ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

THE EFFECT OF CUSTOMS CLEARING PROCESS ON CARGO OPERATION AND LOGISTICS PERFORMANCE: IN THE CASE OF ETHIOPIAN AIRLINES

A THESIS SUBMITTED TO THE DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN PARTIAL FULFILMENT OF THE REQUIRMENT FOR THE DEGREE OF MASTER OF ARTS IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

BY: - SIDRAK ZEWDU

ADVISOR:-BUSHA..T PhD

JUN 2019

Declaration

I, the undersigned, declare that this thesis entitled "The effect of customs clearing process in cargo operation and its implication on logistics performance in the case of Ethiopian airlines Cargo section" is my original work and has not been presented for any degree in any other university, and that all the sources of materials used for the thesis have been duly acknowledged.

Declared by:

Name: Sidrak Zewdu

Date: JUN, 2019

Signature: _____

Place: Addis Ababa University Department of Logistics and Supply Chain Management

Date of Submission: Jun, 2019

Certificate

This is to certify that Sidrak Zewdu has carried out his thesis work entitled "The effect of customs clearing process in cargo operation and its implication on logistics performance in the case of Ethiopian airlines Cargo section" under my guidance and supervision. Accordingly, I hereby assure that the study is her own original work and suitable for submission of the award of MA in Logistics and Supply Chain Management.

Busha Temesgen (PhD)	_____	_____
Advisor	**Signature**	**Date**

Addis Ababa University

College of Business and Economics

Department of Logistics and Supply Chain Management

This is to certify that the thesis prepared by Mr Sidrak Zewdu , entitled "The effect of customs clearing process in cargo operation and its implication on logistics performance in the case of Ethiopian airlines Cargo section", which is submitted in partial fulfillment of the requirements for the Degree of Masters in Logistics and Supply Chain Management, complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Busha Temesgen (PhD)	_____	_____
Advisor	**Signature**	**Date**
Mengistu Bogale (PhD)	_____	_____
Internal Examiner	**Signature**	**Date**
Baynesagn Asfaw (PhD)	_____	_____
External Examiner	**Signature**	**Date**
_____	_____	_____
Chair of Department or	**Signature**	**Date**
Graduate Program Coordinator		

Acknowledgements

I would like to thank my Almighty God for giving me the physical and mental strength to accomplish this study. My special appreciation and respect goes to my advisor Busha Temesgen PhD, a very responsible intellectual. I really would like to thank for the support, guidance and patience I got from him throughout the study.

I would like to express my deepest gratitude to my dearest family, friends and loved one for their tolerance, understanding and all the encouragement provided during my study.

Table of Contents

List of figures ix

List of tables x

Acronyms xi

Abstract xiii

CHAPTER ONE 1

INTRODUCTION 1

1.1 Background of the Study 1

1.2 Statement of the Problem 2

1.3Research Questions 3

1.4 Research objectives 3

1.5 Significance of the study 4

1.6 Scope of the study 5

1.7 Definition of Terms and concepts 5

1.8 Limitation of the Study 8

1.9 Organization of the study 8

CHAPTER TWO 9

LITERATURE REVIEW 9

2.1 Review of Theories and Concepts 9

2.1.1 Customs and Customs clearance 9

2.1.2 Lodgment of Customs Declaration 11

2.1.3 Verification of Documents and Examination of Goods 12

2.1.4 Release of Goods 12

2.1.5 The airline cargo operation 13

2.1.6 Logistics Performance Indicators and Measures 14

2.2 Review of Empirical Studies 15

2.3 conceptual framework 18

CHAPTER THREE 19

RESEARCH DESIGN AND METHODOLOGY 20

3.1Description of the study area 20

3.2 Research Approach 20

3.3 Research Design 21
3.4 Population and Sample 21
3.5 Variables of the study and their measures 23
3.6 Data source and collection procedures 23
3.7 Data Analysis Methods 24
3.8 Reliability and Validity Test 24
3.8.1Reliability Test 24
3.8.2-Validity Test 25
3.9 Ethical Consideration 25
CHAPTER FOUR 26
DATA PRESENTATION AND ANALYSIS 26
Introduction 26
4.1 Response Rate 26
4.1. Survey Result and Analysis 27
4.1.1. Respondents' Profile 27
4.2.2 Customs clearing agent's perception on the role of importers 28
During lodgment of declaration in customs clearing 28
4.3 Customs clearing and customs office in verification and assessment stage of clearing imported shipment 30
4.4 Customs clearing agent's perception on the operation of Ethiopian airlines cargo operation and its logistics performance 32
4.5 The relation between customs clearing process, cargo operation and logistics performance 35
4.5.1 Correlation Analysis 35
4.5.2 Regression Analysis 37
CHAPTER FIVE 43
SUMMARY, CONCLUSION AND RECOMMENDATION 43
5.1 Introduction 43
5.2 summary of findings 43
5.1 Conclusion 45
5.1.1 Customs Clearing and Importers 45

5.1.2 Customs clearing and ERCA Cargo Branch 46
5.1.3 Customs clearing and Cargo Operations 46
5.1.4 Customs clearing and Cargo Operations in Logistic Performance 47
5.4 Recommendations 47
5.5 Limitations and Suggestions for future research 48
REFERENCES 49
APPENDEXES 52
Appendix-A Questioners and interview questions 52
Appendix B: Linear Regression Assumptions 57
1. Linearity of relationship test 57
2.Multicollinearity Test Result 59
3. Normality Test 60

List of figures

Figure 2.1 the cargo operation frame work ----------19

Figure 2.2 relationships between customs clearing, cargo operation and logistics performance-24

List of tables

Table 3.1 Sample size determination table----------22
Table 3.2 Cornbach's alpha for data collected by using Questioner ----------25
Table 4.1 Qualification of respondents ----------27
Table 4.2 Experience of respondents ----------27
Table 4.3 compiled percentage data on lodgment of customs declaration ----------28
Table 4.4 cumulative percentages of cooperativeness of importers to ---------- 29
Table 4.5compiled personages and mean of customs clearing agent's perception on customs office and officers in terms of customs clearing process ----------31
Table 4.6 compiled percentage data on responses related to cargo operation ----------33
Table 4.7 compiled percentage data for questions related to logistics performance of Ethiopian airlines group cargo section ----------34
Table 4.8: Correlation coefficients between dependent and independent variables----------36
Table 4.9 Model Summary----------39
Table 4.10 Model Summary 2----------39
Table 4.11: ANOVA model fit----------40
Table 4.12 : ANOVA model fit----------40
Table 4.12a: Régression coefficients----------41
Table 4.13: Régression coefficients----------41

Acronyms

ASYCUDA	Automated System for Customs Data
ACE	achieving competitive excellence
BDTI	Bureau Direct Trader Input
CPC	Customs Procedure Code
CRO	Committee on Rules of Origin
DTI	Direct Trader Input
ERCA	Ethiopian Revenue and Customs Authority
GATT	General Agreement on Tariff and Trade
GDP	Gross Domestic Product
HQ	Head Quarter
HS	Harmonized System
ICT	Information Communication Technology
ICS	Inventory control system
IT	Information Technology
MOFED	Ministry of Finance and Economic Development
MTI,	Ministry of Trade and Industry
OECD	Organization for Economic Co-Operation and Development
RDTI	Remote Direct Trader Input
ROO	Rule of Origin

SPS	Sanitary and Phytosanitary
SPSS	Statistical Package for Social Science
SRAs	Standardized Risk Assessments
TBT	Technical Barriers to Trade
TCRO	Technical Committee on Rules of Origin
ULD	Unit Load Devise
UN/CEFACT	United Nations Center for Trade and Electronic Business
UNCTAD	United Nation Conference on Trade and Development
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNESCAP	United Nation Economic and Social Commission for Asia and the Pacific
VAT	Value Added Tax
WCO	World Customs Organization
WTO	World Trade Organization

Abstract

Customs clearing function plays important role in country development through the planning, implementation and control of processes linked to material, information and financial flows. The main objective of this study was to examine the effect of customs clearing process in cargo operation and logistics performance of Ethiopian airlines cargo section with respect to lodgment of customs declaration, Verification and assessment of documents and Evaluation and release of Goods. Data was collected using observation, interview and questionnaires which is analyzed using SPSS. Descriptive analysis namely percentage, mean and standard deviation; and inferential analysis namely Pearson correlation and multiple linear regression were employed. The study indicated that customs clearing activity strongly affects cargo operation and logistics performance of the airline. The study revealed that lodgment of customs declaration usually started lately for shipments that stayed more than a month in Ethiopian cargo warehouse. The study also showed that there was significant relationship customs clearing activity and warehouse operation through observation and interview results. The study recommended automating customs clearing operation through government bodies and balance cargo operation costs

Key words: customs clearing process, cargo operation and logistics performance

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Air transport industry has gradually increased its share of global passenger and freight traffic, and this trend has accelerated in the last 40 years. Transport requirements have proportionally increased to support and organize the related flows. Especially for freight the requirement of faster long distance transport services has propelled the importance of air transport (Deljanin, 2008, p291).

Air terminals have thus become a significant location factor for globally oriented activities, which tend to agglomerate in the vicinity. Additionally, the surge in long distance trade has made logistical activities, namely transport terminals and distribution centers, at the forefront of locational considerations. Technological changes have also been linked with the relocation of industrial and even service activities. (Rodrigue, 2013, p45).

One of the concerns in international trade and logistics performance is the time spent to clear export/ import goods by complying with the customs regulations and procedures of the country in question, and the concomitant transaction costs associated with such procedures (Deljanin, 2008).

Customs clearance work involves preparation and submission of documentations required to facilitate export or imports into the country, representing client during customs examination, assessment, payment of duty and co taking delivery of cargo from customs after clearance along with documents (Dominca et al, 2012) .

Reducing the time required for the clearance of goods at customs responds to trade requirements where the operators need to plan ahead for the movement of goods across borders in order to meet tight production schedules and just-in-time inventory systems that require forward planning (Deljanin, 2008 p291).

In addition to direct export/import activities, there are a number of distinct regulatory procedures and regimes that affect cross border operations. These operations fall into the wider categories of

revenue collection, public safety and security, environment and health, consumer protection and trade policy issues. Therefore this study tries to identify the effects of customs clearing process for inbound cargo on the cargo operation and logistics performance in the case of Ethiopian Airlines Cargo section

1.2 Statement of the Problem

Transport and logistics services facilitate international trade and play an important role in the growth and development of the local economy (Azmat2017). The quality and efficiency of logistics services can matter for international trade as a weak logistics infrastructure and operational processes can be a major obstacle to global trade integration (Devlin and Yee, 2005) factories locating various stages of production processes in most efficient locations and combined with integrated use of technologies depends on efficient and reliable transport and logistics systems that can support their international linkages (Song and Yeo, 2017).

At the same time Cross boarder trading has shown a dramatic increase due to Globalization and these have placed an increasing demand upon customs (DeWolf & Sokol, 2005). As a result, equally important focus has been placed on trade and regulatory processes conducted at the border as indicated by (DeWolf & Sokol, 2005). To ensure the time required for trade-related procedures reduced where appropriate. Thus, Trade facilitation becomes one of the objectives of customs authority and other international organizations. It aimed at ensuring the movement and clearance of goods across borders within the shortest time at the minimum cost (Dominca et al, 2012) .

Teweldeberhan W/Gabriel 2011 also mentions WTO2001 statement "So, long Customs clearance is the opposite of trade facilitation, because Trade facilitation: is the simplification and harmonizing of trade procedures" to explain how customs clearing process is affecting the international trade in Ethiopia. Time delay, unavailability of information on customs import procedure, lack of one stop service especially lack of single window system and other direct and indirect costs impose trade costs are some of the complexities suggest by researchers (Teklu et al,2016).

In Ethiopian context chapter eight of Proclamation No. 859/2014 indicates goods imported by using air transport and stored in a temporary customs storage shall undergo customs formalities

and be removed within 30 days from the date of storage. But in the case of Ethiopian airlines cargo section such scenarios are not displayed, per Ethiopian cargo service monthly report on average in Ethiopian air cargo shipments stays for more than a month warehouse which violets the trade proclamation as well against trade facilitation theory .

Therefore this study tries to identify what effects does customs clearing have in Ethiopian cargo operation and logistics performance of the airline through answering the following research questions:-

1.3Research Questions

1. How lodgment of customs declaration for imported shipments in customs clearing process affect the operation of Ethiopian airlines cargo section?

2. How verification of documents and assessment in customs clearing process affect the operation of Ethiopian airlines cargo section?

3. How examination and relies of good in customs clearing process affect the operation of Ethiopian airlines cargo operation?

