Causes of Import Cargo Clearance Inefficiency in Ethiopia: The Case of Modjo dry port

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Declaration

I, the undersigned, hereby declare on this study entitled, “Causes of Import Cargo Clearance Inefficiency in Ethiopia: The Case of Modjo dry port” is my original work and has not been submitted by any other person for any other requirement and I acknowledged that all sources of information are used appropriately.

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This is to Certify that the thesis prepared by Sisay Asres, entitled: Causes of Import Cargo Clearance Inefficiency: the case of Modjo Dry port submitted in partial fulfillment of the requirements for the Degree of Master of Arts in Supply Chain and Logistics Management complies with the regulations of the University and meets the accepted standards concerning originality and quality.

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Abstract

Ethiopia is a landlocked country that depends on neighboring countries for all its import and export trade. Djibouti port is one of the major entry and exit of the internationally traded goods. In order to facilitate the international trade, the Ethiopian government has embarked on developing dry ports in the hinterland. Modjo dry port is one of these dry ports and accommodates the majority of imports to the country. This effort of expanding the dry port can be taken as an encouraging step towards facilitating trade, but assessing and improving the service providing process is crucial. Some reports indicated that the cargo clearance process within the dry port is impacted by different obstacles and led to an inefficient cargo clearance system. This study aimed at assessing the causes of import cargo inefficiency in Ethiopia, the case of Modjo dry port. The objective of the study is to assess the reasons for cargo clearance procedural inefficiency of Modjo dry port and employed an explanatory method and used a qualitative research approach. Primary data were collected by distributing 95 survey questionnaires and 83 questionnaires responded, which means 87 percent successfully returned back. The collected data were first described by descriptive statistics and further analyzed using inferential statistics and also employed a regression models. The result of the findings specifically related to the document requirement, traceability of cargoes, border clearance time, application of risk management, and coordination of border agency; which are the major causes of import cargo clearance inefficiency in Modjo dry port. These showed that importers incurred unnecessary costs and cargo delay. Some of these problems should be solved by the Ethiopian Customs Commission and others in conjunction with the Ethiopian Maritime Affairs Authority to accommodate the function of all operations at the dry port.

Key Words: Dry port, import, transit procedure, clearance procedure, operators.

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List of Acronyms

ECE.....Economic Commission for Europe

EMAA…..Ethiopian Maritime Affairs Authority

ERCA…...Ethiopian Revenues and Customs Authority

ESLSE…...Ethiopian Shipping and Logistics Service Enterprise

ICCI……..Import Customs Clearance Inefficiency

ICT……Information Communication Technology

ITC……International Trade Center

ILO……...International Labor Organization

LPI…….Logistics Performance Index

MoR……..Ministry of Revenues

MT……Multimodal Transport

NAS……..National Aviation Services

NBT……..National Border of Trade

OECD…...Organization for Economic Co-operation and Development

OLS……..Ordinary Least Square

RKC…….Revised Kyoto Convention

TIR……...Transport International Routier

UNCTAD….United Nations Conference on Trade and Development

UNECE…….United Nations Economic Commission for Europe

VIF……Variance Inflation Factors

WCO…….World Customs Organization

WTO…….World Trade Organization

Chapter One

Introduction

1.1Background of the study

Ethiopia is a landlocked country that depends on the ports in neighboring countries for all foreign trade; particularly Djibouti port which handles more than 90% of Ethiopia's incoming and outgoing shipments. The country's majority import cargo is passed through this customs controlled route that links Djibouti port to Modjo dry port. Since this corridor connects the seaport with the dry port; road and rail transport play an important role to move the imported goods.

To improve the logistics services; the Ethiopian government has embarked on the creation and expansion of dry ports in different strategic locations of the country. Mojdo Dry Port is the largest one among the dry ports that have been established during the last ten years. It is the first, and multifunctional inland port where all types of cargoes are loaded, unloaded, stored, handled, and cleared for free circulation. In order to improve the dry port services; trade facilitation handbook on lessons from experience indicated measures that the trade facilitation concept; UNCTAD (2006, p. 7) covers about the use of procedures, paperless trade transaction, faster movement of goods through transparent and predictable customs services, improved regulatory and the use of transport and communication infrastructures.

The World Bank Doing business report stated, the performance of the import cargo clearance procedure of Ethiopia is one of the main factors that contribute to the national logistics inefficiency World Bank (2018, p. 47). The country's logistics inefficiency is discussed in many kinds of literature and World Bank Journals. However; as to the researcher's knowledge, the main causes of import cargo clearance procedural inefficiency at Modjo dry port were not clearly discussed and documented.

For the purpose of this study, assessment of the causes of the import cargo clearance procedural inefficiency at Modjo dry port; covered the performance of cargo clearance procedures at Modjo dry port.

1.2 Statement of the problem

Many journals and studies were tried to indicate the inefficiency of the Ethiopian import cargo clearance procedure by using different indicators from different perspectives. Here the cargo clearance was hampered by many factors such as infrastructure, equipment etc…. The procedural aspects played an important role in poor cargo clearance services. The purpose of this study is to examine the source of import cargo clearance inefficiency. Here the objective of this study is to ensure that the evidence obtained enables the researcher to answer this question as clear as possible. To answer this question basic information is required in relation to the following issues.

- Document requirement;
- Process steps;
- Information technology;
- Traceability of cargoes;
- Border clearance time;
- Application of risk management;
- Coordination of border agencies;
- Predictability of customs actions.

According to the World Bank Logistics Performance Index ranking on doing business, Ethiopia ranked 161 out of 190 countries, World Bank (2018, p. 4). Additionally, the aggregated LPI combines the four most recent LPI editions. The result explained by World Bank (2018) as "Scores of the six components across 2012, 2014, 2016, and 2018 LPI surveys were used to better indicate countries' logistics performance." As per this aggregate LPI, Ethiopia ranked 131 out of 167 with an LPI score of 2.40. "Ethiopia's LPI score on the six sub-indicators – customs, infrastructure, international shipments, logistics competence, tracking and tracing, and timeliness – shows that the country is lagging behind the average sub-Saharan African and low-income countries" (See

Appendix I). This implies the country experiences, higher logistics costs, longer transit times, and poor service reliability. Furthermore, the Summary report of the World Bank revealed that Ethiopia ranked far below Sub-Saharan Africa in documentary compliance (measured in terms of hours and USD). This trend continued from 2016 up to 2020 as per the World Bank report (See Appendix II). "Doing business measures the time and cost associated with three sets of procedures—**documentary compliance**, border compliance, and domestic transport" World Bank (2020, p.45).

The World Bank measures the time and costs to conduct doing business-trading across borders in relation with these three areas. The contribution of customs is studied under border compliance in relation to the performance of cargo checking by customs and other regulatory agencies, as well as the quality of services provided at the border crossings (WB, 2020, p.45).

The World **Bank** doing business report showed the inefficiency of Ethiopian customs based on time and cost indicators. Further, the following information summarized from the World Bank for the last consecutive five years report of Ethiopia (see appendix II); depicted a clear picture of customs clearance inefficiency.

In 2016 Ethiopia lagged behind the average sub-Saharan African and low-income countries; Ethiopia's time to import 203 hours, while sub-Saharan African countries' 160 hours for border compliance. Ethiopia's cost to import 668 USD, while sub-Saharan African countries' 643 USD for border compliance.

In 2017 Ethiopia lagged behind the average sub-Saharan African and low-income countries; Ethiopia's time to import 203 hours, while sub-Saharan African countries' 141 hours for border compliance. Ethiopia's cost to import 668 USD, while sub-Saharan African countries' 662 USD for border compliance.

In 2018 also Ethiopia lagged behind the average sub-Saharan African and low-income countries; Ethiopia's time to import 166 hours, while sub-Saharan African countries' 136.4 hours for border compliance. Ethiopia's cost to import 738 USD, while sub-Saharan African countries' 686.8 USD for border compliance.

In 2019 it seems Ethiopia recorded better results than the average sub-Saharan African and low-income countries, but lagged behind OECD member high-income countries. Ethiopia's time to import 72 hours, while OECD member high-income countries' 8.5 hours for border compliance. Ethiopia's cost to import 120 USD, while OECD member high-income countries' 100.2 USD for border compliance.

In 2020 also Ethiopia recorded better results than the average sub-Saharan African and low-income countries, but still has lagged behind OECD member high income countries. Ethiopia's time to import 72 hours, while OECD member high income countries' 8.5 hours for border compliance. Ethiopia's cost to import 120 USD, while OECD member high-income countries' 98.1 USD for border compliance.

This means that importers experienced high costs and delays that hamper the trade facilitation concept. Additionally, as per the standards of UNCTAD (2006, p. 7) and international conventions on trade facilitation and customs clearance standards, WCO (2006, p. 5) the import cargo clearance procedures of Modjo dry port lacks the major trade facilitation characteristics. To the knowledge of the researcher, such cases were not empirically researched.

1.3 The study questions

The study assessed the overall import cargo clearance procedural inefficiency on the Modjo dry port and also the study answered the following questions.

- Why the current transit of goods at the main corridor is inefficient?
- Why the current clearance procedures for the release of goods from Modjo dry port are below the standard?

1.4 The objective of the study

1.4.1 General objective

The general objective of this study was to assess the causes of import cargo clearance inefficiency with emphasis on the Modjo dry port. This study was an attempt to analyze the circumstances that can lead to the formulation of possible answers to the research questions.

1.4.2 Specific objective

The specific goals that were achieved through this study:

- To describe the root causes of inefficient transit of goods at the main corridor;
- To assess the reasons for cargo clearance procedural inefficiency of Modjo dry port;

1.5 Significance of the study

In Ethiopia, one of the challenges in the import and export trade is the logistics inefficiency. This inefficiency is caused by various reasons. Many studies have been developed and contributed a lot to the improvement of the logistical efficiency of the country. To support the growth of efficient logistics service this study would contribute to some extent.

The study was believed to have the following importance.

- To contribute to the successful implementation of the National logistics Strategy;
- To indicate the current practice of multimodal transit service and clearance of goods at Modjo dry port;
- To suggest solutions for the problems related to multimodal transit services and cargo clearance;
- To fill in the current gap for improvement;
- To shed light for further studies on the development of national import logistics procedures (end to end procedures);
- To support various ongoing projects in customs and trade facilitation.

1.6 Scope of the study

Ethiopia has potentially many outlet options in neighboring countries, but Djibouti appears to have the overall competitive advantages and becomes the main import corridor. The Corridor facilitates the majority transit of import and export trade of the country. Any trade facilitation problem that appears in relation to import transit and customs clearance can hamper the free movement of goods to the hinterland. This was a

reason to restrict the study to the major dry port in Ethiopia, especially on the transit of goods in the main corridor and cargo clearance at Modjo dry port. At this main import dry port, the performance of transit of goods and cargo clearance is in question. It is known that many factors are contributed to the national cargo clearance inefficiency, but this study only limited to the performance of transit and cargo clearance procedures.

The scope of this study was designed to cover the analysis of causes of cargo clearance procedural inefficiency; the case of Modjo dry port. Therefore, this assessment of performance cargo clearance procedural inefficiency commences, when the goods are entered to Modjo Dry Port and ends when goods are released for free circulation from the dry port.

1.7 Limitation of the study

The result that was obtained from this study might not be adequate to show the overall situation of causes of inefficiency of the multimodal transit service and cargo clearance at the Modjo dry port. This was because the data collection method mainly focuses on the questionnaire, the quality of the questioner by all respondents that are working in a routine environment, as well as lack of enough time and resources due to the nature of the assignment. It is, however, believed that the main features of the causes of inefficiency in transit service and Modjo dry port cargo clearance procedures had been adequately highlighted by this study analysis.

1.8 Definition of terms

The main operational terms are defined as follows:

- Container free station is a place where containers are unloaded or loaded from the means of transport and also await further operations (UNCTAD (1991, p. vi);
- Dry port refers to a place where goods are stored until they are cleared for free movement *(MT convention*, 1980, p. 5)
- "Customs transit" means the Customs procedure under which goods are transported under Customs control from one Customs office to another (WCO, 2006, E.1/1.);

- "Customs transit operation" means the transport of goods from an office of departure to an office of destination under Customs transit (WCO, 2006, P. E.1/1.);
- Multimodal transit refers to the transport of goods from one place to another by using at least two modes of transport with a single document (*MT convention*, 1980, p. 5);
- “clearance” means 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 (WCO, 2006, p. 2);

1.9 Organization of the study

This study report has five chapters. The first chapter is an introductory part in which background of the study, statement of the problem, research questions, research objectives, significance of the study, the scope of the study, limitation of the study, definition of terms, and organization of the study is presented. Both theoretical and empirical literature review on transit and cargo clearance are presented under chapter two. Chapter three presents methods of the study part in which description of the study area, research approach, research design, population and sample, data sources and types, data collection and procedures, data analysis and interpretation method, validity, and reliability, ethical consideration, and model specification are presented. Chapter four summarizes and discusses the overall findings of the study. Finally, in chapter five, the main findings of the study are summarized and the conclusion drawn as well as the study forwards relevant recommendations.

Chapter Two

Related Literature Review

2.1 Introduction

This chapter presents the literature reviewed in areas related to the objectives of this study. The theoretical literature review focuses on the meaning of main concepts related to dry port, multimodal transit and cargo clearance, clearance procedures, and their functions. It then presents the extent previous kinds of literature provide on how procedures used for transit and customs clearance, influence cargo clearance, and trade facilitation efficiency. It also presents the empirical literature review that contains a summary of related research findings obtained from other works of researchers. Finally, the chapter presents gaps and the conceptual framework of the study.

2.2 Theoretical Literature Review

2.2.1 Definition of Operational Concepts

Container free station

A container free station is located around seaport. It is a place where containers are unloaded or loaded from the means of transport and also await further operations. According to UNCTAD (1991, p. vi) a Container Free Station is defined as "a shed where cargoes for several consignees are unpacked from a container for delivery or where break-bulk cargoes from several consignors or shippers are received, aggregated and stuffed into a container."

Dry port

In both theory and practice, however, the concept has involved not only to be closely associated with the rapid expansion of containerization and related changes in cargo handling but also to be applied in a variety of different contexts having common characteristics UNCTAD (1991, p. 2). It further defined; "dry ports are located inland from seaports but are linked directly to the seaports or, in the case of international land movements, are in contact with the sources of imports and destination of exports" UNCTAD (1991, p. 2). Dry ports include temporary storage. Both existing customs and

clearance facilities as well as specific facilities built for the purpose may be designated as dry ports. It is essential to note that a dry port is a common user facility that it is accessible to all shippers either directly or through their agents.

Mostly dry ports and container free stations have the same purposes, but a dry port allows the presence of customs supervision. The facilities provided at the dry port can vary considerably. Minimum facilities UNCTAD suggests customs control and clearance; temporary storage during customs inspection; container handling-equipment for 20-foot and 40-foot containers; office of an operator, either the site owner, lessor or contractor; office of clearing and forwarding agents; complete enclosure, fencing, and a security system; reliable and efficient communication facilities; container freight station with stuffing and unstuffing services. (UNCTAD, 1991, p. 4)

Multimodal transport system

The multimodal transport system is referred to the modal coordination or integrated use of two or more transportation for delivering freight from origin to destination in a seamlessly linked and efficiently coordinated flow. United Nations Convention on international Multimodal transport of goods recognizes the need to stimulate the development of smooth, economic, and efficient multimodal transport services adequate to the requirements of the trade concerned (*MT convention*, 1980, p. 5).

