



ST. MARRY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

MBA IN GENERAL MANAGEMENT

**ASSESSMENT ON THE EFFECT OF KALITY DRY PORT SERVICE ON CUSTOMER
SATISFACTION**

BY MICHAEL MAMECHA

ADVISOR: – AFEWORK GETACHEW KASSA, (PHD)

**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION**

JUNE, 2020

ADDIS ABABA, ETHIOPIA

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DECLARATION

I, Michael Mamecha Amare, announce that the research paper entitled "Assessment on the Effect of Kality Dry Port Service on Customer Satisfaction Study" is my own and I would like to say that this research paper is the original work. To this end, I acknowledged all sources of information that i used to produce the study appropriately.

Michael Mamecha

Student Researcher

Signature

Date

LETTER OF CERTIFICATION

This is to certify that Michael Mamecha has carried out his thesis work on the topic entitled “Assessment on the Effect of Kality Dry Port Service on Customer Satisfaction” under my guidance and supervision. Accordingly, I hereby assure that his work is appropriate and standard enough to be submitted to the award of Degree of the Master of Business Administration.

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Approved by board of examiners.

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_____	_____	_____
External examiner	Signature	Date
_____	_____	_____
Chairman of committee	Signature	Date

DEDICATION

I dedicate this piece of work to my wife Meron Areda for her full support with all contribution. In addition, to my kids Marcon, Maya, Amaan as their time also lost for mine.

I love them all much.

ACKNOWLEDGMENTS

My special thanks to my Advisor Afework Getachew (PHD), for encouraging me to do my best with his valuable support and guidance.

Secondly, I wish to extend my appreciation to the participants in my thesis, for their cooperation and helping me in acquiring the necessary data and for those who have willingly shared their precious time during the process of filling the questionnaires and delivering most supportive documents .

Lastly, my families for their unconditional support, I will treasure it forever.

Thank you .

List of Abbreviations

E.C	Ethiopian Calendar
ESLSE	Ethiopian shipping and logistics Enterprise
FEU	Forty feet equivalent unit
GDP	Gross Domestic Product
GTP I	First Growth and Transformation Plan
GTP II	Second Growth and Transformation Plan
IMF	International monetary Fund
IMO	International Maritime Organization
IT	Information system
LPI	Logistics Performance Index
MoFED	Ministry of Finance and Economic Development
Ro-Ro	Roll in – Roll out
SPSS	Statistical Package for Social Science
SERVQUAL	Service quality
TEU	Twenty feet equivalent unit
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank

Abstract

Since the independency of Eritrea in 1991, Ethiopia became landlocked. As a result, the countries 90 % of Import and export trade route become Ethiopia- Djibouti corridor. In order to ease some of the problems in the transit countries, Ethiopia has started constructing dry ports .A dry port is a recent phenomenon in the Ethiopian logistics history. The Addis Ababa dry port Kality branch is among the youngest dry ports established in Ethiopia.

Even though, the increased importance of dry port to entire economy of the country and terminal services and the associated inefficiencies and drawbacks in service quality, Customers using the port, however, complain that the port does not deliver an efficient service to its clients. This study is expected to exhibit factors leads customer dissatisfaction and contribute for improvement based on the findings. The focus of this paper is to assess the effect of Kality dry port service on customer satisfaction, based on the port service dimension LPI (Logistics performance index) cargo handling equipment, customs operations, port infrastructure, and size of dry port, port staff, and reliability of port.

To address the stated research questions, the researcher used descriptive research design. Data was collected from both primary and secondary source; primary data were collected through questionnaires and for secondary data document analysis were made. The study employed probability sampling techniques to select the participant of the study and accordingly, an aggregate of 167 respondents were selected and participated in this study and out of these, data were obtained from 153 respondents. The data were analyzed uses measurement of inferential analysis uses correlation and regression analysis to assess the relationship between the service delivery dimensions and customer perceived satisfaction. The finding shows that the overall service delivered by dry port was not satisfactory.

Based on the findings of the study it were recommended that investment in port infrastructure, improvement in efficiency of customs operations, expansion of port area, training and implementation of control system on port staff to satisfy logistics service of the port user are important.

Key words: Kality dry port, port service determinants, customers' satisfaction

Contents

DECLARATION	I
LETTER OF CERTIFICATION	II
DEDICATION	III
ACKNOWLEDGMENTS.....	V
List of Abbreviations	VI
Abstract	VII
CHAPTER ONE	1
1 INTRODUCTION.....	1
1.1 Background of the study	1
1.2. Statement of the problem	3
1.3. Research questions	6
1.4. Objective of the study	7
1.4.1. General Objective.....	7
1.4.2. Specific objective	7
1.5. Scope the study	7
1.6. Significance of the study	8
1.7. Limitation of the study	8
CHAPTER TWO	9
2. RELATED LITERATURE REVIEW.....	9
2.1. Theoretical Review.....	9
2.1.1 Concept and theories about Dry port	9
2.1.2. Significance and role of dry port.....	12
2.1.3 Dry port in Ethiopia, Establishment and Purpose.....	13
2.1.4. Customer Service	17
2.1.5. Service quality	18
2.1.6 Dry port service dimensions	20
2.2 Empirical Review	26
2.2.1. Summaries of Empirical Studies.....	27
2.2.1. Summary and gaps.....	30

2.3. Conceptual framework	30
2.4 Theory and Hypotheses assumptions	31
CHAPTER THREE	33
3. Research Methodology	33
3.1 Introduction	33
3.2. Study Area	33
3.3. Research Design	33
3.4. Data Sources	34
3.5. Population, Sampling and Sampling Technique.....	34
3.6. Tools for collection instruments and Procedures	36
3.7. Method of data Analysis and Presentation Techniques	36
3.8. Validity and Reliability	37
3.8.1 Validity	37
3.8.2 Reliability.....	37
3.9. Ethical consideration.....	38
CHAPTER FOUR	39
4 RESULTS AND DISCUSSION.....	39
4.1. Description of the Study Participant.....	39
4.2. Satisfaction of Customers	41
4.3. Results on Dry Port Service Dimensions	43
4.3.2. Reliability.....	44
4.3.3. Custom Service.....	46
4.3.4. Size of the dry port and Infrastructure	47
4.3.5. Dry Port staff	49
4.4. Result of Correlation Analysis	51
4.7. Results of Multiple Linear regression	53
4.8. Discussion.....	55
CHAPTER FIVE	57
5 CONCLUSIONS AND RECOMANDATION.....	57
5.1 conclusions.....	57

5.2. Recommendation.....	58
BIBILOGRAPHY	Error! Bookmark not defined.
APPENDIXES	64

LIST OF TABLES

Table 1 Summary of Empirical Studies	27
Table 2 Reliability Statistics	37
Table 3 Description of Study Participants	39
Table 4 Satisfaction of the Customers	42
Table 5 Summary on port Handling Equipment	44
Table 6 Summary on the Reliability	45
Table 7 Summary of Custom Service	46
Table 8 Size of the dry port and Infrastructures.....	48
Table 9 Summary on Dry port Staff.....	50
Table 10 Result of Correlation Analysis.....	52
Table 11 Analysis of Variance (ANOVA).....	53
Table 12 Results of Multiple linear Regressions	54

TABLE OF FIGURES

Figure 1 The 5 service Dimension customer care.....	19
Figure 2 Conceptual Frame work of the Study	31
Figure 3 Experience in years in the Business	41
Figure 4 Summary on the Port Security	45
Figure 5 Flexibility on Custom clearance Procedure.....	47
Figure 6 Availability of Storage Capacity at the Dry port.....	49
Figure 7 Availability on Professional Personnel in the Port.....	51

CHAPTER ONE

1 INTRODUCTION

1.1 Background of the study

Ethiopia is a landlocked country in east Africa with a land area above 1.1 million square kilometers and a population of about 110 million. 85 percent of the population is living in rural areas and the economy of the country is based mainly on agriculture accounting for 45 percent of GDP, 80 percent of exports and 80 percent of employment.

Landlockedness refers to the geographical situation of a country that is completely surrounded by land (UNCTAD,2017).According to world population review 2019, there are 49 landlocked countries in the world and of these landlocked nations made up over 11% of the world total area and nearly 7% of the world population.

The impact of being landlocked is based on the idea of dependence over the transit time, cost and related conditions. This has produced dependence necessarily implies high transaction costs. This coupled with lack of sea port resulted in poor linkage of producers (farmers) to the consumers (market) and non-competitiveness of Ethiopian goods on global market, which compromised livelihood of the people and economy of the country (World Bank ,2017).

The Ethiopia-Djibouti corridor is the key route for trade. Since the independence of Eritrea in 1993, key factor shaping the external environment in which Ethiopia exports and imports trade. The Ethiopia-Djibouti Corridor linking Ethiopia to the Port of Djibouti is now the dominant gateway for the country with over 90% of Ethiopia s imports and exports using this route (Fekadu, 2013).

High transit transportation cost is affecting landlocked developing countries' competitiveness in the international trade was reviewed at the United Nation Economic Commission for Africa (UNECA, 2013). Ethiopia consumes 16% of its foreign trade value which is about two million USD per day for transit reported at the African review meeting on the implementation of Almaty Program of Action, 2013.

According to Ethiopian Minister of Finance and Economic Development , local import- export firms in landlocked Ethiopia face a number of challenges that affect their competitiveness in the international trade including poor trade logistics which adds about 10% to their production cost. Shipping costs and cost of transit of goods from port to main land are also some of the burdens that these firms face.

Port have been assumed increasingly importance to suit the need of the market and regional development of the nation's, according to Notteboom and Rodriguez (2009), observed that the evolution of dry port was looked at as the cycle in the continuous development of containerization and intermodal transport. Multimodal transportation and dry port system become a focal strategy in customer supply chain.

According to MoFED 2015, Ethiopia has experienced rapid and stable economic growth for the past decade. During this period, country has fast and relative stable growth achieved by low income sub-Saharan African countries. To support fast economic growth and upgraded economic infrastructure, Under GTP I, a series of investment programs in energy, transport (road and rail) and telecommunication were undertaken. Significant power generation capacity was constructed, as were complementary investments in sub-stations, power transmission and distribution to carry power to users. Rail corridors have been constructed, linking local and regional markets and through Djibouti port, connecting Ethiopia to global markets.

Major investment was also made in telecommunications to improve service quality, expand service coverage and to enhance institutional capacity. Under GTP II the government is giving special consideration to infrastructure development that helps in attracting investment, creates market opportunities, enhances competitiveness and boosts regional economic-integration, namely road, railway, dry port, air transport, energy, telecommunication, water and irrigation schemes (World Bank,2017).

The capacity and success on good logistics management with fast, economically and reliable integration would put a country for development and provide a competitive on the world market. However, the country logistics system can be characterized by poor logistics management

system and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number and age, damage and quality deterioration of goods while handling, transporting and in storage (Fekadu, 2013).

