



ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

LOGISTICS PRACTICES
IN ETHIOPIAN MEDIUM AND LARGE LEATHER
FOOTWEAR MANUFACTURING FIRMS

BY

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MAY, 2016

ADDIS ABABA, ETHIOPIA

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DECLARATION

I the undersigned, declare that, this thesis is my original work and has not been presented for a degree in any other University, and that all the sources of materials used for the thesis have been duly acknowledged.

Signed by: -

Name _____

Signature _____

Date _____

CONFIRMATION

This is to approve that the study made by Melkamu Ayenew, entitled: Logistics Practices in Ethiopian Medium and Large Leather Footwear Manufacturing Firms, and submitted in partial fulfillment of the requirements for the Degree of Masters of Arts in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by: -

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Signature _____

Date _____

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LIST OF ACRONYMS

LIDI	Leather Industry Development Institute
USD	United States Dollar
FDI	Foreign Direct Investment
PLC	Private Limited Company
GTP	Growth and Transformation Plan
UN	United Nation
QR	Quick Response
SC	Share Company
IMF	International Monetary Fund
LIS	Logistics Information Systems
CRS	Customer Response System
CRM	Customer Relationship Management
CSP	Customer Service Policy
IP&M	Inventory Planning and Management
TAC	Total Acquisition Cost
OE	Orders Entry
OP	Order Processing
EPOS	Electronic Point-Of-Sale
EDI	Electronic Data Interchange
TMS	Transportation Management System
WMS	Warehouse Management System
UAE	United Arab Emirates
BSC	Balanced Score Card
TACT	The Air Cargo Tariff
SCOR	Supply Chain Operations Reference
3PL	Third Party Logistics
ICT	Information Communication Technology
CPFR	Collaborative Planning Forecasting and Replenishment
EFT	Electronic Funds Transfer

ABSTRACT

The paper has made a study on the practices and challenges of logistics in Ethiopian medium and large leather footwear manufacturing firms with regard to customer service, inventory management, supply, transportation and warehousing activities. The main objective of the study was to describe the current logistics practices. The study raised six research questions that are answered as a result of the study. For the study descriptive type of research was used, and quantitative and qualitative data was collected related with the extent of firms' logistics practices using structured questionnaires and different secondary documents. The target population covers all the seventeen medium and large scale leather footwear manufacturing firms in Ethiopia. Finally, the collected data was analyzed using descriptive statistics, and secondary document analysis is done for confirming the findings. The result indicates almost all the modern logistics infrastructures like ERP, EDI and Radio frequency are not applied by these firms for ease of logistics operation, and commonly logistics is practiced at the lesser extent. Even though these firms practiced the logistics activities in their day to day operations, most of the firms have no logistics department in their organizational structure. Foreign currency shortages, higher taxes, lack of integrated system and long lead time in ports are found to be the critical challenges of logistics for footwear manufacturing firms in Ethiopia.

Key words: Logistics Practices, Logistics Challenges, Footwear Manufacturing Firms

CHAPTER-ONE

INTRODUCTION

1.1. Background of the Study

In today's fast paced economic climate, many firms increasingly realize that globalization has made the world smaller and more competitive. A change in one place impacts another quickly. Also, customers seek products that can respond well to their specific needs. As such, firms are now looking at securing cost, quality, technological and other competitive advantages as a strategy to pursue in a globally competitive environment.

One currently popular competitive advantage for firms is to promote and provide value to its customers by practicing logistics more efficiently than competitors.

Presently the competitive global market place has high pressure on business activities whether they are local or international. Logistics as the key part of global business shall be considered in particular due to the fact that it links suppliers with customers and it integrates functional entities across a company.

Ethiopia possesses one of the largest populations of livestock in the world and the leather industry has been active, based on the abundance of this resource (LIDI annual report, 2014).

According to LIDI report (2014) leather footwear manufacturing sector is one of the important sectors among the various constituents of the manufacturing sector in Ethiopia, mainly due to its contribution towards employment and foreign currency generation. This sector currently creates job opportunities for about 7400 individuals in the medium and large footwear firms (LIDI Ankelba Megazine, 2015). It is one of the unique sectors which have the advantage of the both value addition and export potential. It also contributes significantly to total manufacturing exports from Ethiopia (Sutton and Kellow, 2010 as cited in Mekuria, TACT Services plc, 2014).

Ethiopian leather products sector is exporting its products to more than 60 countries; some of the major destinations include Italy, United Kingdom and China. There are also some export sales to countries in Africa, particularly Nigeria and Uganda, as well as to the Middle East, and especially Yemen (Sutton and Kellow, 2010 as cited in Mekuria, TACT Services plc, 2014). During the import-export process these firms are directly practicing customer service, warehousing, transportation, supply and inventory management.

The assessment done by LIDI consultants (2014) on different medium and large footwear manufacturing firms of Ethiopia revealed that, the export orders that are given to some of the footwear firms are not completed on due date because of different poor logistics practices and challenges. Some of them were raw materials like accessories and components delay at ports, and low productivity.

This report also indicated that, due to this these firms are losing their goodwill by their major European and American customers.

Ethiopian leather footwear and leather products manufacturing companies in relation with tanning industry are working towards promoting export trade to meet the target set on Growth and Transformation Plan (GTP). Ethiopian Leather Industry is expected to generate 800 Million USD from export of finished leather and leather products like shoe, bags and jacket at the end of GDP 2 period (2012 E.C). From this Leather Footwear Manufacturing firms are expected to generate 485.861 Million USD which takes 60.73 percent. It has generated over 34.58 million dollars in footwear exports from the projected target of 315.5 million dollars for the past 2014/15 fiscal year (LIDI annual report, 2015). This report also mentioned that the reason behind the high gap between the plan and the actual performance is highly due to long delays in customs, low productivity and transportation problems, which is directly related to logistics problems.

For the manufacturing and distribution of footwear to local and different foreign countries these firms are mostly engaged in different logistics practices which can add value and contribute for their performance. Monthly reports by LIDI and Ministry of Industry (2015) indicated that in logistics practices, mainly in transportation and customer service, many poor practices and challenges are observed frequently. The above reports assessed only the transportation practices of firms. They do not assess other practices like inventory management, warehousing, customer and supplier relations, etc.

Best logistics practices represent an important option not only because they can lead to more efficient operations but because they can effectively increase customer loyalty. (Innis D and. LaLonde, B, 1994 as cited in Stanley, E. and Steven, R, 2015).

Therefore, the study of their logistics practices based on best logistics practices and recent trends in logistics that are found from different related literatures is essential for further improvement of their practice and to add acknowledge in the field.

1.2. Statement of the Problem

According to the research conducted by Ministry of Industry (2010), even though the footwear industries benefit from duty- free privileges for the importation of machinery and spare parts, it has limited value since the manufacturers are not productive enough. This shows that the footwear manufacturing firms are facing problems beyond finance shortage and lower productivity.

Among the major problems contributing for the poor performance of this industry, lack of adequate knowledge and skills in managing logistics practices is the critical one (LIDI Annual report, 2013).

Most of Ethiopian footwear industries are not able to be competitive in the international market like China, India and Italy shoe markets since there is low quality footwear production due to lack of adequate skill and knowledge, power and financial problems and high logistics related problems (LIDI Annual report, 2014).The report also indicated that a great amount of export orders that are given to different footwear manufacturing firms are not completed on the promised date, and this was mainly due to delays of imported raw materials and transportation problems. This was verified by repeated complaint letters that are written to LIDI and Custom Office by owners of these firms for support. LIDI assessment report (2015) mentioned that still the problem is not alleviated and the logistics issue has not got the required concern.

Effective logistics operations can lead to more efficient operations that increase the firm competitiveness and increase customer loyalty where distances are frequently greater and many environmental barriers increase the complexity and uncertainty of worldwide operations (Cilliers and Nagel, 1994 as cited in Mark Goh, 1998).

The study by Fekadu (2013) on logistics practices of Ethiopia was mainly focused on the transportation and customer service practices using general attributes of infrastructure, performance, information system, human resources, business and political environments.

He indicated that Ethiopian logistics system is characterized by poor logistics practices and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number and age, damage and quality deterioration of goods while handling, transporting and storage.

Even though there is a study done by Fekadu (2013) on Ethiopian logistics practices he does not give emphasis specifically for all main logistics practices like inventory management, supply and warehousing.

This shows that the research is highly focused on the transportation part of logistics and ignored other main logistics activities. There is also no study made to assess the logistics practices and challenges, specifically in leather footwear manufacturing firms of Ethiopia.

Analyzing and assessing logistics practices will help discern important issues such as emerging trends and areas of concern, which will help in taking remedial measures (Srivastava, 2006 as cited in Fekadu, 2013).

Cilliers and Nagel (1994) in their study concluded that to succeed today and to pave the way for a better future, Ethiopian footwear manufacturing firms need to create strong linkages with their business partners using better logistics practices. A good logistics practice can increase a country's competitiveness and ability to attract foreign investments relative to its neighbors' (Cilliers and Nagel, 1994 as cited in Mark Goh, 1998).

Therefore, studying the current logistics practices of medium and large leather footwear manufacturing firms in Ethiopia is very essential to make improvements on the poor logistics practices, for revising policies, and to add information for further researches.

1.3. Research Questions

The following research questions are developed to be answered as a result of the study:

- To what extent customer service activities are practiced by footwear manufacturing firms in Ethiopia?
- To what extent inventory management activities are executed by footwear manufacturing firms of the country?
- Do footwear manufacturing firms have a long lasting relationship with their suppliers?
- Do transportation activities well-practiced by the footwear manufacturing firms and their transporters?
- To what extent warehousing activities are performed by footwear manufacturing firms in Ethiopia?
- What are the most critical challenges of logistics facing footwear manufacturing firms in Ethiopia?