Customs Transit

Customs Transit is defined as the transport of goods from the customs office of departure up to the customs office of destination. Office of departure means any customs office at which a Customs transit operation commences and office of destination means any customs office at which a customs transit operation is terminated. At this point, a customs clearance procedure is initiated. Customs transit can be applied in four ways WCO (2006, p. E.1/3.). The customs shall allow goods to be transported under customs transit in their territory as inward transit, outward transit, through transit, and interior transit.

Cargo clearance procedures

Under the guidance of World Customs Organization; the Revised Kyoto Convention General annex chapter two defined customs clearance as "Clearance means 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" (WCO, 2006, p. 2).

The Revised Kyoto Convention, general annex chapter three also identified important issues on the simplification and harmonization of customs clearance procedures WCO (2006, p. 5). This can be taken by looking at the current situations of customs administrations concerned. Some of these clearance and other customs formalities are indicated by WCO as follows:

a) Competent customs offices

"The Customs shall designate the Customs offices at which goods may be produced or cleared. In determining the competence and location of these offices and their hours of business, the factors to be taken into account shall include in particular the requirements of the trade." WCO (2006, p. 5)

b) The declarant

Under the declarant the convention introduced three issues about the specification of the requirements to be a declarant; the responsibility of the declarant for the accuracy of the particulars given in the goods declaration and the payment of the duties and taxes; the right of the declarant to inspect the goods and to draw samples before the lodgment of the goods declaration (WCO, 2006, pp. 6-7).

c) The goods declaration

Under the goods declaration, the WCO convention introduced two issues about the prescribing the contents of the goods declaration by customs confirming to the UN-layout key; and customs require supporting documents that are needed only to ensure compliance with customs law(WCO, 2006, pp.7-9).

d) Lodgment, registration, and checking of the goods declaration

Under the Lodgment, registration and checking of the goods declaration, the convention explained as "the customs shall permit the lodging of the goods declaration at any designated customs office." WCO (2006, pp. 9-11)

From the above definition of clearance, one can notice that the customs procedure for cargo clearance involves three steps WCO (2006). These are the transport of goods from one place to another, Transit Procedure; storage of goods until goods underwent further procedures, Warehousing Procedure; and accomplishment of all formalities for release of goods for free circulation, Clearance Procedure.

2.2.2 Trade Facilitation

The National Border of Trade, a governmental agency and central administrative body in Sweden dealing with foreign trade and trade policy, explained the benefits of trade facilitation and core focus area to facilitate trade (NBT, 2003, p. 2). It suggested trade facilitation is not simply creating a smooth environment at a national level, but also allows a country to be competitive at an international market. Further, it explained the need for trade facilitation in developing countries as, "when trade volume increases, trade velocity increases, global focus on security issues and costly trade procedures. Even though, trade facilitation is more than customs facilitation, in most developing countries poor customs procedures are becoming the major obstacles of trade." (NBT, 2003, p. 2) This fact clearly explains the current situation of the trade facilitation scenario of Ethiopia, where the majority of problems arise from non-transparent and unpredictable customs procedures and actions.

Therefore, the focus on trade facilitation, lays mainly at the role of the Ethiopian Customs Commission and other regulatory governmental bodies. The vast majority of administrative demands and procedural requirements stem from this area. The document (NBT, 2003, p.16), reminded and supports the Ethiopian case as "It is within this area that the facilitation of trade procedures offers the highest gains and where all countries should start their trade facilitation process." The document further explained this issue as "Trade facilitation is not about impeding or diminishing individual government's power and sovereign right to protect their borders, but is a way of making the necessary work of

customs and other authorities cheaper and more efficient" (NBT, 2003, p.16). This statement implies and supports the notion of this study that, making things easy for traders by using international procedural standards and practices at the national level doesn't mean the Government is dependent on the international instruments, rather it contributes to creating a conducive environment for trading across borders.

It also advised in the reform process, a lot needs to be done to answer all trade procedural problems before bringing in high-tech solutions (NBT, 2003, p.16). It means assessing and designing a clear procedure that satisfies the trade and government is the first step in the reform process. Then the procedure can be supported by appropriate technology. The document on the trade facilitation from developing countries' perspective states "the customs modernization should be reviewed with respect to the simplification, harmonization and standardization measures" (NBT, 2003, p.17). This document indicated the means to modernization by:-

a) Systemization

"In most developing countries the main problem with customs procedures is the lack of clear systemization." (NBT, 2003, p.17) This case explains the current situation of customs of developing countries; because most Governments encouraged reforming their services provided by customs and tried to support it by establishing some legislation taken from international practices, the problem they lack the commitment to implement as per the paper. And also there is no continuous improvement of customs procedures and legislation that lags the reform process behind.

This edition (NBT, 2003, p.17) further develops the above idea by stating: "The work and regulation of customs must reflect the changing environment." The documents stress the danger of not responding to changes as: "The level of trade is continuously increasing at an escalating rate, a fact that means that regulatory bodies such as customs must adapt to the new circumstances or risk becoming a major barrier to trade, but also weakening the security of the country by not being able to cope with the new times." (NBT, 2003, p.17) This fact implies that there is a great need to improve the customs procedure to make it simple and systematic. Creating simple and harmonized customs clearance process steps is the first step for successful customs modernization and trade facilitation.

b) Compliance

In relation to compliance, this edition states: "There are international agreements that have the potential of creating a sound foundation for more similar and predictable work of customs and other authorities between countries." (NBT, 2003, p.17) This implies that there are many good practices to use for governments to modernize their customs procedures; the main issue is their will and commitment. For this purpose, it advised and cited the sources as "The transparency both for internal national control and for companies interested in trade will be increased by ratification and fulfillment of these international agreements." (NBT, 2003, p.17) Some examples of these international agreements are the Revised Kyoto Convention on simplification and harmonization of customs procedures and compliance with WTO rules on different issues.

c) Uniformity

In most developing countries the other basic problem is that there is no clear procedure that is applied to all traders and at all customs branches. Even a single trader may face different procedural requirements when importing the same material at a different time. This edition best explained the current Ethiopian Customs practice and the problem as "The lack of transparency and uniformity in customs procedures constitutes according to the business community a lot of costs." (NBT, 2003, p.18) it is Further explained the consequences as "The discrepancy sometimes experienced in developing countries between in the legal interpretations of different customs administrations and officials means that companies can never predict what interpretation of a rule will apply at any particular time. It further encourages discretionary and at times corrupt behavior by customs officials" (NBT, 2003, p.18). This is the main customs problem in Ethiopia that importers cannot predict the customs actions to be taken on the imported goods. This document has supported this study as to solve the customs clearance inefficiency and minimize the burden to traders by applying a mechanism where all traders can understand their duties and responsibilities beforehand. It supported in its statement as "Predictability is essential for companies trading in a global environment and a lack of transparency and predictability is likely to deter companies from conducting business in such an environment." (NBT, 2003, p.18)

“Any measure that eases a trade transaction and leads to time and cost reductions in the transaction cycle fits into the category of trade facilitation” UNCTAD (2006, p. 7). One of the components for trade facilitation is the implementation of efficient cargo clearance procedures. The trade facilitation handbook l UNCTAD (2006, p. 7) indicated that trade facilitation measures seek to establish a transparent, consistent and predictable environment for border transactions based on simple and standardized customs procedures and practices, documentation requirements, cargo and transit operations, and trade and transport conventions and arrangements. This handbook also indicated, “The cross-sectorial nature of trade facilitation calls for close coordination between trade operators and service providers on the one hand and various ministries and regulatory agencies on the other hand.” UNCTAD (2006, p. 6) in carrying out its mandate trade facilitation, UNCTAD has built up considerable experience particularly in customs modernization. These are the implementation of customs reforms and modernization.

Therefore, as per UNCTAD trade facilitation covers measures regarding formalities, procedures and documents and the use of standard and electronic messages for trade transactions; the physical movement of goods through improvements in services and legal frameworks, and the timely discussion and dissemination of trade-related information to all concerned parties. (UNCTAD, 2006, p. 7)

The handbook advises the main objectives of customs reforms and modernization are the simplification and standardization of documents, procedures, and operations; to harmonize local customs and practices with multilateral agreements. This suggestion on customs reforms resembles other kinds of literature that have been indicated in this study. Most documents stressed that modernizing the customs procedures and creating a transparent and predictable environment the core of trade facilitation and ease of doing business.

Trade facilitation handbook ll UNCTAD (2006) consists of technical notes on the most important trade facilitation measures that countries should consider when reforming their trade, transport, and customs operations. Especial section 2 of this handbook covers about customs efficiency in relation with issues about the levy of fees, use of customs automation systems, simplified formalities and documentation and use of international

standards, document requirements in maritime transport, application of risk management in customs procedures background, simplified customs procedures, pre-Arrival customs clearance, and separating release from clearance procedures. (UNCTAD, 2006, p. 5)

The handbook indicated the relationship between trade facilitation and customs as trade facilitation aims at making the customs the most trade facilitator for legitimate trade, by making it efficient and able to focus its financial and human resources on its core functions instead of on repetitive and cumbersome administrative work (UNCTAD, 2006, p. 5).

Here it is important to note that modernization of customs procedures has a paramount effect on trade facilitation. It is the base for facilitating the flow of goods from origin to destination. For this purpose, every customs procedure should be reviewed based on the three pillars. These are the simplification of customs procedures and supporting documents, harmonization, and predictability of customs actions. Therefore, these important issues can be taken as factors that affect the import cargo clearance procedures and contribute a lot to the success of this study.

2.2.3 Customs Procedures and Business Performance

Professionals in reengineering business process (Mindtools, no date), explained the procedure as action-oriented and recommended characteristics of a well-written procedure as "efficient, unambiguous, measurable, interconnected with process and policy, common format and inclusions, input defined, output defined, exception process defined, resources noted, capabilities noted, critical points noted, the procedure is tested, consistent, repeatable and predictable results." These points can be taken as an indicator for the implementation of a successful procedure, including the customs procedure.

Economic Commission for Europe ECE (1995) in its recommendation on trade efficiency to governments covered issues on banking and insurance, customs, business information for trade, transport, telecommunications, and business practices. Specific to customs, it advised governments the ways to improve the efficient flow of goods in international trade. ECE suggests important issues to governments to take action through their customs authorities. Some of these are defined corporate objectives for customs, assess the current

customs practices and institute a program of reform, maximum use of information technology, implement pre-arrival processing of customs clearance, speed up the process of goods release based on minimum essential information, coordinated intervention with other regulatory agencies, simplify customs valuation methods, ensure the highest level of integrity and professional standards, ensure compilation of trade statistics, ensure adequate resource to customs, and offer customs training. (ECE, 1995)

On the other hand, Blake (2017) wrote on efficient customs procedures critical to competitive success, that "an effective approach requires the right technology, operational processes, and brokerage expertise, helping to reduce regulatory and financial risk while improving efficiency and accuracy." Further explained, "an integrated technology-driven procedure can help reduce compliance risk, improve operational efficiency, and contribute for free movement of goods around the world." These kinds of literature have clearly shown and supported that the efficiency of customs can matter on business performance.

2.2.4 Modjo Dry Port Cargo Clearance Procedure

Modjo Dry Port mainly serves as a clearance port. The port handles only containerized import cargo transported directly from the Djibouti port under a multi-modal transport arrangement. Starting from cargo arrival until released from the port, different operational activities are performed. The cargo handling operation starts upon the termination of customs transit for import cargo arriving at the dry port. Customs performs an inspection of containers and verification of transit documents to terminate the transit operation and then gives authorization for the truck to enter into the dry port. To terminate the transit procedures three things must be fulfilled (ERCA, 2014). These are the arrival of cargo within the specified period, without undergoing any change as previously declared and seals are not broken or interfered with.

After transit is terminated, the port operation and accomplishment of customs clearance formalities can be concluded. In these procedures, various operators and regulatory agencies are involved. Some of these are the dry port operators, customs, regulatory agencies, customs clearing agents, freight forwarders, transport operators, banks and insurance, the importer, etc.

Table 2.1: Details of the process flow at the dry port.

Steps	Process step Description	Precondition	Activities	Performer
1	Receiving of Import cargo	Arrival of transit cargo	• The truck and loaded cargo is checked • Give service follow up form and sequential order numbering card to the driver	Get controller/ Port & terminal security Guards
2	Transit termination	Waybill and transit doc. Signed and stamped by customs	• Inspect transit cargo and the truck • Check transit document • Terminate transit • Give authorization to enter into the port terminal and unload the cargo	Customs transit office
3	Receive Import cargo		• Inspect container/cargo • Prepare and give cargo unloading document to the driver • Check the document against the cargo and assign unloading space for the cargo • Unload the cargo and give receiving document to the driver	Port & terminal operator
4	Lodgment of Customs Clearance declaration	Commercial documents and transit documents	• Prepare declaration, • Pay customs duty and taxes, and • submit to customs for clearance	Customs clearing and forwarding agents
5	Customs clearance	Clearance declaration and supporting documents	• Receive clearance declaration from customs clearing and forwarding agents • Check the documents and trigger risk • Depends on the risk level i.e.; if it is:- ✓ Green, issue goods release; ✓ Yellow, give acceptance/rejection report to the customs clearing and forwarding agents and proceed document verification ✓ Red, give acceptance/rejection report and container requisition form to the customs clearing and forwarding agents and proceed document verification	Customs clearance office
6	Request for positioning of full container for customs inspection	Acceptance, and Container requisition form	Present container requisition form to terminal operator.	customs clearing and forwarding agents
7	Position container for customs and (regulatory	Container requisition form	• Receive container request form • Request the customs clearing and forwarding agents to file Special	Port and terminal

Steps	Process step Description	Precondition	Activities	Performer
	agencies, if required) for inspection		Service request form (SSR) • Position container to inspection site and notify to the agent • Break the seal in the presence of customs inspector and the agent • Un-stuff the goods from the container and ready for inspection	
8	Prepare inspection report and submit to verification officer	Container ready for inspection	• Inspect the goods in the presence of the agent • Prepare inspection report and submit to verification officer	• Customs inspector and • Regulatory agencies (If required)
9	Prepare tally report and move container	Customs inspection complete note		• Port and terminal
10	Release of goods	Inspection report	• Verify the accuracy of the document and the accomplishment of all formalities • Issue goods release note	Customs verification officer
11	Settlement of port & terminal charges	Goods release note	• Present goods release note to the port & terminal for assessment of charges • Settle the charges	customs clearing and forwarding agents
12	Cargo release formality	Port & terminal handling charges payment receipt/ Bank receipt or Credit approval	• Request goods release order voucher from port operation unit • Receive goods release order and empty truck entrance admission from operation officer and give to truck driver	customs clearing and forwarding agents
13	Cargo exit	Presence of Empty truck	• Check and authorize empty truck to enter into the container terminal	Port security guard
			• load container on the truck	Port Operation officer
		Container loaded truck	Check release order and container/cargo marks/number when the container loaded truck arrive at port exit	Customs Inspector
			Check cargo/ container marks & numbers, truck plate number and equipment interchange receipt against the document and authorize the truck exit from the port	Port security guard
			Security check	

Source: EMMA (2017), Feasibility study: the expansion and upgrading of Modjo Dry port in to a logistics hub.