Gebresenbet Girma 2015, the Ethiopian government drafted a logistics strategy, and implemented what is called multi modal transportation system (de facto an intermodal system), where as nearly all shipments had to be processed under Ethiopian Shipping & Logistics Services Enterprise, which is a government owned shipping company (ESLSE profile, 2014). Dry ports were introduced as a way of accessing the hinterland and also reduce the pressure on the bottlenecked, congested and inefficient sea ports (Zigong J., 2015). Ethiopia, being a landlocked country relies heavily on dry ports efficiency.

Ethiopia started constructing dry ports in its territory along the transit corridors, among them, Modjo, Gelan, Semera, Kality, Mekele, Dire-dawa, Kombolcha ,Hawassa and recently Woreta have become operational (ESLSE, 2018). As mentioned above activities of the dry ports are managed and supervised by a public enterprise called Ethiopian Shipping and Logistics Services Enterprises (ESLSE) under the Ministry of Transport. According to ESLSE (2018), main services are: loading & unloading of containerized import goods, Vehicles, unstuffing imported goods, serving as a depot, containers' maintenance and transportation.

To achieve success and benefit from the dry port that ESLSE managing, the efficient and effective performance of dry ports is very sensitive. Many factors influence efficient delivery of services in kality dry ports. Some of the factors are poor infrastructural facilities, more often, customers of the Addis Ababa dry port complained that they are not getting quality service. This paper explores the effect of Kality Dry port service on perceived customer satisfaction.

1.2. Statement of the problem

The global market currently is high competitive, competitions become stiff and increasing time to time. Ethiopia has experienced rapid and stable economic growth over the past decade. From 2004 and 2014, real GDP growth averaged 10.9 percent per annum (MoFED, 2016).

This is the fastest growth that the country has experienced and is considerably above the average achieved by low-income and Sub-Saharan African countries during this period. Recent growth was also noticeably stable, as the country avoided the volatility brought by spells of drought and conflict which plagued growth in the past (World Bank, 2017).

The landlocked developing countries continue to face serious constraints and challenges in the areas of trade, transit, and overall socio-economic development. With no direct access to the sea and port charges at the monopolistic Djibouti port, landlocked Ethiopia appears to be at a disadvantage when it comes to competitiveness and efficiency of transportation of goods. Ethiopia, as landlocked developing country, faces number of challenges. High transit transportation costs, limitation of technical and technological capacity, imported inflation, limited investable resources and low mobilization of domestic financial resources to finance the massive investment requirement for rapid growth (Fikadu, 2016).

The country poor logistics raised costs for local industries and hamper the country's competitiveness in the global market (IMF, 2014). According to IMF report inefficient logistics not only impede Ethiopia's exports potential, they also increase the costs for consumers for imported goods. Improving trade logistics are thus very important for making Ethiopia's export sector globally competitive.

However, dry ports could be a solution to this problem as it facilitates the international trade of the country with the rest of the world. With a dry port, goods being transported to a landlocked country, rather than undergoing customs procedures at the sea port, would instead be transported directly to the country's dry port, where customs clearance would take place. Consequently, efficient dry ports could help reduce these transport costs and make them better able to satisfy customer.

The World Bank Logistics Performance Index (LPI), 2018, which is an overall LPI score measures the performance of a country's logistics based on efficiency of customs clearance process, quality of trade and transport-related infrastructure, ease of arranging competitive

shipments in terms of price, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time.

According to this index Germany, Sweden and Belgium are the most efficient and highest ranked LPI countries at positions 1, 2 and 3 in the 2018 LPI. In Africa, South Africa, Cote d'Ivoire and Rwanda are the most consistent and highest ranked in logistics performance at positions 33, 50 and 57 respectively. East African countries have had mixed rankings with Kenya ranked the highest at position 68 while followed by Djibouti(90),Uganda(102),Sudan(121),Somalia (144), and Eritrea (155)and from all 160 countries this index analyzed Ethiopian is not in a list.

World Bank 2018, LPI report, all the above six key dimensions of logistics performance measured suggest that Ethiopia's trade logistics are fundamentally weak and need to be improved. Following the above discussion of the global competitiveness, how is ours recently established multimodal system in kaliti dry port service delivery effect on the customer satisfaction through the logistics performance indicators?

Fully developed infrastructure and network system could support the port for smooth flow of information that links users, custom and terminal activities; service that dry port delivers would help to reduce transit cost which enables the country to save significant annually incremental amount of foreign currency as a result of unnecessary time stay (demurrage) of containers in Djibouti port.

Following the analysis the establishment of these dry ports has presumed saved the country millions of foreign currencies. However, customers of the Addis Ababa dry port have expressed complaints about the efficiency and effectiveness of the port, saying that it affects their competitiveness in the international trade. Some of the complaints include poor trade logistics, reduced free time for imported cargo, and unavailability of empty containers and enough storage facilities. In addition, customs clearance delay was also one of the issues affecting their performance. Customs clearance delay had also worsened the congestion in Djibouti port apart from the problem that might arise from lack of harmonization among the employees of the dry port remain the major challenges that escalated Ethiopia's total logistics costs for its imports and

export trade which affected the country's competitiveness in the international market (Hiwot Tadesse, 2016).

Abdurezak Mussema, (2016), Kality dry port cargo importers frequently complained about the slow pace goods and service delivered by terminal dry port (ESLSE) and that leads to a serious congestion problem in the dry ports which has, in turn, resulted in substantial operating costs for the port and to the customers.

Furthermore, Fortune newspaper, reported dry port users are complaining about poor service and inefficiency. It states that very slow loading, unloading, custom clearance and favoring customer with benefit are usual practice.

From physical observation at the dry port and customer found handling their shipments are less satisfied with service quality, low custom operation, and lack of up-to-date information about cargo status. Observed that port machinery and equipments are everywhere non-maintained and noted slow loading unloading container. Corrupted behavior of not few numbers of staff in terminal complaint received; poor network communication and lack of space in the compound noted.

Those above are some major complaints at Kality dry port; giving the important role of dry ports to the entire economy of the country and as there is no study examining on the effect of dry port service with perceived port user satisfaction in particular kality dry port. In this regard, a research carried out to urge a major gap between expectation and service delivery so that it is worthy to asses effect of dry port service delivery on its customer satisfaction.

1.3. Research questions

The research explores the following questions, to assess the effect of dry port service on the customer satisfaction.

- How does Kality dry port service delivery affected by custom clearance process?
- How does the service of Kality dry port is reliable to its customers?

- How do the staffs influence the Kality port service?
- How port equipment availability determine Kality dry port service performance?
- How does the dry port infrastructure and port size affect the terminal service delivery?

1.4. Objective of the Study

1.4.1. General Objective

The main objective of this study is to assess the effect of Kality dry port service on customer satisfaction.

1.4.2. Specific Objective

The specific objectives of the study are,

Assessing the effect of kality dry port service delivery in its

- ✓ To asses effect dry port equipment handling on the customer satisfaction
- ✓ To identify the effect of custom operational activity on the kality dry port service.
- ✓ To identify the influence of terminal staffs on dry port service.
- ✓ To asses service reliability on the customer satisfaction
- ✓ To assess facility, size of storage and port infrastructure

1.5. Scope the study

Ethiopia is a country over a million square kilometers and developing dry ports for the rapid and sustainable economic growth all over the region. This study will be conducted assessed effect of service to satisfaction of kality dry port users? ESLSE is managing 8 (eight) dry ports, namely Modjo,Kality,Mekele,Diredawa, Kombolcha,Gelan,Semera and Hawassa most recently opened in Woreta .

This shows that dry ports are scattered all over the regions and this makes difficult to study with time and fund that may require.

As a result this study will only be on the effect of Kality dry port service on the satisfaction of users in Kality, in Addis Ababa.

1.6. Significance of the study

The study is highly useful tools to indicate significant factors to identify service satisfaction in kality dry port and terminal delivery by analyzing logistics performance index affects service quality.

It would have given additional complied literature reviews on service quality and customer satisfaction, dry port performance measures and other related topics.

Furthermore, it provides additional insights to the researcher in this area for further future study.

1.7. Limitation of the study

There are some expected limitations associated with this study that need to be viewed. The study shall cover some population group of kality ports and terminals customers (importers/exporters, transistors, drivers, due to budget and time constraint data will not be from the entire population.

Lack of many papers and written reference on the related recent idea of dry port to Ethiopia, lots part of the literature has gone through with the foreign reference material.

The study assesses the effect of the kality dry ports service with customer satisfaction. This is only related with existing service delivery and their clients' perceived satisfaction and final outcome shall not be the generalization to all dry ports in Ethiopia as each one might have different circumstances.

CHAPTER TWO

2. RELATED LITERATURE REVIEW

The literature review part of this study has theoretical literature review and empirical literature review parts. The theoretical part presents the summary of theories forwarded by different scholars pertaining to the subject under study at different times. Whereas the empirical part contains summary of similar or related research findings obtained from other earlier researches.

2.1. Theoretical Review

Many points have been raised by different authors in relation to the concepts and theories of dry port multimodal transportation practices, challenges and its benefits so far. It has been tried to summarize and present those concepts and theories only relevant to the topic under study.

2.1.1 Concept and theories about Dry port

The European commission, (2000), defines intermodal transport as the following: “There is a consensus that intermodal transport constitutes a transport process in which two following conditions are fulfilled: Two or more different transport modes are deployed. The goods remain in one and the same transport unit for the entire journey.”

A dry port (sometimes inland port) is an inland intermodal terminal directly connected by road or rail to a seaport and operating as a center for the transshipment of sea cargo to inland destinations. In addition to their role in cargo transshipment, dry ports may also include facilities for storage and consolidation of goods, maintenance for road or rail cargo carriers and customs clearance services. The location of these facilities at a dry port relieves competition for storage and customs space at the seaport itself.

A dry inland port can speed the flow of cargo between ships and major land transportation networks, creating a more central distribution point. Inland ports can improve the movement of

imports and exports, moving the time-consuming sorting and processing of containers inland, away from congested seaports (Gujar and Yan, 2010).

The dry port concept is based on a seaport directly connected by rail with inland intermodal terminals where containers can be dealt with in the same way as if they were in a seaport. Driven by the long-term stimulus of increasing worldwide trade and globalization, the international freight transport industry thrives on continuous change and development, as reflected in managerial, regulatory and technological innovations within the sector. For container ports, in particular, the dynamic nature of such an environment has been most acutely felt in terms of considerable increases in the size of containerships (Cullinane and Khanna, 1999), the devolution of port governance (Brooks and Cullinane, 2007) and the need to reorient the marketing of port services for strategic positioning within inherently competitive supply chains, rather than simply within essentially captive hinterlands (Robinson, 2002).

As originally conceived, a ‘dry port’ was defined as an inland terminal to and from which shipping lines could issue their bills of lading, with the concept being initially envisaged as applicable to all types of cargo (UNCTAD, 1982). In both theory and practice, however, the concept has evolved not only to be closely associated with the rapid expansion of containerization and related changes in cargo handling (UNCTAD, 1991), but also to be applied in a variety of different contexts having the common characteristic of relating simply to ‘a place inland that fulfils original port functions’ (Cullinane and Wilmsmeier, 2011). In contrast, there does seem to exist a common understanding that the successful implementation of the ‘dry port’ concept will have the joint effects of lessening congestion, alleviating pressure on storage space and reducing handling operations in port, as well as delivering lower transaction costs to shippers (Padilha and Ng, 2011).