1.4. Objective of the Study

1.4.1. General Objective

The general objective of the study is to describe the practices of logistics in medium and large footwear manufacturing firms of Ethiopia.

1.4.2. Specific Objectives

The specific objectives of the study are:

- To assess the practices of customer service by the footwear manufacturing firms in Ethiopia.
- To describe inventory management practices of footwear manufacturing firms in Ethiopia.
- To assess the interaction between the footwear manufacturing firms and their suppliers.
- To depict the practice of transportation activities by the footwear manufacturing firms and their transporters in the country.
- To describe the extent of warehousing practices by the footwear manufacturing firms in Ethiopia.
- To identify the most critical challenges of logistics for the footwear manufacturing firms.

1.5. Significance of the Study

The study has a great significance for the footwear manufacturing firms, Government policy makers and investors.

The footwear manufacturing firms will be benefited since the outcome of the study helps them to easily understand the gap on their logistics practices and take corrective actions that can enhance their capacity to compete with best leather footwear manufacturing companies in the world. It will also help these firms to identify, evaluate and monitor the key areas which can help them to maintain their pace and speed of their logistics success.

The government policy makers will benefit also from the outcome since it will assist them in examining the current policies towards the footwear sectors and improve them accordingly.

The findings of this study can also provide prospective investors with a realistic idea and informational base of what to expect when operating in the footwear manufacturing sector of Ethiopia. Additionally, this study will serve as a point of departure for further research by academicians.

1.6. Scope of the study

The study focuses on the large footwear manufacturing firms that come to Ethiopia as Foreign Direct Investment (FDI) and those domestic medium and large mechanized footwear manufacturing firms that are engaged in export market in addition to their contribution to the local market. They are selected since they involve in the practices of the main logistics activities that the study frame work is organized. In addition to this they are the direct beneficiaries of the outcome of this research.

Even though there is a great potential on footwear enterprises that produce for the domestic market only with limited capital and labor force in improving the overall footwear manufacturing firms 'performance and in developing the country's economy, this study does not focus on these small scale shoe enterprises.

The logistics practices of Ethiopian medium and large footwear manufacturing firms are empirically studied based on the best practices and recent trends in logistics taking the five main logistics activities as a conceptual frame work. For describing the logistics challenges in footwear firms, the logistics challenges classification used by Neil (2011) was used.

1.7. Limitations of the Study

Since the research is focused on the selected frame work of logistics activities it is difficult to generalize the finding of the study to all other logistics activities that are described by different researchers and authors. So to improve generalizability the study can be replicated for other logistics activities.

It is also difficult to generalize the findings of the study for other industry sectors in Ethiopia.

To improve generalizability, the study could also be replicated in other industry sectors.

1.8. Organization of the thesis

The paper is organized with five chapters. The first chapter covers the introduction part that addresses the background information concerning the footwear industries, the research questions, the general and specific objectives of the research, the significance and scope of the research, and finally the limitations of the research.

Following this introductory chapter, the second chapter comes; it will describe the basic and relevant literatures related to logistics practices and challenges that are done previously by other researchers.

In the third chapter the research report covers the type of research design used, the analysis of the data, the sampling techniques, and methods of data collection applied.

The fourth chapter focuses on the descriptive data analysis and findings of the study.

The last chapter provides the conclusion and recommendations so as to solve the observed gaps and to accelerate the development of the leather footwear manufacturing firms through better logistics practices.

1.9. Definition of terms

Footwear: refers to garments worn on the feet, for fashion, protection against the environment, and adornment.

Medium scale footwear manufacturing firm: means a firm having a total employee of, excluding contract employees, from 50 to 250.

Large scale footwear manufacturing firm: means a firm having a total employee of, excluding contract employees, above 250.

CHAPTER- TWO

LITERATURE REVIEW

2.1. Introduction

The literature of the study covers an explanation about the basic concepts which provide definition for logistics and the recent trends in logistics.

The review also discussed about the general practices of logistics and the logistics challenges in different countries manufacturing firms. The theoretical and empirical literatures are presented in combination with each other, explicitly they are not separated.

Although, in the review of empirical studies, it was difficult to get many literatures that are matched with the title of the study, the basic findings from some related studies are included.

2.2. Definitions of Logistics

Logistics can be defined as the flow of materials, information, and money between consumers and suppliers (Frazelle, 2002). Similarly, Waters (2003, 5) describes logistics as ‘the function responsible for the flow of materials from suppliers into an organization, through operations within an organization, and then out to customers’.

Logistics can also be defined as the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost effective fulfillment of orders (Christopher, 2005).

On the other hand, logistics is defined in the Council of Supply Chain Management Professionals’ Supply Chain Management Terms and Glossary (2010, 114) as: ‘The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.’

Tilanus (1997) also defines Logistics as ‘the process of anticipating customer needs and wants; acquiring the capital, materials, people, technologies, and information necessary to meet those needs and wants; optimizing the goods- or service-producing network to fulfill customer requests; and utilizing the network to fulfill customer requests in a timely way’. Simply to say, ‘logistics is customer-oriented operation management’.

Therefore, with these definitions in mind, logistics can be defined as: the management of the flow of goods from production through to after sales service, including: transportation, warehousing, inventory management, packaging, etc.

Generally, the IMF report (2013), logistics costs average about 12 percent of the world's gross domestic product. The report noted that for many firms, after the cost of goods sold, logistics represents the highest cost of doing business.

2.3. The Role of Logistics practices

Logistics' role is to provide time and place utilities. Time and place Utilities facilitate the creation of global scale and scope economies while enhancing a firm's ability to provide high levels of seamless customer satisfaction (McGrath and Hoole, 1992).

Similarly, Ronald (1997) argues that for many firms throughout the world, logistics become an increasingly important value-adding process for a number of reasons.

Concerning logistics practices Lambert & Stock (2001) argues that good logistics practices can create a competitive advantage. More specifically they claim that best logistics practice plays an important role in three critical elements of the marketing concept. These elements are customer satisfaction; integrated effort and company profit (Lambert & Stock, 2001 as cited in Anna and Konrad, 2008).

Generally, the above arguments indicated that good logistics practice is increasingly recognized as the key enabler, which allows a company to gain and maintain its competitive advantage and ensure maximum customer satisfaction.

2.4. Logistics activities

The scope of logistics practices has been extended beyond its traditional coverage of transportation and warehousing to include packaging, labeling, assembly, purchasing, distribution, manufacturing, finance, customs clearance, and other forms of customer service (Luchen, Theo notteboom, 2011).

A common way to structure a company, from a logistics perspective, is in three main activities: procurement, operations and distribution (Aronsson, 2004; Christopher, 2005).

However, the typical elements of logistic activities, such as customer services, sales forecasting, distribution communications, stock control, materials handling and ordering, amongst others, may give companies competitive advantages, especially when based on the exchange of reliable information between the links in the chain (Bowersox, Closs and Drayer, 2005, as cited in Wesceley and Ricardo, 2011).

Similarly, there are thirteen key logistics activities that are involved in the flow of products, from point of origin to point of consumption: these are customer service, demand forecasting, inventory management, logistics communications, material handling, order processing, packaging, parts and service support, plant and warehouse site selection, procurement, reverse logistics, traffic and transportation, warehousing and storage (Lambert & Stock, 2001 as cited in Anna and Konrad, 2008). A narrow and more traditional view of manufacturing logistics includes the planning, scheduling and control of all activities resulting in the acquisition, processing, movement and storage of inventory (David, Robin, Robert and Louis, 2007).

On the other hand, Frazelle (2002) and Kent (2001) states that logistics is comprised of five interdependent activities; these are customer response, inventory planning and management, supply, transportation, and warehousing

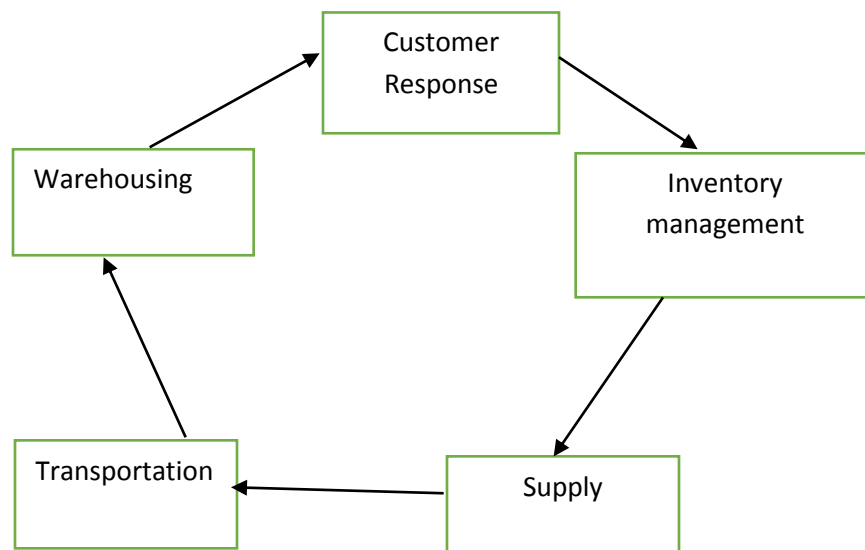


Fig 1: Interdependent Logistics Activities

Source: Frazelle (2002) and Kent (2001)

The study made by Ismail, Halil, and Mustafa (2012) on the role of logistics for regional development used the above logistics activities that are described by Kent (2001) and Frazelle (2002).