It is believed that the different operators that are involving to facilitate the incoming cargo to the dry port and the release of goods from the dry port require an integrated information flow between them. But the different operators such as customs, the dry port operator, regulatory agencies use their own internal automation system. Even other operators are performing manually EMMA (2017, p. 23). Therefore, In general, the Dry Port's operational performance is highly affected by the absence of an integrated automation system that would support port clearance processes and the end-to-end warehouse and container terminal management system.

In relation to this the study conducted by EMMA (2017, p. 25), clearly indicated that the existing procedures such as port clearance and other port procedures are not clearly defined and not transparently communicated to traders and other users. Furthermore, the study stated, "The port clearance procedures of each operator are not harmonized end to end. Since there is no single automation in use to serve the port community in the exchange of information, users are required to provide the same information to different government agencies and other operators taking part in everyday port operation" EMMA (2017, p. 25). This scenario clearly indicates that the overall service provided by the dry port is not well integrated, process steps are not properly defined, redundancy in document requirement and there is no modern application of risk management. These are some of the major factors for cargo clearance inefficiency at the dry port.

2.2.5 Factors Affecting Cargo Clearance Efficiency

As per the trade facilitation handbook I (United Nations, 2006, p. 6), "Trade facilitation is a diverse and challenging subject with potential benefits for both business and government at national, regional and international levels." This explanation indicates that the concept of trade facilitation covers many issues that should be addressed by conducting professional studies. This is because the issue of trade facilitation is not limited within a county; it has a link with international trade and affects not only local traders but also the foreign counterparts. For this reason, the trade facilitation handbook states, "trade facilitation involves political, economic, business, administrative, technical and technological as well as financial issues all of which converge with customs at the

border and which must be taken into consideration when a country or region develops its trade facilitation strategy" (United Nations, 2006, p. 6).

This shows the basic failure aspects of customs reforms in many developing countries; government commitment is the first one to address other economical, business, administrative, technical, and financial issues. Further, the handbook explains, "Any measure that eases a trade transaction and leads to time and cost reduction in the transaction cycle fits into the category of trade facilitation" (United Nations, 2006, p. 6). This statement showed the main causes of inefficiency and advised the major focus should be on establishing efficient procedures and operations. That means the procedures must have clear process steps, appropriate working hours, and integration of the rocess.

The Revised Kyoto Convention on simplification and harmonization of customs procedures (RKC) is the main tool that improves the efficiency of customs for better trade facilitation. Kyoto Convention first developed by WCO in 1974. This new version (RKC) also prepared by the World Customs Organization to replace (KC) and entered in to practice on 3rd February 2006. This international convention on simplification and harmonization of customs procedures (WCO, 2006, p. 1) identified the major factors that contribute to the efficient customs procedures.

These are reflected under WCO guiding principles like simplicity of document requirements, transparency, the use of information technology, audit-based controls, application of risk management, coordination, and partnership with the trade (WCO, 2006, p. 1).

The trade facilitation handbooks (I and II) have identified in the above review that even though, trade facilitation covers a wide area of services, main trade barrier in most developing countries is the inefficient customs procedures and practices. This shows that continuous improvement in customs procedure, as per the international standards directly improves the customs cargo clearance efficiency and finally leads to facilitation of international trade. Here, the focus is on how to improve the customs procedures that achieve the desired results. A study conducted by WCO showed that implementation of the Revised Kyoto Convention allows maintaining controls while facilitating trade

facilitation. Therefore, from the above discussion, the basic aspects that contributed to the efficient customs procedure are customs document requirements, transparency and predictability, simplified procedures, the use of information technology, and coordination of all operators.

In relation to efficient customs procedures, The World Bank Customs modernization handbook guideline identified issues that affect customs operational trade facilitation. The guideline states "lack of understanding of customs valuation and its supporting procedures are two of the principal factors minimizing the efficiency of the customs administrations in many developing countries" (The World Bank, 2005, p. 155). In addition to, WCO guidelines for simplified and harmonized customs procedures, the World Bank modernization handbook supports that the absence of efficient customs procedures affects outcome country's customs and trade policies. The handbook specifically stressed at the customs valuation system also affects the overall trade facilitation and impact on its revenue collection performance (The World Bank, 2005, p. 155). The customs tariff classification, origin, and assigning customs procedure codes also have an impact on customs performance, in addition to customs valuation. These issues are very important to determine the predictability of customs actions as per the Revised Kyoto Convention guideline (WCO, 2006, p. 1).

TIR convention handbook (Economic Commission for Europe, 2018) replaces the original transport international routier (TIR) convention from 1959 and came in to force on 20th March 1978. The objective of the TIR convention is also to facilitate international transit through simplified customs transit procedures and an international guarantee system. The efficient transit procedure is the result of coordination among border agencies (process steps, working ours, document requirements, etc…).

United Nations Conference on a Convention on International Multimodal Transport or multimodal transport convention stipulated the implementation of multimodal transport requires the synthesis of many elements, some of these are facilitation issues; streamlining documentation and procedures, minimizing customs checkpoints only at the border and inland customs, and integrated infrastructure and transport means. (MT convention, 1980)

Furthermore, the business process reengineering document on the import customs procedures tried to use the World Customs Organization factors of customs clearance efficiency in the course of design. From the literature reviewed, the following have been adapted as the basic factors that affect import customs clearance procedural efficiency.

2.2.5.1 Document Requirement

The World Bank has recognized the importance of customs efficiency when measuring the logistics performance of a country by developing the Logistics Performance Index (LPI). Customs efficiency is the main element of LPI (Arvis, 2016). In this manner, many elements affect the efficiency of customs clearance performance, such as speed, simplicity, transparency, and predictability of formalities. Especially the supporting documents that are required for customs clearance should be very small in numbers and communicated and timely information on regulatory changes.

The convention on simplification and harmonization of customs procedures (WCO, 2006, pp.7-9) indicated issues about the format of goods declaration and the supporting documents. It indicated in the convention as: "in support of the goods declaration the customs shall require for clearance of good only those documents necessary to permit control of the operation and to ensure that all requirements relating to the application of customs law have been complied with" (WCO, 2006, pp. 9). By following this convention, the customs proclamation number 859/2014 Article 9 and 10 declared important issues about forms of declaration and supporting documents of goods declaration (ERCA, 2014).

These documents are transportation documents, invoice, bank permit, packing list, certificate of origin, and other documents necessary to ensure compliance with customs laws and prescribed directive issued by the authority. Even though the customs proclamation indicated above tried to clearly articulate the supporting documents for clearance of goods, and the Revised Kyoto Convention stressed about the simplicity of customs documents; it is still open to the discretion of the Commission to require additional documents.

2.2.5.2 Process Steps

According to a professional paper on the Business process as business systems (Kaniski and Vicek, No date), "Business process is the foundation of the work organization of every business. It is a set of different activities or tasks that are carried out in a certain order and use certain resources of an organization to fulfill the mission or the purpose of its existence." This clearly resembles with the Ethiopian Customs Commission mandate, that it is required to make a balance between facilitation and control on providing services to importers and exporters. For this purpose, the Customs Commission is required to design and implement a customs procedure that indicated the details of process steps. In doing so, they advised: "It is important to monitor and analyze the procedures to remove any drawbacks in their performance before endangering the survival of a company." The paper (Kaniski and Vicek , No date), defined "Business process is a structured, analytical, inter-functional set of activities that require continuous improvement. It represents a repetitive flow of activities with a clearly defined beginning and end, and in more or less constant intervals, creates value for the buyers." From the business process definition, one can note that the process steps should be simple and clear and add value to customers. It is also mandatory to communicate this process steps to importers and exporters.

The General Annex chapter three of the convention on simplification and harmonization of customs procedures explained about Lodgment, registration, and checking of the goods declaration as "The customs shall permit lodging of goods declaration by electronics means and allow a reasonable time for the lodgment of declaration and extend the time limit at reasonable grounds" (WCO, 2006, pp. 9-11). It also advised the basic customs clearance procedures and standards on how to implement the process steps.

Based on the convention on simplification and harmonization of customs procedures (WCO, 2006), the customs proclamation number 859/2014 (ERCA, 2014) Chapter three declared important issues on customs procedures for clearance of goods. It indicated the procedure for examination of documents and goods, placing identification mark on the goods, the release of goods, replacement and compensatory goods, the release of goods for free circulation, pre-arrival clearance and clearance after release of goods.

Recognizing the Articles of the proclamation, the Ethiopian Customs Commission has developed and implemented specific process steps. According to the customs proclamation number 859/2014, the basic functions of the clearance procedure of the Ethiopian Customs Commission are the following:

- lodgment of customs declaration,

"Customs Declaration means a statement made in the manner prescribed by the customs, by which the persons concerned indicate the customs procedure to be applied to the goods and furnish the particulars which the customs require for its application. The importer and/or exporter/agent are required to complete the customs declaration" **(ERCA, 2014).** The proclamation further stresses on filling declaration about the mandate as: "It is the responsibility of the importer and/or exporter/agent to ensure that the declaration is fully and accurately completed and all supporting documents are produced" **(ERCA, 2014).**

- Application of risk management,

"Risk is the possibility or likelihood of the evasion of taxes, or the evasion of the prohibition on importation or exportation, taking place (ERCA, 2014)". The national customs import risk levels are green (Automatic release of goods), yellow (Verification customs declaration), and red (Verification customs declaration an examination of goods).

- Checking of declaration (ERCA, 2014) includes the presence of necessary documents, Checking the correctness of data filed in the declaration against the supporting document, classification and valuation and calculation of duties and taxes
- Examination of goods;

"Examination of Goods means the Physical inspection of goods by the Customs to satisfy themselves that the nature, origin, condition, quality, and value of the goods" **(ERCA, 2014).**

- Release of goods.

"Release of goods means the action by the customs to permit goods undergoing clearance to be placed at the disposal of the persons concerned" **(ERCA, 2014).**

2.2.5.3 Information Technology

Whatever Customs Administrations tried to design and implement simple, transparent, and predictable process steps, it is difficult to achieve the desired results (decreasing time and cost of imports). Therefore, in today's interconnected world, these simple procedures should be supported by information technology to support the customs cargo clearance efficiency. This idea is supported by: "Paperless trading is becoming an essential component of government efforts to improve the efficiency of customs controls and trade administration processes, and of ensuring trade competitiveness in rapidly digitizing world" (UNECE, 2017, p. 4). The document on World Economic Forum: Paperless trading and how does it impact the trading system indicated an important aspect of information technology on increasing customs clearance efficiency.

The document entitled faster customs faster trade: using technology for trade facilitation indicated the benefits automation of customs system as increased the customs revenue collected; accurate and timely trade statistics by the government; improved transparency of policy and administrative procedures; faster customs clearance, faster cargo release; simple procedures and simple documentation based on international standards; reduced physical inspection; separation of duty and tax collection from the release of goods; fewer audits after cargo release, and supports e-governance and the development of e-commerce. (ITC, 2018, p. 22)

The study conducted on the use of Information technology for trade facilitation, further confirmed that "the average time taken between the arrival of the goods and their release showed an improvement, it indicated that the ICT solutions are working well" (ITC, 2018, p. 23). And "It could also allow customs to identify both the problem areas and potential corrective actions to increase its efficiency" (ITC, 2018, p. 23).

The General Annex chapter seven of the Revised Kyoto Convention on the simplification and harmonization of customs procedures; General annex chapter seven has indicated the

standards to follow for the application of information technology in customs (WCO, 2006, p. 26).

Under the customs proclamation number 859/2014 (ERCA, 2014) Chapter twelve, it is also declared important issues on completion of customs procedures through the electronic information exchange system. Most of these Articles are compatible with the Revised Kyoto Convention advice and standards.

2.2.5.4 Traceability of Cargoes

Goods that are unloaded in customs area or dry ports should be easily identified for further inspections and controls. "Traceability is the result of the activity of the logistics sector as a whole since all parties in the goods' supply chain are involved in this component" (Ojala and Celebi, 2015, p. 23). This document on the World Bank's Logistics Performance Index and drivers of logistics performance advised lower-income countries can benefit significantly from improved tracking and tracing. The current practice in the Modjo dry port, the mechanism of allocating a storage area, and identifying for further operations is assessed by the study.

2.2.5.5 Border Clearance Time

According to Customs proclamation number 859/2014, "Release of goods means the action by the customs to permit goods undergoing clearance to be placed at the disposal of the persons concerned" (ERCA, 2014). That means any imported or exported cargo that has accomplished the necessary customs clearance formalities shall be released immediately from customs. The customs proclamation number 859/2014 (ERCA, 2014) Article 25 is pointed out about the release of goods. As per the customs proclamation, goods declared shall be released from customs immediately, provided that: they are not subject to prohibition or an offense is committed to them; where the conditions of placing the goods under the customs procedure in question are fulfilled; in the case of restricted goods, the permit issued by the appropriate body according to the relevant law is presented, and any applicable duties and taxes have been paid or security is furnished (ERCA, 2014).

The Ethiopian Customs Commission is also authorized to establish the standard release time for each customs regime (ERCA, 2014). Based on this authorization, some important issues about the services provided by the Commission and standard time are published under the customer charter (MOR, 2020). Some of the details indicated in the charter are details of customers, types of services provided by the organization, the places where the service is provided, requirements to get the service, standard time for each service, right and obligation of customers, and appeal procedure (MOR, 2020). It is also recommended that all border agencies should communicate their standard service time for coordinated trade facilitation.

2.2.5.6 Application of Risk Management

Nowadays import and export of cargo among nations is increasing at a faster rate. When every cargo is stopped and physically examined, causing significant delays at border crossings. This scenario and the trade facilitation issue forced governments not to do business as usual. Modern customs administrations use management systems for customs control to ensure compliance with the national procedures, laws, and regulations, according to Customs modernization handbook (The World Bank, 2005, p. 51). The document explained this management system as: “Customs, like any other organization, needs to manage its risks. This requires the systematic application of management procedures designed to reduce those risks to ensure that its objectives are achieved as efficiently and effectively as possible” (The World Bank, 2005, p. 92).

The guidelines to standard 6.2 and 6.3 of the Revised Kyoto Convention on the simplification and harmonization of customs procedures contain a detailed description of the application of the risk management process. It advocates, “Customs control should be limited to ensure compliance with the customs law and advice customs to use application of risk management to apply customs control” (WCO, 2006, p. 24). Under this general guideline the application of risk management and audit based control is taken as the guiding principles for simplification and harmonization of customs procedures. The World Customs Organization published a detailed application of risk management compendium, which gives guidance on how to establish and implement the organizational environment for the successful application of risk management. The

compendium is composed of two volumes. Volume 1 presents the organizational framework for the application of risk management and the application of the risk management process. Volume 2 deals with details of risk analysis with application of risk management, profiling, and tools for selecting and identifying high-risk cargoes.