Cullinane and Wilmsmeier (2011) have aligned port development and, specifically, the ‘dry port’ concept to the Product Life Cycle (Kotler and Armstrong, 2004). In their exposition, where a port has evolved to attain the *maturity* phase, the space required for container storage and other port-related activities approaches, and eventually encounters, either a physical constraint on

further expansion, or possibly a competitive constraint from other activities and land use in areas adjacent to the port.

In accordance with this alignment of port development to the Product Life Cycle (Cullinane and Wilmsmeier, 2011), the ‘dry port’ concept can be implemented to extend the product life cycle of a port; specifically, by elongating the *maturity* phase and deferring a port's entry into a state of *decline*. In consequence, any required expansion of a port is redirected from the seaward to an inland location (UNCTAD, 1991). Of course, for this to work, the ‘dry port’ option must be practically feasible, with available and suitable physical site locations and the appropriate means of connectivity to the port itself either already present or potentially implementable.

Growitsch and Wetzel (2009), the current disequilibrium in the market is clearly unsustainable and, inevitably, the market mechanism will come into play to ensure a resolution is arrived at. The detailed evolution of the marketplace in terms of which of the current participants will actually continue to survive into the long-term future and with what market share, will be largely a function of the relative operational efficiency of each of the market players. The authors suggest that the particular nature of production and operations associated with any industry will relate very closely to the definition of efficiency which should be applied and that, in the specific case of dry port operations, this should cater equally for intangible factors as it does for the more obvious tangible aspects. Thus, they advocate that the inevitable, but undesirable, ‘negative output’ of carbon emissions from the productive activities of dry ports should also be taken into consideration.

Ultimately, however, it is apparent that the ‘dry port’ concept will continue to evolve as it is increasingly applied across the globe as a response to the challenges facing contemporary logistics in general, and ports and their hinterlands in particular.

Furthermore, Beresford and Dubey (1990) emphasize the importance of a dry port as a common user facility that would promote the transfer of goods from origin to destination without intermediate custom examination, the so-called through-transport concept.

2.1.2. Significance and role of dry port

The benefits from dry ports also derive from the modal shift from road to rail; resulting in a reduced congestion at the seaport gates and its surroundings and consequently in improved inland access, as well as in lower environmental effect (Violeta Roso,2008). Reduced energy consumption, optimization of the usage of the main strength of different modes.

According to world Bank's doing business 2013 report, the average costs of exporting a container for landlocked developing countries increased from 2,220 USD in 2006 to 3,000 USD in 2013 while transit developing countries are only paying 50 per cent of this cost.

Violeta Roso (2008), benefits from a dry port

- ✓ Increases seaport capacity
- ✓ Increases seaport productivity
- ✓ Reduces congestion at seaports
- ✓ Reduces congestion in seaport cities
- ✓ Reduces risk for road accidents
- ✓ Reduces road maintenance cost
- ✓ Lowers environmental impact
- ✓ May serve as a depot
- ✓ Improves seaport's access to areas outside

Bimodal and tri-modal inland terminals have become an intrinsic part of the dry port system, particularly in gateway regions having a high reliance on trade. Transport development is gradually shifting inland after a phase that focused on the development of port terminals and maritime shipping networks. The complexity of modern freight distribution, the increased focus on intermodal and co-modal transport solutions and capacity issues appear to be the main drivers behind a renewed focus on hinterland logistics. While trucking tends to be sufficient in the initial phase of the development of inland freight distribution systems, at some level of activity, diminishing returns such as congestion, energy consumption, and empty movements become

strong incentives to consider the setting of inland terminals as the next step in regional freight planning.

According to Jean-Paul Rodrigue and Theo Notteboom (2009), the role and added value hierarchy has emerged for inland terminals as they try to replicate inland several services performed at a port terminal, namely customs clearance, container storage, cargo consolidation, and de-consolidation. In many instances, freight transport terminals fit within a hierarchy with a functionally integrated inland transport system of gateways and their corridors, where they serve three major functions:

- **Satellite terminals.** They tend to be close to a port facility, but mainly at the periphery of its metropolitan area (often less than 100 km), since they mainly assume a service function to the seaport facilities.
- **Freight distribution clusters (load centers).** A major intermodal facility – load center – granting access to well defined regional markets that include production and consumption functions. It commonly corresponds to a metropolitan area where a variety of terminals serve concomitantly intermodal, warehousing, distribution, and logistics functions.
- **Transshipment facilities.** Link large systems of freight circulation either through the same mode (e.g. rail-to-rail) or through inter-modals (rail-to-truck, or even rail-to-barge). In the latter case, the inland terminal assumes the role of a load center. The origin or the destination of the freight handled is outside the terminal's market area, a function similar to that of transshipment hubs in maritime shipping networks. Such transshipment terminals are often found near country borders in view of combining administrative processes linked to cross border traffic to value-added logistics activities.

2.1.3 Dry port in Ethiopia, Establishment and Purpose.

Ethiopia has moved to establish various inland dry ports. The first of these dry ports in Ethiopia is to start operations in 2009 E.C. It is located at Modjo, nearly 75 km East of Addis Ababa. The other one will be located at Semera , (too-mercato, 2019).

Dry Port Administration Enterprise Establishment Council of Ministers Regulation No. 136/2007 or 136/1999E.C, according to Establishment and Purpose, (Regulation No. 136/2007 or 136/1999EC) under printed in Negarit Gazzettathe dry Port service enterprise is established as a public enterprise for indefinite duration and it shall be supervised by the Ministry of Transport; the enterprise's head office shall be in Addis and it may have branch offices elsewhere, as may be necessary.

The Dry Port Services Enterprise has now merged with two other state owned companies to form the mega-company Ethiopian Shipping and Logistics Services Enterprise.

Accordingly, the Purposes for which the Enterprise is established are:-

To operate dry ports and to provide the services of loading and unloading and storage of imported and exported goods

To provide the services of stowing and unpacking (stuffing and de-stuffing) of containerized export and imported goods

To provide container depot services

To engage in other related activities conducive to the achievement of its purposes.

There are currently nine (9) dry ports in Ethiopia.

❖ Modjo Port and Terminal

Modjo port and terminal is one of the largest operational inland dry ports in the country, which was established in 2009. The dry port is located in Oromia National Regional State Lome woreda at Modjo town. The port occupies a total area of 150 hectare while 31.7 hectare land area is used for container terminal services.

Modjo dry port is located 73 Km from the capital and it is connected to the new Ethio – Djibouti Rail way line. As the largest port in the country, Modjo Dry Port handles more than 78 % of the nation's imports and has the capacity to accommodate 17,539 TEU containers at a time and its annual container handling capacity has reached up to 136,038 TEU.

❖ **Kality Port and Terminal**

Kality port and terminal was established in 2014. The port is located in Addis Ababa at Kality Sub City. The port occupies a total area of 37 hectare while 3 hectare land area is used for container terminal services. The port has the capacity to accommodate 1241 TEU containers at a time and its annual container handling capacity has reached over 23,131 TEU.

❖ **Gelan RoRo Terminal**

Gelan RoRo / vehicles terminal was established in 2014. The dry port is located in Oromia National Regional State, 25 km from the capital. The port occupies a total area of 23 hectare while 4.5 hectare land area is used for Ro Ro/ Vehicles terminal services.

❖ **Semara Port and Terminal**

Semara port and terminal was established in 2010. The dry port is located in Afar National Regional State at Semara city. Semara is located approximately 592 km from Addis Ababa and 270 km from Djibouti, which is the main import and export gate of Ethiopia as a land locked country. The port occupies a total area of 160 hectare while 2.5 hector land area is used for container terminal services. The port has the capacity to handle 1180 TEU containers at a time and its annual container handling capacity has reached up to 2378 TEU.

❖ **Dire Dawa Port and Terminal**

Dire Dawa port and terminal was established in 2013. The dry port is located in Dire Dawa city administration. Dire Dawa city is located approximately 550 km from Addis Ababa. The port occupies a total area of 0.78 hectare while 0.78 hectare land area is used for container terminal services. The port has the capacity to accommodate 368 TEU containers at a time and its annual container handling capacity has reached up to 3852 TEU.

❖ **Kombolcha Port and Terminal**

Kombolcha port and terminal was established in 2013. The dry port is located in Amhara National Regional State at Kombolcha town, which is approximately 380 km from Addis Ababa. The port occupies a total area of 15 hectare while 4 hectare land area used for container terminal services. The port has the capacity to handle 1888 TEU containers at a time and its annual handling capacity has reached up to 4891 TEU

❖ **Mekelle Port and Terminal**

Mekelle port and terminal was established in 2013. The dry port is located in Tigray National Regional State at Mekelle city, which is approximately 783 km from Addis Ababa .The port occupies a total area of 3 hectare while 3 hectare land area is used for container terminal services. The port has the capacity to handle 1440 TEU containers at a time and its annual container handling capacity has reached up to 7789 TEU.

❖ **Hawassa Port and Terminal**

Hawassa port and terminal was established in 2018. The dry port is located in Southern Nations and Nationality Peoples Regional State at Hawassa city, which is approximately 300 km from the capital.

The dry port is providing services in its satellite office at Hawassa Industrial Park. The construction of the port will be commenced at the plot of land given from the Hawassa City Administration.

❖ **Woreta Port and Terminal**

Woreta port and terminal was established in 2019. The dry port is located in Amhara National Regional State at Woreta town, which is approximately 620 km from Addis Ababa. Currently the port is under construction. The port occupies a total area of 20 hectare while 3 hectare land area is going to be used for container terminal services. The port has the capacity to handle 900 TEU containers at a time.

According to Ethiopian shipping including logistics service enterprise, the sector administers 9 ports and terminals, leads and monitors project activities and the development of other dry ports. Services Port and Terminal Sector renders;

- Providing port and terminal services for import and export cargoes including Ro-Ro, vehicles receiving and handling over of cargoes to customers
- Receiving and delivering cargoes
- Loading and unloading of cargoes
- Placing goods out and place goods into container
- Providing of shades for perishable or defecting cargoes
- Provision of empty containers
- Stuffing and sending export cargoes
- Container washing and maintenance service
- Warehouse services for incoming cargoes and other cargoes of various feature
- Facilitating related services such as the availability of bank and insurance services in ports and terminals
- Providing port clearance services

2.1.4. Customer Service

2.1.4.1. The definition and importance of customer service

As compared to physical products, service has attribute of intangible, heterogeneous, produced and consumed simultaneously, unable to be kept in stock, etc. A widely accepted definition of service is proposed by Gronroos (1990) states that “service is a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems”. This definition inferred that service is a process where interactions between customer and service provider most often exist.

Many companies also provide self-service support, so customers can find their own answers at any time day or night. Customer support is more than just providing answers; it's an important part of the promise your brand makes to its customers.