2.4.1. Customer Response

According to Frazelle (2002) the logistics of customer response includes the practices of developing and maintaining a customer service policy, monitoring customer satisfaction, orders entry (OE), order processing (OP), and invoicing and collections.

Ronald (1997) argues that customers have been increasingly sensitized to expect quick response to their demands. He pointed out that rather than consumers having to accept the “one size fits all” philosophy in their purchases, suppliers are increasingly offering products that meet individual customer needs. This showed that the level of customer satisfaction shall be measured to make the required corrective action. Similarly, Frazelle (2002) argues that in today’s just-in-time world the ability to respond to customers’ requirements in ever-shorter time-frames has become critical. Most authors and practitioners agree that building and enhancing long-term relationships with customers generates positive returns to firms (Reichheld, 1993, 1996 as cited in Jones, Fox and Fabrigar, 2010).

Generally, the seasonality of footwear consumption in developed countries makes response more sensitive. Besides the firm level constraints for response, the country’s infrastructure quantity and quality, mainly transport has a paramount influence on the customer response.

2.4.2. Inventory Management

Frazelle (2002) indicated that the logistics of inventory management includes practices of forecasting, order quantity engineering, service level optimization, replenishment planning, and inventory deployment.

The study by Sahay and Ramneesh (2003) found that some of the major reasons for holding inventories by Indian organizations include: improving customer service; hedging against price changes and contingencies; achieving production, purchase and transportation economies; protecting against demand and lead time uncertainties; and balancing supply and demand.

On the contrary, Womack and Jones (1996) argued that in lean supply chain thinking, inventory is regarded as one of the seven “wastes “and, therefore, it is considered as something to be reduced as much as possible.

Similarly, the study by Dimitrios (2008) suggested that too much inventory consumes physical space, creates a financial burden, and increases the possibility of damage, spoilage and loss.

Martin (2011) described that many companies still think that the only way to service customers who require just-in-time deliveries is for them, the supplier, to carry the inventory instead of the customer.

According to the state of logistics report (2004) fifty per cent or more of a company's current assets will often be tied up in inventory. Františekněmec (2003) on his study found that with the increasing emphasis and interest in logistics and supply chain management, continuous replenishment and just in-time programs, good inventory information is mandatory, not optional, for success in today's competitive markets.

Frazelle (2002) also describes world-class practice in inventory deployment as optimal inventory positioning, dynamic redeployment, postponement, and Materials requirements planning (MRP). According to Orlicky (1975) MRP system consists of a set of logically related procedures, decision rules, and records designed to translate a master production schedule into time-phased net requirements and the planned coverage of such requirements for each stock point.

The study made by Vikram and Prakash (2012) in Australian hospital logistics and supply chains found that application of collaborative arrangements between manufacturers and wholesalers/distributors would improve inventory management practices across the supply chains. Kazim (2008) also confirmed that elimination of errors in inventory records is more crucial and important for successful logistics practices.

2.4.3. Supply

According to Frazelle (2002) the logistics of supply include developing and maintaining a Supplier Service Policy (SSP), sourcing, supplier integration, purchase order processing and buying and payment. He also mentioned that the world-class sourcing practices include Make-buy analysis, total acquisition cost analysis, global sourcing, and electronic bid-based sourcing. In addition to this, World-class practices in buying and payment include central buying-local delivery, buying partnerships, and electronic funds transfer.

The study by Fasika, Klaus and Marcus (2014) on Ethiopian manufacturing industries supply practice found that most of companies have prepared a standard contract for all suppliers.

However, it was common practice to ignore the contract and go to new buyers if they have got a price advantages.

In relation to this they found also most of the respondent companies practiced price negotiation and direct purchase for local material from wholesaler and the companies used different supplier selection criteria such as the quality of material, price, delivery time, previous experience, and reliability of suppliers especially for international suppliers.

2.4.4. Transportation

Transportation physically links the sources of supply chosen in sourcing with the customers we have decided to serve chosen as a part of the customer service policy (Frazelle, 2002).

Similarly, Frantisek (2003) describes transportation as a basic element of the logistics activities which runs from vendors through to you, to your customers.

Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer (Fair, M. and Williams, 1981).

Frazelle (2002) states, 'the objective of transportation as to link all pick-up and delivery-to points within the response time requirements of the customer service policy and the limitations of the transportation infrastructure at the lowest possible cost.' On the other hand, Tyndall and colleagues (1998) argues that the most significant advances in modern logistics practices have not been in cost reduction, but in improved processes to move goods and material between nations in a timely and seamless manner.

The study by Bemnet (2004) on Ethiopian transport system explored that transport costs are very high in Ethiopia. For instance, in garment processing trade, overall transport cost cover 28 percent of the total value added. This is a high proportion compared to the world average and Africa's average which are 6.1 and between 15 and 20 percent respectively.

According to the World Bank Report (1991) efficiently organized flows of goods and information are only possible if there is a well-developed transport and communication infrastructure. The report also described that in sub-Saharan African countries, this infrastructure is poorly managed and maintained. Until recently about half of the region's paved roads and 70 percent of its unpaved roads were only in a fair to poor condition and required substantial repair.

Geoff (2006) in his study argued that a well-established transport system in the logistical operations could lead to increased effectiveness, reduced operation costs and promotion of the firms' service value.

2.4.5. Warehousing

Warehouse management includes all planning and control procedures to operate the warehouse (Slack, 2001 as cited in Faber, 2013). Similarly, Frazelle (2002) indicate that the logistics of warehousing includes receiving, put away, storage, order picking and shipping. The objective of warehouse management is to efficiently and effectively coordinate all warehouse processes and activities (Harmon, 1993; Tompkins, 2003 as cited in Faber, 2013).

Generally, Faber (2013) concluded that warehouses that operate in more turbulent markets are likely to have to continually modify their products and services in order to satisfy customers' changing preferences.

Receiving, transferring, handling, storage, packing, and expediting operations at the warehouse directly affect the effectiveness of a company as a whole as well as its quality and logistic service level (Rafele, 2004 as cited in Anna, Alberto and Carlo, 2011).

In this sense, a proper warehouse management practice has become critical to gain competitive advantage through better customer service and shorter lead times (De Koster, 1998 as cited in Anna, Alberto and Carlo, 2011).

According to the study made by Hilmola and Lorentz (2011) warehouses and distribution centers have an important role in international logistics practices. They argued that these may simply serve markets or hold inventory, and therefore, provide means for achieving appropriate customer service in the international environment, prone to long lead times and disruptions.

Market volatility, unpredictable demand, and impulse purchasing approaches make the fashion shoe business turbulent and dynamic. These qualities demand short manufacturing and distribution lead times, which can be achieved through a variety of means, such as automated warehousing, fast transportation, and improved manufacturing methods (Fisher and Raman, 1996 as cited in Anna, Alberto and Carlo, 2011).

According to Blanchard (2007) Sixty-three percent of North American companies outsource at least some of their warehousing to a third party, a clear indication that they do not consider warehouse management to be one of their core competencies.

The study conducted by Belarmino and Fernando (1999) explored that high efficiencies are gained after implementing Radio Frequency Identification in warehouses, including a reduction in the number of movements, the number of errors, the stocktaking, less paperwork, and a more rapid invoicing.

The study was conducted by Rogers and colleagues (1996) to check whether the use of information technology affects performance of warehouses or not.

They conducted a survey including both public and dedicated warehouses. Their findings suggest that the use of information technology is related to several positive outcomes, such as improvement of quality, cycle times might be reduced as well as an increase in productivity.

Generally, Frazelle (2002) indicated that a world-class logistics organization can be characterized by extensive use of logistics key performance and financial indicators, use of integrated logistics information systems, strategic use of logistics service and educating providers, a sense of urgency to leapfrog to world-class status, strategic use of third-party logistics providers, human-friendly logistics via logistics ergonomics and green logistics, order and discipline, supply chain integration, justifiable use of automated storage and handling systems, and excellent land and building utilization.

2.5. Recent Trends in Logistics Practices

The volatility of the business environment, intense competition and improvements in technology has introduced dramatic changes to the logistics practices (J. Roy, 2001 as cited in Shiromi, 2008). Some of the major recent trends in logistics practices described by different scholars are:

2.5.1. Quick Response (QR)

QR is the umbrella term for the information systems and the logistics practices that combine to provide ‘the right product in the right place at the right time’ (Martin, 2011).

According to Martin (2011) in the case of fashion shoes the aim of QR is to link retail sales with the footwear manufacturers, who in turn are linked to the leather producers who themselves are linked to the suppliers of raw hide and skin,

On the other hand, Birtwhistle (2003) defined and discussed the level of quick response (QR) implementation by fashion retailers by exploring its impact on replenishment processes.

He found that information technology is particularly important in driving customer responses (Birtwhistle, 2003 as cited in Walters, 2008). Walters (2008) also argues that demand chain management with effective response management results in high level of customer satisfaction. The study also carried out by Marcia (2000) on the experiences of 50 manufacturing companies participating in a Government-funded program in Australia found that development of effective logistics practices will require the adoption a range of QR enabling practices and technologies by manufacturers and upstream suppliers.

