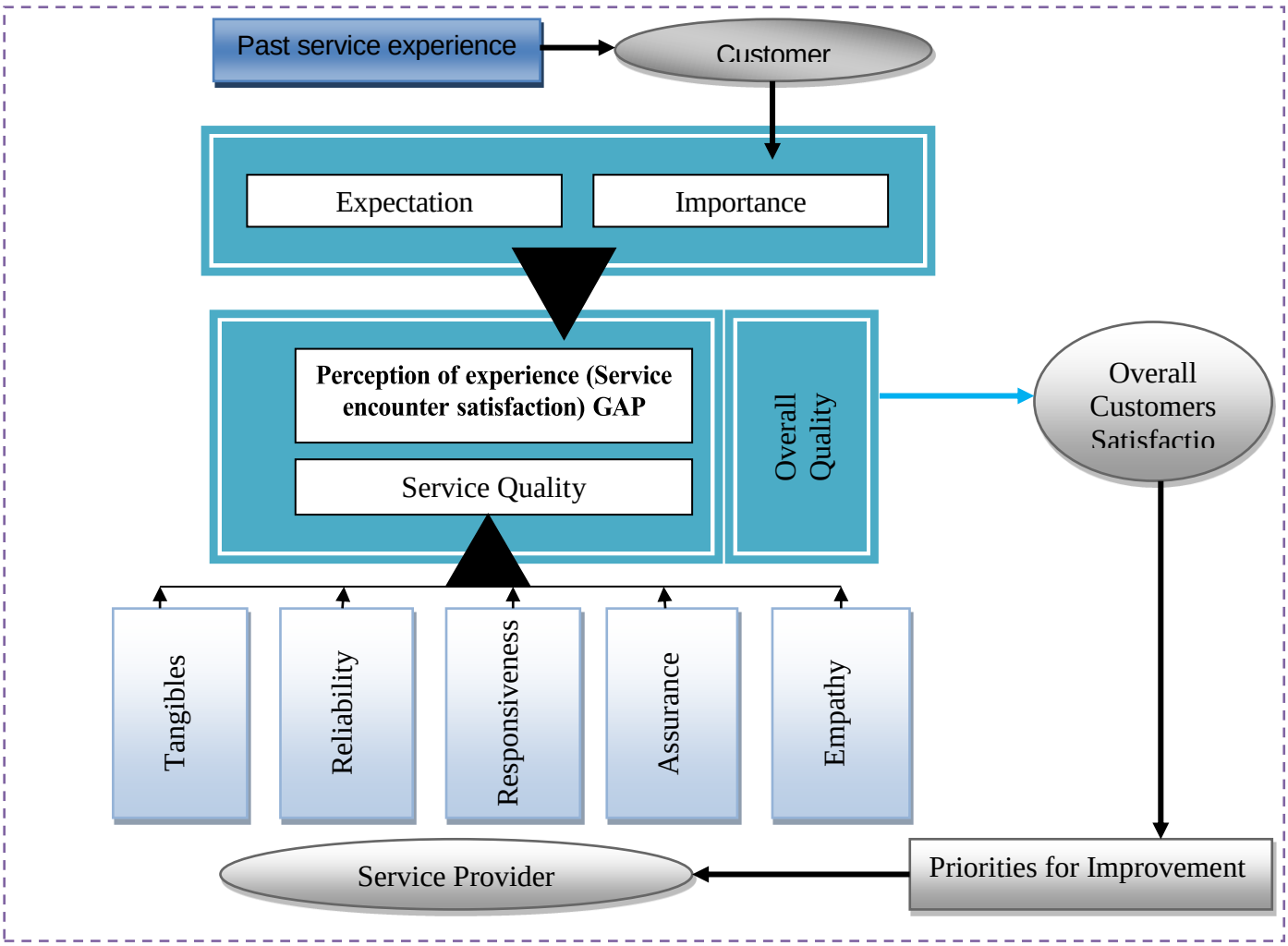
The conceptual framework shows the crucial process, which is useful to show the direction of the study. The study shows the relationship between the five service quality dimensions (tangible, reliability, responsiveness, assurance and empathy) and customer satisfaction. Also the study focuses on gap 5 which represents the difference between customers' expectation and perceptions which is referred to as the perceived service quality.

In order to develop common measures, it is useful to first identify the primary elements of the service delivery process and the impact these factors have on client satisfaction. The internal (employee and management) and external (Customers and stakeholders) variables of the service delivery process that should be measured are:

1. Customers expectations
2. Perceptions of service experience
3. Level of importance
4. Service quality
5. Level of satisfaction and
6. Priorities for improvement

In order to build upon these five service elements as a foundation for the common measurement tools, a conceptual model of their relationships has been developed by Schmidt, and Strickland, (1998) The conceptual model guiding the investigation is depicted in figure below, adapted from (Schmidt and Strickland, 1998) by the author.

Figure 3 Conceptual Framework of the Research



The difference between expectations and perceptions is called the gap which is the determinant of customers' perception of service quality.

2.4. Identified Literature Gap

Measuring service quality has been one of the most recurrent topics in management literature. This is because of the need to develop valid instruments for the systematic evaluation of firms'

performance from the customer point of view; and the association between perceived service quality and other key organizational outcomes. Specifically, the importance of service quality is seen in the effect that it has on the customer satisfaction. Thus, business organizations are required to improve their service quality for long term customer retention.

However, there are debates about the causal relationship between customer satisfaction and service quality. Specifically, there are three major positions about this relationship in the literature (Brady *et al.*, 2002). First, as indicated above, service quality is described as an antecedent to customer satisfaction (Naik *et al.*, 2010; Olorunniwo *et al.*, 2006). Second, some researchers suggest that customer satisfaction is the cause of service quality (Bitner, 1990). The third position of the service quality- satisfaction relationship argues that neither satisfaction nor service quality may be antecedent to the other (Dabbolkar, 1995; McAlexander *et al.*, 1994). In general, although there is the lack of consensus about the conceptualization of the service quality- satisfaction relationship, service quality is an antecedent to customer satisfaction is considered as dominant position in recent research, especially in service context industry like dry ports.

In this study, the researcher is more interested in service quality and customer satisfaction by using the SERVQUAL model to assess them in dry port.

CHAPTER THREE
3. RESEARCH DESIGN AND METHODS

This chapter tries to highlight the overall methodological considerations of the thesis. This includes description of the study area, the research design, sample size and sampling technique, source and tools/instruments of data collection, procedure of data collection, methods of data analysis, validity and reliability and finally ethics issue.

3.1. Description of the Study Area

The current study was conducted at the Mekelle dry port. Ethiopian Dry Port Service Enterprise (DPSE) is setting up, additional dry ports in Mekelle and Dire Dawa, to ease congestion at the Modjo and Semera Dry Port in 2012. The Enterprise picked Mekelle as additional dry port because Mekelle is becoming an industrial city with growing cargo flow from time to time.

The DPSE has rented a 1,500sqm space from the Mekelle city administration and according to regulation no 136/2007, DPSE is mandated to manage the operation of dry ports and to give the following services:

- To load, unload, and store imported goods, and goods for export;
- To containerize import and export goods, and to unload goods from containers;
- To provide container handling service and storage space;
- To implement tasks commensurate with the objectives of the enterprise.

The Mekelle dry port is established aims to provide effective and efficient foreign trade cargo movement to and from the seaports, to promote competitiveness of the Ethiopian international trade through reduced corridor costs and save foreign exchange for country.

3.2. Research Design

The Research design can be thought of as the logic or master plan of a research that throws light on how the study is conducted. It shows how all of the major parts of the research are done. The current study Design is non-experimental, survey type, descriptive and explanatory research. The study was utilized quantitative design to give answer for the research question. Close ended questionnaires were used for collecting quantitative data.