In the past, people chose which companies they did business with based on price, or the product or service offered, but today the overall experience is often the driver. Great customer support drives an amazing customer experience, especially when your support team moves beyond just reacting to problems and toward anticipating customers' problems.

2.1.5. Service quality

Service quality is essential for the success of any organization in the global competitive business environment. Service quality is the basic and the most important aspect that affects the competitiveness of business (Kotler and Keller, 2006).

Service providers want to know what customers (internal or external) care about. Service quality is a good guess. Price, and to a minor degree product quality, also count. But for service providers, customers care most about service quality.

Zeithaml, Parasuraman and Berry (1985) after extensive research, found five dimensions customers use when evaluating service quality. They named their survey instrument SERVQUAL.

In other words, if providers get these dimensions right, customers will hand over the keys to their loyalty. According to what's important to them.

The five SERVQUAL dimensions are:

TANGIBLES-Appearance of physical facilities, equipment, personnel, and communication materials

RELIABILITY-Ability to perform the promised service dependably and accurately

RESPONSIVENESS-Willingness to help customers and provide prompt service

ASSURANCE-Knowledge and courtesy of employees and their ability to convey trust and confidence

EMPATHY-Caring, individualized attention the firm provides its customers

Not all dimensions are equal, All dimensions are important to customers, but some more than others. Service providers need to know which are which to avoid majoring in minors. At the same time they can't focus on only one dimension and let the others suffer.

SERVQUAL research showed dimensions' importance to each other by asking customers to assign 100 points across all five dimensions.

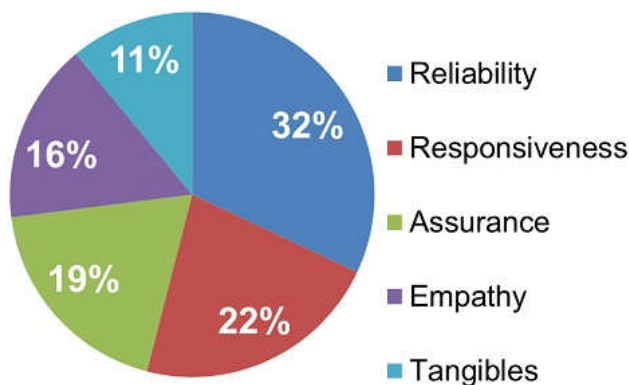


Figure 1 The 5 service Dimension customer care.

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.

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/ knowing/ the customer
- ❖ Tangibles

This 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. in 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.

2.1.6 Dry port service dimensions

Dry ports play a critical role in the economy of many countries and regions. Failure or unreliability of port services can significantly influence port customers—shipping lines and cargo owners—and result in their dissatisfaction.

Ports are well known as playing an important role in multimodal transport systems and international supply chains, apart from their traditional role as clusters of economic activities. Ports 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).

Vandervoort and Morgan (1999), a dry port must fit into a complex system where the necessary supporting infrastructure (roads, railways) is in place, maintenance is assured, and the regulatory

and institutional systems are properly designed to optimize the involvement of both the public and the private sector.

The main problems seaports face today, as a result of growing containerized transport, are lack of space at seaport terminals and growing congestion on the access routes serving their terminals. Parola and Sciomachen (2005) modeled and simulated the potential growth of container flows. Their findings show that the modal imbalance results in increased road traffic congestion, since a growth in the sea flow implies an almost proportional increase in the road flow.

The activities have to be analyzed systematically and compared with an old data to make improvements seeking overall performance of the company and meeting Customer's needs better. Terminal customers (as well as their handling orders) are tending to be attracted to the dry port by using the equipment more efficient than others and having experienced staff (Cezar-Gabriel, 2010). Performance indicators are used in order to move terminals to standardized processes for collecting and evaluating data on the performance of dry ports (Kumar Shukla, Garg & Agarwal, 2011).

Ruto and Datche (2015) study logistical factors influencing port performance, taking Kenya port as a case study. The research was implemented in descriptive survey design concludes port custom clearance, frequent loose in IT network (Infrastructure), slow loading unloading process and inadequate yard capacity contributes poor performance in Mombasa port.

Performance assessment to service delivery has to be understood as an important strategic tool which also helps to accomplish the objectives required for fulfilling a terminal customer demand (Roach, 2004). Following multi dimension of dry port service the study aim to evaluate effect with operational activities against some of factors influencing dry port performance dimension variables. I.e., port handling equipment, port infrastructure, relevant custom activities, and size of dry port, staffs and reliability.

2.1.6.1. Custom

Custom operation is not a direct dry port activity, instead it is support role that clearance process practice in advance before loading and unloading of cargoes or containers is done. The custom variable dimension is also based on the flexibility of custom operational procedure and on time update information of arrival and exit cargo release.

The World Customs Organization (WCO) defines Customs as “the government service which is responsible for the administration of Customs law and the collection of import and export duties and taxes and which also has responsibility for the application of other laws and regulations relating, inter alia, to the importation, transit and exportation of goods.”

In Ethiopia, ERCA’s functions include the enforcement of the Customs Proclamation provisions governing the import and export of cargo, baggage and postal articles; the arrival and departure of vessels, aircrafts, and other means of transport; goods in transit; and the governance of any goods subject to customs control, including rights and obligations of persons taking part in customs formalities.

Accordingly, the Ethiopian customs law contains provisions that clearly prescribe the basic guiding principles that have to be applied on customs operations. These guiding principles, which have important implications for the roles of all stakeholders, including the traders themselves, are the following ones (Ethiopian custom guide p.23, 2017).

Customs procedures mean the treatment applied by the Customs Administration of a Party. To goods, which are subject to that Party's customs law; Revised Kyoto Convention means the World Customs Organization's International.

As World Customs Journal, the Customs has always traditionally been responsible for the implementation of the policies of many countries in such spheres as payments collection, trade development, control over the movement of the prohibited substances, protection of the cultural heritage and intellectual property.

General functions; - Customs personnel; - function of documentary support - import/export Customs clearance and Customs control; - Customs payments and statistics; - legal support of Customs activity; - combating Customs offences; - information technologies as well as technical

resources support; - accounting; - internal security; - Customs borders and Customs infrastructure protection. The speed activity in custom process affects the performance in any ways the dry port service activity.

2.1.6.2. Port handling equipment

Multimodal method uses different means of transport, after the trucks arrived on the dry port; container handling equipment's shall do the necessary next work. Equipment used for loading/discharging operations: e.g. cargo cranes, side-loading system with conveyors, side shifters, elevators, belt conveyors, Ro-Ro cargo handling gear and cargo pumping systems. Cargo handling equipment varies depending upon the type of cargo.

Cargo handling is an extensive subject and primarily involves the interface between the ship and port. The degree of efficiency attained to maximize cargo throughput at a berth, quicken ship turn-round time in port and minimize cargo-handling cost overall affects the development of international trade and cost of the international distribution of goods. Port managements throughout the world are becoming more conscious of the need to provide modern equipped berths with their attendant capital-intensive cargo-handling techniques involving low labor content as a means of increasing their general competitiveness and encouraging trade through their port. Modern berths with modern cargo-handling systems attract modern tonnage, thereby offering competitive international transport distribution services. Failure of a port to modernize its berths and attendant cargo-handling systems will encourage ship-owners and shippers to use other ports where practicable/possible (Alan E. Branch, 1986).

How much equipped with operating machines of loading unloading are ready, efficient with availability and capacity?

2.1.6.3. Port size and facilities

According to Surendran Kollerath ,2019, dry port offers all the facilities available in seaports for both exporters and importers. Storage and inspection of containers, as well as other procedures

related to customs and duties, are carried out in the dry port. Customs clearance is provided at the factory or warehouse of the exporter. This will save at least 30 to 40 per cent logistic services' costs. These savings can be passed on to consumers in lower production costs and so products can become internationally competitive. One of the advantages of the Dry port is that imports and exports can be released on a weekly or even daily basis, meaning- that customs expenses can be spread evenly over the financial year, and need not have to be paid in one bulk sum. It is thus clear that this facility shall function essentially as an "Enhanced" container freight station with all essential facilities expected at a port. The following facilities would be incorporated in the dry Port.

- ✚ Container Yards
- ✚ Transit Sheds
- ✚ Warehouses
- ✚ Railway Siding
- ✚ Truck Parking

The Dry Port would be fully complemented with modern cargo handling equipment. Even lighter functions such as stuffing /destuffing of containers would be mechanized from the start to avoid a buildup of labor presence. Further, it would be possible to obtain all statutory clearances relating to the export/import /transport of cargo at the facility.

Many researches show the size of dry port has an influence on activity. The larger the size the larger the storage area, as well as wider movement area for trucks.

2.1.6.4. Port infrastructure

On the comparative case study through face to face interview and literature review carried out by Violeta Roso (2008) , the most common factor that impede dry port implementation are infrastructure, land use, environmental and regulation. Hence, same reduce efficiency if freight movement on land access routes to and from sea parts. According to him, an advanced inter

modal terminal must fit into a complex system where the necessary infrastructure is in place and regulation system are properly designed to optimize the involvement of both public and private sector. Dry ports are often located near major ports, airports, and national borders, to offer geographic advantages for trade. The need to move goods is growing, which demands integrated transport solutions that are cleaner, safer, and more efficient.

High - quality transport infrastructure is one of the key elements of the modern economy. At present, in the context of growing transportation volume, the development of transport infrastructure is of particular importance for all countries. The role of dry ports in constructing cross-border logistics networks attracts more attention to the countries governments. The concept of "dry port" as an element of transport and logistics infrastructure for the modern transport system, and the prospects for the development of such facilities in international significance. Integrated infrastructure management of international importance in the concept of "Dry port" and "Smart logistics", taking into account the peculiarities of the use of transport and cross-border infrastructure of countries for the formation of new transport solutions (The Archives of Automotive Engineering – Archiwum Motoryzacji Vol. 84, No. 2, 2019).

Dry port must fit in to a complex system where the necessary supporting infrastructure (road, railway, information system) is in place.

2.1.6.5. Dry port staff

Effective employees focus on the customer. Everything they do is from the customer's perspective. They know that without the customer nothing else matters. They prioritize their work, but drop it to deal with customer issues. They work tirelessly to create the right processes and environments that support the customer.

Successful businesses work to gain the trust of customers and maintain the attitude that "the customer is always right." It is the responsibility of each person to use their own individual sense of moral and ethical behavior when working with and serving others within the scope of their job.

The better operating efficiency of the dry port equipment and staff the more customer satisfaction would be. The professionalism; behavior ethics would have a big factor in affecting the service delivery to the satisfaction of their customer.

2.1.6.6. Reliability

Dry ports are built in area where near to city far out of the sea port. Port security is vital because marine transport is a very thriving and extensively used form of conveyance, especially for cargo transportation. Since the cargo containers could be used inappropriately, it becomes important that proper monitoring and inspection of the transferred cargo is carried out. It includes the protection of the ports themselves and the protection and inspection of the cargo moving through the ports. Security risks related to ports often focus on either the physical security of the port, or security risks within the maritime supply chain.