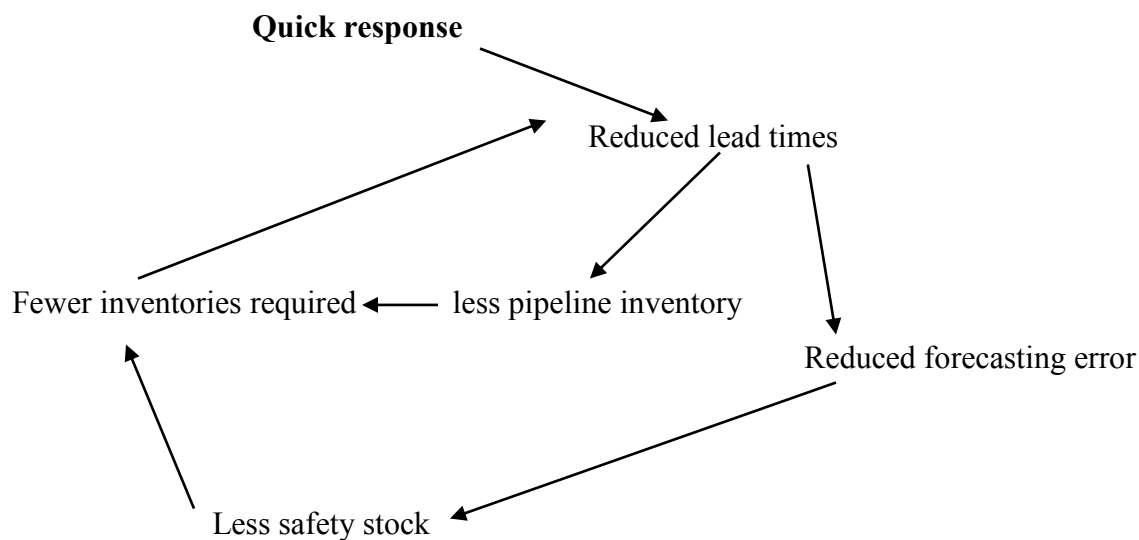


Fig 2: Quick response system

Source: Martin (2011)

2.5.2. The development of Electronic Commerce

Fax, Email, voice mail, Electronic Funds Transfer (EFT), internet, intranet, image processing, barcode and electronic data interchange (EDI) uplift the standard of logistics practices (Glauser, 2005 as cited in Shiromi, 2008).

A survey made on 200 top managers of logistics and transportation in the United States pointed out that information and communication technologies are the most important success factor in their domain (James and Williams, 1999, as cited in Shiromi, 2008).

Similarly, Srivastava (2006) on his study indicated that the Indian economy is currently experiencing a boom in logistics sector due to the rapid growth in ICT.

The logistics information capability to facilitate seamless flows of timely information is crucial in improving the efficiency of logistics practices and it can even reduce the demand for better transport infrastructure (Kang and Kwong, 1997 as cited in Goh and Pinaikul, 2002).

The study conducted by Fakhraddin (2012) on Tabriz, Tehran, Kurdistan and Esfahan (Iran) firms operating in the shoe manufacturing industry finds that reducing the lead time has a positive impact on new shoe products. In this study it has been pointed out that the adoption of advanced ICT tools, such as Enterprise Resource Planning (ERP), significantly reduce lead time of most of the logistics and producing processes of the shoes manufacturing industry. Thus, application of ICT tools can be considered as one best logistics practice.

2.5.3. Outsourcing of logistical services to third party providers

According to Shiromi (2008) with the globalization of markets, companies are increasingly focusing on their core competencies. He argues that if they feel logistics practices of the organization do not add adequate value, or in the worst case the function dilutes the overall value they would not hesitate to outsource it to a 3rd party logistics facility.

2.5.4. Cross Docking

As Shiromi (2008) pointed out cross docking is the practice of expediting the flow of product from receiving to shipping with a minimum of handling in between. To enable proper Cross-Docking system, he indicated that there should be sound processes, supply chain relationships and clearly established systems like automated material handling, Warehouse Management Systems (WMSs), order processing systems, and quality controls systems.

2.5.5. Collaborative Planning Forecasting and Replenishment (CPFR)

According to Framling and Smaros (2001) CPFR is a model that offer guidelines for developing collaborative processes that enable trading partners to do joint planning and demand forecasting, and to synchronize their material flows according to end-customer demand.

2.5.6. Human-Friendly Logistics

According to Frazelle (2002) human-friendly logistics is based on the Golden Rule—treat people the way you would like to be treated.

2.6. Logistics Practices in different Countries

2.6.1. Logistics practices in Thailand's manufacturing firms

The study conducted by Goh and Pinaikul (2002) on logistics practices and development in Thailand found that most of the logistics costs incurred are on transportation and warehousing. They also observed that manufacturing firms that have instituted logistics departments are making an effort in upgrading their logistics systems and are more pervasive in using technology to manage logistics as compared to firms without formalized logistics departments.

Goh and Pinaikul (2002) also found that most manufacturing firms in Thailand prefer to rely on private warehouses rather than public warehouses. Nearly two thirds of them (65 per cent) own one or two warehouses. Only 9 per cent use solely public warehouses while a third rely on both private and public warehouses.

This finding suggests that respondents have not really accepted or appreciated the benefits of outsourcing. Finally, computerized inventory control systems are widely used in warehousing operations (90 per cent).

They found also nearly three quarters of the firms (72.5 per cent) own their fleet of vehicles to handle physical distribution, some still use a combination namely own, leasing and third party providers to distribute their goods as is evidenced by the 60 per cent of replies for leased and third party providers. Thus, outsourcing is more frequently utilized in the area of transportation and less in warehousing.

Modern intelligent supplier-linking technologies with complete information like EDI have not really caught on in Thailand as evidenced by only four firms having a complete EDI linkage in their supply chain. Most firms in Thailand (95 per cent) still rely on traditional methods of communication, like calling, mailing and faxing in order processing. The key finding in this study reveals that the main reasons for implementing an LIS (Logistics Information System) include quicker response time, shorter cycle time and greater order convenience.

2.6.2. Logistics practices in Brazil

Donald and David (1997) argued that logistics is about streamlining or reconfiguring operating systems to become more customers relevant and such customer relevancy increases are achieved simultaneously with increased quality and productivity.

Their study on logistic practices of Brazil found that the Brazilian economy is stabilizing and many firms, both domestic and international, are viewing Brazil as the primary focus of their manufacturing and distribution strategy. This was due to the fact that the country logistics is characterized by less delay in ports, availability of a nice infrastructure, and modern information management systems.

2.6.3. Logistics practices in South Africa's manufacturing firms

Vasco, S. and Andrew, P (2012) in their study on manufacturing sector logistics practices of South Africa found that there is a high transportation cost, unexpected road congestions, and loading and unloading delays.

Related to this there is much stronger focus on responsiveness at customer side and road freight transport network made transport cost less important in the whole supply chain. The study also indicated that most of these manufacturing firms used 3PLs, and these 3PLs have 100 percent vehicle ownership and practice flexible transportation plan.

For the case of customer service sometimes there are urgent customer orders and demand forecast inaccuracies. Concerning delivery tight and rigid delivery windows are observed.

Lack of communication between customer and carrier, and lack of understanding between sales and logistics within carriers are also sometimes observed.

2.6.4. Logistics practices in Ethiopian manufacturing firms

The study by Fekadu (2013) on the logistics practices of Ethiopian found that the density and quality of transport infrastructure is very low, the main freight transport companies lack capacity in terms of skilled human resource, management skills and number of fleets of vehicles, the main/big companies are government owned that will result in inefficiency, the efficiency of customs authority is very low and this causes a lot of delays at check points, and the number of days required to get foreign currency from national bank is also very long.

The research done by Fasika, Klaus and Marcus (2014) on selected 12 types of Ethiopian manufacturing industries including leather processing firms, on the characteristics of supply chain and logistics found that customer's comments and complaints collection were done mostly with help of data log manually and the level of practice of customer service is very less.

They also found that although the companies have to set rules for effective negotiation procedure, procurement department's officers who were directly participating in purchasing cannot follow all rules because the marketing situations are highly variable and dynamic especially with raw material price.

In their study they also found that the supplier evaluation is largely based on minimum cost and contract breakdown will be done for minor price changes.

Concerning transportation most of the companies were using their own transport facilities to transport and distribute the final product to local customers. Some of the companies have started using third party logistics (3PL) providers for their distribution functions.

2.7. Logistics Challenges

A Cambridge dictionary defines the word "Challenge" as (the situation of being faced with) something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability.

According to Dinh and Hinh T. (2014) poor trade logistics penalize firms that rely on imported inputs and doubly affect exporters, causes long and uncertain delays, and it is unacceptable to most global buyers, especially in the time sensitive apparel and shoe industries. They also mentioned that challenges that face logistics operations have become a great concern at this time since they result in poor performances of logistics.

2.7.1. Logistics Challenges in different Countries

According to the study by Vietnam Ministry of Transport and the World Bank (2002) the major logistics constraints the Vietnam manufacturing industries faces are its dependence on imported inputs, its difficulty in establishing direct relationship with buyers, taxes and the restrictions placed on foreign owned companies. Related to this, insufficient container handling capacity, insufficient road development and maintenance, underused railways capacity, insufficient management, insufficient airfreight facility are the major problems in logistics infrastructures (Ministry of Transport, Vietnam & The World Bank, 2002).

Similarly, Goh and Pinaikul (2002) studied the factors hindering logistics development in Thailand and found that inefficient logistics information systems, acute transportation bottlenecks, climate changes, lack of modern logistics management techniques and expertise,

high cost of acquiring and installing automated logistics equipment, and the current inefficiency of the logistics information systems.