According to Customs proclamation number 859/2014, "**Risk** is the possibility or likelihood of the evasion of taxes, or the evasion of the prohibition on importation or exportation, taking place" (ERCA, 2014). The Ethiopian customs import risk levels are (ERCA, 2014): Green means the automatic release of goods; yellow means verification customs declaration, and red means verification of customs declaration and examination of goods.

2.2.5.7 Coordination of Border Agencies

Customs and other government agencies play a major role in facilitating international trade. According to trust fund trade facilitation negotiations technical note 14, defined the term as: "integrated border management as different forms and levels of border agencies coordination and cooperation aiming at facilitating legitimate trade and increasing operational efficiency" (UNCTAD, 2011). The document further discussed the different components of coordination and cooperation, including: joint, coordinated or delegated conduct of inspections with a shared application of risk management processes, control, and payment procedures; the exchange of data to allow traders and agents unique data entry through single window platform or other mechanisms; operation of integrated procedures and joint or delegated inspections, and Joint management of the border post and related facilities (UNCTAD, 2011).

The General Annex on the simplification and harmonization of customs procedures convention, chapter three explains how customs and other border agencies coordinate their efforts together for efficient cargo clearance as: "When allocating the customs offices and working hours it is mandatory to take into consideration the volume of imports and the demand of trade" (WCO, 2006, p. 5). Based on the request of the importer, it is necessary to give the service outside the working hours and customs premises. Where the customs clearance is dependent on other border agencies, it is advisable to harmonize the working hours and joint control (WCO, 2006, p. 5). It also

advised that the relationship between customs and other border agencies needs to be structured cooperatively, not competitive because all parties' responsibility is about facilitating the release of goods. For this purpose, most literature including the Revised Kyoto Convention advised that the responsibility of administrative arrangement lies in customs.

Additionally, the border agencies can also delegate customs those activities that not need expertise skill. These issues are very important to assess the level of coordination among the border agencies and measure the impact on cargo clearance inefficiencies.

2.2.5.8 Predictability of Customs Actions

In the recent past, countries have made significant progress to ease their import and export formalities by introducing different measures that contribute to trade facilitation. In this regard customs administrations are at the front line to continuously improve their procedures and legislation. One of the guiding principles of the Revised Kyoto Convention (WCO, 2006, p. 1) for accomplishing the simplification and harmonization of customs procedures is that the application of customs procedures and practices in a predictable, consistent and transparent manner.

The predictability of customs actions enhanced through the implementation of programs aimed at continuously modernizing customs procedures and practices and thus enabling efficiency and effectiveness; the provision to interested parties of all the necessary information regarding customs laws, regulations, administrative guidelines, procedures and practices; the adoption of major techniques such as application of risk management and audit based controls, and the maximum practicable use of information technology; cooperation wherever appropriate with other national authorities, other customs administrations and the trading communities; the implementation of relevant international standards, and the provision to affected parties of easily accessible processes of administrative and judicial review (WCO, 2006, p. 1).

All the above theoretical aspects depicted a common goal on how to achieve efficient import and export of cargo clearance procedures. Some convention emphasized on specific procedural improvements. But as a whole to analyze the import procedural inefficiency, the researcher focused on the transit and clearance related conventions.

2.3 Empirical Literature Review

Fredrick (2012) examined factors affecting the efficiency of container freight stations, a case of Mombasa by using a descriptive survey research design that enabled to collection of the required information about the factors that influence the efficiency of container free stations of 17 (seventeen) CFS target population. The result of this study indicated that the factors affecting the efficiency of container freight stations at the port of Mombasa are infrastructure (the status of the road but not the distance of the CFS from the port), the procedures for receiving and releasing cargo, shortage of cranes, stacking machines, weighbridges, climbing lanes and car carriers.

Lezzette (2013) examined the efficiency of the multimodal transportation systems by using systems dynamics. Systems dynamics offers a methodology for the understanding of certain types of influence complex problems as are encountered in today's transportation systems. The goal is to influence understanding to design and implement more efficient and effective policies. The study advised consideration of different policy scenarios to make decisions on what is best managing the system efficiently and enhancing customer satisfaction.

Abdurezak (2016) assessed determinants of dry port performance at Modjo dry port. The study employed descriptive statistical procedures and the data analyzed through the Statistical Package for Social Sciences and Microsoft excel. The study identified the determinants of dry port performance as cargo handling equipment, customs operations, port infrastructures, size of dry port, port staff, reliability of port operations and quality of logistics service. Among this cargo handling equipment, customs operations, and port infrastructures were taken as very important determinants of Modjo dry port performance.

Selamawit (2017) assessed the performance of multimodal transport services at Ethiopian Shipping and Logistics Service Enterprise. For achieving the desired results, the study used a descriptive research method. Descriptive statistics were used to analyze the basic features of the data for the quantitative analysis and also SPSS software was applied to analyze and interpret data. The research result found that the customs procedure implemented at Modjo dry port is very inefficient concerning cargo clearance. This result

showed that the customs clearance process is not suitable to deliver an efficient multimodal transport system. Thus the main challenges are the inefficient customs clearance process, all multimodal shipments of containers are not cleared and delivered as scheduled, lack of transparency in clearing multimodal cargo, the customers are not received adequate and timely information when there is regulation change.

In the relation to infrastructure, the main challenges were the inadequacy of inland and road transport for door to door service, relatively small number of trucks by ESLSE, inadequate equipment and facilities to manage the terminals and warehouses, lack of enough space for accommodating all incoming and outgoing multimodal goods. The overall performance of transport-related infrastructure in supporting the efficient and effective performance of the multimodal transport service was not satisfactory.

Chinnapareddy (2019) assessed the challenges of customs import clearance procedures at Addis Ababa AirPort Customs branch office. For data analysis, the study used inferential and descriptive statistics and employed the regression model to get better research results. The result showed that the customs import clearance procedures are the main sources of compliance costs. This means that there is an inefficient customs procedure, lack of coordination within customs departments, and other regulatory agencies.

2.4 Gap Analysis

All the studies that were conducted in relation to the efficiency and effectiveness of customs and dry port indicated important factors that influence the dry port performance. Especially the study conducted on the efficiency of the AirPort Customs branch office identified important aspects that have been used in this study document. Overall, this research aimed at assessing the import logistics inefficiency at the dry port, starting from entry of cargo to the dry port up to cargo clearance from Modjo dry port. This study is different from others by its nature specifically focusing on assessing the causes of the performance of customs clearance procedural inefficiency.

2.5 Conceptual Framework

Based on the literature review and gap analysis the following conceptual framework is developed.

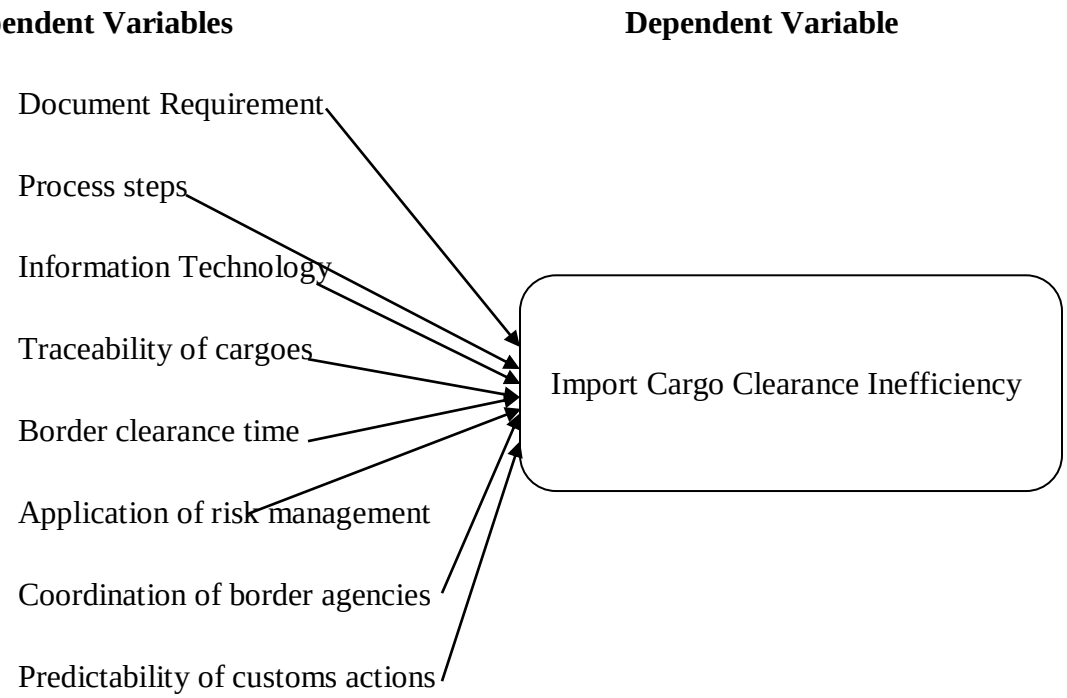

Figure 2.1: Conceptual framework

Adapted from Revised Kyoto Convention (WCO, 2006)

Chapter Three

Research Design and Methodology

3.1 Introduction

The inefficiency of the Ethiopian import cargo clearance procedure is indicated by many publications and Journals. The initial question is why the Ethiopian import cargo clearance is inefficient. The purpose of this study is to examine the source of this inefficiency. Here the objective of the research design is to ensure that the evidence obtained answered the research questions in a better way to get the best result of the study. The research methods and data analysis are designed to support this objective of research design.

3.2 Description of the study area

Many factors affect import and export trade of a country. One of them is the performance of import or export procedure of a country. For items to be imported or exported many stakeholders are expected to be involved. Here each stakeholder that is involved in facilitating import/ export trade has its laws and procedures, independent of others. This means that one regulatory agency laws and procedures might affect the performance of other regulatory agency. It showed that there is lack of coordination at national level to facilitate import/ export trade of a country. This is one of the features that contribute to the inefficiency of logistics as a whole. Regarding this, this study was tried to focus on assessing the causes of inefficiency of Ethiopia's import cargo clearance at Modjo dry port by using appropriate research methods.

3.3 Research approach

The research approach that was used in this paper was to analyze the causes of import cargo clearance inefficiency; the case of Modjo dry port focuses on the transit and cargo clearance procedures. Considering the nature of the research problem being addressed, the data collection method involved qualitative method. This technique was used first to make face to face discussion with the main stakeholders to use the findings to construct the valuable questionnaire to assess causes of inefficiency by conducting statistical analysis.

3.4 Research design

The study employed an explanatory approach using a survey design to assess the causes of Import cargo clearance procedural inefficiency; a case study of Modjo dry port. "Survey research design is a procedure in quantitative research in which researchers administer a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviors or characteristics of the population" Cresswel (2012). Descriptive design also used. The data was collected mainly by questionnaire and the data collected was analyzed to describe the responses of the survey and also to the main research questions. Finally the analyzed data was interpreted. This method was used to find out the causes of the cargo clearance inefficiencies at the dry port.

Here the research design depicted a clear statement of the research problem. The procedures and techniques that were used for gathering information, the population studied and research methods used in processing and analyzing data are indicated below.

3.5 Population and sample

3.5.1 Population

Some studies that were previously conducted to assess the dry port performance the population included all customers of Modjo dry port (importers, Exporters, and Freight Forwarders). In order to analyze and understand the root causes of cargo clearance procedural inefficiency in Modjo dry port, specifically transit and the cargo clearance from the dry port there were many options to define the population. But the main actors (Sampling Unit) in day to day operation of multimodal transport and cargo clearances are Ethiopian Customs Commission-Modjo dry port branch office, Ethiopian Shipping and Logistics Services Enterprise, Ethiopian Maritime Affairs Authority and Ethiopian Freight Forwarders and Shipping Agents Association. There are 77 registered members of the Ethiopian Freight Forwarders and Shipping Agents Association, but some of these were not working actively at all. And also some freight forwarders were not working at their full capacity due to many factors. This study only considered members of the Ethiopian Freight Forwarders and Shipping Agents Association with many operations, which are the portion of the population to which the researcher has reasonable access to

data. Therefore, the population of this study included all members of these organizations that are directly related to cargo clearance procedures at Modjo dry port. The total number of population was 125.

3.5.2 Sample

In this type of research, practically it was impossible to approach all parties for the purpose of data collection. Instead, the researcher selected and approached a representative group of operators who fall under the portion of the population to collect the required information regarding the study. The researcher tried its best to make the list comprehensive as well as the latest.

3.5.2.1 Sampling frame

Table 3.1: List of sampling frame

No.	Name of Company
1.	Members of the Ethiopian Freight Forwarders and Shipping Agents Association
	Belka PLC
	Bells Logistics PLC
	Champion Shipping PLC
	CLS Logistics Services PLC
	Glitter Trading and Logistics PLC
	Horn of Africa Logistics and Shipping Service PLC
	Impact Logistics PLC
	MACCFA Freight Logistics PLC
	NAS Cargo and Logistics Services
	Panafric Global PLC
	Pave Logistics and Trading PLC
	Samatra Logistics and Shipping PLC
	YTB Logistics and Transport
2.	Ethiopian Shipping and Logistics Service Enterprise
3.	Ethiopian Maritime Affairs Authority

4.	Ethiopian Customs Commission-Modjo dry port branch office

Source: EFFSAA, List of members 2020

3.5.2.2 Sample size determination

The total number of operators selected for the study or sample size was determined by using the sample size determination formula. The researcher used Yamane's (1967):

The researcher used Yamane's formula (1967), in order to determine the sample size of the population. This formula is reliable to 95% and has only 5% deviation factor.

Using the formula: - $n = \frac{N}{1+N(e)^2}$

Where n = the sample size

N = size of population 125 n=95

e = the level of precision (e = 0.05)

Source: Yamane's (1967)

3.5.2.3 Sampling techniques

Samples selected through different methods. Blalock (1960) classified the sampling methods into two categories on the basis of the nature of the selection of sample units as non-random sampling technique (non-probability sampling) and random sampling technique (probability sampling)

The researcher used stratified random sampling (probability sampling technique) as this method gives an advantage of every member of the population has an equal chance of being selected, it followed a systematic procedure for sample selection, it was suitable since the population was relatively small and it was economical, as well as produced accurate results for the study.

Since the sample size requires 95, the sample size of each stratum by applying proportionate stratified sampling indicated table 3.2 below.