4. What implications does the relation between the customs clearing process of imported shipments and Ethiopian airlines cargo operation have on logistics performance of Ethiopian airline cargo section?

1.4 Research objectives

1.4.1 General objective

The general objective of the study is to assess the effect of customs clearing process on Cargo operation and logistics performance of Ethiopian airlines cargo section in terms of long stayed shipments

1.4.2 Specific objectives

- To identify the effects lodgment of customs declaration for imported shipments have on the operation of Ethiopian airlines cargo section

- Identifying how verification of documents in customs clearing process affect the operation of Ethiopian airlines cargo section
- To identify effects of examination and release of good in customs clearing process on the operation of Ethiopian airlines cargo section
- To determine implications of the relation between the customs clearing process and Ethiopian airlines cargo operation have on logistics performance of Ethiopian airline cargo section?

1.5 Significance of the study

From the research background and statement of the problem it is easily understood that the feature of most freight activity is the need for storage for assembling the individual bundles of goods and deliver to the customers, that may be time-consuming and thus some storage may be required (Olivier, D. and B. Slack, 2006 p543).

This produces the need for terminals to be equipped with specialized infrastructures such as grain silos, storage tanks, and refrigerated warehouses, or simply space to stockpile, such as for containers. In the case of Ethiopian airlines cargo the terminal provides state-of-the-art facilities for air cargo handling (Olivier, D. and B. Slack, 2006 p543).

With all facilities integrated by highly automated cargo handling systems, with offering a complete range of time-efficient Physical Handling services designed to help speed up business process. As the number of shipments destined and transited through the warehouse is increasing rapidly and the number of customers waiting for their shipments also increased. (Deljanin, 2008).

If the out-flow of shipments doesn't simultaneously goes with the in-flow the result will be congestion and stranded logistics performance with a complaint customer. Therefore this study tries to identify the root cause of long stayed shipments due to customs clearing and related issues and provide information for other researchers as a starting point and used as impute for the concerned body that look for the way of control over the flow of shipments. In other words the significant of this study is to identify the effect of customs clearing process on Ethiopian Cargo warehouse operation and its implication on Logistics performance.

1.6 Scope of the study

Customs clearance work involves preparation and submission of documentations required to facilitate export or imports into the country, representing client during customs examination, assessment, payment of duty and co taking delivery of cargo from customs after clearance along with documents**.** In Ethiopian airlines cargo warehouse there are more than 10 thousand pcs of goods flow per day, categorizing as import, export, transit and mail including the perishable items which will be sorted delivered and exported. Due to limited time and information resource this study will only focus on custom clearing activity take place for imported cargo in ERCA Bole cargo terminal branch and the imported shipment handling of Ethiopian airlines cargo operation , on the way this study will look for the implication of the relation between the customs clearing activity and Ethiopian airline cargo operation in logistics performance of the airline, how shipments on hand of Ethiopian airlines cargo warehouse influence the way it manage the flow of imported shipments starting from unloading activity from the aircraft to the end point of delivery in order to visualize the logistic performance.

This paper also will not go through and study all the reasons of the long stayed shipments, as there are more reasons like financial ,cultural ,political ,legal and other regulatory bodies involvement , But it will focus mainly the customs clearing of imported shipments and its implications on logistics performance of Ethiopian airlines cargo section; therefore this research is applicable to the import and delivery of company shipments section of Ethiopian cargo otherwise it will not be applicable for other business warehouses which process manufacturing business because the demand of material from the warehouse is different from them, and for warehouse of transportation air lines with greater number of racks and bins than Ethiopian cargo for the reason the space they have enough to control the flow of shipment

1.7 Definition of Terms and concepts

Logistics: The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer

requirements. This definition includes inbound, outbound, internal, and external movements (Vitasek, 2006 p. 88). .

Agent-A person authorized to transact business for and in the name of another person or company. Types of agent include brokers, commission merchants, resident buyers, sales agents, manufacturer's representatives

Airline-As provided in Article 96 of the Chicago Convention, any air transport enterprise offering or operating a scheduled international air service. (ICAO Annex 9) Apron-The area immediately in front of or behind a wharf shed on which cargo is lifted. On the 'front apron,' cargo is unloaded from or loaded onto a ship. Behind the shed, cargo moves over the 'rear apron' into and out of railroad cars or other forms of carriage. The airport apron is the area where aircraft are parked, refueled, passengers board or disembark, and cargo is loaded and unloaded.

Baggage-Personal property of passengers or crew carried on an aircraft by agreement with the operator. (ICAO Annex 9).

Cargo manifest-Most ocean freight is billed on the basis of weight or measurement tons (W/M). Weight tons can be expressed in short tons of 2000 pounds, long tons of 2240 pounds or metric tons of 1000 kilos (2204.62 pounds). Measurement tons are usually expressed as cargo measurement of 40 cubic feet (1.12 meters) or cubic meters (35.3 cubic feet.)

Carrier, common-A publicly or privately owned firm or corporation that transports the goods of others over land, sea, or through the air, for a stated freight rate. By government regulation, a common carrier is required to carry all goods offered if there is enough space, the fee is paid, and no reasonable grounds to refuse to do so exist.

Certificate of origin-A specific document identifying the goods, in which the authority or body empowered to issue it certifies expressly that the goods to which the certificate relates originate in a specific country. This certificate may also include a declaration by the manufacturer, producer, supplier, exporter or other competent person. (WCO)

Consignee- a person entitled to receive goods

Customs control-Measures applied by the Customs to ensure compliance with Customs law. (Kyoto Convention)

Declaration-by the Customs, giving information or particulars required by the Customs. (WCO)

Customs-The Government Service which is responsible for the administration of Customs law and the collection of duties and taxes and which also has the responsibility for the application of other laws and regulations relating to the importation, exportation, movement or storage of goods. (Kyoto Convention)

Customs clearing agent/broker-A person who carries on the business of arranging for the Customs clearance of goods and who deals directly with the Customs for and on behalf of another person. (WCO)

Core Competency: Bundles of skills or knowledge sets that enable a firm to provide the greatest level of value to its customers in a way that is difficult for competitors to emulate and that provides for future growth. Core competencies are embodied in the skills of the workers and in the organization. They are developed through -collective -learning, communication, and commitment to work across levels and functions in the organization and with the customers and suppliers (Vitasek, 2006, p. 36).

Customs clearing: can be defined as the set of functions undertaken by a national customs authority, which include, but are not limited to processing of import, export, and transit declarations, assessment of origin, value, and classification of goods, collection and processing of duties and fees, physical inspection, examination, and release of cargo conduct of post-clearance audits, processing of urgent consignments, administration of waivers and exemption schemes and drawback (re-exportation) schemes (McLinden cited in USAID 2009 p. 13).

Freight forwarding: Freight forwarding may be defined as the secure and efficient movement of goods on behalf of an exporter or importer, commonly known as the shipper (Rushton and Walker 2007, p. 4).

Consularization-the act of authenticating any legal document by consul office, by the consul signing and affixing a red ribbon to the document (En.m.Wikipidia.ORG)

1.8 Limitation of the Study

The study was limited to the willingness and cooperation of the respondents to give information during the data collection process and the time and resource constraints due to the case customs clearing agent's (transistors) had many working locations.

1.9 Organization of the study

This study will try to identify the effect of customs clearing process in ERCA Bole cargo terminal branch on Ethiopian Cargo warehouse operation and logistics performance, the reports of the paper logically organized in the following manner. The research paper divided in to five chapters. Chapter one gives the background information and statement of the problem. It sets out general and specific objectives, scope of the study, and significance of the study and organization of the entire paper. Chapter two also discusses the key concepts that were used in the paper to place the problem in a broader perspective literature. Chapter three contains Methodology of the study. Chapter four provides data presentation and analysis. Finally, chapter five deals with conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Review of Theories and Concepts

International trade can be explained as a process of exchange of goods and services across the state borders that is mostly used by the companies as the first type of business foreign operation that requires the least risks for company's resources (Seyoum, 2009). Acquisition of goods and services, reduction of cost of production, increasing of incomes and employment, learning about advanced technical methods used abroad and security of raw materials are significant advantages of international trade (Sokolova et al, 2017) .

As our world is becoming one due to rapid growth of technology and information flow logistics become mandatory, logistics occupies a large part of the global market. It is impossible to purchase without logistics because international carriers deliver products using different ways of transportation (Seyoum 2009).

Whereas, it has become necessary to have an expedient and modem customs legal framework which encourages the development of manufacturing industries and investment compatible with the level of international trade practice (FDRE customs proclamation 2014 page 1)

2.1.1 Customs and Customs clearance

2.1.1.1 Customs

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.” While every shipment from outside the county must go through the customs clearance process, many international shippers still don’t understand exactly how it works. This part of getting cargo from point A to point B is probably the most delicate piece of the entire process.

2.1.1.2 Customs clearance

The Revised Kyoto Convention establishes standards and recommends good customs practices for importation, exportation, temporary admission and special procedures. The RKC defines customs clearance as "the accomplishment of the Customs formalities necessary to allow goods to enter home use, to be exported or to be placed under another Customs procedure" and release as "the action by the Customs to permit goods undergoing clearance to be placed at the disposal of the persons concerned." (Ethiopian Revenues and Customs Authority, 2011).

Most companies do their customs clearance through a freight forwarder. The freight forwarder provides the service through the hiring of a licensed customs broker**.** The broker's job is to prepare the required import documents and submit them to the Customs and Border Protection (CBP) office. During this process, the broker represents the company who owns the imported goods and provides advice, pays duties on the shipment, and makes sure the goods are released from customs (De Vaus et al 2014).

So, there are 3 parties so far: the importer, the freight forwarder, and the customs broker. The forth party in this interaction is CBP (Customs and Border Protection) – a federal law enforcement agency. The duties of CBP are many. CBP exists with the objective of protecting the nation's revenue by assessing and collecting the duties, taxes, and fees connected to international traffic and trade. They also work on detecting fraudulent activities meant to avoid the payment of those fees, and to evade illegal traffic of arms, munitions, and acts of terrorism at ports of entry of the country. Port officers also inspect cargo to protect the country from potential carriers of animal and plant pests or diseases that could cause serious damage to America's crops, livestock, pets, and the environment (http://www.cbp.gov/xp/cgov/toolbox/ports/ visited on march 2019).

For several centuries, Customs authorities represented a barrier through which the trader had to go with interventions simply by the existence of the business transaction. However, with companies' increased internationalization and the growth of world trade, the scenario into which Customs and businesses were inserted dramatically changed: companies no longer compete alone; they compete as supply chains. Countries and their customs became just a part of various trade chains. Other variables were included in that framework, such as increasing threats to

national security and internet, making of customs a complex supply chain node (Davis & Friske, 2013).

Customs clearing is a component of activities which composed of

- lodgment of customs declaration
- verification of documents and examination of goods
- Assessment and delivery of good (Usian 2012)

2.1.2 Lodgment of Customs Declaration

When a shipment reaches the destination country , the importer (or customs broker) will file entry documents for the goods with the port director at the goods' port of entry for instance CBP Form 3461 for USA , also known as Customs Release form, needs to be filed to speed up the release of the goods (Usian 2012). In Ethiopia Except exempted by directives all goods entered in accordance with Article 17 of the proclamation shall forthwith lodged for clearance in aspect copies of customs declaration. (ERCA,2014)

Where customs clearing agent applies for hold function and fulfills supporting documents pre lodgment of customs declaration may be allowed for and five days before the arrival of the goods at customs port.. (ERCA,2014).

Supporting Documents of Customs Declaration

- On the lodgment of customs declaration and declaration of facts the following original documents in support shall be supplied to customs in a number of copies fixed by the Authority:
    - Transportation document
    - Price document (commercial invoice)
    - Bank permit
    - Packing list
    - Certificate of origin, and
    - Other necessary documents to be prescribed in the directives issued by the Authority (CBP manual 2017)

2.1.3 Verification of Documents and Examination of Goods

Following presentation of the entry, the shipment can either be examined or examination may be waived (Usian 2012). The proper and examine goods to assure the accuracy of information supplied in the document and Procedure of goods examination shall be prescribed by directives issued by the Authority (ERCA,2014).