3.3. Sampling techniques and sampling procedures

The total population for the current study was customers of Mekelle dry port. Therefore, samples were drawn from the population groups. The exact number of customers at Mekelle

dry port is not yet identified at this stage. Therefore, the sample size in this study was determined based on the formula derived from the binomial theorem (Levin 2005). Thus, the minimum sample size, n for a given confidence level and precision is calculated as:

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

Where:
n= size of sample=?
Z= Z value (Z score)=2.005
p = anticipated proportion of successes=0.02
q =1–*p*
e = acceptable error (the precision)=0.025

Therefore, the researcher employed the above formula and value:

$$n = \frac{(2.005)^2 \times 0.02(1 - 0.02)}{(0.025)^2} = 126.07$$

Thus, 126 sample customers were selected in a simple random sampling method taken one week customer's of Mekelle dry port as survey sample.

3.4. Source and Instruments of Data Collection

Data were collected from both primary and secondary sources. Primary data were collected from customers through questionnaire. In addition to the primary sources of data, the researcher were also utilized secondary data related to the service delivery quality of Mekelle port and terminal and it were collected from company publication and reports.

Data collection is done via a survey method where SERVQUAL instrument is used to record opinions of respondents about the quality of service they receive in Mekelle dry port. In this research the original SERVQUAL model of Parasuraman *et al.*, (1985), (five dimensions, namely Tangibles, Reliability, Responsiveness, Assurance and Empathy) are used.

The original SERVQUAL model has 22 statements, however slightly modification has been done due to the fact that port service and dry port service has peculiar nature in measuring quality service with perspective of customers. So that the researcher using measurement items from Murphy *et al.,* (1992) and Scott and Shieff, (1993) as well as through exchanging ideas with focus group of senior experts of Mekelle dry port, the researcher had made slight modification from SERVQUAL model so that for this study 25 items had been selected for five dimensions: Tangibles, Reliability, Responsiveness, Assurance and Empathy. Therefore, to assess the gap between customers' expectations and perceptions this study is based on the

modified SERVQUAL model which is assumed to contain the five dimensions with 25 statements as depicted in Appendix A. The respondents are asked to rate all 25 statements each on how much their expectation level to rate it with five point Likert scale in the following manner: 'much worse than expected', 'worse than expected', 'equal to expected', 'better than expected' and 'much better than expected'. Five different scores were assigned: 1, 2, 3, 4, 5, to represent this five-point scale. Hence satisfied customers must have received perceptions equal to or more than expectations. So the hypothesized test value in this study is 3 and it can split customers into satisfied and unsatisfied customers and the null and alternative hypotheses can be specified as below.

Null hypothesis Ho: $\mu = 3$

Alternative hypothesis Ha: $\mu \neq 3$

Likewise the relative importance of each of the five dimensions with respect to Mekelle dry port constituting the SERVQUAL scale using with five point Likert scale in the following manner: 'Not at all Important', 'Not Important', 'Neither Important nor Unimportant', 'Important' and 'Very Important'. Five different scores were assigned: 1, 2, 3, 4, 5, to represent this five-point scale.

The original SERVQUAL question was translated form English to Tigrigna in order to avoid the language barrier.

The data collection tools employed close ended questionnaire. The questionnaire has three parts. The first part of the questionnaire is about the demographic characteristics of respondents. The second section designed to measure how much customers' expectation level about Mekelle dry port service delivery system. And third part about customers' level of importance of five dimensions measurement (Appendix A).

3.5. Procedure of Data Collection

As explained above, the study was used both primary and secondary data sources. In order to know about dry port industry, first, secondary data sources of detailed reviews of related literature have been done. For this purpose the researcher used study documents, manuals, plan and report documents of ESLSE and MoFED, articles and related materials. This enabled the preparation of a draft questionnaire which was submitted to my supervisor for comments. So that closed ended questionnaires was developed and based on the advisory comments and pilot survey, the questionnaire were amended and interpreted in to Tigrigna before distribution. Then samples were drawn, the questionnaires were distributed to

customers of Mekelle dry port to gather primary data. After the result of pilot test, actual data are collected from Mekelle dry port by spent one week. Accordingly the final questionnaire was distributed to 126 customers and 105 of them was completely filled and returned.

3.6. Methods of Data Analysis

In this study quantitative data analysis is employed. That means data obtained through the close-ended questionnaire is analyzed quantitatively. After collecting data through questionnaire the following steps is followed in analyzing the data. Primarily, responses of the questionnaire is entered into SPSS version 20. Then, descriptive and inferential statistics values such as frequency, percentage, mean, standard deviation, and t-test which used to determine the quality service dimensions significance and also the relationship of quality service dimensions and satisfaction of customers. Finally, the results were summarized into tables and descriptions so that the analysis and meaningful interpretation of results was made to draw conclusions and implications.

3.7. Validity and Reliability

Validity means the validity of the results, i.e. how well the questions measure the matters chosen to be studied (Webropol, 2011). The content validity of the instrument for the present study ensured as the service quality dimensions and items would be identified from the literature and from similar thesis works. Researcher has also carried out pilot testing study to see whether the questionnaires can obtain the results which the researcher required to meet his objectives. Researcher did several methods to conduct pilot testing:

- Researcher requested professional executives in the field of port and professor to review the questionnaires and if there are any ambiguities which researcher hasn't noticed.
- Researcher sent out a number of questionnaires to the types of customer which used port service who will be taking part in the main survey.

Reliability tells about stability of the results i.e. how accurately the study or measuring has been carried out (Webropol, 2011). Reliability refers to whether a measurement instrument is able to yield consistent results each time it is applied.

In this regard in this study Alpha reliability is taken as a measure of internal consistency of the mean of the items at the time of administration of the questionnaire. Cronbach's alpha is a reliability coefficient that indicates how well the items in a set are positively related to one another. According to Hair *et al.*, (2006), if α is greater than 0.7, it means that it has high reliability and if α is smaller than 0.3, then it implies that there is low reliability. To meet

consistency reliability of 25 items, and Cronbach's alpha was found to be around 0.95 which indicates that acceptable (Table 1). This result was found to be 0.85, which is also well clear of the cut-off point of 70%, when the questions are grouped into their SERVQUAL dimensions (Table 2). Therefore, it can be established the instrument used for the study is reliable.

Table 1 Alpha Cronbach's for the 25 items

Cronbach's Alpha	N of Items	N of questionnaire
0.947	25	105

Table 2 Cronbach alpha statistics disaggregated by SERVQUAL dimensions

Cronbach's Alpha	N of Items	N of questionnaire
0.851	5	105

Source: Own survey, 2017

CHAPTER FOUR

4. RESULTS, DISCUSSIONS AND INTERPRETATION

This chapter reveals the results and discussions of the research. The data collected through the means of questionnaires are analyzed and interpreted using the SPSS Version 20.0 software. Detailed analysis of the results derived from this analysis is presented in this chapter. The researcher spent one week stay in Mekelle dry port in the distribution and collection of the questionnaires. Questionnaires were distributed among customers of Mekelle dry port companies basically importers of containers, freight forwarders, custom clearing agents and the like. Therefore questionnaires are distributed for 126 customers selected as sample, of this 116 were returned but 11 of them were rejected as a result of missing data and 10 not returned questionnaires at time of collections. So that, 105 questionnaires (83%) complete responses were returned from the respondents.

First, the descriptive statistics of the research population is presented. Second, sample t-test is conducted to measure service quality level based on the five dimensions. Third, descriptive statistics used to determine which dimensions are important in dry port service delivery in Ethiopian context.

4.1. Demographic Characteristics of the Sample

The demographic characteristics include: gender, age, level of education, and how many customer's import containers served in Mekelle dry port. This aspect of the analysis deals with the personal data on the respondents of the questionnaires given to them. These data, specially customer's import containers served in Mekelle dry port used in the study to know how much the customers have a relationship with Mekelle dry port with respect to using dry port services and what type of customer are they.