Table 3.2: Proportionate stratified sampling

No.	Name of Companies	No. Of operational staff directly related to the study topic	Percentage of companies (Sample proportionate)	Sample size (N/1+N(e)2)
1.	Members of the Ethiopian Freight Forwarders and Shipping Agents Association			
	CLS Logistics Services PLC	10	8	8
	Panafric Global PLC	13	10	10
	Samatra Logistics and Shipping PLC	6	5	4
	NAS Cargo and Logistics Services	6	5	4
	Horn of Africa Logistics and Shipping Service PLC	5	4	3
	Maccfa Freight Logistics PLC	10	8	9
	YTB Logistics and Transport	5	4	3
	Impact Logistics PLC	8	6	7
	Glitter Trading and Logistics PLC	5	4	2
	Champion Shipping PLC	4	3	3
	Pave Logistics and Trading PLC	6	5	4
	Belka PLC	6	5	4
	Bells Logistics PLC	8	6	6
2.	Ethiopian Shipping and Logistics Service Enterprise	15	12	13
3.	Ethiopian Maritime Affairs Authority	4	3	3
4.	Ethiopian Customs Commission-Modjo dry port branch office	14	11	12

	Total	125	100	95

Source: EFFSAA, List of members 2020

3.6 Data sources and types

In conducting this study, the researcher focused on primary data sources. The primary data source is an original data source, that is, one in which the data are collected firsthand by the researcher for this specific purpose. The primary data can be collected by the most common techniques; questionnaires (closed and open-ended). This primary data was gathered from various government institutions and agents. Ethiopian Customs Commission, Ethiopian Shipping and Logistics Services Enterprise, Ethiopian Maritime Affairs Authority, and Ethiopian Freight Forwarders and Shipping Agents Association were the main sources of data.

3.7 Data collection and procedures

On data collection methods five-point Likert scale standard questionnaires were prepared. Data were collected using the survey questionnaires. All the required permissions were taken from the corporation authorities for conducting the survey. After all the procedures, the questionnaires were distributed and the respondents filled them out. The responses of the respondents were measured using a five-point Likert scale. Structured questionnaires were developed and distributed to the target population of 95 respondents.

3.8 Data Analysis and interpretation Method

Data analyses were conducted through descriptive statistics to provide details regarding the demographic question and the various factors that affect the effectiveness of cargo clearance inefficiency in Ethiopia; the case of Modjo dry port. To evaluate the effects of various factors on the ICCI analysis were used.

And also, the Statistical Package for Social Sciences (SPSS) version 20 and Excel were used for the data analysis. To assess the reliability and consistency of the instrument, the Cronbach's Alpha (α) analysis was conducted. Whereas, to determine the relationship among the variables and to test the research hypothesis correlation and regression

analysis method were used by meeting the ordinary least square (OLS) assumptions of the linear regression.

The primary data was collected and systematically sorted. Since the data was mainly qualitative, it was converted into quantitative data using Likert's 5 scale model, ranging from best to the worst like 5 (strongly agree), 4 (agree), 3 (undecided), 2 (disagree), and 1(strongly disagree). Then they will be properly tabulated also the mean and the aggregated mean also used in the Likert's result.

3.9 Validity and Reliability

Validity relates to whether the findings of the study are accurately reflecting the real situation and certain-the weight of evidence supports the researcher's conclusions. For this purpose, data triangulation method was used Guion (2006). The data triangulation method involves the use of different sources of data. Therefore, the researcher included a certain number of people from each stakeholder group in the evaluation study.

To measure the consistency of the questionnaire particularly the Likert-type scale, the reliability analysis is essential in reflecting the overall reliability of constructs that it is measuring. To carry out the reliability analysis, Cronbach's Alpha (α) is the most common measure of scale reliability and a value greater than 0.700 is very acceptable (Field, 2009; Cohen and Sayag, 2010) and according to Cronbach's (1951), a reliability value (α) greater than 0.600 is also acceptable. To insure the reliability of the questionnaire, Cronbach's Alpha was calculated and found as .791.

Table 3.3: Reliability Statistics

Items	Cronbach's Alpha	N of Items
Document Requirement	.618	3
Process steps	.630	3
Information technology	.642	3
Traceability of cargoes	.699	3
Border Clearance time	.755	3
Application of risk management	.678	3

Coordination of border agency	.763	3
Predictability of customs	.863	3
General Cronbach's Alpha result	.791	8

Source: Survey data, 2020 SPSS output

3.10 Ethical consideration

Any study involving people must be developed ethically; particularly this includes:

- The voluntary participation of respondents in the study is important. Moreover, participants have rights to withdraw from the study at any stage if they wish to do so;
- Respondents should participate based on informed consent;
- The use of offensive, discriminatory, or other unacceptable language needs to be avoided in the formulation of Questionnaire/Interview/Focus group questions;
- Privacy and anonymity or respondents is of paramount importance;
- Acknowledgment of works of other authors used in any part of the dissertation
- Maintenance of the highest level of objectivity in discussions and analyses throughout the study and
- Privacy protection to all people, regardless of age, religion, and race.

3.11 Model Specification

The following model is formulated for this study to test the research regression set in the next chapter. Most of the independent variables included in the model were extensively used in prior Import cargo Clearance inefficiency (some researchers). So the reliability and validity of the model were recognized and used in this study is to analyze and interpret the result of the study.

$ICCI = \alpha + \beta 1DC + \beta 2PS + \beta 3\ IT + \beta 4\ TC + \beta 5BCT + \beta 6RM + \beta 7CBA + \beta 8PC + ei$

Where:

ICC I →***Causes of Import Cargo Clearance Inefficiency in Ethiopia in case of*** Modjo dry port**”**,

DR → Document Requirement,

PS → Process steps,

IT → Information technology,

TC → Traceability of cargoes,

BC T→ Border Clearance time,

RM → Application of risk management,

CBA → Coordination of border agency,

PC→ Predictability of customs,

α→ is a constant, represents the ICCI when every independent variables are zero.

β1-8→ is the coefficient, in which every marginal change in variables on Import cargo Clearance inefficiency affects correspondingly.

*e*i → the error term

Chapter Four

Findings and analysis, interpretation and discussion of results

Introduction

This chapter presents the analysis and discussions for research findings obtained from the questionnaires and open-ended questioner. It reports the investigation results obtained from the above-mentioned data collection tools. The data collected via a questionnaire were summarized, organized, and analyzed using statistical software called Statistical Package for Social Sciences (SPSS). The discussion begins with the questionnaires' response rate followed by the descriptive statistics of the respondents' related questions; like the gender, age, level of education, work experience, and the job. Analysis of the causes of transit inefficiency is also done by descriptive statistics. Finally, assessing the main causes of cargo clearance inefficiency at the main dry port is presented by linear regression. The results of the reliability analysis are also reported and presented.

4.1 General overview of respondents

The respondents that are capable of evaluating the transit and import clearance performance were selected from those parties directly involved in the day to day operation of Modjo dry port. Based on this, 95 (ninety-five) questionnaires were prepared and distributed to Ethiopian Customs Commission, Ethiopian Shipping and Logistics Services Enterprise, Ethiopian Maritime Affairs Authority, and Ethiopian Freight Forwarders and Shipping Agents Association. From these 95 (ninety-five) questionnaires, 83 (eighty-three) or 87% (eighty seven percent) were responded.

Table 4.1: Summary Questionnaire distribution and collection

Questionnaires	**Responses**	
	Numbers	**Percentages**
Total distributed	95	100
Returned	83	87
Not returned	12	13
Returned but not properly	0	0

completed		

Source: Survey questionnaire, 2020

Out of the total distributed samples (95 respondents), 83 (87%) were responded, so it's effective to do the researcher paper.

Table 4.2: Respondents on demographic

Demographic table		**Respondents information**	
Gender		**Frequency**	**Percentage**
	Male	67	80.7
	Female	16	19.3
	Total	**83**	**100**
Age	Below 25	3	3.6
	From 25-35	36	43.4
	More than 36	44	53
	Total	**83**	**100**
Level of education	Certificate	-	
	Diploma	3	3.6
	BA/BSC	52	62.7
	MA/MSC	28	33.7
	PHD	-	
	Total	**83**	**100**
Work experience	Less than 3years	5	6
	Form 3-5 years	13	15.7
	From 6-10years	31	37
	More than 10 years	34	41
	Total	**83**	**100**
Job	Customs clearing agent	26	31.3
	Freight forwarder	29	34.9
	Government Agency	24	28.9

	Other	4	4.8
	Total	**83**	**100**

Source: Survey questionnaire, 2020

From table 4.2 the following results are found:

- In the case of gender 80.7% of the respondents are male and 19.3% are female which shows that the study is male dominate respondents.
- The age factor respondents show that 3.6% are below 25 years, 43.4% are in the age interval from 25-35 years, but dominates are 44 respondents which are 53% are more than 35 years.
- There are no certificates or Ph.D. holders, in the case of level of education. The majority of respondents have their first degree which is 62.7 and 33.7% have their second degree. The rest 3.6% have a diploma.
- The level of work experience 6% of the respondents are less than 3 years' experience, from 3-5 years of experience 15.7%, in the other hand 6-10 years of experience 37.3% also major experience is about more than 10 years which get 14% of the respondents with high-level experience.
- Job position of the respondents is 31.3% are customs clearing agents, 34.9% are freight forwarders the other 28.9% are a government agency, at last, the other 4.8%. From the given job which shows that freight forwarders dominate respondents in the data.

4.2 Causes of Import transit inefficiency

4.2.1 Document requirement

The basic documents are required to accomplish the transit procedure. The study identified three basic questions in relation to assessing the causes of transit inefficiency and the collected data analyzed and the following result is produced.

Table 4.3: document requirement

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Deviation
The format of the transit declaration is designed to fill particulars only necessary for completing transit formalities.	F	1	22	23	31	6	3.2	.96
	%	1.2	26.5	27.7	37.3	7.2		
Customs require for transit of goods only those documents necessary to ensure compliance with customs law	F	1	22	14	42	4	3.1	.96
	%	1.2	26.5	19.6	50	4.8		
The document requirements are easily communicated to importers.	F		26	27	29	1	3	.84
	%		31.3	32.5	34.9	1.2		
Aggregated mean							3.1	.92

Source: Survey data, 2020 SPSS output

The above data, table 4.3 shows that the format of the transit declaration is designed to fill particulars only necessary for completing transit formalities; with the mean score on the declaration, format is 3.2 with .96 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand the declaration format is not designed to fill only necessary particulars to complete transit formalities.

Customs requirement for the transit of goods only those documents necessary to ensure compliance with customs law; with the mean score on the supporting documents is 3.1 with .96 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand customs require for the transit of goods only those documents necessary to ensure compliance with customs law.

The document requirements are easily communicated to importers; with the mean score on ease of communication on document requirement is 3 with .84 standard deviation

value which indicates most of the respondents are agreed. From this result, one can understand customs easily communicates the transit document requirements to the importer.

The aggregated mean score on transit document requirement is 3.1 with .92 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand customs transit document requirements are not a big problems, but some improvement is needed in communicating with the importer.

4.2.2 Process steps

In every aspect of a business, there are process steps that are going to be accomplished. Likewise, the transit procedure process steps are evaluated and analyzed and the following result is produced.

Table 4.4: process steps

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Deviation
The customs transit process is clearly defined for anyone to accomplish import transit.	F	7	25	25	23	3	2.8	1.1
	%	8.4	30.1	30.1	27.7	3.6		
The transit process is simple to accomplish.	F	4	34	23	20	2	2.7	.95
	%	4.8	41	27.7	24.1	2.4		
The process steps are clearly communicated to clients	F	5	37	19	21	1	2.5	1.
	%	6	44.6	22.9	25.3	1.2		1
Aggregated mean							2.6	1.01

Source: Survey data, 2020 SPSS output

The above data, table 4.4 shows that on the clarity of customs transit process steps; with the mean score on the clarity of customs transit process steps is 2.8 with 1.1 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand the transit process steps are not what to accomplish and what not to accomplish.

On the level of simplicity to accomplish transit process steps; with the mean score on the simplicity of transit process steps is 2.7 with .95 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand the transit process is not simple to accomplish.

On the clearly communicating the process steps to clients; with the mean score on clearly communicating the process steps is 2.5 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand customs is not easily communicates the transit process steps to the importer.

The aggregated mean score on transit process steps is 2.6 with 1.01 standard deviation value which indicates most of the respondents are not agreed. From this result one can understand customs transit process steps are easy to accomplish, which affects overall transit inefficiency.

4.2.3 Information technology

Information technology is becoming a major tool that makes things easier both for the user and the service provider. Based on three questions the data collected and used to analyze the effects of information technology and transit procedure. The following results are produced.

Table 4.5: Information technology

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Devotion
The transit procedure is fully supported by information technology (Single Window).	F	14	34	16	17	2	2.5	1
	%	16.9	41	19.3	20.5	2.4		
The new electronic customs management system supports the transit procedure,	F	6	15	23	33	6	3.2	1
	%	7.2	18.1	27.7	39.8	7.2		
The new electronic customs management system is	F	12	25	26	19	1	2.5	1
	%	14	34	16	17	2		

harmonized with sea ports.								
Aggregated mean							2.7	1

Source: Survey data, 2020 SPSS output

The above data, table 4.5 shows that on the full support of the transit procedure with information technology; with the mean score on the full support of information technology is 2.5 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand the transit process is not fully supported by information technology (Single-Window).

On the support of the transit procedure with the new customs management system; with the mean score on the support of the new customs management system; it is 3.2 with 1.0 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand the new electronic customs management system supports the transit procedure.

The aggregated mean score on the support of information technology is 2.7 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result one can understand even though, the new electronic customs management system supports the transit procedure, but the seaport, dry port, and customs clearance procedures are not fully supported by information technology (Single Window).

4.2.4 Traceability of cargoes

Once the transit goods arrived at the dry port, goods are allocated to a warehouse to be stored for accomplishing the customs clearance procedure. Here three questionnaires are distributed and data analyzed to assess their cause on the transit inefficiency.

Table 4.6: Traceability of cargoes

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Devotion
There is clear mechanism to allocate storage area for goods that are reached at the dry port,	F	13	32	18	18	2	2.5	1
	%	15.7	38.6	21.7	21.7	2.4		
All parties in the dry port are involved in the cargo traceability mechanism.	F	10	41	16	16		2.4	.94
	%	12	49.4	19.3	19.3			
The importer is communicated where the goods are allocated.	F	12	33	11	24	3	2.6	1.1
	%	14.5	30.1	31.3	22.9	1.2		
Aggregated mean							2.5	1.01

Source: Survey data, 2020 SPSS output

The above data, table 4.6 shows that on the mechanism of allocating storage area for transit goods; with the mean score on the cargo storage area allocation mechanism is 2.5 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand there is no clear mechanism to allocate storage area for goods that are reached at the dry port.

On the involvement of all parties in the dry port on cargo traceability mechanism; the mean score on the involvement of cargo traceability mechanism is 2.4 with .94 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand all parties in the dry port are not involved in cargo traceability mechanism.

On communicating the importer where the cargo is allocated; the mean score on communicating the importer where the cargo is allocated is 2.6 with 1.1 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand importers are not communicated where the goods are allocated.

The aggregated mean score on traceability of cargo is 2.5 with 1.01 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand cargo traceability mechanism is a big problem.

4.2.5 Border clearance time

Border clearance time is the standard time that is needed to accomplish a procedure at each stage of cargo clearance. In order to assess the impact of border clearance time on transit inefficiency data collected and analyzed. The results are indicated below.