Examination at the request of Importer

- If any importer or his agent believes that the goods have suffered damage, short or pilfered in route may request for prior examination of the goods before the lodgment of goods declaration.
- Where the request made in accordance with list no. 1 above and its reason are justified by the Authority; goods examination may be carried out upon payment of service charge. Customs declaration shall, therefore, be filled in accordance with the examination report.
- Service charges for prior examination of goods shall be prescribed by directives issued by the Authority (ERCA, 2014)

2.1.4 Release of Goods

All goods listed in customs declaration shall be removed from the warehouse by the owner or his agent immediately upon the accomplishment of customs formalities. Goods which are not removed from the warehouse with in the period specified in sub-Article (3) of Article 43 of the proclamation shall be sold or disposed otherwise as deemed abandoned to the customs.(ERCA, 2014)

It is part of ERCA's duties to ensure that shipments are legal, and that all the fees and duties on it are paid

On the revised customs guide of ERCA on 2017 the customs clearing of importing goods is mostly focused on the Examination of goods as letting the other processes as they are as follows.

Cargo import clearance procedure means the accomplishment of the customs formalities necessary to allow cargo to enter into the customs territory. The clearance procedure includes.

• Submission of the goods declaration

• Acceptance or rejection of the goods declaration

• Checking the goods declaration against the documents produced

• "Checking the goods declaration" is defined in the RKC as the action taken by Customs to satisfy themselves that the goods declaration is correctly made out and that the supporting documents submitted fulfill the prescribed conditions

• Examination of the goods, if required Assessment and collection of duty and taxes; and

• Release of goods

2.1.5 The airline cargo operation

Cargo handling is performed at thousands of airports all over the world by hundreds of companies, big and small. This poses a high potential risk for deviations in quality of handling. IATA actively drives the development of ground handling operations standards, best-practice processes and procedures and promotes global consistency and harmonization (Uzzaman & Yusuf, 2015).

IATA works to drive efficiency in all areas of cargo operations. The integration of those efficiencies into operations plays an increasingly critical role for today's air freight industry, the core activities involved in cargo operation of the airline is observed bellow in the diagram form.

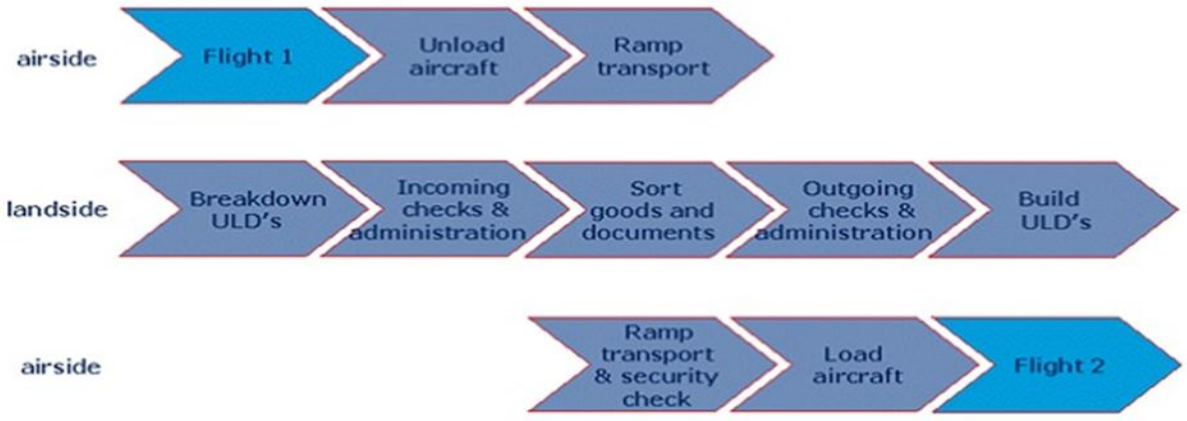


figure 2.1 the cargo operation frame work

Source : from IATA AHM An airline ground operation activity 2018

With a plan aligned to Cargo Committee's (CC) priorities, working with the Ground Operations Group (GOG) and other sub-groups, the IATA Cargo Handling Consultative Council (ICHC) brings together cargo handlers and airlines involved in cargo operations. Its objective is to develop best-practice processes and procedures to address all aspects of cargo acceptance and handling (Portugal-Perez & Wilson, 2012).

2.1.6 Logistics Performance Indicators and Measures

Jean-Paul Rodrigue 2013 defines a logistics KPI or metric is a performance measurement that is used by logistics managers to track, visualize and optimize all relevant logistic processes in an efficient and transparent way. Among others, these measurements refer to transportation, warehouse and supply chain aspects.

Here is the complete list of the most important logistics KPIs and metrics that we will discuss in this article in every detail (Jean-Paul Rodrigue, 2013):

- Shipping Time*: Spot potential issues in your order fulfillment process*
- Order Accuracy*: Monitor the degree of incidents*
- Delivery Time*: Track your average delivery time in detail*
- Transportation Costs*: Analyze all costs from the order placement to delivery*
- Warehousing Costs*: Optimize the expenses of your warehouse*
- Number of Shipments*: Understand how many orders are shipped*
- Inventory Accuracy*: Avoid problems because of inaccurate inventory*
- Inventory Turnover*: Track how many times your entire inventory is sold*
- Inventory to Sales Ratio*: Identify a potential overstock*

Performance Categories

- Time-Captures the effectiveness dimension
- Cost-Captures the efficiency dimension
- Quality -Captures the customer service dimension

- Other / Supporting-Supply chain operations & reference (SCOR) model by the Supply Chain Council (SCO)
- Order cycle time (OCT)-Once an expected order cycle time is established for customers, service failures can be measured.

(Jean-Paul Rodrigue 2013, p 59)

2.2 Review of Empirical Studies

Tsegaye T and Endrias N mentions The problems recognized by the BPR study with regard to customs clearance procedures in Ethiopia as follows :

a) As most of the customs procedures were designed for control purposes they were cumbersome and did not lend themselves for prompt clearance procedures;

b) Similar activities were carried out by two or more customs personnel;

c) Lengthy to-and-fro movements of documents between customs personnel;

d) Lack of clear delegation of authority for decision-making;

e) Lengthy decision-making processes involving higher echelons of authority; and

f) Lack of transparency and accountability (Tsegaye T and Endrias N july 2011 p23)

Teweldeberhan W 2011 finds the following problems and reasons behind them which Cause delays of imported goods during clearance.

- Customs valuation
- Methods of Customs valuation, Classification of goods and tariffs/harmonizing system
- Inspection and release of goods,
- Identification of goods of origin.
- The authority has not its own standard training center.

Teweldeberhan W 2011 also states the Reasons of the problems as:

- Undervaluation of transaction value, the authority did not trust the importers, so it prepares data from different sources which is contrary to the proclamation. At the same time, importers undervalued the transaction value and submit forged certificates of goods of origin; therefore, they are gambling each other which is against the rules and regulation of the country.
- Incapable officers/incompetency: even if most officers are degree holders, they are in short of technical skill of Customs, so they are incompetent in assessing and giving decisions of valuation.
- Misclassification of goods and tariffs: Customs officers intend to classify goods to the highest value to generate high tax, in the other hand, importers need to classify the goods to the lowest value to escape high tax payment, but none of them are in the right truck.
- Corruptions; as per the analysis, importers pay money in the form of corruption, just to speed up the process of clearing legal goods. So the authority is vulnerable to corruption.
- Wrong origin of goods even if it is not serious, importers present wrong certificate of goods of origin.

On top this, the analysis of Teweldeberhan W study stated as there was no discussion and co-cooperativeness in between of importers, freight forwarders and customs officers in order to facilitate the customs clearing activity (Teweldeberhan W,2011) .

As per a research conducted in Canada by a research team of Nsakanda, Turcotte, and Diaby in "air cargo operations evaluation and analysis through simulation" when New cargo facility of Toronto Pearson Airport is established in 2004 illustrates the use of simulation for evaluating and analyzing air cargo operations at one of the new state- of-the-art cargo facilities at Toronto Pearson Airport.

A brief description of the airline's cargo operations has been described as well as the simulation modeling approach. The preliminary results obtained show that the proposed simulation-based tool can be effectively used in its current level of development to quantitatively evaluate and com- pare different policies, business practices and procedures within a given set of operational and business constraints (Diaby, 2014).

In addition to the scenarios described in this study, the proposed model can be used in evaluating scenarios such as the effect of an increase of cargo volume or the effect of changing the product service standard. Since the cargo facility is currently operating, future work includes updating the model inputs throughout a data collection study to obtain a better understanding of the system. Further scenario analysis at the disaggregated level can then be envisaged. Finally, since the pull approach has been adopted in their study, the cargo demand is essentially flight driven. It will be interesting to develop a general simulation model that will drive by market demand instead of flight schedules in an effort to tackle the various scenarios of moving from a cost hub cargo facility center to a profit center (Diaby, 2014)..

But in the case of Ethiopian cargo there was no officially reviled description of cargo operation when the new terminal is established in 2017 whereas in 2014/15a simulation model of cargo operation that is driven by flight schedules was stated by Change Team of Ethiopian airlines cargo section (www.ethiopianairlines.com/portal/ECLS) but steel it is not evaluated by academicians as well the personals who are assigned on the research and development section of the airline

From the research conducted by Tabeni about the impact of inbound logistics activities on the operational performance of the postal services organization in South Africa, It has been revealed that there exists significant relationship between inbound logistics activities and the operational performance of the business (Tabeni, 2006).

According to this study, it has been supported that inbound logistics activities and revenue generation are positively correlated. The research concluded that whatever improvement is done in respect of inbound logistics will help to enhance business performance in terms of increased revenue generated in a very cost effective way (Tabeni, 2006).

Kuswantoro and Rosli (2012) in their study Logistics Efficiency and Firm Performance: Evidence from Indonesian Small and Medium Enterprises, showed the significant impact of logistics innovations in information sharing and transportation coordination on firm performance is sufficient to explain the variation in performance. In addition, the finding of this study showed that the application of information technology, such as the internet enables firms to improve their market knowledge and relationship with clients and suppliers within the same value chain. This

would improve logistics efficiency in terms of costs and delivery time and finally the performance. In addition, innovative transportation coordination was found to improve logistics efficiency, which directly influenced performance (Kuswantoro and Rosli, 2012)

2.3 conceptual framework

As this study has three variables the relation among them is presented as follows

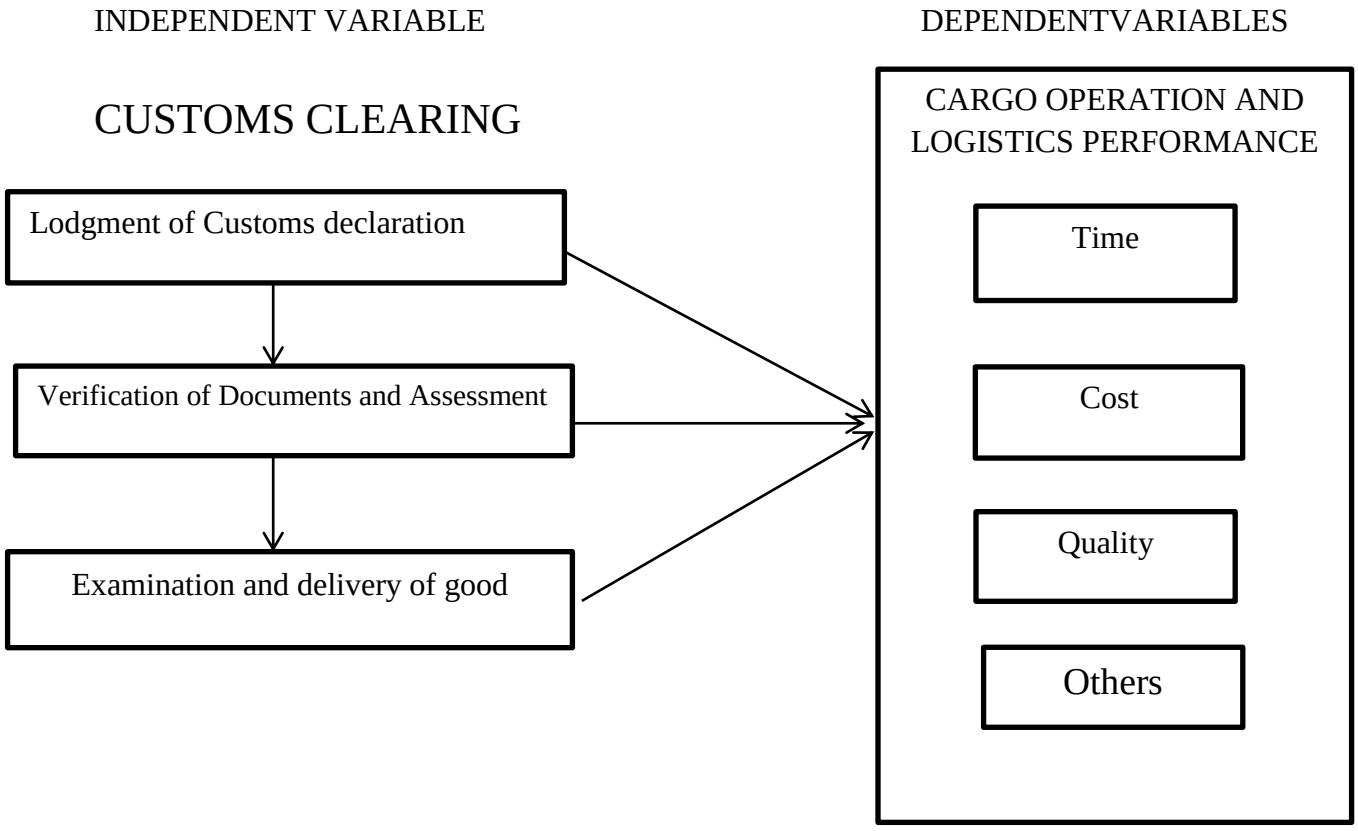


Figure 2.2 relationships between customs clearing ,cargo operation and logistics performance