According to Edward (2004) the main logistics and supply chain management barriers in Europe are built inefficiencies in supply chain, ineffective communication structures, poor exchange of information, inappropriate culture, excessive reliance on forecasting and stockholding, managing problems rather than eliminating their causes.

Donald and David (1997) explored that the major logistics challenges facing Brazilian logisticians is inability to access and apply the growing logistics knowledge base and the wide variance in customer sophistication.

Clifford (2011) also mentioned the top ten logistics challenges as: infrastructure, the price of diesel, rising truck rates, capacity, the economy, ocean shipping, security, the green movement, the election and increased truck weight limits.

On the other hand, Alan and Remkovan (2008) described that extended lead time of supply and extended and unreliable transit time are the main logistics challenges.

A study by Thomaz (2009) reported in the fifth state of logistics survey that the increasing logistics cost in South Africa continue to be constraints and challenges to expand market into international trade.

Even the industry in China grows year of year, there were some major logistics challenges that interrupt the development like rising cost, financing bottlenecks, in-house mindsets to handle logistics, localized services, lack of unified top level institutional coordination and imbalance transport infrastructure development (Li & Fung Research Centre, 2008).

Other challenges in China as reported by Armstrong and Associates (2004) were poor infrastructure, regulation, bureaucracy and culture, poor training, ICT, undeveloped domestic industry, high transport costs, climate changes, poor warehousing and storage, regional imbalance and domestic trade barriers.

On the other hand, David, Robin, Robert and Louis (2007) in their study argues that uncertainty and variability, human behavior, limitations of current information systems, data overload and bad data, product proliferation and shortening life cycles and misaligned decisions and performance measures are the major logistics problems for many manufacturing logistics sectors.

A study by Neil (2011) to identify the logistics challenges and present solutions for Sydney, Australia especially on the transportation sector explored that logistics challenges of Australia are grouped in to six: they were logistics challenges related to geography (traffic congestion, road changes, higher distances, geographical location of some places), demography (ageing population and growing concentration of population), environment (climate changes, green logistics, seasonal problems, natural disasters like cyclones and floods), legislation (transport regulations and funding disagreements) and technology (costly new technology, lack of integrated system, resistance to change, dependency on technology) as well as other challenges (rising fuel prices, security issues, delay due to maintenance of roads).

In response to the identified challenges he gave potential solutions like increased driver training, better forecasting and planning, improving transport networks and infrastructure.

A well-developed transport and communication infrastructure, a sound governmental industrial policy and a well-developed educational system are the necessary conditions for improved logistics and manufacturing. Until recently, African firms did not have this autonomy because of the heavy involvement by the government. As a result, bureaucratic procedures inside and outside the firm impeded the flexibility of the firm (Biersteker, 1992; Mkandawire, 1994 as cited in Hans, 1999).

2.7.2. Logistics Challenges in Ethiopia

According to Tilahun (2014), in Ethiopia, problems in the maritime transport sector have become one of bottlenecks to international trade.

Similarly, Fasika, Klaus and Marcus (2014) in their research on the 12 types of industries found that long delays in customs and port handling as well as complex tariff for imported items are becoming the challenge for logistics and supply chain processes. They also found that the major supply challenges are inconsistency of quality raw material during bidding time and final delivery, unavailability of local suppliers for imported items and long processing and delivery time due to lengthy bureaucratic procedure involved in the purchase of the imported raw material. Their study also indicated that the major transportation challenges are Ethiopia having no access to sea (Land-locked country) and back ward transport infrastructure. Due to this the deliver process was expensive and challenging. This hinders the firms' competitiveness of the country.

According to a study by Birkinsh (2012) on the competitiveness of Ethiopian shoe industry high cost of inland transport, problems with packaging and port facility are confirmed in the survey analysis as crucial problems for achieving competitiveness of shoe firms in Ethiopia. Similarly, Poor trade logistics impose additional costs on the competitiveness of the leather industry in Ethiopia (Dinh, Hinh, 2014). In this regard, the biggest challenge is the long lead time in imports since timely imports of chemicals and other inputs are vital to the smooth running of the production process. In their study a key respondent in the tannery sector stated that imports coming from Italy to Ethiopia, for example, can take one to two months. In order to overcome these types of problems, the recent export promotion regulation has allowed foreign-based chemical and other input producers to utilize the Bonded Supply Warehouse Scheme.

Girum and Florian (2013) in their study indicated that the recently introduced ‘Export Trade Duty Incentive Schemes Proclamation No 768/2012’ has several instruments to minimize the problems of inventory stocking and lead time for establishments that import inputs, such as chemicals, for the production of commodities for the export market.

They found that bonded input supplies warehouse scheme is one of such instruments whereby exporters are allowed to store inputs without duty payments under the supervision of the customs authority. It is also indicated that this scheme reduces customs clearing time, overstocking of raw material inventory and lead time.

The above challenges that are found by different researchers are highly focused on transportation and supply side issues.

This study is not limited in its scope and tried to identify the general logistics challenges using different categories like environmental, technological, legislative, etc and it presented the critical ones that need immediate action.

2.8. Conceptual Frame work of the study

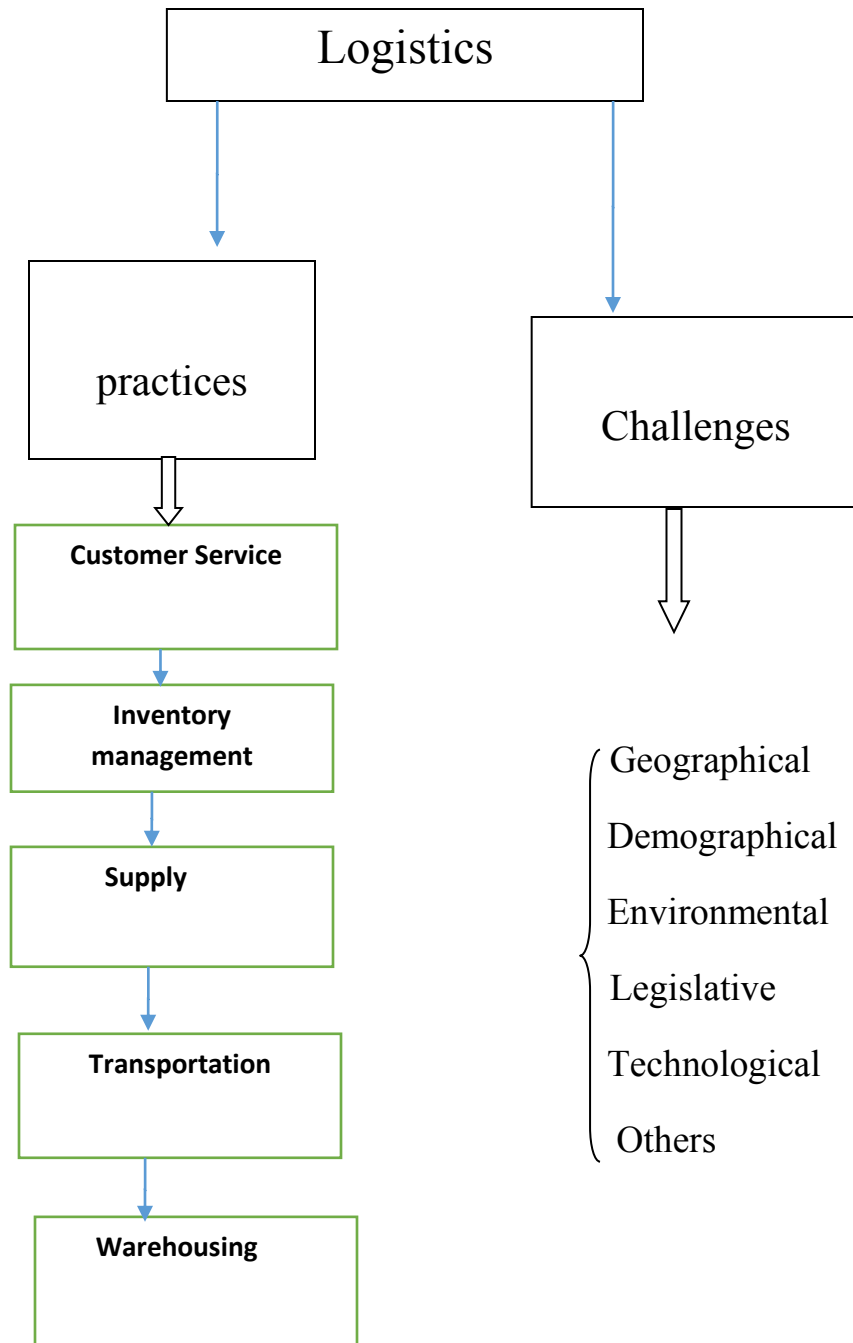


Fig 3: Conceptual fame work of the study: adapted from Frazelle (2002) and Neil (2011).

As indicated in the diagram of the conceptual frame work, the study is highly focused on the extent of practices of the above five main logistics activities and the challenges of logistics using the six categories.

CHAPTER-THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Design of the study

Since the main objective of the study is to describe logistics practices of Ethiopian leather footwear manufacturing firms and the related logistics challenges, the proposed study employed a **descriptive type** of research design. So the study will combine both qualitative and quantitative research approaches, and this is considered to be efficient for answering the research questions.

3.2. Unit of Analysis

The unit of analysis for this study is all the medium and large footwear manufacturing firms in Ethiopia. It is due to the fact that the characteristics of different logistics activities that are undertaken in the medium and large footwear firms are going to be described and the analysis are made at these firms' level.