Table 3 Distribution of Demographic Variables

Characteristics	Frequency	Percent
	N	%
Sex of the customers		
Male	89	84.8
Female	16	15.2
Total	**105**	**100.0**
Age of the customers		
18-25	5	4.8
26-35	44	41.9
36-45	31	29.5
46-55	15	14.3
above 55	10	9.5
Total	**105**	**100.0**
Education of the customers		
Equal and less of secondary school	3	2.9
Completion of secondary school	16	15.2
Diploma	57	54.3
First degree	27	25.7
Master and Above	2	1.9
Total	**105**	**100.0**
Number of container		
1-2 containers served	5	4.8
3-9 containers served	7	6.6
10-19 containers served	15	14.3
20-29 containers served	22	21.0
above 30 containers served	56	53.3
Total	**105**	**100.0**

Source: Own survey, 2017

As profile data of respondents are demonstrated in the table 3, males were 85% while females were 15% this indicated that customers are more dominantly by males. As far as age of respondents is concerned, 5% of the respondents are in the range of 18-25 years, 42% of the respondents are in the range of 26 - 35 years, 30% are in the range of 36-45 years, 14% are in the range of 46 - 55 and 10% are above 55 years. The majority respondents' age are between 26 and 35 years which portion is 42%. With regard to educational level of respondents, high school and below are 3% ; certificate holders that means completion of secondary high school represented 15% of the customers, diploma holders represented 54% of the customers, and first degree holders represented 26%. Finally, masters or second degree holders and above represented 2% of the customers; So that a majority of the respondents were diploma graduate forming 54%.

The other main variable that the respondents were asked were the number of import containers served within a year in Mekelle dry port. For this question majority 53% of the respondents

answered they had gotten more than thirty import containers service with Mekelle dry port, 21% of the respondents answered the category twenty to twenty nine containers service, 14% of the respondents answered the category ten to nineteen containers service, 7% of the respondents answered the category three to nineteen containers service and 5% answered the category one to two containers service. These show that the majority respondents had got more than thirty containers service in Mekelle dry port.

4.2. Analysis of Service Quality

Under this subsection, an attempt made to measure service quality level in the Mekele dry port terminal. In addition to measure service quality level, the study also profiled overall service quality of Mekelle dry port. It delved into a detail service quality profiling of Mekelle dry port. Furthermore, the qualitative results obtained as part of the distributed questionnaire and served to enrich the quantitative results.

4.2.1. SERVQUAL Profiling of Respondents

This study uses 25 statements on a Likert scale score between 1 (minimum score) and 5 (maximum score), 3 being point of neutrality. These questions are further aggregated into five dimensions; Tangibles, Reliability, Responsiveness, Assurance and Empathy. In this section, the mean and standard deviation of each 25 item together with their respective dimension was calculated in order to conclude the overall service quality of Mekele dry port.

The mean statistical value approaching were based on the following assumptions: if the mean average is less than 3, it indicates that the service quality of the dry port are low; if the mean average is equal to 3, it indicates the service quality of dry port are neutral and if the mean average is greater than 3, it indicates that the service quality the dry port are better which customers are likely happy by the service delivery quality of Mekele dry port. The Mekele dry port average mean score of each quality dimension together with their respective variables was separately presented, analyzed and interpreted as follows

Table 4 Summary of the SERVQUAL questions for Tangibility dimension

Variable	Definition	Mean	Std.Dev.
TANGIB_1	*Mekelle Dry Port has modern looking equipment.*	3.39	1.087
TANGIB_2	*Mekelle dry port has appropriate connection to transportation*	3.04	0.980
TANGIB_3	*Mekelle Dry Port has sufficient storage areas & loading platforms*	2.90	1.037
TANGIB_4	*Mekelle Dry Port has entertainment facilities*	2.65	1.053
TANGIB_5	*Mekelle Dry Port has appropriate logistical facilities*	2.96	1.018

Source: Own survey, 2017

Service quality is intangible so customers tend to look for signs or physical evidence related to the quality of the services they use such as people, information, location, devices, etc. The research study of Sanchez *et al*. (2003) also confirmed that port infrastructure is an important determinant of port quality.

As indicated in Table 4 the Tangibility dimension scores are slightly below 3 points of neutrality in both perception and expectation formation of respondents. As we will see over and over again, this is a fundamental result of the study indicating that customers have formed low expectations about the service quality of the dry port and these have been reinforced by low level of service quality perception.

Table 5 Summary of the SERVQUAL questions for Reliability dimension

Variable	Definition	Mean	Std.Dev.
RELIAB_1	*Mekelle dry port has procedure to secure cargos*	3.14	1.180
RELIAB_2	*Mekelle dry port provide service at appointed time without delay*	2.93	1.171
RELIAB_3	*Mekelle dry port has accuracy in providing services without mistake*	3.01	0.966
RELIAB_4	*Mekelle dry port has security and safety facilities*	2.94	1.045
RELIAB_5	*Mekelle dry port offered the correct dynamic information of cargos*	3.07	0.983
RELIAB_6	*Mekelle dry port has Performing the services right the first*	3.01	1.205

	time

Source: Own survey, 2017

As indicated in Table 5 the reliability dimension score are almost around 3. The sampled service users reported that the service quality in terms of reliability hovers around the point of neutrality, and the gap between satisfied and unsatisfied customers is very small. Table 5 shows the mean value of each reliability items, except the second and fourth items the rest four items are good score. In comparing with the mean score of tangibility, mean value of the reliability dimension was above which obviously implies the service quality of Mekelle dry port is good in the latter table.

According to the study of port service quality determinants by Nyma (2014) reliability dimensions are an essential determinants of ports service quality. In all business factors, reliability plays a very crucial role, in which it creates long lasting mutual business relationship. Its importance increases even more in the field of dry ports because dry ports will directly conduct and guarantee smooth transfer of goods to customers safely and timely. Therefore, customers always try to find a reliable organization to deliver their goods. However, the research result showed that customers have a low trust level for RELIAB_2 (*provide service at appointed time without delay*) at Mekelle dry port. While, regarding port security item, the mean value 3.14 showed that port security had a higher level of perception among reliability dimension. The research work of Tongzon and Heng (2005) also confirmed that reliability of port operations are important factors in determining performance of ports. Hence, it is important for Mekelle dry port to make its operations reliable to its customers.

Table 6 Summary of the SERVQUAL questions for Responsiveness dimension

Variable	Definition	Mean	Std.Dev.
RESPON_1	*Mekelle dry port staffs are honest and trustee to assist customers*	2.90	1.263
RESPON_2	*Mekelle dry port is responsible for taking feedback*	2.67	1.071
RESPON_3	*Mekelle dry port understanding the specific needs of customers*	3.33	1.025
RESPON_4	*Mekelle dry port has been keeping customers informed*	3.34	1.017
RESPON_5	*Mekelle dry port operators is effective and efficient*	3.12	1.044
RESPON_6	*Mekelle dry port providing services consistently*	3.39	1.079

Source: Own survey, 2017

In the fiercely competitive economy today, quick response and timely conduction play a major role in the success of business. This is congruent with the studies of Gujar (2011) that indicated number of employee and their quality are important factors which influence the performance of dry ports. Therefore, dry ports should have sufficient middle-level and front line managers as well as workers to handle the businesses. Table 6 illustrates the average rating of this dimension in customers' points of view.

Table 6 indicates the mean value of responsiveness score slightly above 3 and it is good in comparison with reliability and tangibility dimensions of service quality. This indicates in both perception and expectation of service quality of the dry port in terms of responsiveness relatively better but not at the required level of the customers, for example, in the first two item of responsiveness dimension the customer perceived service quality is slightly lower than expected.

Table 7 Summary of the SERVQUAL questions for Assurance dimension

Variable	Definition	Mean	Std.Dev.
ASSUR_1	*Mekelle dry port customers feel relax and convenience with staffs*	3.12	0.948
ASSUR_2	*Mekelle port staffs suggesting efficient loading mode & service schedule*	2.60	1.052
ASSUR_3	*Mekelle port staffs Sincere & patience in resolving customers' problems*	2.98	0.980
ASSUR_4	*Mekelle port staffs have knowledge & skillfull provision and services*	3.07	0.869

Source: Own survey, 2017

Table 7 indicates the mean value of assurance scored slightly below 3 points of neutrality in both perception and expectation formation of respondents like that of tangibility dimensions.