Source: Adopted from Mwangangi 2016 with modification

Per Jean-Paul Rodrigue 2013, New York.The above conceptual frameworks implies effect of customs clearing process which are Lodgment of Customs declaration , Verification of Documents and Examination of Goods and delivery at the request of Importer affects smooth airline cargo warehouse operation and its implication on logistic performance of the airline as it is indicated on Logistics Key Performance Indicators and Metrics which are Shipping Time

Order Accuracy, Delivery Time, Transportation Costs, Warehousing Costs, Number of Shipments, Inventory Accuracy .Inventory Turnover, Inventory to Sales Ratio and Delivery of Good categorized as Time ,Cost, Quality and others (Routledge ,2013 p59)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1Description of the study area

Ethiopian cargo with its new terminal inaugurated in August 2017 provides state-of-the-art facilities for air cargo handling. With all facilities integrated by highly automated cargo handling systems, ET offers a complete range of time-efficient Physical Handling services designed to help speed up logistics process. The highly automated ULD Storage System is one of the most sophisticated devices of cargo handling technologies, enabling us to process cargo with unprecedented speed, transparency and reliability.

The cargo build-up and break-down workstations are designed to handle both import and export cargo, ensuring maximum efficiency in the use of terminal facilities this automated Cargo storage and retrieval systems, facilitated by forklift and stacker operators using wireless radio frequency handheld terminals, connect workstations with every process point, allowing the smooth flow of cargo within the Main Terminal Building up from acceptance to the delivery points.

3.2 Research Approach

Research approaches are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. This plan involves several decisions considering the research topic, there are three main approaches to a research problem quantitative ,qualitative and mixed methods Often the distinction between qualitative research and quantitative research is framed in terms of using words (qualitative) rather than numbers (quantitative), or using closed-ended questions (quantitative hypotheses) rather than open-ended questions (qualitative interview questions).quantitative methods are used to examine the relationship between variables with the primary goal being to analyzed and represent the relationship mathematically through statistical analysis .Qualitative methods are chosen when the goal of the research problem is to examine ,understand and describe

phenomenon. These methods are often used to study ideas, beliefs, human behaviors and other research questions that do not involve studying the relationship between variables

Therefore this paper adopt mixed research approach as the study conduct a detail participatory observation of reports generated from Ethiopian airlines cargo import section and closed-ended questions in questioner for customs clearing agents as well interviews of different section of the airline which include open ended questions as a qualitative data

3.3 Research Design

The research design refers to the overall strategy that researcher choose to integrate the different components of the study in a coherent and logical way. Thereby ensuring he/she will effectively address the research problem, research design constitutes the blueprint for the collection measurement and analysis of the data. The research problem determines the type of design a researcher should use not the other way round .Therefor this study adopt explanatory design to focus on the effect of customs clearing process on Ethiopian Cargo warehouse operation and its implication on Logistics performance. As this type of research is used to measure what impact in any change (delay/fast) of clearing activity will have on the operation of Ethiopian airline cargo and its implication in logistic performance of the airline cargo section

3.4 Population and Sample

A research population is a well-defined collection of individuals or objects known to have similar characteristics on the study case. All individuals or subjects in a certain population usually have a common binding characteristics or traits (Mohamed Adam The Broll report 2014/15,1 www.acadmia.edu visited on 20mar19) . The target population for this study are all the shipments that stayed more than 30 days and their respective customs clearing agents on the duration when this study have been held which is (February –April 2019). Three criteria's are specified to determine the appropriate sample size: the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976) Samples of the study is calculated using (confidence intervals Lisa Sullivan,PhD www.sphweb.bumc.edu visited on 20 mar 19)

Ethiopian Revenue and customs authority registered about 572 licensed freight forwarders and custom brokers those participated on air freight. A sample size was taken from the target population of 286 customs clearing agent representatives of long stayed shipments by using formula of sample size determination cited by (Cochran 2010). The target population for this study are all the shipments that stayed more than 30 days and their respective customs clearing agents on the duration when this study have been held which is (February –April 2019)there for 286 transmitters are population of the study

As Yamane (1967:886) provides a simplified formula to calculate sample size

$$N_0 = \frac{N}{1+N(e)^2}$$

Where N_0 is the sample size, N is the population size, and (e) is the level of precision. When this formula is applied to the above sample and presented from the bellow table

Table 3.1 Sample size determination table

size of population	Size of Sample Size (n) for Precision (e) of: Population		
	±5%	±7%	±10%
100	81	67	51
125	96	78	56
150	61	61	61
175	122	94	64
200	134	101	67
225	144	107	70
250	154	121	72
275	163	117	74
300	172	121	76
325	180	125	77

The researcher use simple conferential sampling technique to select 121 representatives using 7% error from total population 286. The information that was collected from customs clearing

agents of long stayed shipments as most of the agent are busy of operation and couldn't stay in office the researcher become forced to look for them during their lunch and tea break as well shipments delivery gate POD (proof Of Delivery) section of Ethiopian airlines cargo section.

3.5 Variables of the study and their measures

As it is indicated on the title of the study there will be three variables to be consider the customs clearing activity, Ethiopian airlines cargo operation and the logistics performance of Ethiopian airlines

The relation in between is as independent variable customs clearing process and two of them as dependent variable which is the cargo operations and logistics performance of Ethiopian airlines

3.6 Data source and collection procedures

As a primary data source this study use participant observation which is emphasis is on discovering the meaning that each stockholders of customs clearing and cargo operation attach to their action as the researcher is currently an employee of Ethiopian airlines cargo participate fully on the activity of cargo operation and customs clearing as well observe the implication of their relation on logistics performance of the airline Additionally this study use questionnaires to be filled by freight forwarders and customs brokers who are direct participants of customs clearing

and as a secondary data source ,the study uses dueling time ,safety and quality reports generated from Ethiopian airlines cargo quality management section and revenue collection report of ERCA Ethiopian airlines cargo branch

In order to collect data from the sample selected freight forwarders and custom brokers this study will used semi-structured self-administered questionnaire for quantitative aspect of the study.

As per Koebler, Durtsche, Manrodt, & Ledyard, Keeping score: Measuring the business value of logistics in the supply chain (Univ. Tennessee Council of Logistics Management, 1999,p8)

logistics performance is categorized as ,Time, Cost ,Quality and Other / Supporting-Supply chain operations & reference (SCOR) model by the Supply Chain Council (SCO) such as safety and security. There for this study collect qualitative data using interviewing the airline quality management and standard team regarding the effect of customs clearing process on the logistic performance of the airline in IT system, quality, safety and standard which triangulate the observation and the questioner

The interview is held with experts in quality management and standard section, import manager and operational Director of Ethiopian airline

3.7 Data Analysis Methods

As the specific methods to be applied in the study to collect data are in-depth interview together with documentary analysis the Quantitative data from the questionnaires will analyze using explanatory design. The rational to use this descriptive statistics is to describe the basic features of the data in a study and to provide summaries about the sample and statistical package for social science (SPSS) tool will be in use

Descriptive statistics was used to describe different characteristics. Frequencies, percentages, mean and standard deviation were used to analyze general information about respondents and to describe aspects of customs clearing, cargo operation and logistics performance

In Inferential statistical analysis, correlation and multiple linear regression analysis were used to determine the relationship between the independent variable (customs clearing process) and dependent variables (cargo operation and logistics performance); and to test the effect of customs clearing process on cargo operation and logistics performance . The results were presented using tables

3.8 Reliability and Validity Test

3.8.1Reliability Test

To ensure reliability measurement and assessment of the real situation the researcher use the Cornbrach’s Alpha Statistics as per the recommendation about it as should be above 0.70 to produce a reliable scale and any scale with less than this standard will be eliminated for insuring

the reliability of the study as it is suggested by (Nunnally, 1978) therefor reliability test for the questioner respondents is 0.762 and for each group of items reliability is tested by calculating Cornbach's alpha of pilot respondents after their comment on each question category as follows

Table 3.1 b Cornbash's alpha for data collected by using Questioner

Items	Item numbers	Cornbach's alpha
For items related to importers and customs clearing process	1a-1g documentation	0.749
	2a-2d cooperation	0.718
For items related to customs and customs clearing	3,5,6,7,8and 11(facilitation)	0.717
	4,9and 10 (control)	0.716
For items related to cargo operation and logistics performance of the airline	12to15 (Cargo operation)	0.870
	16-22(Logistics performance)	0.962
All items	All items and all respondents	0.762

3.8.2-Validity Test

To ensure internal validity of the questionnaire the researcher give to five managers, four supervisor and five experts of selected forwarder company for pilot survey on the field for review and their recommendation that is the part of the final questionnaire and also to construct validity is assured by rearranging the questions according to the comments of the respondents in order to keep the flow of the question

3.9 Ethical Consideration

Prior to filling the questionnaire permission of the selected respondent will be asked. Each of the respondent will be given details explanation about the objective and significance of the study.

Then respondent will be asked for their informed consent to participate by explaining the fact that they have the right to decline to respond. Confidentiality will be assured by informing respondent that their identity will not be disclosed and information gained after the completion of the questionnaires will not be transferred to any other third party or used for any purpose other than academic intent.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

Introduction

This chapter is dedicated for data presentation and analysis of data collected from researcher using participatory observation, questioner filled by selected clearing agents and semi structured interview response found from customs officers, Ethiopian airlines import section officials and safety and quality management experts. The chapter also tries to deliver findings based on the study. As indicated in the objective part of this thesis, it is to assess the effect of customs clearing process on Ethiopian Cargo warehouse operation and its implication on Logistics performance in terms of long stayed shipments. Hence, analysis is made based on the response of these three parts the customs clearing, the cargo operation and the logistics performance. In addition to the questionnaire and observation, researcher has used a deep interview of Customs official and Ethiopian airline cargo section operation, safety and quality experts in order to have deep understanding and get detail information that have not included in the questionnaires. Accordingly, analysis is organized and presented turn by turn and finally, summarized all together.

4.1 Response Rate

Response rate is formally defined as the number of completed questionnaires divided by the number of eligible sample members (Frohlich, 2001). Response rates are generally considered to be the most widely compared statistic for judging the quality of surveys (Johnson and Owens, 2008). There is no specific response rate that guarantees an unbiased representation of the population. As a general rule of thumb, most reviewers look for a response rate $\geq$ 70% (Rubenfeld, 2004). A total of 121 questionnaires were distributed to customs clearing agents (transistors). Out of the 121 questionnaires, 105 were returned to the researcher which represents a response rate of 86.7%. This percentage was considered sufficient for the study as it is higher than the general response rate rule of thumb.

4.1. Survey Result and Analysis

4.1.1. Respondents' Profile

The employees of the selected Customs clearing agents (transistors) have answered the questions that have given them in the form of questionnaires, and the researcher presents as follows. The response for the questions requested of their profile, i.e. duration of time they stayed in the customs clearing activity and level of education presented as follows in the form of table:

Table 4.1 Qualification of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	certificate	35	33.3	33.3	33.3
	diploma	39	37.1	37.1	70.5
	BA/BSc	31	29.5	29.5	100.0
	Total	105	100.0	100.0	

As can be seen from table 4.1a about 75% respondents have diploma and certificate and the remaining 29% is BA/BSc holders which lead the researcher to present questionnaire in Amharic than English which become the challenging to the researcher.

Table 4.2 Experience of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	experience of <2 years	31	29.5	29.5	29.5
	experience of 2-5 years	41	39.0	39.0	68.6
	experience of 5-10years	33	31.4	31.4	100.0
	Total	105	100.0	100.0	

at the same time table 4.1b shows about 70% of respondents have more than 2 years' experience and around 30% have less than 2 years of experience which means the respondents are capable of explaining the situation they are passing through while processing shipment clearance.