3.3. Target Population

The report by LIDI (2015) indicated that currently there are about 17 medium and large leather footwear manufacturing industries in Ethiopia, and 16 of them are found in Addis Ababa, and the one, Sheba Leather Industry PLC, is located in Wekro, Tigray region.

The target population for the study is all the medium and large leather footwear manufacturing firms in Ethiopia.

3.4. Sampling Technique

Because the total population is finite and small in number, the study does cover all the total population of the study and sampling technique is not applied.

However, the respondents that represent the company are selected using purposive sampling, and these are those managers or supervisors working in departments that practice the logistics activities, like marketing, production and purchasing.

Those working as a head or supervisor for the above three departments are selected since they are well aware of the logistics practices and easily observed the related challenges. Therefore, each firm is represented by three respondents' who are selected purposefully.

3.5. Sources of data and Collection Techniques

The study used both primary and secondary data collection methods to achieve its objective.

For a primary data collection method, structured questionnaire was used.

In addition, secondary data is collected from documents and performance reports of footwear manufacturing firms and LIDI for further confirmation of the findings.

In the questionnaire the logistics practices are grouped into five constructs that are adapted from Frazelle (2002). They are customer service (8 items), inventory management (6 items), supply management (7 items), transportation (7 items), and warehousing (7 items). Totally 36 best logistics activities are included in the questionnaire. They are developed from literature i.e. self administered questionnaires.

For the case of logistics challenges, the logistics challenges classification used by Neil (2011) was applied, and the challenges of logistics in different manufacturing firms found by different researchers are inculcated, and firms are given chances to select from each category what they observe as logistics challenges in their day to day operations.

The items are prepared in English language since the respondents representing the firms have adequate understanding of the language and are professionals; so there was no difficulty to understand the question in English.

The questionnaire was distributed to all the heads and supervisors of logistics/marketing, production and purchasing departments of the medium and large footwear manufacturing firms in Ethiopia. It is also observed that they are convenient in order to get the right information as they are well aware of the logistics practices in their day to day activities.

Totally the data found from the 17 footwear firms indicated that there are about 51 heads and supervisors working in the three departments. Therefore, the questionnaire was distributed to the above 51 respondents that represented the firms.

For Sheba Leather Industry PLC, which is located in Wekro, 3 questionnaires are sent through Posta and communicated by phone for their fast response.

The questionnaire is concise and clear to increase the response rate, and to avoid ambiguity. Awareness about the research and its goals was also made to the firms during submitting the questionnaires.

3.6. Conceptualization and Operationalization of Constructs

Frazelle (2002) and Kent (2001) states that logistics has comprised of five interdependent activities; these are customer response, management, supply, transportation, and warehousing. Generally, the above 5 logistics activities are rated by the respondents representing firms using the five point likert scale. So the opinions of the firms' representatives with regard to the above logistics practices are measured using likert scale and the score are calculated.

3.7. Measurement and Instrumentation

The five point Likert scale is found to be the appropriate measurement for rating the logistics practices and also helps to easily describe the data output using mean and standard deviation. For the case of logistics challenges, the responses are rated by frequency and percentage.

For the purpose of performing statistical analysis on the questionnaire, the responding firms are asked to rate some statements related to logistics practices. The questionnaire consisted of scaled response from 1 to 5, such that 1 = never practiced, 2= poorly practiced, 3= moderately practiced, 4=well practiced, and 5=extensively practiced.

In the case of logistics challenges respondents are given list of logistics challenges in six different categories and they select from lists and the frequency and percentage of specific logistic challenge is calculated, and finally the critical logistics challenges are identified.

The designed questionnaire on logistics practices and challenges are tested for validity and reliability.

Since there is no standard questionnaire is found that will rate all the selected logistics practices and challenges, the questionnaire is prepared by referring different related studies, and to increase validity of the instrument the questionnaire is pre tested on some of the respondents that have adequate knowledge on the subject. Using the expert views and suggestions, the final questionnaire was prepared and distributed to the respondent firms.

Regular cross checking and follow-ups had also made at the time of data collection to ensure accuracy, relevance, completeness, consistency and uniformity of the data.

To check item reliability Cronbach's alpha coefficient was calculated to all items arranged in a five point Likert scale based on the responses of 45 questionnaires collected from 15 firms. The test results indicate that items reliability is good.

Table 1: Cronbach's alpha

Dimensions of Logistics practice	Cronbach's alpha result
Customer service practices	0.912
Inventory management practices	0.839
Supply practices	0.924
Transportation practices	0.886
Warehousing practices	0.897

3.8. Method of Data Analysis used

The study collected both qualitative and quantitative data, and therefore, data was analyzed according to its type.

For the analysis of the quantitative data descriptive statistics supported by SPSS software version 17.0 was applied, and for qualitative data document analysis was done.

Using SPSS mean and standard deviation are calculated to show the respondent firms experience in logistics practices, and frequency and percentage are considered to present the respective logistics challenges.

Generally, data presentation and interpretation was made using tables in order to display the collected data in a concise and meaningful way. The data are finally interpreted based on statistical findings.

3.9. Ethical Consideration

The information collected from firms is going to be kept confidentially in order to keep their ethical value.

Institutional secured data like financial statements are not required for the analysis, and this in turn encouraged the firm representatives to freely respond for the items under study.

CHAPTER -FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1. Introduction

The data obtained from the primary source using structured questionnaires and secondary data are presented. The 51 questionnaire were distributed to the 17 medium and large footwear manufacturing firms, each getting 3 questionnaires. From this 15 firms have completed and returned the questionnaire, while 2 firms did not complete the questionnaires, explicitly 45 out of 51 questionnaires are collected. This indicated that the response rate was 88.23 %.

Therefore, the response rate found is very good for further analysis of the data.

Generally, findings of the study were presented to answer the leading research questions, and the marketing and production departments were the main sources of data.

4.2 Basic Information of the Firms under study and respondent Individuals

4.2.1 Basic Profile of Participant Firms

The profiles of respondents' firm and characteristics are reported in annex of Table 9.

Among the 17 firms 5 of them are Foreign investors owned footwear firms (FDI's) and they are George Shoes Ethiopia PLC, Huajian Int'l Shoe City (Ethiopia) PLC, Mohan PLC, New wing Addis Shoes Factory and Oliberte Limited (Ethiopia Branch)), and the rest are domestically owned firms. These local investor/ domestically owned firms cover 70.6% and foreign investors owned footwear firms (FDI's) covers 29.4%. All, except Sheba Leather Industry PLC, which is situated in Wekro, are located in Addis Ababa.

The size of the companies varied greatly, from 91 to 3009 employees, with daily production capacity of between 300 and 4000 pairs of footwear.

4.2.2. Profiles of Respondent Individuals Representing the Firms

The demographic statistics of the respondents' profile are shown in Table 3. For each of footwear manufacturing firm involved in this study, three representatives were participated to answer the distributed questionnaire.

Among the 45 respondents, 64.4 % hold bachelor degree in the academic qualification, 26.6 % hold a master's degree.

The result shows that most of respondents furthered their study at higher level.

Most of the respondents (77.7%) involved in this study were managers and followed by the supervisors (13.3%). In general, the senior positions were actively involved in this study.

In terms of years in the firm, more than half of the total organization (68.9%) had experience in the sector from 5 to 10 years, 17.8% of the respondents worked for less than 5 years, whereas 8.8 % and 4.4 % of the respondent worked for 10 to 15 years and more than 15 years respectively.

All of the respondents either have direct or indirect involvement in logistics practices including distribution and warehousing activities. Therefore, majority of respondents are seen as experienced enough and sufficiently knowledgeable about the logistics practice in their firm.

Table 2: Profile of respondents

S.N	Characteristics	Frequency	Percentage
1	Current position/Title		
	Managers (marketing, production and purchasing)	19,11 and 5 respectively	77.7
	Supervisors	6	13.3
	Firm consultants (From LIDI)	4	8.9
2	Experience in the firm		
	Less than 5 years	8	17.8
	5-10 years	31	68.9
	10-15 years	4	8.8
	More than 15 years	2	4.4
3	Age		
	Under 25	2	4.4
	25-30	11	24.4
	30-35	17	37.8
	35-40	7	15.6
	Above 40	8	17.8
4	Sex		
	Male	38	84.4
	Female	7	15.6
5	Education level		
	BSc/BA	29	64.4
	MSc/MA	12	26.6
	Level 4	4	9.0

4.3. Logistics practices of Medium and Large Footwear Manufacturing firms

Among 45 responses, only 6 representative respondents i.e. 2 of the firms indicated that they have a customer service policy. Based on the reply, it is observed that the most common answer was that the company did not have any customer service policy.

Concerning the logistics department these two firms mentioned that they have a logistics department in the organizational division and measures its logistics performance using quality, time, cost and delivery.

Other respondent firms do not have a logistics department, and do not apply a Logistics Information System/LIS. Instead they communicate mostly via email and telephone with their suppliers and customers. This indicates that most of the firms are not having an organized logistics department in their organization. This does not mean that they are not practicing logistics activities for their day to day operations. These firms mentioned that they are practicing logistics activities in marketing, supplies and procurement departments.

4.3.1. Customer Service

Table 3: Customer service practices

Customer service practices	Mean	Std. Deviation
Responding quickly to customers' needs	2.9111	.99595
Fulfilling customer orders in the promised date	1.1142	.60521
Using up to date information for forecasting of customer needs	2.6000	1.09545
Proper organizing of Invoicing and collection methods	2.8222	1.02888
Applying electronic communication like EDI or ERP with customers for joint planning	1.2889	.99595
Sharing technical information with customers when required	2.8000	.99087
Creating long term relationships with your customers	2.9556	1.31349
Measuring and evaluating customer satisfaction level	3.2111	1.28315

Table 4 illustrates the distribution of customer service practices mean scores and standard deviation.