According to IMO, 2006, Ports are busy areas and are spread over a very large area. This would mean that certain areas of the ports can be inaccessible all the time as far as patrolling is concerned and therefore could lead to stealing of cargo from the cargo containers.

The requirement of maritime security has increased in recent times. Since terrorists and pirates have started using the marine route to cause greater levels of damage to the society, it becomes necessary that the countries try and incorporate a systematic law that will help to preserve the security of ports and overall marine areas.

The demand on quality service delivery has to be managed with, claims, complaint, handling of damage and incident cases.

2.2 Empirical Review

Ethiopia has moved to establish various inland dry ports; the first of these dry ports in Ethiopia is to start operations in 2009 E.C. It is located at Modjo, nearly 75 km East of Addis Ababa. The dry port concept is relatively new to our country. Due to the newness of the research topic in Ethiopian perspective there is no similar research work found prior to this study even in

particular dry port in Kality as itself stated working as a dry port on November 2014. Nevertheless, there were at least some researches that somewhat worth to mention.

Abduzak Mussema (2016) did a study on “assessment on determinants of dry port performance: a case study of Modjo dry port”. The study revealed that dry port performance is significantly determined and associated with the reliability of supply chains and the predictability of service delivery for producers and exporters. Indeed, inefficient logistics raises the costs of trading and reduces the potential for global integration.

Tagel Gebremichael (2014) did research to examine the practice and challenge of multimodal transport operation in Ethiopia shipping and logistics enterprise. Having seen the existing practical challenges now ESLSE facing has recommended based on result that it would be better for the enterprise to ensure its readiness in different aspects before launching any new kinds of service in the multimodal transport system.

2.2.1. Summaries of Empirical Studies

Table 1 2.1 Summary of Empirical Studies

S/N	Topic of the research	Researcher Name, year and country	Research findings
1	Dry Ports Service Quality in Ethiopia: The Case of Modjo and Kaliti Dry Ports	Yodit Regasa Gudisa,2006,Addis Ababa, Ethiopia	Data analysis revealed that there is low level of expectation among customers and a corresponding low level of perceived service quality in both dry ports and terminals. Also these SERVQUAL

	and Terminals A-Comparative Study		gap score is naught. Moreover, the study has found that Kaliti dry port and terminal performed worse than Modjo.
2	Exploratory Study of the Dry Port Service in Ethiopian Context: The Case of Addis Ababa Dry Port Kaliti Branch	Hiwot Tadesse,2016, Addis Ababa, Ethiopia	On the findings, there is a lot to be done on both in infrastructure and human power so that the dry port would be competitive and deliver a quality service to all its customers.
3	Challenges of Multi-Modal Transport Services, the Case of Ethiopian Shipping and Logistics Enterprise	Ayele Legesse 2014, Addis Ababa, Ethiopia	The study found out that Poor employees' performance, poor documentation handling, unavailability of physical facility were among the internal Challenges. Unprofessional involvement on the side of stakeholders, inadequate financial capacity to carry out the operation.
4	Determinants of dry port performance: the case of modjo	Abdurezak Mussema ,2006, Addis Ababa, Ethiopia	frequent complains of customers on congestion and delays in operations of Modjo dry port,

	dry port		
5	Measuring the level of customer satisfaction in multimodal transport service in case of ESLSE	Tamirat Gezahen No year Mentioned. Addis Ababa, Ethiopia	According to the result of the study collaboration is identified as the priority and competence, competitiveness, reliability, assurance, reputation, accessibility, awareness and power are set from second to nine respectively.
6	The practices and challenges of multimodal transport operation in Ethiopian shipping and logistics services enterprise	Tagel G/Michael 2014 Addis Ababa, Ethiopia	Based on the findings of the research most of the respondents were dissatisfied with the information dissemination performance, dry port and terminal services, inland transport services and customer service performances of the enterprise.
7	Assessment of freight transport and transportation infrastructures	Nathanael	From the research it was found out that for containerized goods, inland road transportation from Djibouti to Modjo dry port, it takes 2 – 10 days

	along international trade route	challa,2015, Addis Ababa, Ethiopia	on performance basis under normal circumstances. The joint command post at Modjo dry port found congested number of containers and their dwell time on the port.
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Source (literature reviews)

2.2.1. Summary and gaps

The above tabled literatures have shown each different view on the dry port concept, service qualities, practice, transport infrastructure routes, satisfaction and multimodal operation.

The World Bank logistics performance index (LPI), 2008, which is the overall measurements of performance of logistics efficiency with six key dimensions measure efficient and effectiveness of logistics performance.

Therefore, in order to assess the customer satisfaction with those six LIP key dimensional measurements would expect to get better based on the accepted principles.

Based on this the study aimed to assess the effect of dry port services on the customer satisfaction in kality dry port.

2.3. Conceptual framework

Below figure 2.The conceptual frame work developed based on the dry port dimensions as a variable with their effect on customer satisfaction. This is a guideline study flow. The determinant variables are believed to influence the dependent customer satisfaction variables.

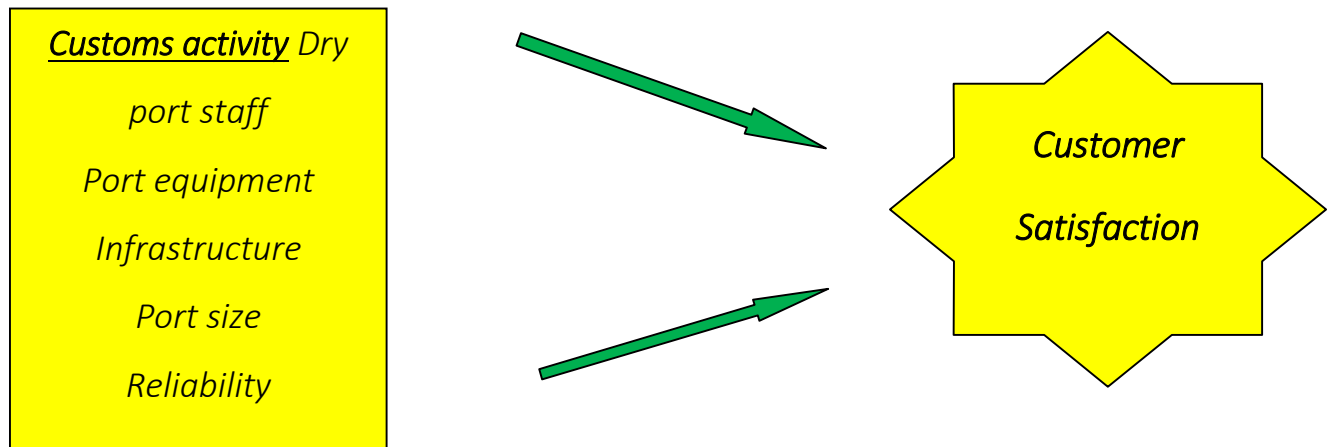


Figure 2 Conceptual Frame work of the Study

2.4 Theory and Hypotheses assumptions

Considering the fact that shortage on the available literature on dry ports models need to be develop the affecting factors of dry ports, by reviewing related research on seaports, which can provide useful insight to the study due to the similarity of dry ports and seaports on some aspects.

The main objective of this paper is focused on performance measurement indicators to assess the effects of different independent Variables in either amongst or separately to the dependent variable of customer satisfaction on kality dry port.

This study developed five hypotheses to address the customer satisfaction affecting factors:

H1: The availability of skilled staff is positively related to the customer satisfaction.

H2: The availability of port handling equipment will have positively related to the customer satisfaction on kality dry port users.

H3: Customer satisfactions will increase with the reliability and security of the dry port service.

H4: The performance of the custom operation will be positively related to the customer satisfaction.

H5: Customer satisfaction will be positively related to the size of the dry port and its infrastructure.

CHAPTER THREE

3. Research Methodology

3.1 Introduction

This chapter presents the procedures, methods and techniques the researcher adopted in the research work. The methodology enlightened on the tools or techniques for the research approach, research design, data collection, the population, sampling techniques, data sources, data collection instruments, and data analysis plan. In order to identify the effect of kality dry port on the customer satisfaction, the study required to develop standardized questionnaire and collect primary data from different kality port users and port servants or staffs. As a result the study involves business owners engaged in import and export, transistors (freight forwarder), drivers and custom officers.

3.2. Study Area

This research will focus on kality Dry Port, as Kality is found at eastern edge of the country's capital. The study is done in Addis Ababa and explores issues related to the problems and gaps of the customers' dry port service satisfaction.

The dry port handles the import and exports of the country mainly from Djibouti sea port which is 958 kilometers away.

Moreover, with budget and time factor the study is conducted in Addis Ababa Kality dry ports from 10 (TEN) similar facility that the country currently have.

3.3. Research Design

This research designed employed in descriptive survey method together with qualitative and quantitative research approach. Crosswell (1994), descriptive type of research is a technique of

gathering information about the existing conditions. Descriptive research is defined as a method describes the characteristics of the population of phenomenon that is being studied.

In Other words descriptive research focuses in describing the nature of demographic segment without focusing the “why” a certain phenomenon occurs.

Descriptive Survey research is a quantitative approach that features help us to use of self-report measures on carefully selected samples. It is a flexible approach that can be used to study research questions raised in this study. The research aslo rely on collecting data which is numerically based and amenable to such analytical methods as statistical correlations and its relation to hypothesis testing.

Therefore, on this research used descriptive survey to describe the dry port service effect on the customers’ satisfaction on kaliti.

3.4. Data Sources

Data were collected is by primary and secondary sources. The primary data sources were Importers, exporters, drivers, freight forwarders (transistors) trough standard open and close ended questionnaires to respondents.

- ❖ Questionnaire is a research instrument consisting of a series of question for the purpose of gathering information from respondents. .
- ❖ The secondary data source collected and reviewed from publications, books and journals and reports by the dry port operator /ESLSE/ and ministry of transport Authority.

3.5. Population, Sampling and Sampling Technique

- ❖ **Population.** The population participating in this study were importers and exporters, freight forwarders/ transistors/ and truck drivers i.e. who transport the containerized cargo from Djibouti to Kaliti dry port.

- ❖ **Sampling.** Following the information obtained from Ethiopian shipping and logistics service enterprise (ESLSE) and Kality custom branch office, there are active (235)freight forwards/ transistors, , (500) drivers and (5315) import /exporter .

Total of 6,050 populations included.

Yamane (1967) simplified formula to determine the sample size. This formula helped to get sample size of population in the research.

According to him, for a 95 % confidence level and $p .05$, precisions.

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

Where,

N is total population size

n= is the sample size

e= is the level of precisions

N = 6,050

$$n= 6050/1+6050(.08)^2$$

$$n= 152$$

Considering a non-response rate of 10 % the sample size increases

$152 \times .10 = 15 + 152 = 167$ is the sample size

- ❖ **Sampling technique** .This research used non probability sampling technique with convenient sampling technique until all the drawn no. collected, where, the containers

being present with whoever comes in related business to Kality dry port and willing to cooperate to the study.