It cannot be denied that assurance is very important in any relationships as it is hard to change and might affect the relationship later. The study report of Gujar (2011) also indicated that great assurance between staffs and customers are important factors which influence the quality of dry ports. The dimension that "companies provide accurate service right at the first time" is rated low at below 3. It seems that local customers had not gained assurance from

staffs quite well. As a result the Mekelle dry port can improve this dimension by building great first impression between its staffs and customers.

Table 8 Summary of the SERVQUAL questions for Empathy dimension

Variable	Definition	Mean	Std.Dev.
EMPATH_1	*Mekelle dry port all customers are given equal amount of importance*	3.10	1.184
EMPATH_2	*Mekelle dry port has sympathetic and reassuring staff when in trouble*	3.12	1.089
EMPATH_3	*Mekelle dry port has a sound loyalty program for frequent customer*	3.17	1.130
EMPATH_4	*Mekelle dry port working time is appropriate for customers*	3.16	1.302

Source: Own survey, 2017

Nowadays, companies no matter how large or small all face the challenge of retaining loyal customers because the cost to attract new customers is always much higher than the cost of retaining old clients. Customers always want friendly and enthusiastic communication in which they can talk, share and be listened. They also enjoy being treated like important customers. Not only does empathy help to create a close relationship with clients but it also plays a critical role in retaining customers.

As indicated by Table 8 items were used to assess the service quality of Mekelle dry ports in terms of empathy were resulted above 3 in both perception and expectation of service quality. This showed the dry port relatively providing an emphatic service to its customers.

To generalize the above results, it is advocated that customers' service quality expectations related with an attribute, signal the importance of it (Lewis *et al.,* 1994). From the above five tables it can be seen that expectation level of customers on each dimension are close to each other and range between mean value of 2.94 and 3.14 for the lowest dimension assurance and the highest dimension empathy respectively. Though, specially, *Mekelle Dry Port has modern looking equipment* (tangible), *providing services consistently* (responsiveness) and *has a sound loyalty program for frequent customer* (empathy) under different dimensions perceived as the most important attributes for customers.

4.2.2. Analysis of Service Quality and Customers' Satisfaction

The researcher used one-sample t-test for the data analysis. The one-sample t-test procedure tests whether the mean of a single variable differs from a specified constant. This test assumes that the data are normally distributed; however, this test is fairly robust to departures from normality. The sample size in this study was 105 and based on 'Central Limit Theorem' which allowed presuming the data were normally distributed approximately. A 95% confidence interval for the difference between the mean and the hypothesized test value was supposed.

Satisfied customers must have received perceptions equal to or more than expectations. So the hypothesized test value in this study is 3 and it can split customers into satisfied and unsatisfied customers and the null and alternative hypotheses can be specified as below.

Null hypothesis Ho: $\mu = 3$

Alternative hypothesis Ha: $\mu \neq 3$

As noted earlier, the study specifies the level of sampling error (0.05) and thus the two-tailed critical value is ±1.96.

Table 9 One-Sample t-test

Dimensions	**Variables**	**One-Sample Test**					
		Test Value = 3					
		t	**df**	**Sig (2-tailed)**	**Mean Difference**	**95% Confidence Interval of the Difference**	
						Lower	**Upper**
TANGIBLES	TANGIB_1	3.679	104	0.000	0.390	0.18	0.60
	TANGIB_2	0.398	104	0.691	0.038	-0.15	0.23
	TANGIB_3	-1.035	104	0.303	-0.105	-0.31	0.10
	TANGIB_4	-3.420	104	0.001	-0.352	-0.56	-0.15
	TANGIB_5	-0.383	104	0.702	-0.038	-0.24	0.16
RELIABILITY	RELIAB_1	1.240	104	0.218	0.143	-0.09	0.37
	RELIAB_2	-0.584	104	0.561	-0.067	-0.29	0.16
	RELIAB_3	0.101	104	0.920	0.010	-0.18	0.20
	RELIAB_4	-0.560	104	0.577	-0.057	-0.26	0.15
	RELIAB_5	0.695	104	0.489	0.067	-0.12	0.26
	RELIAB_6	0.081	104	0.936	0.010	-0.22	0.24
RESPONSIVENESS	RESPON_1	-0.850	104	0.397	-0.105	-0.35	0.14
	RESPON_2	-3.189	104	0.002	-0.333	-0.54	-0.13
	RESPON_3	3.331	104	0.001	0.333	0.13	0.53
	RESPON_4	3.453	104	0.001	0.343	0.15	0.54
	RESPON_5	1.215	104	0.227	0.124	-0.08	0.33
	RESPON_6	3.710	104	0.000	0.390	0.18	0.60
ASSURANCE	ASSUR_1	1.339	104	0.184	0.124	-0.06	0.31
	ASSUR_2	-3.894	104	0.000	-0.400	-0.60	-0.20
	ASSUR_3	-0.199	104	0.843	-0.019	-0.21	0.17
	ASSUR_4	0.786	104	0.434	0.067	-0.10	0.23
	EMPATH_1	0.906	104	0.367	0.105	-0.12	0.33

EMPATHY	EMPATH_2	1.165	104	0.247	0.124	-0.09	0.33
	EMPATH_3	1.554	104	0.123	0.171	-0.05	0.39
	EMPATH_4	1.274	104	0.205	0.162	-0.09	0.41

Source: Own survey, 2017

As depicted in Table 9, and from the data of customers, it can be seen that for the perceptions of service quality attributes which were better than expected have positive t values and service scores while for those attributes which were worse than expected have negative t-values and service scores. The factors which had t-values greater than 1.96 were significant in positive direction and the factors with t-values less than -1.96 were significant in negative direction which implies that, in both cases, their p-values approach to zero and their respective mean difference values also largely deviate from the test value (3) as their t-values far from the critical value in both direction. In other words, in both directions the null hypothesis can be rejected. On the contrary, those attributes whose calculated t-value lies between 1.96 and - 1.96 were statistically insignificant in both directions. That means their mean value do not differ from the test value and thus we cannot reject the null hypothesis for these attributes, which includes TANGIB_2 TANGIB_3, TANGIB_5, RELIAB_1, RELIAB_2, RELIAB_3, RELIAB_4, RELIAB_5, RELIAB_6, RESPON_1, RESPON_5, ASSUR_1, ASSUR_3, ASSUR_4, EMPATH_1, EMPATH_2, EMPATH_3, and EMPATH_4. Accordingly, we can say that in these attributes Mekelle dry port is performing a service level that is more or less equal to what customers expect. Thus, Mekelle dry port needs to strive more to provide a service level that exceeds the expectation of customers.

Based on the above general analysis, in those attributes such as TANGIB_1, RESPON_3, RESPON_4, and RESPON_6; we reject the null hypothesis as their calculated t-values is larger than the critical value (1.96). In other words, their mean differences were positive and their means were greater than (different from) the test value (3). Therefore, from the perspective of these attributes Mekelle dry port has scored a service level that exceeds expectation of customers.

However, in the attributes such as TANGIB_4, RESPON_2, and ASSUR_2; we reject the null hypothesis as their calculated t-values were greater than the critical value in absolute terms which implies that the mean differences had negative sign and the means of each were less than (different from) the test value. Therefore, we can say that in these attributes the Mekelle dry port has scored a service level that is below what customers' expect.

We can notice on the above that the top three best record performance of Mekelle dry port with respect of customer service in sequence are RESPON_6 (Providing services consistently), TANGIB_1 (the Port has modern looking equipment) and RESPON_4 (Mekelle dry port has been keeping customers informed) and on the other hand the least three performance of Mekelle dry port with respect of customer service in sequence are ASSUR_2 (Mekelle dry port staffs suggesting efficient loading mode & service schedule), TANGIB_4 (Mekelle Dry Port has entertainment facilities) and RESPON_2 (Mekelle dry port is responsible for taking feedback).These are major items in which the Mekelle dry port managers give due attention to satisfy customers.