Among all of the customer service activities, measuring and evaluating customer satisfaction level is found to be the leading practice, with mean score 3.21. But it does not mean that this is well practiced. The mean score value indicates that it is moderately practiced.

Other customer service practices that have been also practiced moderately are: using up to date information for forecasting of customers' needs (2.60), proper organizing of Invoicing and collection methods (2.82) and sharing technical information with customers when required (2.80).

The least practiced customer service practice is fulfilling customer orders in the promised date (1.11). This finding revealed that most of the firms are not in a position to meet the customer's order in the promised date. The document found from four firms indicated that due to inability to fulfill the ordered quantity of pairs of footwear on time, their foreign customers who give order frequently has reducing their relationship with them. Due to this these firms are highly forced to concentrate on the local market.

Application of electronic communications like EDI or ERP with customers for joint planning (1.29) is almost not practiced by firms.

Even if the respondents rate the measurement of customer satisfaction level at a moderate level, there was no adequate document found that indicates the firms are measuring their customer's satisfaction level.

From the responses of firms, it was also found that only two firms among 15 firms used the electronic infrastructures like ERP for planning. This infrastructure availability was checked in the two firms and found to be applicable. E-mail is also found to be the most widely used information exchange tool in foreign purchases.

Among the customer service practices the four highest values of standard deviation were observed for items of creating long term relationships with customers (1.31), measuring and evaluating of customer satisfaction level (1.28), using up to date information for forecasting of customer needs (1.09), and proper organizing of invoicing and collection methods (1.02) of which showed high inconsistencies among respondent firm responses than other items.

This signifies that for the above items, there is a higher difference in the level of practice by the firms; specifically, some firms perform them highly, where as others to a small extent.

In contrast, the lowest standard deviation was found for fulfilling customer orders in the promised date (0.60) which indicates that there is low variation on responses for this item.

The above findings have similarities with the findings of Fasika and his Colleagues (2014) when they studied the characteristics of supply chain and logistics in selected 12 types of manufacturing firms of Ethiopia.

In general, customer service activities are practiced in a lesser extent by medium and large footwear manufacturing firms in Ethiopia.

4.3.2. Inventory management

Inventory management practices were also assessed. The table presented below shows the results of the questionnaire on the inventory management practices in the respondent firms.

Table 4: Inventory management practices

Inventory management practices	Mean	Std. Deviation
Correct identification of all materials in stock	3.7778	1.02000
Availing the lowest inventory driven cost	2.0444	1.14724
Replenishment planning and inventory deployment	2.4222	1.11781
Optimal inventory positioning	2.3111	.97286
Creating collaborative arrangement with customers and suppliers for inventory management	2.0889	1.01852
Having a system for wastage free utilization of materials inventory	2.3556	.98062

It is seen that from all of the inventory management activities, correct identification of all materials in stock is found to be well practiced with mean score of 3.78.

However, availing the lowest inventory driven cost and creation of collaborative arrangement with customers and suppliers are found to be practiced to the lesser extent with mean values of 2.04 and 2.08 respectively.

The documents found in twelve of the firms signified that, most of the firms followed a traditional inventory forecasting procedure which is dominantly based on previous two-three years' sales historical data. They did not use a direct feedback data from direct customers or users. In addition to this, most of the firms do not have direct contact with final customers.

The existing inventory planning systems of these firms correspond to establishing maximum stock levels especially for raw material inputs from foreign companies' supplies due to high uncertainties to the companies' basic operation.

This has created a great buildup of inventory and some of the materials held in their inventory are outdated accessories and components of the footwear. As a result of this they lose large amount of money.

Comparing individual items in the constructs, there were some differences among respondent's answer. The higher standard deviation values indicate that still there is a higher variation on responses given for all items in the inventory management practices.

For instance, availing the lowest inventory driven cost (1.14) and replenishment planning and inventory deployment (1.11) shows the highest variation. This also indicates that for the above items, there is a higher difference in practice level by the firms; specifically, some firms perform them highly, where as others to a lower extent.

In contrast optimal inventory positioning (0.97) indicates a lower variation in responses among respondents.

In general, inventory management activities are practiced at a lower level, except the correct identification of materials in the stock, by medium and large footwear manufacturing firms in Ethiopia.

4.3.3. Supply

The supply practices of the firms are presented as follows.

76 percent of the responding companies indicated that the first criteria for selecting their suppliers is price of products or service, and quality of raw materials or services is selected by 21 percent of the responding firms as the first criteria for supplier selection.

The finding indicated that the emphasis given for the purchase of the right quality raw materials is lower as compared to price of the raw materials by these firms. This shows also that are most of the firms are price sensitive.

92 percent of the firms showed that supplier responsiveness is the last criteria for selection of their suppliers. From this it can be understood that most of the firms are not worrying about the responsiveness of their suppliers.

The findings by Fasika and his Colleagues (2014) indicated that mostly supplier evaluation is made using the minimum price as the first criteria which is in line with the finding of this study.

Table 5: Supply practices

Supply practices	Mean	Std. Deviation
Sending and receiving of electronic communication with suppliers	3.3778	1.38644
Effective implementation of purchase order processing	3.4333	1.04447
Effective communication with suppliers on research activities and new product development	2.6889	1.20269
Transparent information sharing about each other's inventory status with your suppliers	2.6667	1.08711
Collaborating with your suppliers' development programs	2.5111	1.03621
Creating long term relationship with your suppliers	3.4222	1.30539
Frequently measuring and analyzing suppliers' performance	2.1889	1.05792
Rewarding your suppliers based on their performance	2.3778	1.13396

In the supply practice the analysis shows that effective implementation of purchase order processing (3.43), sending and receiving of electronic communication between firms and suppliers (3.37) and creating long term relationship with the suppliers (3.42) are well practiced whereas, frequent measurement and analysis of suppliers' performance (2.18) and rewarding suppliers based on their performance (2.37) are performed to a lesser extent. The documents found from eleven firms also indicated that even if the transaction process for the supply of accessories and components footwear is going well as firms rate them high, they are unable to measure the performance of their potential suppliers.

The higher standard deviation values for all items indicate that still there is a higher variation on responses given for supply practices, and the level of practice in each firm is highly different.

Generally, the analysis signifies that there is a moderate level of long term relationship between suppliers and footwear manufacturing firms.

This also reveals that the firms have no strong linkage with suppliers, and more efforts shall be made for sustainability of their relationship.

4.3.4. Transportation

The transportation practices of the firms and the transport companies that work with them are presented below.

Regarding the transportation of finished footwear to local customers and their retail shops, 11 of the firms used their own Trucks.

But for the case of transporting accessories and components, and exporting the finished footwear to foreign customers all of them used the service of freight forwarders. This shows that they outsource the transportation activity to the freight forwarders or transporters.

Table 6: Transportation practices

Transportation practices	Mean	Std. Deviation
Transportation of finished footwear to your local customers in an environment friendly manner	2.8667	1.12006
Timely arrival of standardized raw material loads to your warehouse by transporter companies	2.8222	.50731
Collaborative relationships with transport companies	2.7778	.87617
Checking the transportation of the imported raw materials on time from dry ports	2.9556	.99899
Strategic use of third-party logistics providers	1.3289	1.11237
Measurement of transport performance for local delivery of finished footwear	2.9333	1.07450
Measuring the transport performance of transport companies and rewarding them accordingly	2.1778	.56396

On the area of transportation practices, the result shows that checking the transportation of the imported raw materials on time from dry ports (2.95) and measurement of transport performance for local delivery of finished footwear (2.93) are moderately practiced.

Even though the firms rate their measurement of the transport performance at a moderate level, still there was no evidence found from the firms' documents that showed the measurements undertaken before and the metrics used.

Measuring the transport performance of transport companies and rewarding them accordingly (2.17) is poorly practiced. Strategic use of third-party logistics providers (1.32) is almost not implemented. This signifies that these firms are almost not in a position to work with the third party logistics providers. Among the items under this variable, the two higher standard deviations were observed for the transportation of finished footwear to local customers in an environment friendly manner (1.12) and tracking of containers effectively by freight forwarders (1.11).

In contrast, the lowest standard deviation was for timely arrival of standardized raw material loads to your warehouse by transporter companies (0.50). These indicated that there is a slight variation on the responses given for this item, and there is a uniform practice level of this item by the firms.

Compared to Brazil, the development of basic transport infrastructures for ease of transport operations in Ethiopian is very low. On time delivery of materials at ports are practiced at lower level by transport companies that work with Ethiopian footwear manufacturing firms compared to the transport companies' work with Brazil manufacturing firms.

In general, transportation activities are moderately practiced by the firms and their transporters.

4.3.5. Warehousing

Finally, the warehousing activates of the firms are presented as follows.

Concerning warehousing 80 percent of firms i.e. 12 of them used private warehouses and the rest 3 used public warehouses for storage of finished footwear.

Regarding material handling equipment usage 86.7 percent of firms' explicitly 13 of them used conveyors, carts and forklifts, the rest explicitly 2 of them used only carts.