3.6. Tools for collection instruments and Procedures

The research used open ended and close ended standard questioners for primary data collection .The secondary source of data found from the organization's documents, e-books, reports and publications.

A partial questionnaire has been translated in Amharic language for easy understanding for some respondents.

The draft questionnaire was given and to my adviser and commented back. After amendment done pilot test was taken for sample of 12 respondents.

Actual data was given to 167 respondents in which 153 were filled back.

3.7. Method of data Analysis and Presentation Techniques

Descriptive statistics enable to examine and assess the different performance variable with detail analysis. This study used correlation and regression analysis to explain, understand, predict and control the relationship between dry port service parameters with customer's satisfaction.

Validity and reliability test has been done.

After collection the data analysis processed in help of Microsoft excel and Statistical package for social science (SPSS).

Finally, detail presentations are summarized in tables, graphs and percentage to ensure easy understanding of the analysis.

Regression analysis is a quantitative research method which is used when the study involves modeling and analyzing several variables, where the relationship includes a dependent variable

and one or more independent variables. A regression allows us to confidently determine which factors matter most, which factors can be ignored, and how these factors influence each other.

3.8. Validity and Reliability

3.8.1 Validity

Starting with validity is the extent to which the method provides the right answer; therefore, it is not only relative to the tools used, it relates also the type of data collected and the context of a study (Gabor & Gabor, 2010).

Theoretical sampling relates to the combined selection of cases to generate valid outcome of the study in dry ports and service quality associated relative similar works and literatures were seen. A pilot test done and received feedback on the question raised and developed accordingly.

3.8.2 Reliability

Cronbach's alpha test, compute in terms correlation for all pairs of variables listed, cronbach's alpha statistics for the scale tabled below. Range from 0 to 1, the closest the Cronbach's alpha co-efficient to 1, the greater consistency.

Table 2 Reliability Statistics

Cronbach's Alpha	No of items
.82	28

* Tatham and Black (2006), if α is greater than 0.7 Value, it means that it has high reliability.

3.9. Ethical consideration

This research questions are developed with informing that the reason is for academic purpose and clearly told not write names. The data collected kept confidential shall not be used for any personal motives and the whole research process performed within acceptable ethics.

CHAPTER FOUR

4 RESULTS AND DISCUSSION

4.1. Description of the Study Participant

A total of 153 respondents from Kality dry port were included for this study. Of the total respondents, 61(39.9%) and 92(60.1%) of them are female and male respectively. According to their age category, 8(5.2%) of them are below 25 years, 41 (26.8%) of them are 25-35 years, 48(31.4%) of them are 36-45 years, 53(34.6%) of them are 46-55years while the reaming 3(2%) of them are above 55 years old.

Table 3 Description of Study Participants

Variable	Category	Count	Percentage
Sex	Female	61	39.9%
	Male	92	60.1%
Age	below 25 years	8	5.2%
	25-35 years	41	26.8%
	36-45 years	48	31.4%
	46-55 years	53	34.6%
	Over 55 years	3	2.0%
Education	Diploma	37	24.2%

	Degree	61	39.9%
	Masters degree	36	23.5%
	12 grade complete	14	9.2%
	below 12	5	3.3%
Nature of your business	Freight forwarding	58	37.9%
	Driver	33	21.6%
	Importer/exporter	62	40.5%

Based on their level of education, about 37 (24.2%), 61 (39.9%), 36(23.5%) of the respondents are diploma, degree and master degree holders respectively while 14 (9.2%) and 5 (3.3%) of them are 12 complete and below 12 grade respectively. According to their nature of business, 58 (37.9%), 33 (21.6%) and 62 (40.5%) of them are freight forwarding, driver and importer/exporter respectively.

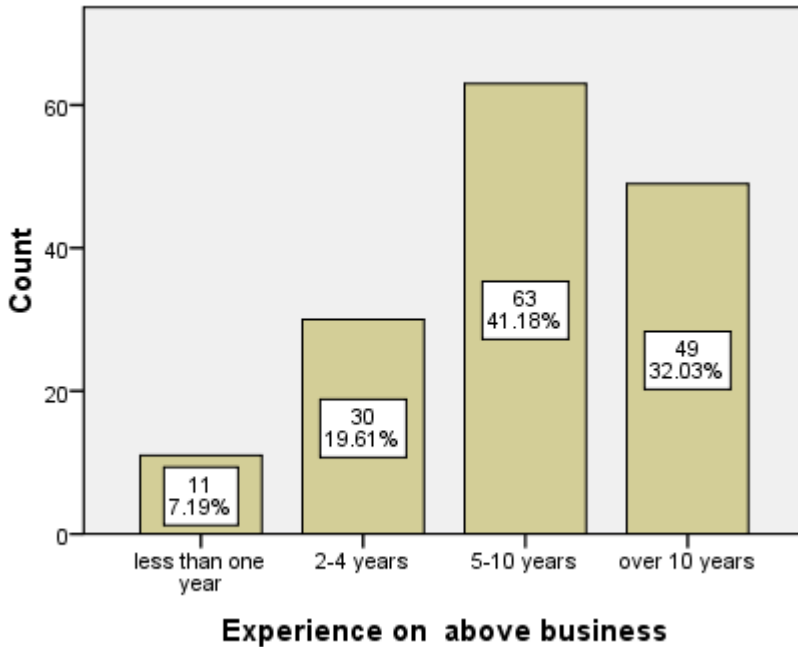


Figure 3 Experience in years in the Business

The above figure (Figure 3) showed that how long the respondents have been working on business. About 63 (41.18%) and 49 (32.03%) of them had experience 5-10 years and above 10 years of experience respectively while 11 (7.19%) of them had less than one year and 30 (19.61%) of them had 2-4 years of experience.

4.2. Satisfaction of Customers

About 66 (43.14%) of the respondents are satisfied with the custom clearance process in kality dry port and 40 (26.2%) of them are not satisfied while 47 (21.6%) of them are stay neutral. More than half of the respondents couldn't show the positive satisfaction return from the custom actives at the dry port in Kality.

More than half of the study participants 81 (52.9%) of them are satisfied with dry port staff performance while 17.7% of them are not satisfied.20.9 % of the respondents remain neutral to perceived satisfaction to the dry port performance in general.

Huge number of the study participants (72.5%) are not satisfied with kaliti a dry port infrastructure, telecom and system network. This shows a serious problem with only having around 6.6 % of respondents to record positive satisfaction to the level of dry port infrastructure and quality to the network system existing.

Table 4 Satisfaction of the Customers

Item	Response				
	Very dissatisfied	Dissatisfied	Neutral	satisfied	Very satisfied
How much do you rate the custom clearance process in kaliti dry port	7(4.6%)	33(21.6%)	47(30.7%)	52(34%)	14(9.2%)
How much do you satisfied with dry port staff performance	7(4.6%)	20(13.1%)	45(29.4%)	66(43.1%)	15(9.8%)
How do you rate the kaliti a dry port infrastructure, telecom and system network	47(30.7%)	64(41.8%)	32(20.9%)	7 (4.6%)	3(2%)
How much are you satisfied with the dry port operational activities	23(15%)	83(54.2%)	31(20.35)	13(8.5%)	3(2%)
How much satisfied are you with the facility of dry port equipment. For example, port,	4(2.6%)	15(9.8%)	30(19.6%)	73(47.7%)	31(20.3%)

cranes					
How much are you satisfied with the dry port's loading and unloading service	22(14.4%)	71(46.4%)	40(26.1%)	19(12.4%)	1(0.7%)

About 106 (69.2%) of them are not satisfied with the dry port operational activities while only 10.5% of them are satisfied. 20.35 % stay neutral. The overall operational activities delivered by kality dry port yield high level of dissatisfaction by the port user.

More than half of the respondents (68%) are satisfied with the facility of dry port equipment and 17(12.4%) of them are not satisfied with the facility of dry port equipment. More than half of them (60.8%) are not satisfied with the dry port's loading and unloading service while only 13.1% of them are satisfied with it. From the above two dimensions highly contradicting, this shows high satisfaction (more than 60 %) with availability of the port equipment the like of cranes respondents claimed but the almost the same figure of respondents are negatively satisfied with loading un loading activated that kality dry port delivers.

4.3. Results on Dry Port Service Dimensions

4.3.1. Port Handling Equipment

The following table (Table 4) revealed the summary result on port handling equipment rated by the respondents. About 99 (74.7%) of the respondents believed there is significant cargo handling equipment in the dry port while 11 (7.2%) of them said that availability of cargo handling equipment is not good.

The similar output also seen on the previous table (2) indicating 69.2 % of respondents were satisfied with the availability of port cranes and equipment.

Table 5 Summary on port Handling Equipment

Item	Response				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Availability of cargo handling equipment	2(1.3%)	9(5.9%)	43(28.1%)	71(46.4%)	28(18.3%)
Quality of container handling equipment	39(25.5%)	66(43.1%)	27(17.6%)	16(10.5%)	5(3.3%)

More than half of the respondents (65.6%) of them said that quality of container handling equipment is not good and only 21(13.8%) of them said that container handling equipment had good quality. Availability couldn't grant the qualities of port equipment.

4.3.2. Reliability

The ratings of the respondents on the reliability of the dry port service had been summarized in the following table (Table 5) and figure 4. Of the total respondents, 112 (83.2%) of them said that incidence handling in the dry pot is in a good status (agree and strongly agree) but about 6.6% of them said that incidence handling in the dry port is not good.

Table 6 Summary on the Reliability

Items	Response				
	Strongly disagree	Disagree	neutral	Agree	Strongly agree
Incidence handlings	3(2%)	7(4.6%)	31(20.3%)	86(56.2%)	26(17%)
Complain management	2(1%)	6(3.9%)	62(41.8%)	52(34%)	31(20.3%)

About 52 (34%) and 31 (20.3%) of the respondents agree and strongly agree with complain management in the dry port respectively and none of them said it is strongly disagree.

Figure 4 Summary on the Port Security

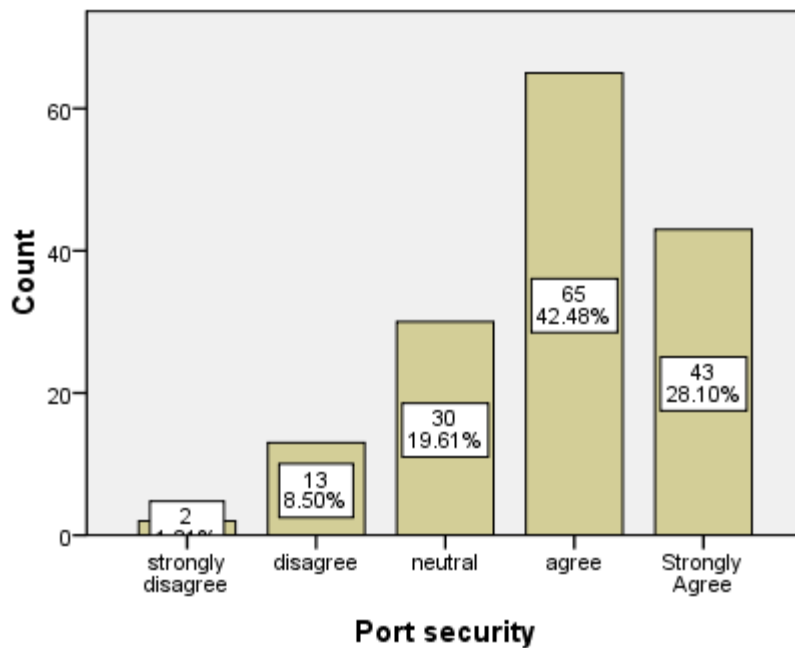


Figure 4 revealed that about 108(70.58%) of the respondents trusted in the port security and 15 (9.8%) of them do not trust port security while 30 (19.61%) of them kept neutral.