In order to get more accurate and reliable on the scenario the interview is conducted on respondent with experts, team leader and managerial level employees of Ethiopian airlines and ERCA

4.2.2 Customs clearing agent's perception on the role of importers

During lodgment of declaration in customs clearing

The first objective of the study is to identify the effect of lodgment of customs declaration in customs clearing on the cargo operation of the airline. As lodgment of customs declaration includes the fulfillment of documents therefor this part of the analysis covers part II of the questioner which are questions related to importers and customs clearing during lodgment of customs declaration and preparation of documents

Table 4.3 compiled percentage data on lodgment of customs declaration

	Transportation document	Price document	Bank permit	Packing list	Customs Profile	Certificate of origin	Others
Strongly disagree	32.6	42.1	44.7	14.5	36.8	43.4	35.52
disagree	27.5	52.6	13.2	36.8	50.0	26.3	25
Neutral	35.5	1.5	38.2	39.5	7.9	23.7	35.52
agree	3.9	3.9	3.9	9.2	5.3	6.6	3.94
strongly agree	-	-	-	-	-	-	-
Total	100	100	100	100	100	100	100
Mean	2.11	1.67	2.01	2.41	1.82	1.93	2.08
SD	.918	.700	1.000	.854	.795	.971	.935

Source: researcher 2019

As it can be seen on the above table the mean of all results is between 1and 2 with a standard deviation of bellow one which tells more than 90% of replays lay on the disagreement and neutral side of all the situation, which indicate one of the loop-hole is importers responsibility which is played weakly on lodgment of customs declaration in the current customs clearing activity in providing all the necessary documents accurately and in the needful time. Generally the responses indicate most of the documents reach for customs clearance lately

As the first question of the interview respondents indicate the reason for the long stayed shipment is the incompleteness of documents as well the lateness of importers to start the clearing process from the observation latters for not concification are found in the airline counter received from different importers

Table 4.4 cumulative percentage of Item2 response's cooperativeness of importers to speed up customs clearing

	completeness	Clarity	loyalty	corruption
strongly disagree	21.1	15.8	30.3	44.7
Disagree	40.7	67.1	34.2	31.6
Neutral	38.2	14.5	32.9	17.1
Agree	-	2.6	2.6	6.6
Total	100.0	100.0	100.0	100.0
mean	2.17	2.04	2.09	1.86
SD	.755	.642	.851	.934

As Table 4.4 indicated the completeness, clarity and loyalty of the information that customs clearing agent received from importers, the mean is 2.05 and standard deviation is 0.868 for the positive inquiry, as per the mean and percentage of result more than two third of respondent believe that the information they receive is incomplete complex and not loyal. The most serious problem in lodgment of customs declaration observed is those importers with long stayed shipments are not loyal on submitting price documents which leads them for more problem on their customs profile as well . In the participatory observation the researcher observe from

shipments arrived from 05Feburary to 05 March of current year 268 customers didn't collect their shipment with in 30days of arrival out of 2006AWBs even if they are advised repeatedly from the airline to collect shipment only 65 of clearing agents collect document not the shipment, this customers also didn't submit complete documents for customs office on time which indicate most of the customs clearing processes specially Lodgment of documentation is started very late The interview responses of customs officials also indicate most importers do not starts clearing process on time. In the meantime interview responses on manger import of the airline pointed that clients with long stayed shipments collect cargo document and start the customs clearing process after repeated advice and notification for concification by later.

4.3 Customs clearing and customs office in verification and assessment stage of clearing imported shipment

This part of the analysis covers part III of the questioner which are questions related to customs officers, system, procedures and formalities of customs clearing activity while verifying and assessing documents as well the interviews conducted with ERCA cargo branch senior assessors and team leader cargo system support of Ethiopian airlines cargo section .Those questions found from 3 to 11 are designed to assess the information availability ,consularization , formality (document ,automation and procedures), and cooperation of internal and external (Evadokia Moise, et al, 2014, p45)

Teweldeberhan W/Gabriel 2011 mentions WTO2001 statement on a study called Challenges of Customs on Trade Facilitation in Ethiopia: The case of Customs clearance in ERCA. "So, long Customs clearance is the opposite of trade facilitation, because Trade facilitation: is the simplification and harmonizing of trade procedures". Referring the above 9 replays of customs clearing agents we can say there is improvement regarding facilitation. Generally the bellow table will simply elaborate what is happening in ERCA cargo branch cumulatively

Table 4.5 compiled personage and mean of customs clearing agents perception on customs office and officers in terms of customs clearing process

	information	Formality			consular-	Cooperation			
	Availability	document	Automation	Procedural	Ization	Inte	ext(a)	ext(b)	Control
strongly disagree				27.6					
disagree			3.9	46.1		1.3	1.3	3.9	6.6
Neutral	39.5	36.8	47.4	26.3	7.9	31.6	21.1	27.6	35.5
Agree	38.2	52.6	28.9	-	57.9	40.8	42.1	44.7	53.9
strongly agree	22.4	10.5	19.7	-	34.2	26.3	35.5	23.7	3.9
Total	100.0	100.0	100.0	100	100.0	100.0	100.0	100.0	100.0
Mean	3.83	1.72	3.64	1.99	4.26	3.92	4.12	3.89	2.55

As table 4.5 displays the improvement of ERCA starts from information availability as more than 60% of clearing agents agrees on the availability of information with the mean of 3.86 which label ERCA cargo branch avail all updated information required for customs clearing process per observation the Ethiopian customs Guide prepared on 2017 by the authority can be mentioned as an evidence and also the Established national website also can be mentioned moreover the researcher observed that the established website do not help to find published rate and duties which makes the information availed incomplete . In terms of formality The second improvement is observed per the perception of customs clearing agents on its trial to automate all the operation. which is expressed by more than 40% of clearing agent's agreement and 50% of neutral comments and also the above data disprove the rumor related to formalization of documents and procedures as burocracy by more than 65% disagreement. Finally the improvement is reviled on both internal and external cooperation by more than 65 % agreement of customs clearing agents. But when we come to the general picture of the cargo operation and logistics performance ECRA cargo branch is not utilizing the system they have. per the literature review indicated all the cargo flow in to ADD station reported to ECRA automatically through system called Cargo spot to the new customs system. Even if the customs system have different futures of operation the officers assign on it only use it to rate calculation and display, and also refuse to observe any features on their activity by a fear as it will be taken as a crime.

The single disagreement of customs clearing agents on ERCA cargo branch is its document formality regarding clients profile handling which is not easily accessible formally and lead to mislabeling of risk during lodgment of customs declaration further the researcher interview related to system utilization the organization can implement electronic declaration but different reasons it is not started yet

4.4 Customs clearing agent's perception on the operation of Ethiopian airlines cargo operation and its logistics performance

The final part of the questioner is mostly focuses on the dependent variables of the study which are the cargo operation and logistics performance of the airline.in this section cargo operation and logistics performance looks more similar, this is results because customs clearing agents can only involve on the operation during delivery process only. Koebler, Durtsche, Manrodt, & Ledyard, Keeping score: Measuring the business value of logistics in the supply chain (Univ. Tennessee Council of Logistics Management, 1999) p8 states measures of logistics performance as service quality, delivery time, inventory accuracy cost and others safety related issues at the same time the current version of IATA (AHM) airport handling manual indicate arrival notification, status update , document delivery ,shipment unloading ,shipment sorting …etc as airlines cargo operation and drive Ground operation manual from it.

Therefor this part of the questioner will try to assess cargo operation by focusing on arrival notification, status update, and document delivery. For the assessment of logistics performance of the airline:-service quality, delivery cost and delivery time will be in use

Table 4.6 compiled percentage data on responses related to cargo operation

	status advise	status update	arrival notification	document delivery
strongly disagree	24.8	12.4	23.8	13
Disagree	20.0	21.9	22.9	26.7
Neutral	29.5	31.4	37.1	31.4
Agree	14.3	14.3	1.05	41.9
strongly agree	11.4	20.0	5.7	18.4
Total	100.0	100	100	100.0
Mean	2.51	3.08	2.68	2.15

The first five questions are designed to assess cargo operation of the airline that can be visible to respondents (customs clearing agents).As their operation is mostly attached with status related issues per the demand the compiled table the operation looks 60% neutral and agreed status, but per the airline standard and sated target the attention is the remaining 40%observed on the disagreement figure, which is the indicator for there is something to be improved inside. On the other side of the operation the participatory observation and interview result indicated similar outcome than the respondents of the questioner which is as the airline operation is seriously affected on inefficiency on system and equipment utilization. Which means the airline cargo section have the state of the art world class equipment called ETV(equipment Transfer Vehicle) operated by the system software ICS(inventory control system) that faces a repetitive interruption of automatic operation due to leftover ULDs having long stayed shipments with indication as it is fully occupied. This situation forces the airline to operate the ETV manually in addition the ICS system controls all the flow of shipment in the airline but in the case of Ethiopian currently the system is applicable for few tasks like partial transport order of ULDs and shipment location. Most very sensitive operations that need transport record are performed

Manual mode of operation for instance shipment delivery order is inserted manually and no update of delivery record is not done on ICS, the interference of Cargo spot and ICS is not performed even if it is believed essential

In addition of system and equipment utilization the cargo operation is affected on the circulation of ULDs. As a given ULD should be released within 24hrs and ready for the upcoming outgoing

flight currently Ethiopian is forced to release purchase order for additional 500pallets and 200 due to this situations

Table 4.7 compiled percentage data for questions related to logistics performance of Ethiopian airlines group cargo section

		shipment condition		service quality		Clearing Cost	
	shipment delivery	A	B	A	B	A	B
strongly disagree	16.42	23.8	21	13.3	24.8	13.8	16.2
Disagree	24.8	31.4	9	10	10.5	18.7	14.8
Neutral	37.1	5.2	32.6	36.2	21.9	23.7	37.1
Agree	20	14	19.3	26.7	19.1	19.2	19.0
strongly agree	3	23.7	18.1	13.8	23.7	23.7	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

As per the responses about 50% of clearing agents believe that Ethiopian airlines cargo section is willing to deliver any of their requests that complete the clearing process unless shipments will stay in the warehouse per the regulation. For the remaining 6 questions the responses lays on the neutral side of the relation on clearing process and the logistics performance of the airline. The perceptions of clearing agents shows there is a direct impact of stranded shipments on logistic performance of the airline in terms of service quality, shipment condition and cost to clear out the shipment which is indicated on their response on questions related to logistics performance. As shipment stayed longer in the warehouse the difficulty in service of the airline delivery, the damage on shipment condition and the clearing cost will increases based on clearing agents response the summary of the entire table is presented above. In terms of time, service quality, cost, and other perspective measures of logistic performance the respondents are in question on the airline cargo operation and logistics activity accuracy as their replay indicates

4.5 The relation between customs clearing process, cargo operation and logistics performance

The first three objective of the study was to examine the relationship between customs clearing activities which are (Lodgment of declaration, verification of document and release of shipment) and cargo operation of Ethiopian Airlines. Inferential statistical analysis and correlation analysis were used to examine the relationship between the independent variable (cargo operation of the airline) and dependent variable (customs clearing process).

The final objective of the study is to examine the relationship between cargo operation and logistics performance of the airline. Inferential statistical analysis, correlation and multiple linear regression analysis were used to examine the relationship between the independent variable (logistics performance) and dependent variable (cargo operation).

4.5.1 Correlation Analysis

The sign of the correlation coefficient determines whether the correlation is positive or negative. The magnitude of the correlation coefficient determines the strength of the correlation. The strength of correlation can be described using the guide that Evans (1996) suggests for the absolute value of r as cited in (Beldjazia and Alatou, 2016). If "r = 0.00-0.19 - very weak, r= 0.20-0.39 - weak, r = 0.40-0.59 - moderate, r = 0.60-0.79 - strong and r = 0.80-1.0 - very strong". Pearson correlation coefficients were determined with the objective to obtain information about the relationships between the dependent and independent variables as presented in table 4.8

Table 4.8: Correlation coefficients between dependent and independent variables

		Cargo operation	Lodgment of documents	Verification	Assessment	examination	Logistics performance of ECLS
Cargo operation	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	105					
Lodgment of documents	Pearson Correlation	.821**	1				
	Sig. (2-tailed)	.000					
	N	105	105				
Verification of document	Pearson Correlation	.682**	.508**	1			
	Sig. (2-tailed)	.000	.000				
	N	105	105	105			
Assessment	Pearson Correlation	.647**	.507**	.817**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	105	105	105	105		
examination	Pearson Correlation	.692**	.562**	.809**	.517**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	105	105	105	105	105	
Logistics performance of ECLS	Pearson Correlation	.737**	.732**	.660**	.600**	.690**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	105	105	105	105	105	105

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

Source: researcher 2019

The results indicated that there is a positive and very strongly significant correlation between lodgment of customs declaration and cargo operation ($r=0.821$, $p<0.01$). According to Evans (1996) magnitude of correlation, the relationship between the two variables is very strong. In addition, the result indicated that verification and assessment is positively and significantly correlated with cargo operation ($r=0.682$, $p<0.01$). Consequently, the relationship between the two variables is very strong.