Parasuraman *et al.,* (1985) suggested that when perceived service quality is high, then it will lead to increase in customer satisfaction. He supports the fact that service quality leads to customer satisfaction and this is in line with Saravana & Rao, (2007) and Lee *et al.,* (2000) acknowledge that customer satisfaction is based upon the level of service quality provided by the service provider. This is a good ground for asserting whether customers are satisfied with service quality in Mekelle dry port or not since the average perception score is above the average of the scale. A higher perception also indicates higher satisfaction as service quality and satisfaction are positively related (Fen & Meillian, 2005). This means that dimensions with higher perception scores depict higher satisfaction on the part of customers and lower perception scores depict lower satisfaction. This is the issue presented in the next section.

4.3. Customers Satisfaction Level with Mekelle Dry Port Services

As summarized in table 10 below, the rate of satisfaction level of mekelle dry port service based on customers expectation of the services by using a five point Likert scale ranging from 1 to 5 are presented. Based on the responses given by the sample respondents shown in the summary table below and the statistical significant test result in table 9 above that can split customers into satisfied and unsatisfied customers, the ranks of the variables are identified from its satisfactory level to unsatisfactory level in decreasing order.

In general twenty five items considered in measuring satisfaction of service delivery in Mekelle Dry Port. From the variables identified below, the top four ranked variables that customers are satisfied in using the services of Mekelle Dry Port service are: *Mekelle Dry Port has modern looking equipment* from tangible dimension (with the mean value 3.39 & Std. Deviation 1.087), and the remaining three variables are from the responsiveness dimension including *Mekelle dry*

port providing services consistently (with the mean value 3.39 & Std. Deviation 1.079), *Mekelle dry port has been keeping customers informed* (with the mean value 3.34 & Std. Deviation 1.017) and *Mekelle dry port understanding the specific needs of customers* (with the mean value 3.33 & Std. Deviation 1.025) were ranked first, second, third and fourth respectively. This leads toward the conclusion that the customers were satisfied with the service of Mekelle Dry Port especially with respect to the port using modern and up to date loading and unloading equipment, machineries and related facilities which was the first most important aspect and gained the first highest rank in Mekelle Dry Port performance from the customers' point of view. In addition to this, the second, third and fourth important feature was from the category of responsiveness which indicates the Mekelle dry port's willingness to help customers and provide prompt service based on customers attitude and because of these customers pointed out their satisfaction.

On the other hand, from the least ranked unsatisfactory levels by respondents are: *Mekelle port staffs suggesting efficient loading mode & service schedule* (with the mean value 2.60, & Std. Deviation 1.052), *Mekelle Dry Port has entertainment facilities* (with the mean value 2.65 & Std. Deviation 1.056) and *Mekelle dry port is responsible for taking feedback* (with the mean value 2.67, & Std. Deviation 1.071) which were rated by the customers that the service from using Mekelle Dry Port service is unsatisfactory from the least ranked to third unsatisfactory levels accordingly. The identified variables indicate that the service of Mekelle Dry Port is unsatisfactory to customers. It can be concluded that from the services of Mekelle Dry Port, staffs is not suggesting efficient loading mode and is not provide service schedule, there is no entertainment facilities, and customers are doubtful of Mekelle Dry Port for considering their feedback. The remaining 18 variables were rated by the respondents as indifferent or no change in using the services of Mekelle Dry Port. This implies that there is no change with regard to proactively inform customers, no improvement with availability of facilities and no change in performing as the plan following the introduction of the Mekelle Dry Port.

Table 10 Customers satisfaction level with Mekelle Dry Port Services

One-Sample Statistics						
Rate Variables	**N**	**Mean**	**Std. Dev.**	**Std. Err.**	**Rank**	**Rated satisfaction level**
TANGIB_1	105	3.39	1.087	0.106	1	Satisfactory
RESPON_6	105	3.39	1.079	.105	2	Satisfactory
RESPON_4	105	3.34	1.017	.099	3	Satisfactory
RESPON_3	105	3.33	1.025	.100	4	Satisfactory
EMPATH_3	105	3.17	1.130	.110	5	Indifferent
EMPATH_4	105	3.16	1.302	.127	6	Indifferent
RELIAB_1	105	3.14	1.180	.115	7	Indifferent
RESPON_5	105	3.12	1.044	.102	8	Indifferent
ASSUR_1	105	3.12	.948	.092	9	Indifferent
EMPATH_2	105	3.12	1.089	.106	10	Indifferent
EMPATH_1	105	3.10	1.184	.116	11	Indifferent
RELIAB_5	105	3.07	.983	.096	12	Indifferent
ASSUR_4	105	3.07	.869	.085	13	Indifferent
TANGIB_2	105	3.04	.980	.096	14	Indifferent
RELIAB_3	105	3.01	.966	.094	15	Indifferent
RELIAB_6	105	3.01	1.205	.118	16	Indifferent

ASSUR_3	105	2.98	.980	.096	17	Indifferent
TANGIB_5	105	2.96	1.018	.099	18	Indifferent
RELIAB_4	105	2.94	1.045	.102	19	Indifferent
RELIAB_2	105	2.93	1.171	.114	20	Indifferent
TANGIB_3	105	2.90	1.037	.101	21	Indifferent
RESPON_1	105	2.90	1.263	.123	22	Indifferent
RESPON_2	105	2.67	1.071	.105	23	Unsatisfactory
TANGIB_4	105	2.65	1.056	.103	24	Unsatisfactory
ASSUR_2	105	2.60	1.052	.103	25	Unsatisfactory

Source: Own survey, 2017

4.4. Importance of Dimensions

In order to compare dimensions with respect to Mekelle dry port that is Tangibles, Reliability, Responsiveness, Assurance, and Empathy, Customers were asked to rate importance of service quality dimensions on a five-point likert scale: 'Not at all important', 'Not important', 'Neither important nor unimportant', 'Important', and 'Very important'. A summary of descriptive statistics is presented in table 11.

So as to identify the significance dimensions, a ranking method with average value has been used and depicted in table 11 based on the following assumptions: if the mean average is less than 3, it indicates that the importance of dimension are low and if the mean average is greater than 3, it indicates that the importance of dimension are increasing. As result shown in table 11, fortunately all the dimensions score a mean average of above 3; however, 'Empathy' dimension is the most important dimensions among five dimensions with respect to Mekelle dry port taking into customer's point of view. The second most important dimension is 'Tangibles'. Responsiveness, Reliability and Assurance are respectively got the rank of third, fourth and fifth as per customers' attitude. Thus, in order to satisfy customers management should give due attention to 'Empathy' and next for 'Tangibles'.

Further, to generalize, it can be said that assurance is the least important dimension while empathy holds the leadership in the ranking. Former finding was supported in the literature by Parasuraman *et. al.* (1994), Lewis *et. al.* (1994) and Ugboma *et. al.* (2004).