4.3.3. Custom Service

The summary of custom service in kaliti dry port is described in the following table (Table 6). Of the total respondents 97 (63.4%) of them said that operation of customs service in the dry port is continuous while 11 (7.2%) of them said the opposite. About 89 (58.2%) of them believed that customs service is efficient while 26 (17%) of them said that custom service in the dry port is not efficient.

Table 7 Summary of Custom Service

Item	Response				
	Strongly disagree	Disagree	neutral	Agree	Strongly agree
Continuous operation of customs service	4(2.6%)	7(4.6%)	45(29.4%)	77(50.3%)	20(13.1%)
Efficiency of customs service	2(1.3%)	24(15.7%)	38(24.8%)	56(36.6%)	33(21.6%)
Speed of custom procedures	37(24.2%)	60(39.2%)	38(24.8%)	15(9.8%)	3(2%)
Provision of adequate , on-time information	3(2%)	41(26.8%)	62(140.5%)	35(22.9%)	12(7.8%)

More than half of them 97 (63.4%) of the respondents said that custom procedures in the dry port is not speedy and only 18 (11.8%) of the respondents confirmed they are comfortable with the speed of custom procedure in the dry port.

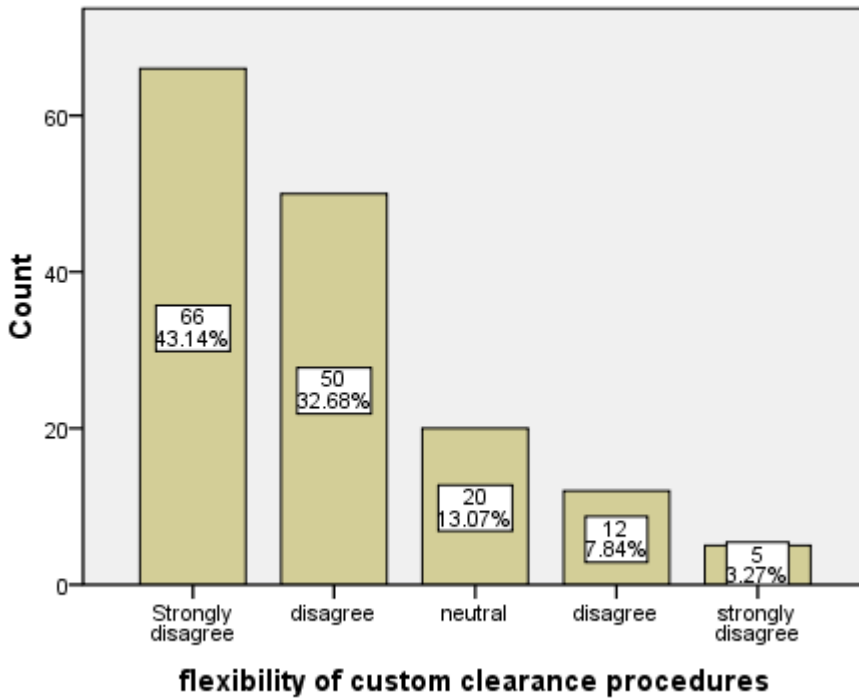


Figure 5 Flexibility on Custom clearance Procedure

The above figure (figure 5) showed that status of flexibility of custom clearance procedure in the dry port. 116 (75.82%) of them said that custom clearance procedure is not flexible while 17 (11.11%) of them believed that custom clearance procedure is flexible.

4.3.4. Size of the dry port and Infrastructure

Only 35% of the respondents agree and strongly agree with the quality of infrastructure while more than half of them (53%) believed that the port infrastructure had no quality. About 97

(63.4%) of them agreed with that there is access to port premises for pick-up and delivery (gate congestion) while 28 (18.3%) of them believed the opposite.

Table 8 Size of the dry port and Infrastructures

Item	Response				
	Strongly disagree	Disagree	neutral	Agree	Strongly agree
Quality of port infrastructure	29(19%)	52(34%)	34(22.2%)	30(19.6%)	8(5.2%)
Access to port premises for pick-up and delivery(gate congestion)	1(0.7%)	27(17.6%)	28(18.3%)	68(44.4%)	29(19%)
System and networks	49(32%)	51(33.3%)	27(17.6%)	20(13.1%)	6(3.9%)

More than half of the study participants, 100(65.3%), said that there is no enough system and networks in the dry port while 20(13.1%) and 6 (3.9%) of them agree and strongly agree with system and networks in the dry port respectively.

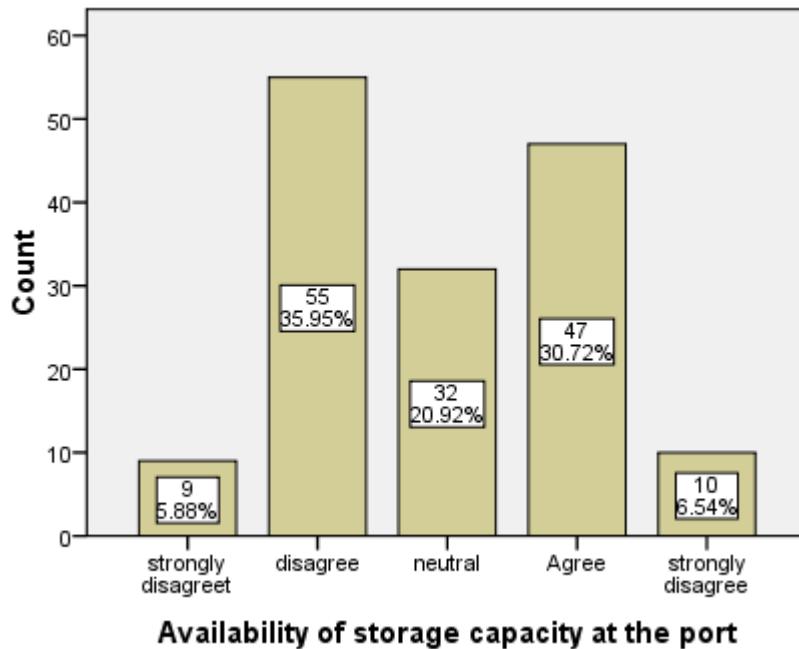


Figure 6 Availability of Storage Capacity at the Dry port

About 9 (5.88%) and 55 (35.95%) of the respondents strongly disagree and disagree on availability of strong capacity at the dry port respectively. But 47 (30.72%) and 10 (6.54%) of them agree and strongly agree with the availability of strong capacity at the dry port.

4.3.5. Dry Port staff

According to the result showed in table 6, about 50% of the study participants said that cargo handling equipment operators in cargo loading/ unloading is not speedy while 45 (29.4%) of them said the opposite of this.

Table 9 Summary on Dry port Staff

Item	Response				
	Strongly disagree	Disagree	neutral	Agree	Strongly agree
Speed of cargo handling equipment operators in cargo loading/ unloading	28(18.3%)	49(32%)	31(20.3%)	25(16.3%)	20(13.11%)
Port authority /terminal operator incentives	51(33.3%)	42(27.5%)	39(25.5%)	12(7.8%)	9(5.9%)

About 93 (61%) of them are strongly disagree and disagreed with port authority /terminal operator incentives. About 12 (7.8%) and 9(5.9%) of them agree and strongly agree with port authority /terminal operator incentives respectively.

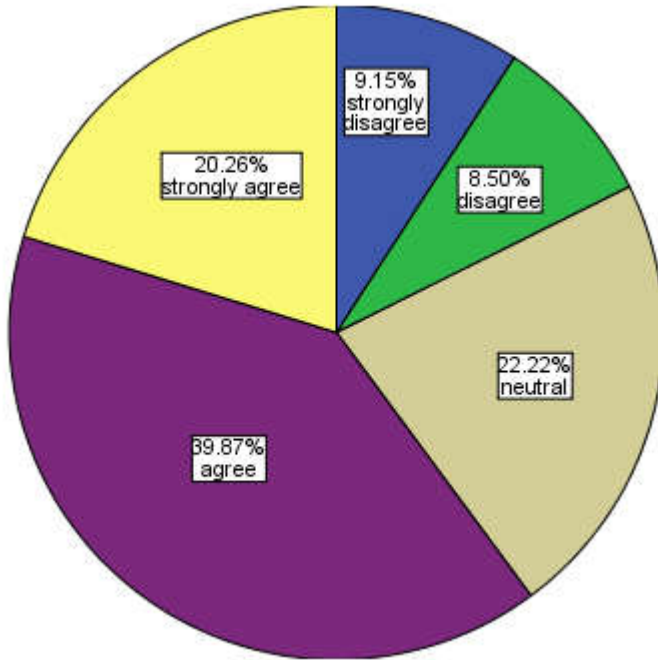


Figure 7 Availability on Professional Personnel in the Port

More than half of the respondents (60.13%) agreed with availability of professional personnel in port while 17.65% of them believed that there are no sufficient professional personnel in the dry port.

4.4. Result of Correlation Analysis

To examine the degree of relationship between customer satisfaction and the dependent variables correlation analysis was employed. The average score for each variable had been calculated and correlation analysis was conducted. Accordingly, the correlation coefficient and corresponding significant test was given in the following table (Table 9).

The result showed that there is strong positive relationship between reliability, custom service, dry port staff and size of the dry port and infrastructure with customer satisfaction at 5% level of significance.

Table 10 Result of Correlation Analysis

Item	Customer satisfaction	
	Correlation coefficient (r)	P-value
Dry Port staff	0.608	0.018*
Size of the dry port and Infrastructure	0.74	0.015*
Custom Service	0.81	0.000*
Reliability	0.75	0.006*
Port Handling Equipment	0.009	0.909

The result of correlation analysis revealed that the correlation coefficient between Size of the dry port and infrastructure and customer satisfaction is 0.74 (P-value= 0.015 < 0.05) which showed that there is strong positive relationship between Size of the dry port and infrastructure and customer satisfaction. This result implied that as size of the dry port and infrastructure increase customer satisfaction also increases and vice-versa. Availability of enough storage capacity at the port, Access to port premises for pick-up and delivery, Quality of port infrastructure, the presence of good system and networks will increase customer satisfaction.

There is also strong positive relationship between dry port staff and customer satisfaction with correlation coefficient 0.608 (P-value= 0.018). This result indicates that availability of enough professional personnel, Speed of cargo handling equipment operators in cargo loading/ unloading in the dry port increases customer satisfaction.