The results also showed that assessment and examination of good is positively and significantly correlated with cargo operation ($r=0.647$, $p<0.01$) and ($r=0.692$, $p<0.01$) respectively which indicates a strong relationship between the two variables.

Generally, the correlation analysis showed that there is a positive and statistically significant relationship between customs clearing process and cargo operation of Ethiopian airlines.

Similarly when we see the correlational relation of logistics performance and customs clearing activity results show a strong association as per Evans (1996) . The results on the table indicated that there is a positive and significant correlation between lodgments of documentation and logistics performance ($r=0.737$, $p<0.01$). According to Evans (1996) magnitude of correlation, the relationship between the two variables is strong. In addition, the result indicated that verification of documents is positively and significantly correlated with logistics performance ($r=0.660$, $p<0.01$). Consequently, the relationship between the two variables is strong. The results also showed that assessment and examination of shipment is positively and significantly correlated with logistics performance ($r=0.6000$, $p<0.01$) and ($r=0.6900$, $p<0.01$) which indicates a strong relationship between the two variables.

Generally, the correlation analysis showed that there is a positive and statistically significant relationship between cargo customs clearing activity and logistics performance of Ethiopian airlines.

4.5.2 Regression Analysis

A multiple regression analysis was carried out to determine the influence of independent variables on the dependent variable. Multiple regressions also used to determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained.

According to Ballance 2004, the correct use of the multiple regression models requires that several critical assumptions be satisfied in order to apply the model and establish validity. Inferences and generalizations about the theory are only valid if the assumptions in an analysis have been tested and fulfilled.

Before carrying out multiple regression analysis, the researcher has checked the required assumptions that the data must meet to make the analysis reliable and valid. The following assumptions of multiple linear regressions were tested using SPSS.

Linearity assumption: Linearity defines the dependent variable as a linear function of the predictor (independent) variable (Balance, 2004). Linearity assumption was tested by producing scatterplots of the relationship between each of independent variable and the dependent variable. By visually looking at the scatterplot produced by SPSS, the relationship between each independent variable and the dependent variable found to be linear as shown in Appendix B

Multicollinearity assumption: Multicollinearity is a statistical phenomenon in which there exists a perfect or exact relationship between the predictor variables. When there is a perfect or exact relationship between the predictor variables, it is difficult to come up with reliable estimates of their individual coefficients. It will result in incorrect conclusions about the relationship between outcome variable and predictor variables (Alibuhtto and Peiris, 2015). According to Reddy et al. (2013) the most widely applicable method of detecting the Multicollinearity is Variance Inflation Factor and it is very accurate in determining the problem of Multicollinearity. The common thumb rule is if any of the VIF values exceeds 5 or 10, it implies that the associated regression coefficients are poorly estimated because of Multicollinearity. Accordingly, collinearity diagnostics was conducted using SPSS and VIF values found to be less than the values stated in the rule of thumb which shows that Multicollinearity was not a problem as shown in appendix B.

Normality assumption: Multiple regressions assume that variables have normal distributions. This means that errors are normally distributed, and that a plot of the values of the residuals will approximate a normal curve. Two common methods to check normality assumption include using a histogram (with a superimposed normal curve) and a Normal P-P Plot. It can be concluded that normality is guaranteed as the histogram generated is normally distributed and the P-P plot follows the diagonal reference line as shown in appendix B.

Homoscedasticity assumption: The assumption of homoscedasticity refers to equal variance of errors across all levels of the independent variables. This means that errors are spread out

consistently between the variables. This is evident when the variance around the regression line is the same for all values of the predictor variable. Homoscedasticity can be checked by visual examination of a plot of the standardized residuals by the regression standardized predicted value. Ideally, residuals are randomly scattered around zero (the horizontal line) providing even distribution. Heteroscedasticity is indicated when the scatter is not even; fan and butterfly shapes are common patterns of violation. To assess homoscedasticity, the researcher created a scatterplot of standardized residuals versus standardized predicted values using SPSS and found that Heteroscedasticity was not a major problem as shown in appendix B.

After the data was checked for the above required multiple regression assumptions and confirmed that it has meet all these assumptions, multiple regression analysis was carried out to determine how well the regression model fits the data (model summary), independent variables statistically significantly predict the dependent variable (ANOVA) and statistical significance of each of the independent variables (regression coefficients).

4.5.2.1 Model Summary

From the table, R^2 value of the model summary 0.787 indicates that 78.7% of the variation in the cargo operation of Ethiopian airlines cargo section can be explained by the customs clearing process (independent variables included in the model)

Table 4.9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887[a]	.787	.779	.385

a. Predictors: (Constant), item8, ietm2b, item1a, ietm2a

a. Predictors: (Constant), lodgment of documents , verification assessment and examination of good
b. Dependent Variable: cargo operation

Source:- researcher 2019

Table 4.10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		Durbin-Watson
					R Square Change	F Change	
1	.822[a]	.676	.664	.479	.676	52.270	1.818

a. Predictors: (Constant), lodgment of documents, verification of documents, assessment and evaluation

b. Dependent Variable: logistic performance

similarly From second table, R^2 value of the model summary 0.676 indicates that 67.6% of the variation in the logistics performance of Ethiopian airlines cargo section can be explained by the customs clearing process (independent variables included in the model)

4.5.2.2 ANOVA Model Fit

The F-ratio in the below ANOVA table (table 4.11) tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically insignificant to predict the dependent variable, $F = 92.409$, $p < .001$ (i.e., the regression model is a good fit of the data)

Table 4.11: ANOVA model fit

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.750	4	13.688	92.409	.000[b]
	Residual	14.812	100	.148		
	Total	69.562	104			

a. Dependent Variable: cargo operation

b. Predictors: (Constant), lodgment of declaration , verification and assessment and release of good

Table 4.12ANOVA model fit

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.932	4	11.983	52.270	.000[b]
	Residual	22.925	100	.229		
	Total	70.857	104			

a. Dependent Variable: Dependent Variable: logistics performance

b. . Predictors: (Constant), lodgment of declaration, Verification ,assessment and examination of good

The F-ratio in the above ANOVA table (table 4.15) tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically insignificant to predict the dependent variable, $F = 52.270$, $p < .001$ (i.e., the regression model is a good fit of the data)

4.6.2.3 Régression Coefficients

Table 4.13 regrattions coefficient table for cargo opération

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.198	.109		1.808	.074
	Lodgments of document	.536	.058	.560	9.303	.000
	Verification	.005	.100	.007	.054	.957
	Assessment	.149	.062	.226	2.389	.019
	Examination	.199	.075	.254	2.655	.009

a. Dependent Variable: cargo operation

Standardized Coefficients

The standardized coefficients are useful to know which of the different independent variables is more important. They are used in comparison of impact of any independent variable on the dependent variable. As indicated in regression coefficients table (table 4.16), lodgment of documents had the highest standardized coefficient (.560) followed by shipments examination (.254). This revealed that lodgments of documents practices had higher relative effect on cargo operation of the airline. Assessment and examination of good ranked third and fourth respectively in their relative importance on customs clearing activity

Table 4.14 Recreational coefficient table of logistics performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.300	.136		2.207	.030
	Lodgment of document	.423	.072	.438	5.898	.000
	verification	-.014	.124	-.018	-.113	.911
	assessment	.141	.078	.212	1.818	.072
	examination	.276	.093	.349	2.958	.004

a. Dependent Variable: logistics performance

As indicated in regression coefficients table (table 4.16), lodgment of documents had the highest standardized coefficient (.438) followed by shipments examination (.349). This revealed that lodgments of documents practices had higher relative effect on logistics performance of the airline. Assessment and examination of good ranked third and fourth respectively in their relative importance on customs clearing activity

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The study sought to establish the effect of customs clearing process on the cargo operation and logistics performance of Ethiopian airlines cargo section. The four objectives of the study were to identify effect of Lodgment of Customs declaration for imported shipments in customs clearing process affect the operation of Ethiopian airlines cargo operation, identifying how Verification of documents in customs clearing process affect the operation of Ethiopian airlines cargo section, To identify effect of Examination and release of Good in customs clearing process on the operation of Ethiopian airlines cargo operation and finally to determine what implications does the relation between the customs clearing process and Ethiopian airlines cargo operation have on logistics performance of Ethiopian airline cargo section? This chapter provides the summary of findings with respect to the study objectives, conclusions and recommendations of the study as well as limitations and suggestions for future research.

5.2 summary of findings

The study was an attempt to cover the effect of customs clearing process on cargo operation of Ethiopian airlines, lodgment of customs clearing, verification of documents, assessment and examination of goods are the sub. The study was also an attempt to determine what implication does their relation has on the logistics performance of Ethiopian airlines cargo section. The study tried to explore detail important concepts in relation to the research objective in consideration. It included review of related literatures regarding customs, customs clearing, cargo operation and logistics performance well as theoretical and empirical literature reviews in relation to the study.

Data for the study was obtained mainly through deep participatory observation, distribution of questionnaires to a pre-determined sample of customs clearing agents in ERCA cargo branch and an interview of 7ethiopian airline stuff including operational director and import manager, standard, and senior customs quality experts as well senior assessor and team leader of ERCA cargo branch stuff . A total of 76 questionnaires were distributed to respondents and 76 were returned with a response rate of 100%. An sampled value of Cronbach alpha (α =0. 0.762) was

obtained and the overall internal consistency test of research instruments was found in “good” reliability range.

The observation took a total of 2 moths including the analysis and follow-up of shipments movements and questioner define one of the loop-hole is importers responsibility which is played weakly on lodgment of customs declaration in the current customs clearing activity in providing all the necessary documents accurately and in the needful time. Generally the responses indicate most of the documents reach for customs clearance lately

The correlational and regression results and tests of the questioner out comes imply there is a cause and effect relation between the customs clearing activity with cargo operation of the airline and also the observation and interview results reflect the cargo operation and logistics performance of the airline is affected by ECRA cargo branch as it is not utilizing the system they have.

As the literature review indicated all the cargo flow in to ADD station reported to ECRA automatically through system called Cargo spot to the new customs system. Even if the customs system have different futures of operation the officers assign on it only use it to rate calculation and display, and also refuse to observe any features on their activity by a fear as it will be taken as a crime.

On the other side of the operation the participatory observation and interview result indicated an similar outcome with the respondents of the questioner which is as the airline operation is seriously affected on inefficiency on system and equipment utilization. Which means the airline cargo section have the state of the art world class equipment called ETV(equipment Transfer Vehicle) operated by the system software ICS(inventory control system) that faces a repetitive interruption of automatic operation due to leftover ULDs having long stayed shipments with indication as it is fully occupied. This situation forces the airline to operate the ETV manually in addition the ICS system controls all the flow of shipment in the airline but in the case of Ethiopian currently the system is applicable for few tasks like partial transport order of ULDs and shipment location. Most very sensitive operations that need transport record are performed

Manual mode of operation for instance shipment delivery order is inserted manually and no update of delivery record is not done on ICS, the interference of Cargo spot and ICS is not performed even if it is believed essential

In addition of system and equipment utilization the cargo operation is affected on the circulation of ULDs. As a given ULD should be released within 24hrs and ready for the upcoming outgoing flight currently Ethiopian is forced to release purchase order for additional 500pallets and 200 due to this situations which results a repetitive delay of outgoing flights

Finally like Tekli et al (2016) this study finds Time delay, unavailability of information on customs import procedure, lack of one stop service especially lack of single window system and other direct and indirect costs results effect on the operation and performance of Ethiopian airlines cargo section

5.1 Conclusion

As per the analysis made, the cargo operation at Ethiopian airlines is affected by customs clearing activity which is less focused on facilitation from ERCA cargo branch side and insubordinate importers resulting long stayed and stranded shipments in Ethiopian airlines cargo terminal that can implies on the logistics performance of the airline due to the below reasons in respect of the following stakeholders.