Table 11Ranking of Dimensions of SERVQUAL in Mekelle dry ports

Dimensions	Ranking (in ascending order)	Mean
Empathy	1	3.59
Tangibles	2	3.42
Reliability	3	3.41

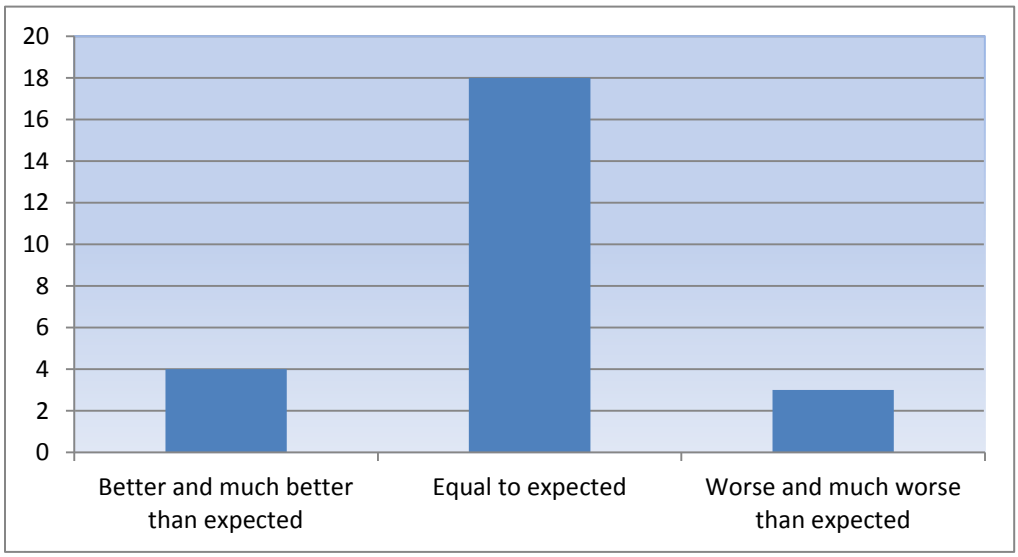
Responsiveness	4	3.39
Assurance	5	3.06

Source: Own survey, 2017

4.5. Describing Overall Results

In the questionnaire, differences in customers' perception and expectation have been evaluated in connection with Mekelle dry port, including the five dimensions of services defined by SERVQUAL model with 95% confidence interval. According to the services that are offered by Mekelle dry port, the researcher measured customer satisfaction among the customers of port service using the five dimensions of SERVQUAL model. All 25 attributes have been tested for finding out whether the customers are satisfied or not. With these findings research objectives have been addressed and answered.

Figure 4 Customer Satisfaction with SEVQUAL Dimensions



Source: Own survey, 2017

As figure 4 depicted, among twenty five items tested in customers point of view, customers were indifferent and satisfied in twenty two attributes that is in eighteen items customers meet with their expectation and in four items customers have better and much better expected. However, in three attributes out of 25 attributes, customers pointed out that they were experienced worse and much worse than expected. It means customers felt dissatisfaction.

As service quality is an antecedent of customer satisfaction, which has been proven by Negi, (2009), it means that since customers perceive service quality as low or poor, and therefore

implies that customers are not satisfied with services offered in the dry port. This customer satisfaction which comes as a result of the interaction between the customers and service provider (Yi, 1990) and from this study results, it shows that customers are not satisfied meaning this could because they poor interaction between the customer and service provider and also because the customers is becoming more and more demanding and does not tolerate any shortfalls in the quality of services offered by Mkelle dry port.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This research has been undertaken to assess the customer perceptions of service quality and their satisfaction on Mekelle dry port using a measurement model SERQUAL. In light of this, the summary of findings of this study will be summarized in brief. Conclusions drawn from the findings of this study are presented. Recommendations based on the conclusions of the study presented at end of this chapter.

5.1. Summary of Major Findings

The following findings are derived from the analysis and interpretations made in the previous chapter.

- The demographic characteristics of respondents reveal that (53%) of the respondents were who have gotten above 30 containers service in Mekelle dry port.
- Among five dimensions of measurement based on mean score 'Empathy' category is chosen as priority (3.59) importance and 'Tangibles' is the second (3.42) choice of customers of Mekelle dry port. The rest 'Responsiveness' (3.41), 'Reliability' (3.39) and 'Assurance' (3.06) are ranking third, fourth and fifth respectively.
- From these five categories 25 items of measurement provided for customers the one-sample t-test mean difference shows that among 25 items, in 4 items customers got the service better and better than they expected and in 18 items customers got the service equal to their expectation, but in 3 items they got the service worse and much worse than they expected.
- The top three best record performance of Mekelle dry port with respect of customer service in sequence are RESPON_6 (Providing services consistently), TANGIB_1 (the Port has modern looking equipment) and RESPON_4 (Mekelle dry port has been keeping customers informed) and on the other hand the least three performance of Mekelle dry port with respect of customer service in sequence are ASSUR_2 (Mekelle dry port staffs suggesting efficient loading mode & service schedule), TANGIB_4 (Mekelle Dry Port has entertainment facilities) and RESPON_2 (Mekelle dry port is responsible for taking feedback).
- In general twenty five items considered in measuring satisfaction of service delivery in Mekelle Dry Port. The top four ranked variables that customers are satisfied in using the services of Mekelle Dry Port service are: *Mekelle Dry Port has modern looking*

equipment from tangible dimension (with the mean value 3.39), and the remaining three variables are from the responsiveness dimension including *Mekelle dry port providing services consistently* (with the mean value 3.39), *Mekelle dry port has been keeping customers informed* (3.34) and *Mekelle dry port understanding the specific needs of customers* (3.33) were ranked first, second, third and fourth respectively.

- On the other hand, from the least ranked unsatisfactory levels by respondents are: *Mekelle port staffs suggesting efficient loading mode & service schedule* from Assurance dimension (with the mean value 2.60), *Mekelle Dry Port has entertainment facilities* from tangible dimension (with the mean value 2.65) and *Mekelle dry port is responsible for taking feedback* from Responsiveness dimension (with the mean value 2.67) which were rated by the customers that the service from using Mekelle Dry Port service is unsatisfactory from the least ranked to third unsatisfactory levels accordingly.

5.2. Conclusion

According to the results obtained from the analyses, the following conclusions can be made about service quality of the Mekelle dry port sampled as a case study.

In terms of tangibles

- There was a low mean score of expected quality service provided both at aggregate and individually for Mekelle dry ports
- The mean score showed that out of five item under the tangibles dimension only two items score above 3.

In terms of reliability

- The sampled service users reported that the mean score for service quality in terms of reliability hovers around the point of neutrality, that is, score of 3.
- The mea score showed that out of six item under the reliability indicators only two items score below 3.

In terms of responsiveness dimension

- The mean value of responsiveness score slightly above 3 and it is good in comparison with reliability and tangibility dimensions of service quality.
- This indicates in perception and expectation of service quality of the dry port in terms of responsiveness relatively better but not at the required level of the

customers, for example, in out of six items two item of responsiveness dimension the customer perceived service quality is slightly lower than expected.

In terms of assurance dimension

- The mean value of assurance scored slightly below 3 points of neutrality in perception and expectation formation of respondents like that of tangibility dimensions.

In terms of empathy dimension

- The result to assess the service quality of Mekelle dry ports in terms of empathy were above 3 in perception and expectation of service quality. This showed the dry port relatively providing an emphatic service to its customers.

In addition to these important results, the researcher used one-sample t-test for the data analysis. The one-sample t-test procedure tests whether the mean of a single variable differs from a specified constant, in the present case 3.

- Out of the total 25 items 4 items had a significant positive mean differences and their means were greater than (different from) the test value (3).Therefore, from the perspective of these attributes Mekelle dry port has scored a service level that exceeds expectation of customers.
- On the other hand three item had a significant negative mean differences and their means were less than (different from) the test value (3).Therefore, from the perspective of these attributes Mekelle dry port has scored a service level that is below expectation of customers. These are major items in which the Mekelle dry port managers give due attention to satisfy customers.

Furthermore, in order to compare dimensions with respect to Mekelle dry port Customers were asked to rate importance of service quality dimensions on a five-point likert scale.

- 'Empathy' dimension is the most important dimensions among five dimensions with respect to customer's point of view. The second most important dimension is 'Tangibles'. Responsiveness, Empathy and Assurance are respectively got the rank of third, fourth and fifth as per customers' attitude. Thus, in order to satisfy customers management should give due attention to 'Empathy' and next 'Tangibles'.

5.3. Recommendation

To improve the poor service quality performance result obtained by this study, the following recommendations are made.