Table 4.7: Border Clearance time

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Devotion
There is standard time to accomplish multimodal transit.	F	13	21	14	30	5	2.9	1.2
	%	15.7	25.3	16.9	36.1	6		
The standards are easily communicated to clients.	F	13	34	11	25		2.5	1
	%	15.7	41	13.3	30.1			
Mostly transit formalities are accomplished within the standard time.	F	14	32	15	21	1	2.5	1
	%	16.9	38.6	18.1	25.3	1.2		
Aggregated mean							2.6	1.01

Source: Survey data, 2020 SPSS output

The above data, table 4.7 shows that on the availability of standard time to accomplish multimodal transit; with the mean score on the availability of standard time is 2.9 with 1.2 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand the availability of standard time to accomplish multimodal transit.

On the ease of communicating the standard time; with the mean score on the ease of communicating the standard time is 2.5 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand standards are not easily communicated to clients.

On accomplishing transit formalities within the standard time; the mean score on accomplishing transit formalities within the standard time is 2.5 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result,

one can understand most of the time transit formalities are not accomplished within the standard time.

The aggregated mean score on accomplishing transit formalities within the standard time is 2.6 with 1.01 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand the problem with border clearance time.

4.2.6 Application of risk management

With the growth of international trade, the trend of import and export of cargoes grows. This means it is difficult for any country customs administration to inspect every import and export cargo and documents. Therefore, the application of risk management is the main tool to properly manage incoming and outgoing cargo. In order to assess the impact of the application of risk management on transit inefficiency data collected and analyzed. The results are indicated below.

Table 4.8: Application of risk management

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Devotion
There is an application of risk management mechanism for transit goods.	F	9	14	16	37	7	3.2	1.6
	%	10.8	16.9	19.3	44.6	8.4		
The application of risk management is applied limited to ensure compliance with the customs law.	F	6	18	25	28	6	3.1	1
	%	7.2	21.7	30.1	33.7	7.2		
The application of risk management mechanism is applied properly for import transit.	F	3	32	23	24	1	2.8	.92
	%	3.6	38.6	27.7	28.9	1.27		
Aggregated mean							3.1	1

Source: Survey data, 2020 SPSS output

The above data, table 4.8 shows that on the availability of application of risk management mechanism for transit; the mean score on the availability of application of risk management mechanism is 3.2 with 1.6 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand the availability of application of risk management mechanism for transit.

The use of application of risk management only to comply with customs law; the mean score on the use of application of risk management only to comply with customs law is 3.1 with 1.0 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand most of the time application of risk management is applied limited to ensure compliance with the customs law.

On the proper application of transit application of risk management; the mean score on the proper application of transit application of risk management is 2.8 with .92 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand most of the time there is no proper application of transit application of risk management.

The aggregated mean score on the overall transit application of risk management is 3.1 with 1.0 standard deviation value which indicates most of the respondents are agreed. From this result, one can understand transit application of risk management is applied.

4.2.7 Coordination of border agencies

Goods are not released with simply accomplishing only customs clearance procedures. There are many operators involved. In order to assess the impact of coordination of border agencies on transit inefficiency data collected and analyzed. The results are indicated below.

Table 4.9: Coordination of border agencies

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Deviation
Transit procedures are well integrated within the dry port.	F	7	36	17	20	3	2.7	1
	%	8.4	43.4	20.5	24.1	3.6		
Customs and other border agencies use the same working hours for accomplishing transit at the dry port.	F	8	33	17	24	1	2.7	1
	%	9.6	39.8	20.5	28.9	1.2		
Customs plays administrative role to manage border agencies.	F	8	33	17	24	1	2.9	1
	%	9.6	39.8	20.5	28.9	1.2		
Aggregated mean							2.7	1

Source: Survey data, 2020 SPSS output

The above data, table 4.9 shows that on proper integration of transit procedures within the dry port; with the mean score on proper integration of transit procedures is 2.7 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand that lack of integration with the dry port.

The use of same working hours for accomplishing transit at the dry port; with the mean score on the use the same working hours is 2.7 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand most of the time they did not use the same working hours.

On customs plays an administrative role to manage border agencies; with the mean score on the administrative role of customs is 2.9 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result one can understand customs not plays an administrative role to manage border agencies.

The aggregated mean score on the coordination of border agencies is 2.7 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand the big problems in coordination of border agencies.

4.2.8 Predictability of customs actions

One of the indicators of customs modernization is every decision and action by customs must be predicted by clients. In order to assess the impact of predictability on transit inefficiency data collected and analyzed. The results are indicated below.

Table 4.10: Predictability of customs actions

Items		Strongly disagree	Disagree	Neutral	Agreed	Strongly Agreed	Mean	Standard Devotion
Transit goods are not subject to payment of duties and taxes.	F	11	25	15	23	9	2.9	1
	%	13.3	30.1	18.1	27.7	10.8		
Customs accepts a guarantee other than cash deposit for transit goods.	F	9	27	13	22	12	3	1
	%	10.8	32.5	15.7	26.5	15.4		
The transit directive is clearly communicated to clients.	F	5	35	19	21	3	2.7	1
	%	%	6	42.2	22.9	25.3		
Aggregated mean							2.8	1

Source: Survey data, 2020 SPSS output

The above data, table 4.10 shows that on the payment of duty and tax for transit goods; with the mean score on the payment of duty and tax for transit goods are 2.9 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand transit goods are subject to duty and tax payment.

On the acceptance of a guarantee for transit goods; with the mean score on the acceptance of a guarantee for transit goods is 3 with 1.0 standard deviation value which indicates most of the respondents are not agreed. From this result, one can understand most of the time guarantee is accepted.

On communicating the transit directive; with the mean score on the administrative role of customs is 2.7 with 1.0 standard deviation value which indicates most of the respondents

are not agreed. From this result, one can understand transit directives are not well communicated.

The aggregated mean score on the predictability of customs actions is 2.8 with 1.0 standard deviation value which indicates most of the respondents are not agreed. The predictability of customs actions needs some points of adjustment and improvement.

4.3 Causes of Import Cargo Clearance Inefficiency

The efficiency of customs clearance is also dependent on the efficiency of transit because as soon as transit goods arrived at the dry port the transit procedure is accomplished to facilitate clearance. For the purpose of this study, the causes of transit inefficiency are analyzed above by using descriptive statistics and the results showed the transit impact on clearance. Here the main objective of this study, assessing the factors of cargo clearance inefficiency is analyzed by inferential statistics and linear regression model. The results are indicated below.

Table 4.11: Collinearity Statistics

Variables	Collinearity Statistics	
	Tolerance	VIF
Document Requirement	.669	1.495
Process steps	.519	1.925
Information technology	.670	1.493
Traceability of cargoes	.649	1.542
Border Clearance time	.507	1.974
Application of risk management	.871	1.148
Coordination of border agency	.566	1.768
Predictability of customs	.594	1.684

Source: Survey data, 2020 SPSS out

As shown in the Collinearity table, the tolerance levels for all variables are greater than 0.10 and the VIF value is less than 10 (table 4.11), and also the correlation matrix of all the variables have the paired values among the predictors are less than 0.80 (table 4.11) indicates that there are no multicollinearity problems that alter the analysis of the findings, rather it leads to the acceptance of r-value, tolerance and VIF values.

4.3.1 Regression Results for Causes of Import Cargo Clearance Inefficiency

The regression result explores the necessary indicators of the Import cargo Clearance inefficiency by using the variables identified in the model. These variables are document requirement, process steps, information technology, traceability of cargoes, border clearance time, application of risk management, coordination of border agencies, and predictability of customs action. As indicated in the model summery.

Table 4:12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson
					R Square Change	F Change	df1	Sig. F Change	
1	.716	.512	.549	8.75708	.512	10.44	8	.000	2.008

Source: Survey data, 2020 SPSS output

The model summary (Table 4.12) shows the significance of the model by the value of F-statistics (P =.000) and F = 10.44 which implies that there were strong relationship between the predictors and the outcomes of the regression variables and are at best fit the model to predict the effectiveness of Import cargo Clearance inefficiency.

The appropriate indicators of the variable used to identify the causes of import customs clearance inefficiency were explored. That is the value of R square used to identify how much of the variance in the dependent variable (import cargo clearance inefficiency) identified by the model. The larger the value of R square, the better the model is. The overall contribution of document requirement, process steps, information technology,

traceability of cargoes, border clearance time, application of risk management, coordination of border agencies, predictability of customs action sand the existence of approved Import cargo clearance inefficiency accounted for 52% (R_2 = 0.521) of the variation in the import cargo clearance inefficiency, the rest 48% are other variables not included in this study.

R^2 = 0.512. Adjusted R^2 = 0.549, which means that the independent variable, (Document requirement, Process steps, Information technology, Traceability of cargo, Border clearance time, Application of risk management, Coordination of Border agencies and Predictability of customs action) explains 54.2% of the variability of the dependent variable, Import cargo clearance inefficiency, in the population. Adjusted R^2 is also an estimate of the effect size, which at 0.549 (54.9%), is indicative of medium effect size, according to Cohen's (1988) classification. However, normally it is the adjusted R^2 that is reported in results.

Table 4:13: Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	8.519	6.207		1.372	.174		
Document Requirement	3.044	1.509	.200	2.017	.047	.669	1.495
Process steps	1.003	1.541	.073	.651	.517	.519	1.925
Information technology	.266	1.455	.018	.183	.856	.670	1.493
Traceability of cargoes	3.690	1.476	.252	2.500	.015	.649	1.542
Border Clearance time	3.748	1.524	.281	2.460	.016	.507	1.974
Application of risk	3.472	1.403	.215	2.474	.016	.871	1.148
Coordination of border	.804	1.668	.052	.482	.631	.566	1.768
Predictability of customs	.659	1.478	.047	.446	.657	.594	1.684

Source: Survey data, 2020 SPSS output

The beta (P) sign also shows the +ve or -ve effect of the coefficient of the independent variable over the dependent variable. And as shown in table 4.13 above, the beta sign of all the independent variables shows the positive effect of the predicting dependent variable.

The P-value of 5% (or .05) there is only a 5% chance that results in a random distribution, so it can predict with a 95% probability of being correct that the variable is having some effect, assuming our model is specified correctly. The independent variable is explained R^2 value .512 is 51.2% of the data is explained.

Table 4.14: Pearson Correlations Matrix

Variables	DR	PS	IT	TC	BCT	RM	CB	PC
Document Requirement	1							
Process steps	.411**	1						
Information technology	.285**	.514**	1					
Traceability of cargoes	.305**	.292**	.358**	1				
Border Clearance time	.096	.521**	.379**	.336**	1			
Application of risk management	.099	.147	.140	.101	.183	1		
Coordination of border	.368**	.265*	.213	.513**	.451**	.194	1	
Predictability of customs	.280*	.408**	.323**	.388**	.507**	.346**	.424**	1

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Source: Survey data, 2020 SPSS output

Table 4.14 above depicts the correlation between the independent variables and also with the dependent variables. The result shows acceptable reliability of the research variables in which, the correlation among predictors was not high indicates there are no multicollinearity problems among variables. As of the relationships between the dependent variables (import cargo clearance inefficiency) and independent variables (Document requirement, Process steps, Information technology, Traceability of cargo, Border clearance time, Application of risk management, Coordination of Border agencies and Predictability of customs action) findings are significant.

Chapter Five

Summary, Conclusion, and Recommendation

Research Limitation and Areas of Future Research

This study has been conducted to assess causes of Import Cargo Clearance Inefficiency in Ethiopia; the Case of Modjo dry port, specifically the procedures starting from entry of import cargo to the Modjo dry port up to release cargo from the dry port (exit). When cargo arrives at the dry port, one should accomplish the transit procedure (ending transit) to allow cargoes to be deposited at the dry port. This is one of the customs cargo clearance requirements to initiate import customs clearance. The researcher has collected and analyzed the data as per the study objectives and questions. In this chapter, the study presents a summary of findings, conclusions, recommendations, research limitations, and areas of future research.

5.1Summary of Findings

The demographic feature of the respondents depicted that 80% of respondents are male, who are mainly working the fieldwork, more than 53% respondents were 36 years old and above, more than 62% were first degree holders, more than 41% had work experience more than ten years, more than 34% were freight forwarders and more than 28% were from government agencies. These indicated that the data collected and analyzed from better demography.

According to the regression output, all these predictors were positively contributed to the import cargo clearance inefficiency in Modjo dry port. The result showed a need to emphasize document requirements, traceability of cargoes, border clearance, and application of risk management. The use of these determinant variables makes cargo clearance services effective, efficient, and economical throughout the dry port. Moreover, document requirements, process steps, information technology, traceability of cargoes, border clearance time, application of risk management, coordination of border agency, and predictability of customs can lead to modernized customs procedures. However, the result showed that information technology, process steps, coordination of border agency,

and predictability of customs actions were not significantly important for the import cargo clearance inefficiency at Modjo dry port as of the above four variables.

The details of the major aspects are presented below:

- All parties in the dry port are not involved in the cargo traceability mechanism.
- Practically, there is no simplified clearance procedure for authorized persons.
- The cargo clearance procedure is not fully supported by information technology (single window).
- Goods that are unloaded in the dry port cannot be easily identified for further inspections and controls.
- Mostly clearance formalities are not accomplished within the standard time.
- The cargo clearance standards are not easily communicated to clients and clearance formalities are not accomplished within the standard time.
- The electronic customs management system does not use all relevant internationally accepted standards.
- There is no well-established mechanism for clients to easily allocate their cargo.

This study finds that the composite measure of document Requirement, traceability of cargoes, border clearance time, and application of risk management, account for 54.9% ($R^2 = 0.549$) variance for the import cargo clearance inefficiency of Modjo dry port. That means, the impact of these four independent variables contributed for the dependent variable (import cargo clearance inefficiency) were 54.9%, and the remaining 45.1% were other variables that were not included in this study. The final portion of this research aims to conclude the finding of the study focusing on the core determinants that have significant impacts on the import cargo clearance inefficiency at Modjo dry port and to provide recommendations based on the research findings of the study. These conclusions and recommendations are drawn from the findings of the study specifically related to the values of document requirement, traceability of cargoes, border clearance time, application of risk management, and coordination of border agency; that are the major causes of import cargo clearance inefficiency in Modjo dry port.

5.2 Conclusion

The Ethiopian government implemented several reform initiatives to modernize customs and facilitate international trade. There were encouraging signs of improvements in most of customs procedures and amendment of customs legislation to harmonize with the international conventions and practices. But, the result of this study showed that still the efficiency of import cargo clearance at Modjo dry port is below the standard and complicated to most of the importers.

Due to the effective implementation of the listed variables in the study, the existence of import cargo clearance inefficiency in Modjo dry port has links with information technology, process steps, coordination of border agency, and predictability of customs. By considering this aspect, this study has identified factors that most determine the import cargo clearance efficiency in Modjo dry port, so the following conclusions were drawn.

From the finding results, this study infers that document requirement, traceability of cargoes, border clearance time, and application of risk management are the main causes of import cargo clearance inefficiency. The proper implementation of these four issues supports and improves the import cargo clearance efficiency at Modjo dry port. The regression analysis showed very strong contributions of these variables for the import cargo clearance inefficiency. Therefore, the overall effect of document requirement, traceability of cargoes, border clearance time, and application of risk management are very important for the Import cargo Clearance inefficiency in Modjo dry port without neglecting the other four statistically insignificance, but having a positive sign of beta and contribute for the 54.9% of the variances for the import cargo clearance inefficiency. Thus, neglecting these four variables may cause to decrease in the value of ICCI variance that was obtained from the collective contribution of the eight independent variables.