5.1.1 Customs Clearing and Importers

As per the analysis Lodgment of customs declaration for those long stayed shipments starts lately is because most importers of the long stayed shipment start the custom clearing activity of a shipment lately resulting from the following reasons

- Most Importers of long stayed shipments release the purchase order before they get the bank permit
- Most Importers of long stayed shipments provide the necessary documents lately
- The price documents which most importers provide mismatch the actual price
- Some importers prefer to store their shipments in Ethiopian airlines cargo terminal warehouse intentionally in order to be secure, safe, and less cost of warehousing

- When there is a price difference sole importers of some commodities left their shipment on the warehouse and wait customs to abandon and sell the shipment for them.
- Most government offices import shipments and change their strategic plan to the one that didn't include the shipment they imported and left it in the terminal not to pay tax and duties

5.1.2 Customs clearing and ERCA Cargo Branch

ERCA cargo branch is becoming more automated and easy to process assessment and evaluation than the previous times, but when we relate it with WTO's facilitation indicators ERCA cargo branch is less focused on facilitation activity due to the following findings of the researcher.

- Information available for customers in terms of publication of rate of duties on the website is incomplete.
- Automated formalities with zero percent of electronically application of declarations and a system that is used only to display and calculate duties
- Absence of single window service
- Intermittent confiscation /abundance operation
- Less cooperation of custom officers regarding any clear changes and amendments done on data specially on the system side with airline operators
- Informal and most traditional presentation of customer profile

5.1.3 Customs clearing and Cargo Operations

Long stayed shipments that are results from lately started custom clearing activity become a serious problem in cargo operations. The basic operations that are affected are

- The safety of operators and mobility of equipment
- ULD circulation become stranded
- Decreases system utilization of the airline
- Equipment utilization become affected seriously, an airline with a world class equipment but a repetitive interruption of operation due to equipment failure

5.1.4 Customs clearing and Cargo Operations in Logistic Performance

Due to long stay shipments resulted from lately started custom clearance and un-automated customs operation creates inefficient cargo operations. These relationship of customs clearance and cargo operations implicated on the below logistic performance measures of the Ethiopian airlines

- Long dwelling time of shipment which is more than 30 days
- In efficient system utilization means a manual delivery system which also affects the service quality of the airline.
- Increase cost of transportation claim and recovery
- Unsafe work environment and low standard service of airline

5.4 Recommendations

As per the conclusion customs clearing of imported shipment affect the cargo operations of the Ethiopian airline and it implies on its logistics performance. In order to minimize and avoid the effect the researcher recommends the following points from different section.

As a serious problem is observed on the lodgment of custom clearing which is started from importers perspective and activity, the researcher recommends the following

- In order to prevent the incompleteness of documents specially bank permit

The researcher recommends there should be a control on the status of bank permit before shipment is shipped to Addis Ababa which means the airline should confirm if the bank permit is to be completed within 30 days of arrival before accepting shipment to transport.

- The researcher also recommends automated system training for ERCA cargo branch staffs and above all the organization should work more on system utilization which helps the organization to increase its focus of facilitation. In the meantime the researcher recommends to the ERCA cargo branch to focus on system utilization which helps it to control fraud too.

- In order to minimize the gap between the airline cargo operation and custom staff to have smooth communications and well-structured integration, a committee which works on the manipulation of the interaction is needed
- The researcher also recommends the structured implementation of confiscation/abundance as it is beneficial to the cargo operations and logistics performance of the airline which can minimize the room those insubordinate importers uses.
- In order to minimize the conjunction taken place in the airline warehouse the researcher recommends the customs office to start consolidation operation which helps local logistics company representatives to operate door to door
- Finally the researcher recommends the airline to focus on the system utilization of ICS and work hard on the situations which minimize the extended safety, quality and standard issue.

5.5 Limitations and Suggestions for future research

There are limitations in this study which are left for future research. Firstly, the study focused on three customs clearing process and long stayed shipments, But the study did not include all customs clearing processes and operation of the airline cargo operation and hence it suggests conducting further studies considering several other types of customs clearing operation starting from Bank permit and other documents

Secondly, the study didn't involve importers in its data collection and instruments who can have concrete outcomes in the situation. Similar studies should be conducted on importing and exporting process in ERCA and system utilization

REFERENCES

Abadi, F.J. and Cordon, C. (2012). Developing a Framework for the Identification and Analysis of the Strategic Resources and Capabilities in Supply Chains. Operations and supply chain management, Vol. 5 (2), pp. 59-75.

Ackerman, B.K. (1997). Practical Handbook of Warehousing.4th edn. Massachusetts: Kluwer Academic Publishers.

Adebambo, S. and Toyin, A. (2011). Analysis of Information and Communication Technologies (ICT) Usage on Logistics Activities of Manufacturing Companies in Southwestern Nigeria. Journal of Emerging Trends in Economics and Management Sciences Vol. 2(1), pp.66-72.

Alibuhtto, M.C. and Peiris, T.S.G (2015). Principal component regression for solving multicollinearity problem. In: 5th International Symposium, South East University of Sri Lanka.

Augustine, N. A. and Agu, O. A. (2013). Effect of Inventory Management on Organizational Effectiveness. Information and Knowledge Management, Vol.3 (8).

Azevedo, G.S., Ferreira, J. & Leitao, J. (2007). The Role of Logistics' Information and Communication Technologies in Promoting Competitive Advantages of the Firm. University of Beira Interior.

Babatunde, B.O. and Arogundade, K.K. (2008). Reflection of inventory-production cost minimization and organization's profit performance. The Journal of Commerce, Vol. 3(4).

Buyonge, C. and .Kireeva, I. (2008), Trade Facilitation in Africa: Challenges and

possible solutions, World Customs Journal, Vol.2, No.1

Boone, N.H. and Boone, A.D. (2012). Analyzing Likert Data. Journal of extension, Vol.50(2)

Boonpattarakan, A. (2012). Competitive Capabilities of Thai Logistics Industry: Effects on Corporate Image and Performance. International Journal of Business and Management, Vol. 7(5).

Bowersox, J.D., Closs, J.D. and Cooper, B.M. (2002). Supply chain logistics management. New York, McGraw-Hill Higher Education.

Bremen, P., Oehmen, J., Alard, R. and Schonsleben, P. (2010). Transaction Costs in Global Supply Chains of Manufacturing Companies. Systemics, Cybernetics and Informatics, Vol. 8(1).

Cao, M. and Zhang, Q. (2013). Supply Chain Collaboration. London: Springer.

Chang, Y. H. (1998). Logistical Management. Taiwan: Hwa-Tai Bookstore Ltd.

Chiarini, A. (2015). The impact of logistics solutions on customer satisfaction: an exploratory qualitative study of manufacturing companies.

Das, T.K. and Teng, B. (2000). A Resource-Based Theory of Strategic Alliances. Journal of Management,.

Drost, A.E (2011). Validity and Reliability in Social Science Research. Education Research and Perspectives, Vol. 38 (1).

Jean François Arvis(2005), *"Transit and the Special Case of Land-locked Countries"*, in Luc De Wolf and Jose B Sokol (eds), Customs modernization handbook, World Bank, Washington, DC, pp. 243-263.

Jean-Paul Rodrigue (2013), New York: Routledge

Compiled cargo Data report 2014-1018 htt// www.ethiopianairlinesportal.com – un-published visited on 03dec18

Olivier, D. and B. Slack (2006) "Rethinking the Port", Environment and planning page 543

De Wulf&Sokol 2004, 17; Truel 2010, 22.) worldcustomsjournal.org/Archives/Volume 8, Number 1 (Mar 2014)/11 visited 03mar19

Burton, Dawn. "Part I, Philosophy of the Social Sciences." In *Research Training for Social Scientists*. (London, England: Sage, 2000), pp. 1-5

Buyonge, C. and .Kireeva, I. (2008), Trade Facilitation in Africa: Challenges and possible solutions, World Customs Journal, Vol.2, No.1

Core principles of revised Kyoto conventions, viewed in 02jan19, http://www.gfptt.org/uploadedEditorImages/00000197.ppt#528,9,Slide 9 visited on 02Feb 19

Creswell, W 2007, Research design: qualitative, quantitative, and mixed methods approaches, 3 ed, thousand Oaks, Calif.: Sage Publications

Faber, N. (2015). Structuring warehouse management: Exploring the fit between warehouse characteristics and warehouse planning and control structure, and its effect on warehouse performance. Dissertation. Erasmus University.

Fekadu, D. (2013). Logistics Practices in Ethiopia. Masters Thesis. Swedish University of Agricultural Sciences.

Federal Negarit Gazeta (2011). Regulation Number 197/2010. Federal Democratic Republic of Ethiopia Council of Ministers.

Customs Modernization, viewed 13feb19,

http://www.gfptt.org/Entities/TopicProfile.aspx?tid=434deeb0-545d-4dc9-ad6e-7e06638a95ce
De Wulf and Jose B.Sokol (eds) (2004) Customs Modernization initiatives: case study, World Bank, Washington DC.Top of Form

APPENDEXES

Appendix-A Questioners and interview questions

Addis Ababa University

College of business and economics

School of commerce

Dear Respondents

The objective of this questionnaire is to secure the necessary and relevant first-hand information that may be useful to conduct a Thesis regarding "Effect of customs clearing activity in airlines cargo operation and its implication on logistic performance in the case of Ethiopian airlines group cargo section." which will be used to prepare a Thesis required for my MSc degree in Logistics and supply chain management. Therefore, your response in this regard helps a lot to undertake the study. The result of this survey will be treated with at most confidentiality and will be strictly used for academic purpose only. The researcher thus appreciates in advance your cooperation and sparing your valuable time in filling this questionnaire.

Thank you

Please give your answers in the space provided or put a tick mark in the boxes that matches your response as per the indications and instructions

Part I

Personal information

1. what is your positon in the customs clearing activity _____

2. Year of experience in customs clearing

   < 2 ☐ 2-5 ☐ 5-10 ☐

3. Qualification

   Certificate ☐ BA/BSc ☐

   Diploma ☐ MA/MSc ☐

4. Field of Study _____

Part II

Questions related to Importers and customs clearing

5= strongly agree, 4= agree, 3= Neutral, 2=Disagree 1= strongly disagree

1	most of my clients are fast and accurate in providing the bellow documents for customs clearing activity of a freight	1	2	3	4	5
	Transportation document					
	Price document (commercial invoice)					
	Bank permit					
	Packing list					
	Customs related history					
	Certificate of origin					
	Other necessary documents to be prescribed in the directives issued by the Authority					
2	Most of my clients co-operative to speed up the customs clearing activity by performing the bellow activities					
	By providing all the necessary documents accurately					
	By advising the status of the shipment clearly					
	By being loyal on submitting the invoice and other documents					
	By doing corruption to speed up the activity					

Other comments_____

Part III

Questions related to Customs office and customs clearing

5= strongly agree, 4= agree, 3= Neutral, 2=Disagree 1= strongly disagree

	Related to the speed and accuracy of customs office in Verification , Examination and assessment activates for customs clearing activity of a freight	**1**	**2**	**3**	**4**	**5**
3	Customs office clearly state the needful documents to be submitted for every type of shipment clearly					
4	customs related history of your clients are easily accessible using formal procedures					
5	customs officers confirms that all the necessary documents are completed immediately when documents are submitted					
6	customs officers are willing to verify the submitted documents quickly					
7	Customs officers are capable to use the new customs system and verify the submitted documents quickly					
8	Customs officers are willing to invite me/my client to attend during examination of the goods.					
9	Mostly as per customs officers report the customs declaration I prepare and the Examined shipments are mismatched					
10	frequently clearing agents face a problem in Assessment and collection of duty and taxes due to various customs office related reasons					
11	It is easy to collect shipments					

Other comments _____

Part IV

Questions related to Cargo operation and logistics performance of Ethiopian airlines cargo section

5= strongly agree, 4= agree, 3= Neutral, 2=Disagree 1= strongly disagree

	Related to Ethiopian airlines cargo operation in terms of service quality time and cost	**1**	**2**	**3**	**4**	**5**
12	Ethiopian airlines cargo section is willing to Advise the status of shipment					
13	the actual and the information on tracking system provided by Ethiopian airlines website on the status of shipment are accurate					
14	Ethiopian airlines advise the arrival status of the shipments within 24hrs on arrival date of the shipment					
15	Ethiopian Airlines cargo document delivery operation is excellent in terms of time					
16	Ethiopian Airlines cargo shipment delivery section is willing to give service for any of your request					
17	The condition of shipments I receive that stayed for more than 15 days in the warehouse is BAD					
18	the condition of shipments I receive that stayed less than 15 days in the warehouse is GOOD					
19	Shipment delivery service quality of Ethiopian airlines cargo section for a shipment that stayed in the warehouse more than 15 days is BAD					
20	Shipment delivery the service quality of Ethiopian airlines cargo section for a shipment that stayed in the warehouse less than 15 days GOOD					
21	The cost my client incurred for a shipment that stayed in the warehouse more than 15 days is HIGH					