- With respect to physical feature, Mekelle dry port in has been built and expanding infrastructures and equipping modern machineries this is has impact on service deliver in dry port service. However, since undue delay of container terminals construction work result in negative consequences on easy movement trucks and this in turn made dissatisfaction on customers. Thus Mekelle dry port should design the way constructions completed early and providing appropriate services.
- Hence, delivering prompt and timely service as per promise for the customer adds the satisfaction level of our customers, which in turn contributes to the profitability of an organization; Mekelle dry port should design one widow shop service and should supported by information and communication technology to provide prompt and accurate service as promised.
- Giving attention for customers' needs and their feedbacks about service delivery contributes for the increment of loyal customers who are the blood vessels of the organizations. Hence, the employees of Mekelle dry port should pay due attention to their customers' specific needs and feedbacks, by appearing being polite and cooperative to solve customers' problem which should be needs continuous follow up from the management.
- Good working environment and incentive schemes and well organized office arrangement facilitates encourages the employee and create satisfied stuffs which in turn encourages to provide service as per customers wants. Thus Mekelle dry port manager should give attention to not only material beings but also human elements Mekelle dry port are a great role in delivery services and satisfying the customers.
- Furthermore, to serve the customers well, providing timely training and development for employees plays a great role. Thus, the Mekelle dry port manager should give training and facilitating foreign port experience and as well as aware the aims of the organization to staff so that enable them in serving the customers well and provide them with relevant and timely information.
- Dry port service it very demanding service as it has great role in reducing logistics cost and time for import and export cargo of the country, so Mekelle dry port have to improve performance on all the dimensions of service quality in order to increase customer satisfaction and this enable Mekelle dry port maintain level of competitiveness.
- In general, delivering a quality service for customers has a tremendous effect on customers' satisfaction that in turn determines the existence and success of Mekelle dry

port. So, Mekelle dry port should attempt to maintain consistent service quality better and much better than customers' expectation by assessing all the service quality dimensions regularly.

5.4. Implications for Future Research

- This study was covered only Mekelle dry port but by now the number of dry port in the country is increasing so the future research may consider and incorporate all branches of dry ports.
- Moreover, Dry port are administrable alliance with other logistical sectors custom clearing, fright forwarding and shipping service are merged, so that the whole chain of logistics from door to door logistics that is shipping, clearing service and dry port service and trucking service quality with respect to delivery time and the whole cost of export and import activities on customers satisfaction and this impact on economy of the country.

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APPENDEX A

Questionnaire

Dear Customer,

This questionnaire is designed to gather information on Assessment of Customer Service Quality in Mekelle Dry Port. .The purpose of the study is to fulfill a thesis requirement for the Masters of Supply and Chain Management. The information that you provide will be used only for the purpose of the study and will be kept strictly confidential. You do not need to write your name. Finally, I would like to thank you very much for your cooperation and sparing your valuable time for my request.

Please respond on the following questions by circling on choices given.

Thank you in advance for your cooperation.

Part I :

1. Gender a)**male** b)**female**

2. Age group a)**18-25 years** b)**26-35** c) **36-46** d)**46-55** e)**55 and above**

3. Level of Education,

a) Secondary school and below b)Certificate of Completion High school

C) Diploma d) First degree e)Second Degree and above

4. Number of Containerized goods imported by you and served in Mekelle Dry Port in within a year

a)**1-2** b)**3-9** c)**10-19** d)**20-29** e)**Morethan30**

Part II

In your opinion, how does the service quality of Mekelle Dry Port meet your expectations in terms of following dimensions? Please indicate your responses from 1-5 by circling it:

1. Much worse than Expected 2. Worse than Expected

3. Equal to Expectation 4. Better than Expected 5. Much better than Expected

I	**Tangibles**					
1	Mekelle Dry Port ha modern and up to date loading and unloading equipment, machineries	1	2	3	4	5
2	Mekelle Dry Port has appropriate connection to other modes of transportation	1	2	3	4	5
3	Mekelle Dry Port has sufficient storage areas and, loading platforms	1	2	3	4	5
4	Mekelle Dry Port has entertainment facilities	1	2	3	4	5
5	Mekelle Dry Port has appropriate logistical facilities	1	2	3	4	5
II	**Reliability**					
6	Mekelle Dry Port has procedure of operation in the Terminal is secure for cargos	1	2	3	4	5
7	Mekelle Dry Port has provide service at the appointed time without delay	1	2	3	4	5
8	Mekelle Dry Port has accuracy in providing services without a mistake (receiving and delivering cargo and container)and in the event of a mistake it will be resolved quickly	1	2	3	4	5
9	Mekelle Dry Port‘s security and safety facilities of terminal are reliable	1	2	3	4	5
10	Mekelle Dry Port has offered the correct dynamic information of cargos	1	2	3	4	5
11	Mekelle Dry Port has Performing the services right the first time	1	2	3	4	5
III	**Responsiveness**					
12	Mekelle’s Dry Port staffs are honest and trustee to assist the customers, information transfer and solving their problems	1	2	3	4	5

13	Mekelle Dry Port is responsible for taking feed back from learners and instructors in view point of service quality	1	2	3	4	5
14	Mekelle Dry Port has understanding the specific needs of customers	1	2	3	4	5
15	Mekelle Dry Port has been keeping customers informed about when services will be performed	1	2	3	4	5
16	InMekelle Dry Port there is effectiveness and efficiency of operators in the container yard	1	2	3	4	5
17	Mekelle Dry Port Providing services consistently	1	2	3	4	5
IV	**Assurance**					
18	Customers feel relax and convenience while interacting with the Mekelle's dry port staffs	1	2	3	4	5
19	Mekelle Dry Port's staffs suggesting efficient loading mode and service schedule	1	2	3	4	5
20	Mekelle Dry Port's staffs Sincerity and patience in resolving customers' problems	1	2	3	4	5
21	Mekelle Dry Port's staffs have knowledgeable and skillfull provision and services	1	2	3	4	5
V	**Empathy**					
22	In Mekelle'sDry Port all customers are given equal amount of importance.	1	2	3	4	5
23	Mekelle Dry Port has sympathetic and reassuring staff when customers are in trouble	1	2	3	4	5
24	Mekelle Dry Port has a sound loyalty program to recognize you as frequent customer	1	2	3	4	5
25	Working time of Mekelle Dry Port is appropriate for customers	1	2	3	4	5

Part II

In receiving the service of Mekelle Dry Port, How much important is each of the following dimension to you? Please indicate your response from 1-5 by circling it

1. Not at all Important 2. Not Important
3. Neither Important nor Unimportant 4.Important 5. Very Important

Sr.	Features					
1	The appearance of the Mekelle Dry Port physical Facilities, equipment, personnel and communication materials.	1	2	3	4	5
2	The Mekelle Dry Port's ability to perform the promised service dependably and accurately	1	2	3	4	5
3	The Mekelle Dry Port willingness to help customers and provide prompt service.	1	2	3	4	5
4	The knowledge and courtesy of the Mekelle Dry Port's employee and the reliability to convey trust and confidence.	1	2	3	4	5
5	The caring individual attention the Mekelle Dry Port provides its customers.	1	2	3	4	5

ንዓማዊል ዝተዳለወ መሕትት

እዚ መሕትት ዝተዳለወ ንመቐለ ደረቅ ወደብ ዓማዊል ግልጋሎት ፅርየትን ርውየትን ሕዚ ዘለዎ ብርኪ ዝብል ርእሲ ንዘፅንዕ ናይ ካልኣይ ድግሪ ፅንዓት መሰረታዊ መረዳእታ ንምእካብ እዩ።

ዝህብዎ መልሲ ነዚ ፅንዓት ዓላማ ጥራሕ ዝወዕል ምኻኑ ከረጋግፅ እፈቱ ። ስምኽም ምጥቃስ አየድልይን።

ስለዝኮነ ካብዚ ንታሕቲ ንዝቐረቡ መ ሕ ት ታት ትኽክል እዩ ዝብልዎ መልሲ ብምኽባብ ምላሽ ንክህቡ ብትሕትና እሓትት።

ንዝገበርዎ ምትሕብባር ኣቐዲመ የመስግን !!