The correlation analysis also shows all the independent variables have a direct effect on the Import cargo clearance inefficiency and the regression result also depicts all the independent variables that have a positive sign of coefficients in the import cargo clearance inefficiency. However, the coordination of border and predictability of customs

actions statistically not significant enough at 5% sig. level to contribute to the ICCI in the clearance inefficiency Ethiopian. Therefore, this conclusion asserts future research should consider for obtaining the impact of these variables on the ICCI in Ethiopian cargo Clearance efficiency.

5.3 Recommendation

There is no doubt that the import cargo clearance procedures have passed through main reform initiatives for the last 10 years. Encouraging results were also registered in facilitating trade and improving the collection of import duty and taxes. But the customs clearance procedure needs to cope up with the changes in international customs practices and the growing facilitation demand of traders. Based on the study findings and conclusions concerning the main objective, this study forwarded the following recommendations.

To improve the problems related to document requirements, the Ethiopian Customs Commission should revisit the format of goods declaration with United Nations layout practices, so that the format will be used to fill particulars only necessary for completing customs formalities; minimize the supporting documents that are required for clearance of goods only those documents necessary to ensure compliance with customs law, and; establish consistent mechanisms to easily communicate the required documents to importers.

To overcome the problems in relation with cargo traceability, the Ethiopian Customs Commission and the Ethiopian Maritime Affairs Authority should establish a mechanism which is supported by the information technology, to allocate storage area for goods that reach the dry port and easily identify for further inspections and controls. This mechanism should also support clients to easily allocate their cargo.

To ensure better border clearance time, the Ethiopian Customs Commission and the Ethiopian Maritime Affairs Authority should establish a standard time for each type of services provided by the dry port; easily communicate the services and the standard time of each service to clients; and create a mechanism to monitor the accomplishment of clearance formalities within the standard time.

One of the governing principles of the Revised Kyoto Convention on the simplification and harmonization of customs procedures is the applying of the application of risk management and post-clearance audit (WCO, 2006, p. 1). To achieve efficient customs procedures, the Ethiopian Customs Commission should use the application of risk management only to ensure compliance with the customs law; apply all application of risk management tools and avoid individual involvement on the decision of risk levels.

5.4 Research Limitation and Areas of Future Research

The following are the major constraints that impacted the interpretation of the findings of the study that are mentioned in the previous chapter.

- I couldn't able to conduct a focus group discussion and physical observation of the flow of work at Modjo Dry Port, because of COVID 19 countrywide situation and state of emergency to curb the transmission.
- Even though most questionnaires are procedural aspects about import clearance and were answered by freight forwarders, the involvement of importers was necessary especially for those items on the questionnaire no. 9. It is because the state of emergency created an unfavorable condition.
- Banks also play an important role in facilitating the clearance of goods from the dry port, but due to limited access to data, they were not part of the study.

These limitations of the study have their impact on the overall findings and conclusion of the study. But in the meantime, they created an opportunity for future research that would add further value to the findings by considering these limitations as part of the study. Therefore, these unanswered questions may become more focused because of this study.

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Appendices:

Appendix- I Aggregate LPI

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Germany	1	4.19	4.09	4.38	3.83	4.26	4.22	4.40
Netherlands	2	4.07	3.97	4.23	3.76	4.12	4.08	4.30
Sweden	3	4.07	3.95	4.22	3.88	4.04	4.02	4.32
Belgium	4	4.05	3.74	4.03	3.97	4.10	4.11	4.40
Singapore	5	4.05	4.00	4.14	3.72	4.08	4.05	4.34
United Kingdom	6	4.01	3.85	4.09	3.69	4.04	4.10	4.32
Japan	7	3.99	3.91	4.19	3.61	4.03	4.03	4.24
Austria	8	3.99	3.71	4.07	3.78	4.04	4.13	4.22
Hong Kong, China	9	3.96	3.85	4.02	3.85	3.94	3.95	4.18
United States	10	3.92	3.76	4.10	3.54	3.93	4.13	4.14
Denmark	11	3.92	3.88	3.89	3.59	3.98	3.94	4.26
Finland	12	3.92	3.89	3.95	3.56	3.88	4.10	4.17
Switzerland	13	3.91	3.75	4.07	3.57	3.92	4.02	4.20
United Arab Emirates	14	3.89	3.66	3.98	3.76	3.83	3.89	4.23
France	15	3.86	3.63	4.00	3.60	3.82	3.99	4.17
Luxembourg	16	3.84	3.67	3.84	3.68	3.83	3.78	4.27
Canada	17	3.81	3.70	3.91	3.45	3.90	3.91	4.03
Spain	18	3.78	3.57	3.79	3.72	3.78	3.78	4.04
Australia	19	3.77	3.76	3.92	3.40	3.76	3.83	4.00
Norway	20	3.74	3.62	3.84	3.48	3.75	3.83	3.96
Italy	21	3.73	3.44	3.82	3.55	3.68	3.84	4.09
New Zealand	22	3.68	3.58	3.79	3.27	3.69	3.73	4.10
Korea, Rep.	23	3.65	3.43	3.75	3.43	3.63	3.75	3.96
Taiwan	24	3.65	3.42	3.67	3.54	3.68	3.67	3.93
Ireland	25	3.63	3.45	3.50	3.53	3.69	3.79	3.85
Czech Republic	26	3.62	3.34	3.38	3.65	3.65	3.68	3.98
China	27	3.60	3.28	3.73	3.57	3.58	3.63	3.86
Portugal	28	3.56	3.24	3.23	3.59	3.54	3.69	4.03
South Africa	29	3.51	3.29	3.39	3.53	3.42	3.56	3.85

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Qatar	30	3.50	3.18	3.43	3.62	3.46	3.53	3.78
Poland	31	3.50	3.26	3.17	3.57	3.49	3.49	3.94
Hungary	32	3.41	3.18	3.31	3.29	3.27	3.61	3.82
Israel	33	3.39	3.32	3.33	2.93	3.44	3.50	3.89
Thailand	34	3.36	3.13	3.17	3.40	3.29	3.38	3.75
Malaysia	35	3.34	3.06	3.30	3.43	3.34	3.32	3.60
Estonia	36	3.30	3.30	3.13	3.19	3.15	3.20	3.80
Turkey	37	3.29	2.94	3.36	3.19	3.23	3.37	3.68
Iceland	38	3.29	3.02	3.18	3.00	3.48	3.38	3.72
Slovenia	39	3.29	3.21	3.25	3.16	3.17	3.30	3.65
Chile	40	3.28	3.23	3.09	3.24	3.09	3.30	3.73
Panama	41	3.26	2.95	3.14	3.35	3.20	3.25	3.63
India	42	3.22	2.97	3.01	3.24	3.18	3.33	3.57
Lithuania	43	3.20	3.02	3.00	3.03	3.10	3.25	3.78
Greece	44	3.19	2.88	3.19	3.13	3.02	3.25	3.67
Vietnam	45	3.16	2.86	2.92	3.15	3.17	3.23	3.60
Oman	46	3.16	2.82	3.18	3.29	3.06	2.96	3.61
Slovak Republic	47	3.14	2.94	3.09	3.19	3.13	3.02	3.45
Croatia	48	3.12	3.01	3.02	2.99	3.10	3.08	3.51
Cyprus	49	3.10	3.04	2.94	3.04	2.93	2.98	3.62
Romania	50	3.10	2.73	2.86	3.15	3.01	3.19	3.61
Indonesia	51	3.08	2.69	2.81	3.08	3.07	3.23	3.59
Saudi Arabia	52	3.08	2.70	3.18	3.05	2.94	3.19	3.43
Mexico	53	3.08	2.78	2.90	3.09	3.06	3.14	3.49
Bahrain	54	3.06	2.88	2.89	3.09	3.03	3.16	3.31
Latvia	55	3.02	2.93	3.03	2.97	2.92	3.06	3.25
Brazil	56	3.02	2.52	2.99	2.89	3.10	3.17	3.47
Bulgaria	57	3.00	2.77	2.71	3.16	2.96	2.93	3.43
Botswana	58	2.96	2.95	2.85	2.82	2.71	2.81	3.60
Kuwait	59	2.96	2.75	3.00	2.91	2.81	2.88	3.39
Egypt, Arab Rep.	60	2.95	2.67	2.91	2.94	2.95	2.91	3.30
Malta	61	2.94	2.77	2.95	2.91	2.85	2.95	3.24
Argentina	62	2.93	2.49	2.81	2.91	2.82	3.13	3.41
Kenya	63	2.93	2.66	2.68	2.86	2.88	3.11	3.35

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Philippines	64	2.91	2.62	2.67	3.20	2.80	3.01	3.11
Rwanda	65	2.90	2.68	2.60	3.14	2.77	2.83	3.31
Cote d'Ivoire	66	2.89	2.66	2.67	2.96	2.95	2.95	3.11
Tanzania	67	2.88	2.66	2.72	2.89	2.80	2.85	3.34
Serbia	68	2.83	2.53	2.59	2.89	2.78	2.86	3.32
Ukraine	69	2.83	2.46	2.38	2.77	2.76	3.08	3.45
Ecuador	70	2.82	2.69	2.62	2.82	2.70	2.87	3.22
Colombia	71	2.81	2.50	2.58	2.93	2.79	2.84	3.17
Uganda	72	2.79	2.78	2.45	2.82	2.70	2.69	3.27
Brunei	73	2.78	2.70	2.59	2.74	2.64	2.82	3.18
Peru	74	2.78	2.59	2.46	2.88	2.62	2.72	3.36
Uruguay	75	2.78	2.60	2.57	2.78	2.79	2.83	3.10
Jordan	76	2.78	2.51	2.70	2.74	2.67	2.79	3.24
Kazakhstan	77	2.77	2.57	2.59	2.73	2.60	2.81	3.31
Bosnia and Herzegovina	78	2.76	2.62	2.52	2.70	2.73	2.75	3.20
Costa Rica	79	2.74	2.50	2.45	2.79	2.67	2.88	3.09
Namibia	80	2.73	2.60	2.74	2.68	2.64	2.55	3.14
Iran, Islamic Rep.	81	2.71	2.46	2.67	2.68	2.76	2.63	3.07
Lebanon	82	2.71	2.45	2.61	2.77	2.52	2.83	3.05
Paraguay	83	2.70	2.53	2.50	2.66	2.70	2.56	3.23
Malawi	84	2.69	2.58	2.56	2.61	2.76	2.65	2.99
Russian Federation	85	2.69	2.25	2.64	2.59	2.74	2.67	3.23
Dominican Republic	86	2.68	2.43	2.39	2.77	2.59	2.84	3.03
Morocco	87	2.67	2.36	2.58	2.80	2.59	2.57	3.09
El Salvador	88	2.66	2.40	2.31	2.79	2.67	2.63	3.10
Cambodia	89	2.66	2.47	2.26	2.87	2.50	2.64	3.13
Bahamas, The	90	2.65	2.72	2.56	2.66	2.51	2.58	2.87
Mauritius	91	2.65	2.51	2.68	2.35	2.69	2.72	2.98
Sri Lanka	92	2.65	2.57	2.39	2.57	2.64	2.77	2.93
Benin	93	2.65	2.48	2.45	2.66	2.50	2.58	3.17
Montenegro	94	2.65	2.49	2.46	2.68	2.55	2.55	3.11
Pakistan	95	2.64	2.41	2.43	2.79	2.69	2.52	2.93

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Burkina Faso	96	2.63	2.44	2.48	2.79	2.56	2.42	3.06
Maldives	97	2.63	2.46	2.64	2.59	2.42	2.57	3.07
Albania	98	2.62	2.33	2.24	2.74	2.56	2.52	3.24
Macedonia, FYR	99	2.62	2.36	2.51	2.66	2.60	2.52	3.01
Bangladesh	100	2.60	2.33	2.36	2.66	2.56	2.67	2.97
Ghana	101	2.60	2.41	2.46	2.63	2.51	2.58	2.95
Mozambique	102	2.59	2.45	2.22	2.86	2.38	2.62	2.98
Nigeria	103	2.59	2.15	2.50	2.52	2.54	2.73	3.10
Tunisia	104	2.59	2.27	2.27	2.53	2.45	2.78	3.20
São Tomé and Príncipe	105	2.56	2.52	2.30	2.44	2.55	2.66	2.90
Honduras	106	2.56	2.30	2.32	2.66	2.60	2.61	2.85
Algeria	107	2.56	2.28	2.45	2.54	2.53	2.65	2.89
Nicaragua	108	2.56	2.52	2.44	2.54	2.55	2.49	2.77
Mali	109	2.55	2.22	2.28	2.66	2.40	2.81	2.87
Belarus	110	2.54	2.29	2.39	2.47	2.53	2.44	3.10
Jamaica	111	2.52	2.45	2.36	2.53	2.48	2.48	2.81
Solomon Islands	112	2.52	2.66	2.23	2.24	2.61	2.37	3.00
Moldova	113	2.52	2.31	2.21	2.69	2.36	2.36	3.10
Comoros	114	2.51	2.58	2.27	2.47	2.32	2.67	2.74
Guatemala	115	2.51	2.35	2.27	2.46	2.35	2.49	3.10
Armenia	116	2.51	2.39	2.39	2.55	2.45	2.38	2.84
Uzbekistan	117	2.50	2.13	2.44	2.38	2.49	2.54	3.01
Zambia	118	2.49	2.27	2.29	2.72	2.46	2.18	2.94
Togo	119	2.48	2.33	2.23	2.58	2.29	2.50	2.93
Lao PDR	120	2.48	2.37	2.23	2.52	2.45	2.48	2.77
Nepal	121	2.45	2.19	2.20	2.40	2.36	2.56	2.99
Guyana	122	2.45	2.48	2.17	2.35	2.36	2.55	2.79
Azerbaijan	123	2.45	2.53	2.69	2.56	2.14	2.18	2.62
Georgia	124	2.45	2.38	2.36	2.38	2.27	2.37	2.92
Cameroon	125	2.43	2.27	2.36	2.51	2.50	2.37	2.56
Djibouti	126	2.43	2.29	2.47	2.33	2.14	2.46	2.91
Trinidad and Tobago	127	2.41	2.40	2.36	2.46	2.28	2.27	2.65