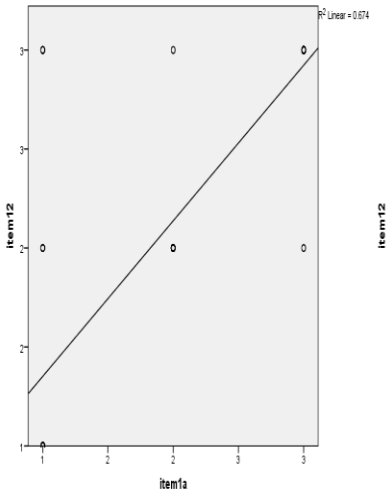
22 The cost my client incurred for a shipment that stayed in the warehouse more than 15 days is LOW

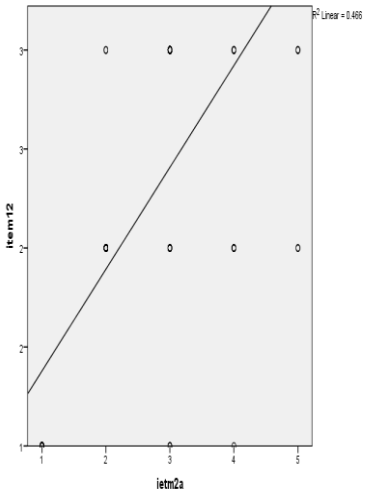
Other comments _____

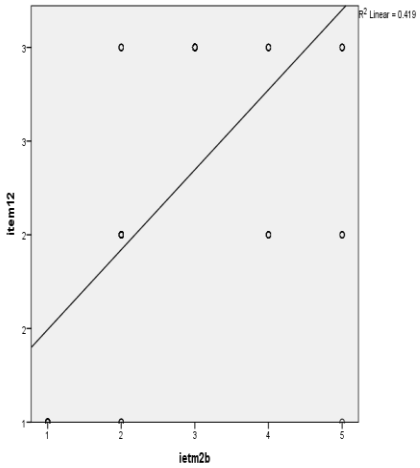
Appendix B: Linear Regression Assumptions

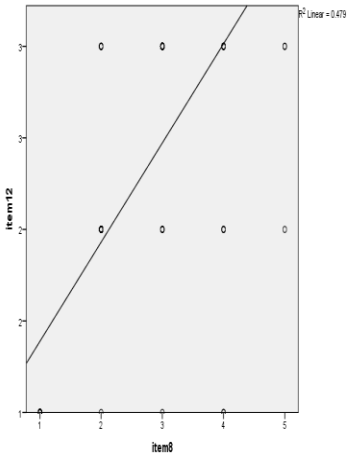
1. Linearity of relationship test

Item -1aLodgment of customs clearing
Item-2a verification of documents
Item-2b assessment of documents
Item -8 examination of good
Item -12 Cargo operation

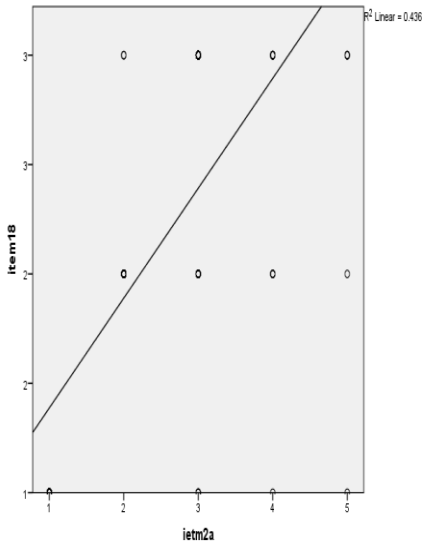


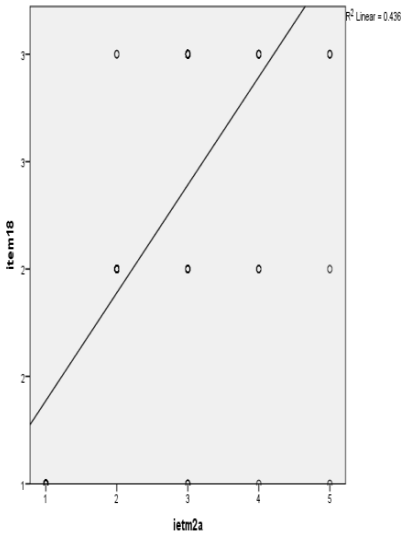


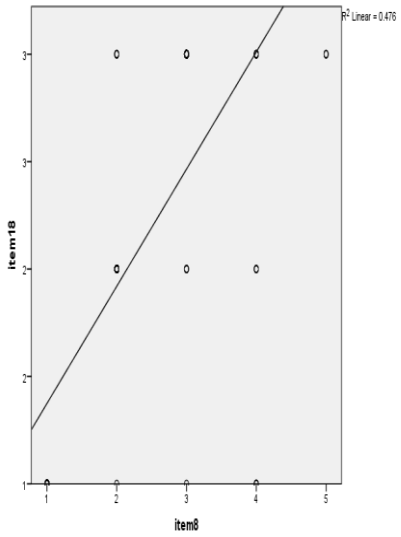


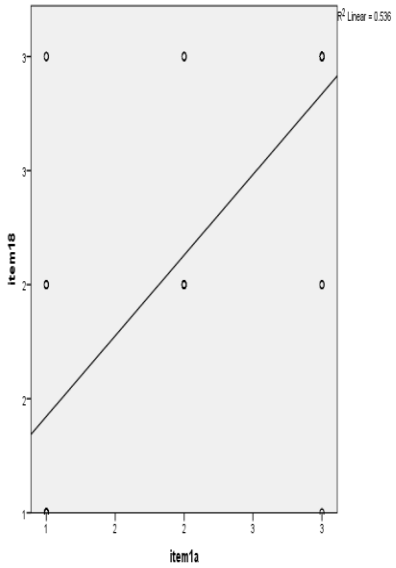


Item -12 arrival notification
Item-13 status update
Item-14 status advise
Item -12 Cargo operation









2.Multicollinearity Test Result

Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	lodgment	Verification	assessment	examination
1	1	4.713	1.000	.00	.00	.00	.00	.00
	2	.119	6.307	.41	.10	.03	.00	.12
	3	.081	7.634	.36	.08	.00	.19	.15
	4	.076	7.892	.23	.68	.01	.07	.04
	5	.011	20.309	.00	.14	.96	.74	.70

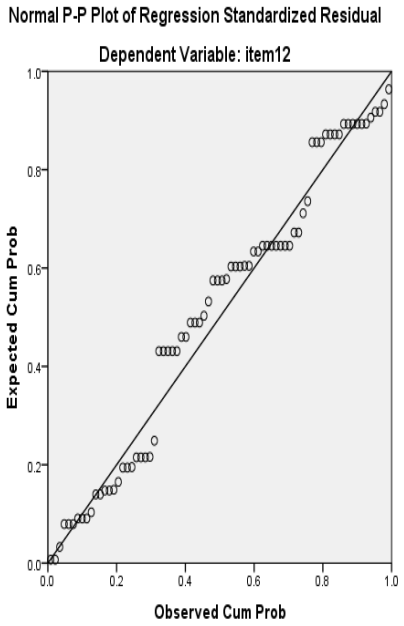
a. Dependent Variable: cargo operation

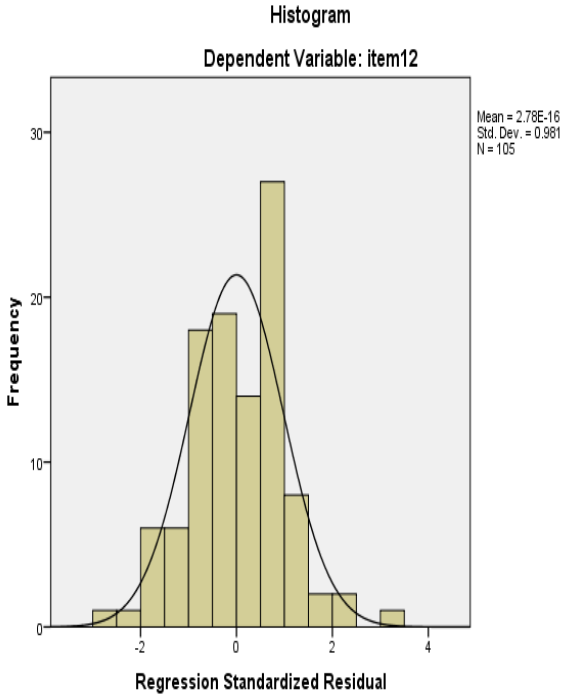
Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	lodgment	verification	assessment	Examination
1	1	4.713	1.000	.00	.00	.00	.00	.00
	2	.119	6.307	.41	.10	.03	.00	.12
	3	.081	7.634	.36	.08	.00	.19	.15
	4	.076	7.892	.23	.68	.01	.07	.04
	5	.011	20.309	.00	.14	.96	.74	.70

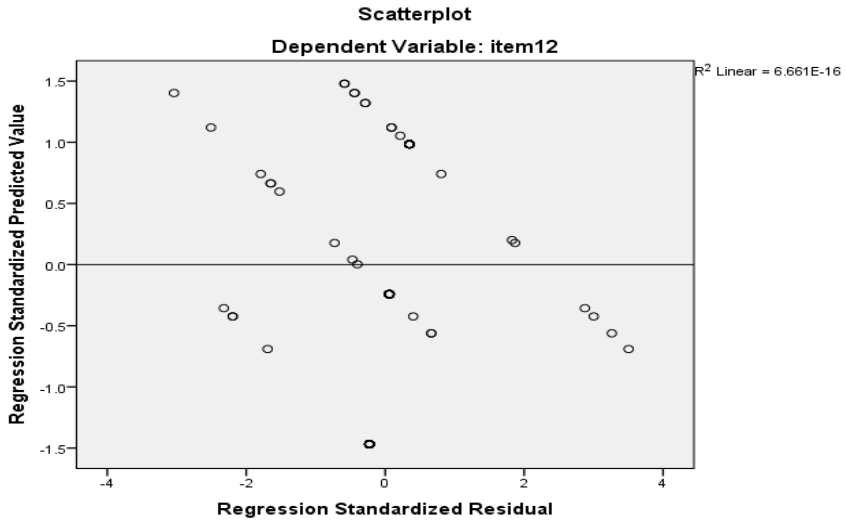
a. Dependent Variable: logistics performance

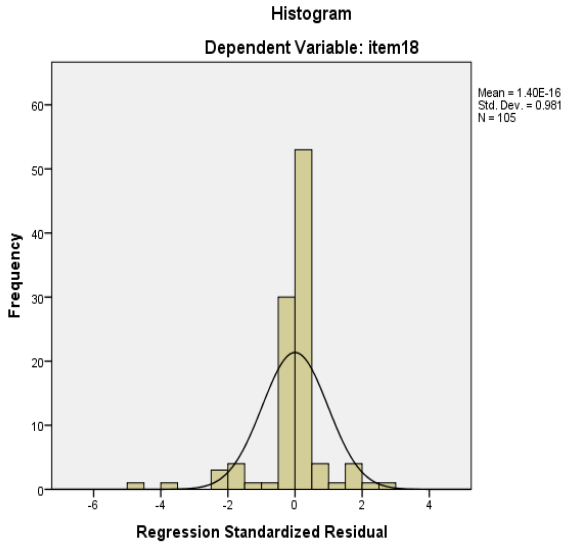
3. Normality Test

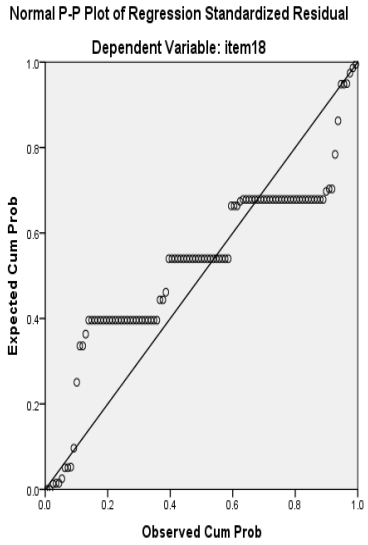




Item 12 –cargo operation of Ethiopian airlines







Item 13 –logistics performance of Ethiopian airlines