ክፍሊ ሓደ

1. ዖታ ሀ. ተባ ለ. ኣን

2. ዕድመ ሀ. 18-25 ለ. 26-35 ሐ . 36-45 መ. 46-55 ሰ .ካብ 55 ዕድመ ንላዕሊ

3. ናይ ትምህርቲ ደረጃ

ሀ. ካልኣይ ብርኪ ትምህርትን ካውኡ ንታሕትን

ለ. ሰርቲፊኬት ሐ .ዲፕሎማ መ. ዲግሪ ሰ. ካልኣይ ዲግሪን ካውኡ ንላዕልን

4. ኣብ ሓደ ዓመት ውሽጢ ኣብዚ ደረቅ ወደብ ክንደይ ዝኣክል ናይ ኣታዊ ኮንቴነር ግልጋሎት አገልግሎት ረኪቦም?

ሀ. 1 -2 ለ. 3 -9 ሐ.10-19 መ. 20 -29 ሰ. ካብ 30 ንላዕሊ

ክፍሊ ክልተ

ብናቶም ግምት ናይ መቐለ ደረቅ ወደብ ግልጋሎት በዞም ኣብ ታሕቲ ዘለው መለኪዒታት ንስኹም ምስእትፅበይዎ ኣበይ ብርኪ ኣሎ ? ካብ 1-5 ኣብ ዘለዉ ቁፅርታት በጃኹም ብምኽባብ መልሲ ይሃቡ።

1	መቀለ ደ/ወ/ ዘመናዊ ናይ ወደብ ማሽነሪታትን መሳርሒታትን አለውዎ	1	2	3	4	5
2	መቐለ ደ/ወ/ ናይ ትራንስፖርትን መተሓላለፍቲ መንገዲታት ምትእስሳር ዝተማለአ እዩ	1	2	3	4	5
5	መቐለ ደ/ወ/ እኹል ዝኾነ ናይ ሎጂስቲክ ፋሲሊቲ አለውዎ	1	2	3	4	5
II						
6	መቐለ ደ/ወ/ በቲ ተርሚናላቱ ኣቁሑ ዘተኣናግደሉ ድልዱል ናይ አሰራርሓ ስርዓት አለውዎ	1	2	3	4	5
7	መቐለ ደ/ወ/ ብናይ ግዘ ቆፀሮታቱ መሰረት የተኣናግድ					
8	ኣብ መቐለ ደ/ወ/ ብዘይ ጌጋ ግልጋሎት ይዋሃብ ፣ ጌጋ እንትፍጠር እውን ብሕፀፅ ፍታሕ ይህብ ።	1	2	3	4	5
	መቐለ ደ/ወ/ ዘተአማምን ናይ ሓደጋ መከላኸሊ መሳርሒታት አለውዎ					
	መቐለ ደ/ወ/ ብዛዕባ ኣቁሑት ከይዲ እኹል መረዳእታ ይቅርብ					
11	መቐለ ደ/ወ/ ቅድሚት ዝመፀ ዓሚል ንቀደም ይተኣናገድ ብዝብል አሰራርሓ ይተኣናግድ	1	2	3	4	5

1.ካብ ዝተፀበይዎ ብርኪ ኣዝዩ ዝወረደ እዩ

2. ካብ ዝተፀበይዎ ብርኪ ዝወረደ እዩ

3. ኣብ ዝተፀበይዎ ብርኪ ይርከብ

4. ካብዝተፀበይዎ ብርኪ ዝበለፀ እዩ ዘሎ

5. .ካብ ዝተፀበይዎ ብርኪ ኣዝዩ ዝተማሓየሸ ኮይኑ ረኪበምዎ።።

12	ኣብ መቐለ ደ/ወ/ ዘለው ሰራሕተኛታት ተኣመንቲ ፣ ንዓማዊል ንምሕጋዝ ድልዊ ዝኾኑ ፣መረዳእታ ብግቡእ ዝህቡን ፀገም	1	2	3	4	5
13	ኣብ መቐለ ደ/ወ/ ካብ ዓማዊል ዝዋሃቡ ግብረ መ ልሲታትን ሪኢቶታትን ነቲ ግልጋሎት ንምምሕያሽ	1	2	3	4	5
14	ኣብ መቐለ ደ/ወ/ ፍልይ ዝበለ ናይ ዓማዊል ድልየት	1	2	3	4	5
15	ኣብ መቐለ ደ/ወ/ ንዓማዊሉ ምችዊ ግልጋሎት ዝረኽቡሉ	1	2	3	4	5
16	ናይ መቐለ ደ/ወ/ ኦፕሬተራት ውፂኢታውያንን ብቅዓት	1	2	3	4	5
17	ኣብ መቐለ ደ/ወ/ ቀፃልነት ዘለዎ ግልጋሎት ክህብ ዘኽእል ዓቅሚ	1	2	3	4	5
ሠሪ						
18	ናይ መቐለ ደ/ወ/ ዓማዊል ምስቶም ናይቲ ወደብ ሰራሕተኛታት እንትራኸቡ ቅልል ይብሎም ምኾት እውን ይስመኦም	1	2	3	4	5
19	ናይ መቐለ ደ/ወ / ሰራሕተኛታት ኣቁሑ ዝልእኹሉ መማረፂታት ፕሮግራም ሚላታት ሃሳብ የቅርቡ	1	2	3	4	5
20	ናይ መቐለ ደ/ወ/ ሰራሕተኛታት ብትዕግስትን ብሓቅን ናይ ዓማዋሎም ፀገም ዘቃልሉ እዮም	1	2	3	4	5
21	ኣብ መቐለ ደ/ወ/ ዝርከቡ ሰራሕተኛታት እኩል ዓቅምን ክእለትን ፍልጠትን ኣለዎም	1	2	3	4	5
ሠሪ						
22	ኣብ መቐለ ደ/ወ/ ንኹሎም ዓማዊል ማዕረ ክብሪ ይዋሃብ					
23	ኣብ መቐለ ደ/ወ/ ዓማዊል ፀገም እንተጋጥሞም ስሚዒቶም	1	2	3	4	5
24	መቐለ ደ/ወ/ ንታኣመንቲ ዓማዊል ብፍሉይ ዘተኣናግዱሎም ስርዓት	1	2	3	4	5

25	ብመቐለ ደ/ወ/ ግልጋሎት ዝዋሃበሉ ግዘ ንዓማዊል ምችዊ እዩ	1	2	3	4	5

ክፍሊ ሰለስተ

ብናትኩም/ተን ግምት ናይ መቐለ ደረቅ ወደብ ግልጋሎት ንምዕቃን እዞም ዝስዕቡ ነገራት ክንደይ ዝኣክል ተደለይቲ እየን ይብሉ።

ካብ 1-5 ዘለው ቁፅርታት ብምኽባብ ምላሽ ክህቡ ብትሕትና ንላቦ።።

1. ፍፁም ኣድላይ ኣይኮነን 2. ኣድላይ ኣይኮነን 3. ማእከላይ እዩ

4. ኣድላይ እዩ 5. ብጣዕሚ ኣድላይ እዩ

1	መቐለ ደ/ወ/ ብጠቅላላ ብወገን ምልክታ ብማሽነሪታት፣ መሳርሕታትን ፋሲሊትን ኣብ ምምላእ	1	2	3	4	5
2	መቐለ ደ/ወ/ ብዝተዋሃበ ቃል መሰረት ናይ ምፍፃም ኩነታትን ኣገልግሎትን ተኣማንነቱ ምህላው	1	2	3	4	5
3	መቐለ ደ/ወ/ ንዓማዊል ምድማፅን ሰሉጥ ግልጋሎት ምሃብን ዘለዎ ድልየት	1	2	3	4	5
4	ናይ መቐለ ደ/ወ/ ሰራሕተኛታት ዘለዎም ፍልጠትን ብቅዓትን ንዓማዊል ዝህብዎ ምትእምማን	1	2	3	4	5
5	መቐለ ደ/ወ/ ንዓማዊል ብምንኽብኻብ ትኩረት ምሃብ	1	2	3	4	5