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Guinea-Bissau	128	2.40	2.21	1.94	2.52	2.29	2.60	2.80
Mongolia	129	2.40	2.25	2.12	2.45	2.23	2.21	3.07
Sudan	130	2.40	2.13	2.14	2.49	2.41	2.45	2.73
Ethiopia	131	2.40	2.54	2.13	2.54	2.39	2.24	2.49
Kyrgyz Republic	132	2.38	2.38	2.23	2.20	2.21	2.49	2.79
Congo, Rep.	133	2.38	2.07	2.12	2.58	2.25	2.38	2.80
Fiji	134	2.37	2.37	2.36	2.27	2.27	2.32	2.65
Venezuela, RB	135	2.37	1.94	2.24	2.49	2.32	2.44	2.74
Bolivia	136	2.36	2.24	2.16	2.48	2.21	2.29	2.75
Madagascar	137	2.35	2.32	2.16	2.22	2.25	2.42	2.70
Gambia, The	138	2.34	2.08	1.90	2.68	2.23	2.48	2.60
Myanmar	139	2.34	2.21	2.11	2.22	2.28	2.33	2.86
Chad	140	2.34	2.15	2.26	2.35	2.39	2.28	2.58
Senegal	141	2.34	2.29	2.24	2.44	2.27	2.19	2.56
Turkmenistan	142	2.34	2.25	2.23	2.36	2.20	2.32	2.63
Congo, Dem. Rep.	143	2.33	2.23	2.04	2.26	2.34	2.41	2.65
Papua New Guinea	144	2.31	2.37	2.11	2.29	2.11	2.36	2.61
Guinea	145	2.30	2.39	1.80	2.38	2.27	2.59	2.30
Liberia	146	2.29	2.04	2.06	2.22	2.24	2.15	2.99
Tajikistan	147	2.29	2.02	2.17	2.32	2.29	2.26	2.65
Niger	148	2.29	2.14	2.10	2.28	2.26	2.29	2.62
Yemen, Rep.	149	2.27	2.08	2.05	2.33	2.27	2.24	2.63
C.A.R.	150	2.26	2.35	2.17	2.25	2.13	2.21	2.46
Bhutan	151	2.25	2.16	1.98	2.12	2.36	2.31	2.54
Cuba	152	2.23	2.15	2.09	2.30	2.20	2.18	2.46
Lesotho	153	2.22	2.20	2.02	2.14	2.12	2.22	2.60
Burundi	154	2.22	1.90	2.00	2.28	2.33	2.23	2.55
Libya	155	2.21	2.00	2.17	2.18	2.21	1.90	2.78
Equatorial Guinea	156	2.21	1.99	1.82	2.46	2.11	2.14	2.66
Mauritania	157	2.20	2.16	2.09	2.15	2.06	2.18	2.54

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Gabon	158	2.19	1.99	2.07	2.23	2.13	2.06	2.61
Iraq	159	2.18	1.90	2.00	2.33	1.98	2.13	2.73
Angola	160	2.18	1.79	2.01	2.33	2.13	2.14	2.65
Zimbabwe	161	2.17	2.01	2.01	2.13	2.20	2.19	2.45
Eritrea	162	2.11	2.05	1.89	2.12	2.19	2.09	2.31
Syrian Arab Republic	163	2.10	1.70	2.12	2.09	2.00	2.23	2.50
Sierra Leone	164	2.06	1.82	2.02	2.15	1.96	2.10	2.31
Afghanistan	165	2.04	1.91	1.83	2.18	2.02	1.76	2.48
Haiti	166	2.02	1.96	1.81	1.98	2.02	1.96	2.37
Somalia	167	2.00	1.81	1.69	2.24	2.07	1.94	2.18

Source: World Bank Doing Business, trading across borders report, Aggregate LPI (2018)

Aggregated LPI 2012-2018

"The Aggregated LPI combines the four most recent LPI editions. Scores of the six components across the 2012, 2014, 2016 and 2018 LPI surveys were used to generate a "big picture" to better indicate countries' logistics performance. The Aggregated LPI allows for comparisons across 167 countries" (WB, 2018).

Appendix - II Summary of export and import time and cost for trading across borders in Ethiopia

Summary of export and import time and cost for trading across borders in Ethiopia Ethiopia Sub-Saharan Africa, OECD high income and Best Regulatory Performance - 2020

Indicator	Ethiopia	Sub-Saharan Africa	OECD high income	Best Regulatory Performance
Time to export: Border compliance (hours)	51	97.1	12.7	1 (19 Economies)
Cost to export: Border compliance (USD)	172	603.1	136.8	0 (19 Economies)
Time to export: Documentary compliance (hours)	76	71.9	2.3	1 (26 Economies)
Cost to export: Documentary compliance (USD)	175	172.5	33.4	0 (20 Economies)
Time to import: Border compliance (hours)	72	126.2	8.5	1 (25 Economies)
Cost to import: Border compliance (USD)	120	690.6	98.1	0 (28 Economies)
Time to import: Documentary compliance (hours)	194	96.1	3.4	1 (30 Economies)
Cost to import: Documentary compliance (USD)	750	287.2	23.5	0 (30 Economies)

Source: World Bank Doing Business, trading across borders report (2020)

Summary of export and import time and cost for trading across borders in Ethiopia Ethiopia Sub-Saharan Africa, OECD high income and Best Regulatory Performance - 2019

Indicator	Ethiopia	Sub-Saharan Africa	OECD high income	Best Regulatory Performance
Time to export: Border compliance (hours)	51	97.3	12.5	1 (19 Economies)
Cost to export: Border compliance (USD)	172	605.8	139.1	0 (19 Economies)
Time to export: Documentary compliance (hours)	76	72.8	2.4	1 (26 Economies)
Cost to export: Documentary compliance (USD)	175	168.8	35.2	0 (20 Economies)
Time to import: Border compliance (hours)	72	126.3	8.5	0 (25 Economies)
Cost to import: Border compliance (USD)	120	684.3	100.2	0 (28 Economies)
Time to import: Documentary compliance (hours)	194	97.7	3.4	1 (30 Economies)
Cost to import: Documentary compliance (USD)	750	283.5	24.9	0 (30 Economies)

Source: World Bank Doing Business, trading across borders report (2019)

Summary of export and import time and cost for trading across borders in Ethiopia; Ethiopia Sub-Saharan Africa, OECD high income and Best Regulatory Performance - 2018

Indicator	Ethiopia	Sub-Saharan Africa	OECD high income	Best Regulatory Performance
Time to export: Border compliance (hours)	51	100.1	12.7	0 (17 Economies)
Cost to export: Border compliance (USD)	172	592.1	149.9	0.00 (19 Economies)
Time to export: Documentary compliance (hours)	76	87.8	2.4	1.0 (25 Economies)
Cost to export: Documentary compliance (USD)	175	215.1	35.4	0.00 (19 Economies)
Time to import: Border compliance (hours)	166	136.4	8.7	0.00 (21 Economies)
Cost to import: Border compliance (USD)	738	686.8	111.6	0.00 (27 Economies)
Time to import: Documentary compliance (hours)	194	103.0	3.5	1.0 (30 Economies)
Cost to import: Documentary compliance (USD)	750	300.1	25.6	0.00 (30 Economies)

Source: World Bank Doing Business, trading across borders report (2018)

Summary of export and import time and cost for trading across borders in Ethiopia; Ethiopia Sub-Saharan Africa - 2017

Indicator	Ethiopia	Sub-Saharan Africa
Time to export: Border compliance (hours)	57	101
Cost to export: Border compliance (USD)	144	571
Time to export: Documentary compliance (hours)	91	91
Cost to export: Documentary compliance (USD)	175	225
Time to import: Border compliance (hours)	203	141
Cost to import: Border compliance (USD)	668	662
Time to import: Documentary compliance (hours)	209	105
Cost to import: Documentary compliance (USD)	750	313

Source: World Bank Doing Business, trading across borders report (2017)

Summary of export and import time and cost for trading across borders in Ethiopia; Ethiopia Sub-Saharan Africa -2016

Indicator	Ethiopia	Sub-Saharan Africa
Time to export: Border compliance (hours)	57	108
Cost to export: Border compliance (USD)	144	542
Time to export: Documentary compliance (hours)	126	97
Cost to export: Documentary compliance (USD)	175	246
Time to import: Border compliance (hours)	203	160
Cost to import: Border compliance (USD)	668	643
Time to import: Documentary compliance (hours)	209	123
Cost to import: Documentary compliance (USD)	750	351

Source: World Bank Doing Business, trading across borders report (2016)

Summary of import time and cost for trading across borders in Ethiopia (2016-2020)

Year	Indicator	Ethiopia	Sub-Saharan Africa	OECD high income	Best regulatory performance
2016	Time to import: Border compliance (hours)	203	160	-	-
	Cost to import: Border compliance (USD)	668	643	-	-
2017	Time to import: Border compliance (hours)	203	141	-	-
	Cost to import: Border compliance (USD)	668	662	-	-
2018	Time to import: Border compliance (hours)	166	136.4	8.7	0.00 (21 Economies)
	Cost to import: Border compliance (USD)	738	686.8	111.6	0.00 (27 Economies)
2019	Time to import: Border compliance (hours)	72	126.3	8.5	0 (25 Economies)
	Cost to import: Border compliance (USD)	120	684.3	100.2	0 (28 Economies)
2020	Time to import: Border compliance (hours)	72	126.2	8.5	1 (25 Economies)
	Cost to import: Border compliance (USD)	120	690.6	98.1	0 (28 Economies)

Source: Adapted from World Bank Doing Business, trading across borders report (2016-2020)

Appendix- III Questionnaire

Addis Ababa University School of Commerce

Department of logistics and supply chain management

Information sheet for participants of the questionnaire

Dear Sir/Madam,

This survey is designed to obtain practical data for the study entitled "***Causes of Import Cargo Clearance Inefficiency in Ethiopia the case of*** *Modjo dry port*" **for the partial fulfillment of master's degree in logistics and supply chain management.** You are requested to spare few minutes of your precious time to complete all the items.

For further information you can contact through: 0936661414 or sisayasres2006@gmail.com

Who is part of the study?

The study will involve customs clearing agents, freight forwarders and government agencies that engaged in facilitating import and export of goods.

Is there any risk which I should know by being part of this study?

The fact that the answers for the questions will be treated as anonymous and confidential there is no known risk involved by being part of the study.

Will I be forced to take part in this study?

This is completely a voluntary participation and you can withdraw anytime regardless of any reason you may have.

Thank you very much!

Part I: Background information

Please put "√" mark on the space below

Gender:

Male (____) Female (____)

Age (Years):

Below 25 (____) 25 – 35 (____) More than 35 (____)

Level of Education:

Certificate (____) Diploma (____) BA/BSC (____) MA/MSC (____) PhD (____)

Work Experience in the logistics sector (Years):

Less than 3 (____) 3 – 5 (____) 6 – 10 (____) More than 10 (____)

Job:

Customs clearing agent (____) Freight forwarder (____) Government Agency (____)

Part II: Import Cargo Clearance Causes of Inefficiency

Please put "√" mark on the box below that best represents how you feel about **causes of Import Cargo Clearance inefficiency at Modjo Dry Port.**

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Content of Questionnaire		Measurement Scales				
No.	Contents	1	2	3	4	5
1.	**Document requirement:**					
	1.1 The format of the goods declaration is designed to fill particulars only necessary for completing customs formalities.					
	1.2 Customs require for clearance of goods only those documents necessary to ensure compliance with customs law.					
	1.3 The document requirements are easily communicated to importers.					
2.	**Process steps:**					
	2.1 The customs clearance process is clearly defined for anyone to accomplish customs clearance.					
	2.2 The importer can lodge clearance declaration with supporting documents prior to the arrival of the goods.					
	2.2 There is simplified clearance procedure for authorized persons.					
3.	**Information Technology:**					
	3.1 The cargo clearance procedure is fully supported by information technology (single window).					
	3.2 The electronic customs management system uses all relevant internationally accepted standards,					
	3.3 The introduction of electronic customs management is carried out in consultation with all relevant parties.					

4.	**Traceability of cargoes:** 4.1 Goods that are loaded in the dry port can be easily identified for further inspections and controls.					
	4.2 All parties in the dry port are involved in the cargo traceability mechanism.					
	4.3 There is a mechanism for clients to easily allocate their cargo.					
5.	**Border clearance time:** 5.1 There is standard time for each type of services provided by the dry port.					
	5.2 Mostly clearance formalities are accomplished within the standard time.					
	5.3 The standards are easily communicated to clients.					
6.	**Application of risk management:** 6.1 There is a application of risk management mechanism for cargo clearance.					
	6.2 The application of risk management is applied limited to ensure compliance with the customs law.					
	6.3 The application of risk management mechanism is applied properly for customs clearance.					
7.	**Coordination of border agencies:** 7.1 Cargo clearance procedures are well integrated within the dry port.					
	7.2 Customs and other border agencies use the same working hours.					
	7.3 Customs plays administrative role to manage border agencies.					
8.	**Predictability of customs actions:** 8.1 There is clear and unambiguous method to determine customs duty and tax.					
	8.2 There is a continuous improvement mechanism of customs procedures and practices.					
	8.3 There is clear mechanism to communicate all the necessary information regarding customs legislation.					

9.	**Import Cargo Clearance Inefficiency:** 9.1 Ethiopian customs clearance discouraged a fair market over the last 3 years.					
	9.2 Ethiopian customs clearance failed to ensure timely delivery of import goods over the last 3 years.					
	9.3 Ethiopian customs clearance increased costs of international trade over the last 3 years.					
	9.4 Ethiopian customs clearance lowered safety provided to the society over the last 3 years.					

Would you specify any causes of Import Cargo Clearance Inefficiency in Ethiopia in case of Modjo dry port?

_____

_____

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Part III: Transit Causes of Inefficiency

Please put "√" mark on the box below that best represents how you feel about **causes of multimodal transit inefficiency** at Modjo Dry Port.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Content of Questionnaire		Measurement Scales				
No.	Contents	1	2	3	4	5
1.	**Document requirement:** 1.1 The format of the transit declaration is designed to fill particulars only necessary for completing transit formalities.					
	1.2 Customs require for transit of goods only those documents necessary to ensure compliance with customs law.					
	1.3 The document requirements are easily communicated to importers.					
2.	**Process steps:** 2.1 The customs transit process is clearly defined for anyone to accomplish import transit.					
	2.2. The transit process is simple to accomplish.					
	2.3 The process steps are clearly communicated to clients					
3.	**Information Technology:** 3.1 The transit procedure is fully supported by information technology (Single Window).					
	3.2 The new electronic customs management system supports the transit procedure,					
	3.3 The new electronic customs management system is harmonized with sea ports.					

4.	**Traceability of cargoes:** 4.1 There is clear mechanism to allocate storage area for goods that are reached at the dry port,					
	4.2 All parties in the dry port are involved in the cargo traceability mechanism.					
	4.3 The importer is communicated where the goods are allocated.					
5.	**Border clearance time:** 5.1 There is standard time to accomplish multimodal transit.					
	5.2 The standards are easily communicated to clients.					
	5.3 Mostly transit formalities are accomplished within the standard time.					
6.	**Application of risk management:** 6.1 There is a application of risk management mechanism for transit goods.					
	6.2 The application of risk management is applied limited to ensure compliance with the customs law.					
	6.3 The application of risk management mechanism is applied properly for import transit.					
7.	**Coordination of border agencies:** 7.1 Transit procedures are well integrated within the dry port.					
	7.2 Customs and other border agencies use the same working hours for accomplishing transit at the dry port.					
	7.3 Customs plays administrative role to manage border agencies.					
8.	**Predictability of customs actions:** 8.1 Transit goods are not subject to payment of duties and taxes.					
	8.2 Customs accepts a guarantee other than cash deposit for transit goods.					
	8.3 The transit directive is clearly communicated to clients.					

Would you specify any causes of Multimodal Transit Inefficiency in Ethiopia in case of Modjo dry port?

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