The correlation coefficient of custom service and reliability with customer satisfaction were found to be 0.81 (p-value= 0.000) and 0.75 (0.006) respectively. This finding showed that there

is strong positive relationship between them. Increasing in reliability i.e any improvement in incidence handlings, Complain management and Port security increases customer satisfaction.

This finding also showed that to increase customer satisfaction the custom service also should be improved. To do so, efficiency and speed of custom procedure should be improved, flexibility of custom clearance procedures and Provision of adequate, on-time information is very critical.

4.7. Results of Multiple Linear regression

To test the effect of factors on customer satisfaction, multiple linear regressions was fitted. At the beginning, all factors were considered in the model and the results of final model had been interpreted. The result in the anova table (Table 8) showed that the selected multiple linear regression model fits the data very well (p-value= 0.000). And also coefficient of determination (R^2) is found to be 0.674 which implied that about 67.4% of the variation is explained by the given model. Therefore we can trust the result and give meaningful interpretation.

Table 11 Analysis of Variance (ANOVA)

Model	Sum of Squares	d.f	Mean Square	F	P-value
Regression	15.83	5	3.166	59.74	0.000*
Residual	7.693	147	0.053		
Total	23.523	152			
Coefficient of determination (R^2)= 0.674					

*d.f= degree of freedom; * = significant at 5%*

The result of the final multiple linear regression models had been presented as follows in table 11. The result revealed that Size of the dry port and Infrastructure, reliability and Custom Service on customer satisfaction while dry port staff and port handling equipment become insignificant in multiple linear regression model.

Table 12 Results of Multiple linear Regressions

Variable	Coefficients (β)	Standard error	P- value
Constant	2.564	0.403	0.000*
Dry Port staff	0.130	0.056	0.021
Size of the dry port and Infrastructure	0.15	0.057	0.030*
Port Handling Equipment	0.11	0.047	0.822
Reliability	0.17	0.066	0.000*
Custom Service	0.38	0.042	0.018*

When there is unit increment on size of the dry port and infrastructure, customer satisfaction will increased by 0.15 (p-value= 0.030) by keeping the effect of other factors constant. And a unit change in reliability resulted in 0.17 change in customer satisfaction. Since coefficient of regression for reliability is positive when reliability increases by one unit, the customer satisfaction increased by 0.17 and vice-versa by keeping the effect of other factor constant. Custom service also had significant effect on customer satisfaction in kality dry port. ($\beta=0.38$, p-value= 0.018). This implied that a unit increment in custom service increases customer satisfaction by 0.38 and vice versa.

4.8. Discussion

The main purpose of this study was to assess the service delivered by Kality Dry Port and customer satisfaction. All important information was obtained using well organized structured questionnaire. A total of 153 respondents from Kality dry port were included for this study. After the data had been collected, data entry, cleaning and analysis was carried out using SPSS. The result was presented using frequency, percentage, bar graph and pie charts. Correlation analysis and multiple linear regressions were also employed.

The result of correlation analysis revealed that there is strong positive relationship between Size of the dry port and infrastructure with customer satisfaction. The results of multiple linear regressions also revealed that the Size of the dry port and infrastructure had significant effect on customer satisfaction. Which implied that access to port premises for pick-up and delivery; Quality of port infrastructure, the presence of good system and networks will increase customer satisfaction. Consistent idea is discussed by Violeta Roso (2008) where dry port must fit in to a complex system where the necessary supporting infrastructure is in place. The most common factors that impede dry port implementation are infrastructure, land use, environmental and regulation. Hence, same reduce efficiency if freight movement on land access routes to and from sea parts.

The result also showed that there is significant relationship between reliability and customer satisfaction at kality dry port. This finding showed that increasing in reliability i.e any improvement in incidence handlings, Complain management and Port security increases the level of customer satisfaction. Literatures also supported that the demand on quality service delivery has to be managed with, claims, complaint, handling of damage and incident cases to be effective and to satisfy customers.

Both correlation and multiple linear regression analysis result revealed that Custom service also had significant effect on customer satisfaction in kality dry port. This implied that efficiency and speed of custom procedure should be improved, flexibility of custom clearance procedures and Provision of adequate, on-time information is very critical to increase customer satisfaction.

Literatures on the related issue also stated that even if Custom operation is not a direct dry port activity, the speed activity in custom process affects the performance in any ways the dry port service activity.

CHAPTER FIVE

5 CONCLUSIONS AND RECOMANDATION

5.1 conclusions

Dry port implementation is drafted to be as solution for reduction of congestion, serving as depot increase productivity, foreign currency saving for many reasons, According to the purposes for which the Enterprise is established are:-

- To operate dry ports and to provide the services of loading and unloading and storage of imported and exported goods
- To provide the services of stowing and unpacking (stuffing and de-stuffing) of containerized export and imported goods
- To provide container depot services
- To engage in other related activities conducive to the achievement of its purposes.

However, as Kality dry port users are frequently complains about speed delivery, custom flexibility and serious bad behavioral ethics, the customer's satisfaction found adversely affected.

The research tried to measure the customer satisfaction based on the service that Kality dry port rendering. The respondent were asked to indicate level of perceived service satisfaction on port variables of port cargo equipment, custom operational activity, staff size with no. and professionalism, port capacity and infrastructure and reliability of port service in case of problems.

The results were customer are highly dissatisfied with port infrastructure facility, space and network system. Similarly, inadequate size of port storage, lack of custom flexibility, poor information flow, with serious corruption ethics of some staffs' leads dissatisfaction of the port user.

Generally, to be competent the kality dry port needs to improve its infrastructural facilities, improve the flexibility custom operation. So that it could create a good environment to its employees and in turn clients could get a better and automated service from the dry port.

5.2. Recommendation

- ❖ Consider any possibility to increase space capacity by exploring or expansion to the nearest area or creating multiple locations to create adequate warehouse space depot.
- ❖ Fast and dramatic changes in customer expectations, competition, and technology are creating an increasingly uncertain environment. It is strategically important for enhancing competitive by making possibly reforms to facilitate customs operational flexibility. To respond, logistics are seeking to enhance flexibility across the custom service delivery, operational flexibility helps to deliver a variety of service in the quantities that customers demand while maintaining high performance.
- ❖ Increase the working hour might help to avoid slow loading unloading process and custom procedures.
- ❖ Infrastructure options for dry port networks are serious and often complex. Following all the problem seriousness, investment on the infrastructure development advised.
- ❖ Trainings to machine operators to improve speed delivery of equipment management .Similarly a clear discussion and seminar with staffs to avoid unethical behavior conceded by port users Furthermore, applying strong control system with clear and open work procedure to avoid any loophole for corruption attitude.

- ❖ Develop better information system (IT) link that helps to update customs with fast information about and status of cargo shipments with their customers and port terminal itself.

- ❖ For quality problem seen on the port handling equipment it would be good to advise a very organized and equipped maintenance and repair units.

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APPENDIX

QUESTIONNAIRE

Dear Participants / respondents.

The main propose of this questionnaire is to get basic information for the research work “ an assessment on the effect of Kality dry port service on customer satisfaction”. These research questionnaire prepared as partial for the completion of master of business Administration /MBA/ at St marry university.

All the information collected through this questionnaire will be only used for the above said research purpose and will remain confidential, therefore I kindly request you to respond to the questions with at most good faith and you may feel free to provide any information that is highly important for the outcome of this study:

Sincerely

Michael Mamecha

Email: mayamar2017@gmail.com

Addis Ababa, Ethiopia

Part I: Personal data - short answer

Kindly circle the one you feel is correct

1. Gender

- A. Female B. Male

2. Age

- A. below 25 Years B. 25 to 35 years C. 36 to 45 Years D. 46 to 55 year E. Over 55 years

3. Level of education

- A Diploma B. Degree C. Masters degree D. 12 grade complete E. Below 12

4. Nature of your business

A. Freight forwarding

B. Driver

C. Custom staff

D. Importer/ Exporter

E. Shipping staff

F. Dry port staff

G. Machine operator

If other please specify.....

5. How long you have been working on above business?

- A. less than a year B. 2 to 4 years C. 5 to 10 years D. Over 10 years

PART II

Performance evaluation questions

Q1. How much do you rate the custom clearance process in kality dry port?

A. Very satisfied **B.** Satisfied **C.** Neutral **D.** Dissatisfied **E.** Very Dissatisfied

Q2. How much do you satisfied with dry port staff performance?

A. Very satisfied **B.** Satisfied **C.** Neutral **D.** Dissatisfied **E.** Very Dissatisfied

Q3. How do you rate the kality a dry port infrastructure, telecom and system network?

A. Very satisfied **B.** Satisfied **C.** Neutral **D.** Dissatisfied **E.** Very Dissatisfied

Q4. How much are you satisfied with the dry port operational activities?

A. Very satisfied **B.** Satisfied **C.** Neutral **D.** Dissatisfied **E.** Very Dissatisfied

Q5. How much satisfied are you with the facility of dry port equipment. For example, port, cranes?

A. Very satisfied **B.** Satisfied **C.** Neutral **D.** Dissatisfied **E.** Very Dissatisfied

Q6. How much are you satisfied with the dry port's loading and unloading service?

A. Very satisfied **B.** Satisfied **C.** Neutral **D.** Dissatisfied **E.** Very Dissatisfied

Q7. What is your suggestion for future improvement on kality dry port?

PART III

Below is to test perceived services by dry effect toward port users. Kindly rate each based on your experience on the significance of service delivery each indicator in determining the level of satisfaction in kality dry port.

Please circle on value level of your perception in the table.

STATEMENT OF DIMENSIONS	Measurement Scale				
	1. Not Significant 2. Insignificant 3. Neutral 4. Significant 5. Very Significant				
1. Port Handling Equipment					
1.1. Do you agree on the availability of cargo handling equipment?	1	2	3	4	5
1.2. Quality in containers handling equipment	1	2	3	4	5
2. Reliability					
2.1. Incidence handlings	1	2	3	4	5
2.2. Complain management	1	2	3	4	5
2.3. Port security	1	2	3	4	5
3. Customs					
3.1. Continuous operation of customs service	1	2	3	4	5
3.2. Efficiency of customs service	1	2	3	4	5

3.3. Speed of custom procedures	1	2	3	4	5
3.4 Flexibility of custom clearance procedures	1	2	3	4	5
3.5. Providing adequate , on-time information	1	2	3	4	5
4. Size of the dry port and Infrastructure					
4.1. Availability of storage capacity at the port	1	2	3	4	5
4.2. Access area to port premises for pick-up and delivery (gate congestion.	1	2	3	4	5
4.3. Quality of port infrastructure	1	2	3	4	5
4.4. System and networks	1	2	3	4	5
5. Dry Port staff					
6.1. Availability of professional personnel in port	1	2	3	4	5
6.2. Speed of cargo handling equipment operators in cargo loading/ unloading	1	2	3	4	5
6.3.Port authority /terminal operator incentives	1	2	3	4	5

Thnak you