Table 7: Warehousing practices

Warehousing practices	Mean	Std. Deviation
Storing products according to recommended storage guidelines	2.5556	1.05649
Storage space optimization	3.0222	1.01105
Applying Warehouse Management Software for stock control	1.2778	1.21148
Accurate identification of all storage locations	2.9778	1.05505
Applying Radio Frequency Identification	1.0156	1.06931
Making the records and reports up to date	2.9333	1.11600
Waist level handling and lifting aids usage	2.6222	1.09314

The warehousing practices are assessed and the analysis indicates that Warehouse Management System soft ware (1.27), and the related Radio Frequency Identification tool (1.10) are not almost applied by these firms. The above advanced ICT tools are not available in any of these footwear manufacturing firms.

Compared to Brazil manufacturing firms, Ethiopian footwear firms are at lower level in using modern information systems.

Storage space optimization (3.02) and accurate identification of all storage locations (2.97) are moderately practiced by these firms.

The high standard deviation values also show that there is an inconsistency in responses of respondents.

Generally, warehousing activities are moderately practiced, except the application of advanced ICT tools which is almost not applied by these firms.

4.4. Challenges of Logistics for Medium and Large Footwear Manufacturing Firms

The respondents are asked to select what they believe is a logistics challenge, that are collected from different literatures, for their firm during their logistics operations, and the frequency and percentage of each category of logistics challenges are calculated and presented as follows.

Table 8: Challenges of logistics

S. N	Type of Challenges of Logistics	Specific Logistics challenge	Frequency	Percentage
1	Geographical Challenges	Traffic congestion	26	57.7
		Insufficient road development and maintenance	16	35.5
		Higher distances	7	15.5
		Difficult geographical location of some places	5	11.1
2	Demographical Challenges	Ageing of population	1	2.2
		Growing concentration of population	4	8.8
		In appropriate culture	15	33.3
		Bad Human behaviors	15	33.3
		Resistance to change	20	44.4
3	Environmental Challenges	Climate changes	23	51.1
		Green logistics	13	28.8
		Natural disasters like cyclones and floods	8	19.9
4	Legislative Challenges	Regulation and lengthy bureaucratic procedures	17	37.7
		Funding disagreements	7	15.5
		Higher taxes	34	75.6
		Restriction on imported items	19	42.2
		Foreign currency shortage	38	84.4
		Low efficiency of customs	28	62.2
		Long lead time in port	30	66.7

Table 8: Challenges of logistics

S. N	Type of Challenges of Logistics	Specific Logistics challenge	Frequency	Percentage
5	Technological Challenges	Costly new technology	12	26.6
		Inability to access and apply the growing logistics knowledge base	12	26.6
		Lack of modern management techniques	29	64.4
		Insufficient logistics management capacity	21	46.6
		Poor exchange of information	22	48.8
		Lack of integrated system	33	73.3
6	Other Challenges	Changes in fuel prices	8	17.7
		Security issues like terrorism	7	15.5
		Delay due to maintenance of roads	7	15.5
		Low quantity of vehicles	10	22.2
		Short product life cycle	18	40.0

4.4.1. Geographical Challenges of Logistics

From the geographical challenges of logistics traffic congestion is selected by 26 of the respondents (57.7 percent), where as difficult geographical location of some places is chosen by only 5 of the respondents' which indicates that this challenge is not critical for them.

The finding indicated that for these firms' traffic congestions during transporting the raw materials from Djibouti port to different dry ports and from these dry ports to firm's warehouse, and also the reverse operation that is transporting the finished footwear from firm's warehouse to Djibouti port is the critical challenge.

4.4.2. Demographical Challenges of Logistics

From the demographical challenges of logistics resistance to change is selected by 20 of firms (44.4 percent). This reveals that there is high resistance for changes, like using modern technology for practicing logistics activities efficiently by the stake holders. Ageing of population is the least challenge in this category.

4.4.3. Environmental Challenges of Logistics

The analysis made indicates that from the environmental challenges climate change is found to be the critical one, which is selected by 23 of the respondents (51.1 percent).

The global climate change that affect different logistics operations, like transportation, supply and customer service is becoming the challenge not only for these firms, but also for many of the countries like China, Australia and Thailand firms as the previous literatures indicated.

Natural disasters like cyclones and floods being a logistics challenge are chosen by only 19.9 percent of the respondents. This shows that this is not a critical challenge under this category.

4.4.4. Legislative Challenges of Logistics

The analysis indicates that foreign currency shortage is selected by most of the respondents (84.4 percent) and found to be the most critical challenge, higher taxes on imported items which is chosen by 75.6 of the respondents' is the second critical challenge. Under this category most of the challenges are selected by many respondents.

The annual reports made by LIDI in 2014 and 2015 mentioned that Ethiopian footwear manufacturing firms are facing critical challenges of high tax rates, long delays in dry ports and foreign currency shortage. The findings by Fasika and his Colleagues (2014) also mentioned that long delays in customs and port handling as well as complex tariff for imported items are becoming the constraints for effective logistics operations of Ethiopian manufacturing firms. This shows that the findings of these reports and studies are similar to the finding of this study. The results also reveal that most of the challenges of logistics are related to legislative issues.

4.4.5. Technological Challenges of Logistics

The finding shows that from the technological challenges of logistics lack of integrated system, which is the most critical challenge, is selected by 33 of the respondents (73.3 percent). Lack of modern management techniques that was chosen by 29 of the respondents is also the second critical challenge for these firms.

However, costly new technology and inability to access and apply the growing logistics knowledge base, each chosen by only 12 of the respondents, are not critical for them under this category.

In general, the challenges under this category are selected by most of the respondents next to legislative challenges. This shows that most of the challenges of logistics for the firms are found under the category of legislative and technological.

4.4.6. Other Challenges of Logistics

From this category short product life cycle, which is selected by 18 respondents, is the most critical. Most of these challenges under this category are external challenges that are difficult to control. Even if different studies found terrorism as one of the critical challenges of logistics, only 7 respondents chose this challenge.

In general, the finding shows that from the geographical challenges of logistics traffic congestion, resistance to change from demographical challenges, climate changes from environmental challenges, foreign currency shortage from legislative challenges, lack of integrated system from technological challenges, and short product life cycle from other logistics challenges are the most critical challenges of logistics in their category.

In addition to the listed logistics challenges complicated LC opening procedures, low cargo service efficiency, supplier loyalty, increasing logistics cost and multi modal system inefficiency are also quoted by respondents as challenges of logistics. The annual reports made by LIDI in 2014 and 2015 also mentioned that Ethiopian footwear manufacturing firms are facing challenges of high cost of importing raw materials from foreign market, non-availability of local manufacturers for important accessories and, power shortage and frequent interruptions. The product quality was also revealed as one of the big logistics challenges to the footwear manufacturing firms. In addition to this, the report mentioned as there is limited competitiveness in providing the required amount, quality and style of footwear to the foreign customers by keeping the delivery time promised.

Generally, foreign currency shortage (84.4 percent), higher taxes (75.6 percent), lack of integrated system (73.3 percent) and long lead time in ports (66.7 percent) are the critical challenges of logistics for the firms. This indicates that most of the logistics challenges are highly concentrated around custom offices, and are more of legislative issues.

This also signifies that most of the challenges of logistics are beyond the control of the firms, and need coordination between all the stakeholders for reducing the impact of these challenges.

CHAPTER-FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of findings

According to the data analysis in the previous section, summary of the findings is presented as follows.

- The usage of electronic communications like EDI or ERP for planning activities, Warehouse Management System software and the related Radio Frequency Identification tool, and working with third-party logistics providers are almost not practiced by the firms.
- Although some of the respondent firms rate the measurement of customer's satisfaction level and created a good relationship with them highly, secondary documents show that there is almost no available concrete evidence found that show these firms measure and analyze their customer satisfaction level, and the firms are encountering loss of foreign customers' good will due to repeated lack of meeting the delivery date agreed.
- Achieving the lowest inventory driven cost, frequent measurement and analysis of suppliers' performance, measuring the transport performance of transport companies and rewarding them accordingly are also poorly practiced by the firms.
- Correct identification of all materials in stock is found to be well practiced inventory management activity. Effective implementation of purchase order processing, sending and receiving of electronic communication between firms and suppliers, and creation of long term relationship with the suppliers are well practiced by the firms.
- The higher standard deviations obtained in most of the items indicated that there is a higher variation in respondent responses.
- Foreign currency shortages, higher taxes, lack of integrated system and long lead time in ports are the major challenges of logistics facing footwear firms.

5.2. Conclusion

This paper aims to describe the extent of logistics practices and challenges in Ethiopian leather footwear manufacturing firms.

Generally, the findings from the analysis show that most of the respondent firms have not started to practice logistics activities to a great extent.

The study also provides the following key insights and lessons:

- The best logistics practices should be benchmarked from other firms that have reached at higher stage to respond to dynamic footwear manufacturing scenarios and markets. The firms should aware, understand the logistics practices and its purpose, because the main barriers of these firms are the lack of real understanding of logistics practices concept. Some of the best logistics practices will facilitate their operations and make them competitive in the international market through loyal customers.
- In the globalization world producing quality footwear only is not a guarantee to be competitive. Building mutual relationship with suppliers and customers through on time delivery of finished footwear to customers, making the custom processes efficient, and having reliable transportation systems are among the other factors that contribute for creation of good image in the eyes of potential customers and suppliers.
- The finding also has an implication for the firms as it provides a means to help them to apply best and recent logistics practices that suit the existing conditions and factors affecting their operation. The management and policy makers should understand and emphasis the need to overcome logistics challenges for the success of the footwear manufacturing sector which generates substantial amount of foreign currency.
- Generally, the value of the results of this study is a better understanding of the existing logistics practices and challenges in Ethiopian medium and large footwear manufacturing firms.

5.3. Recommendations

Based on the findings of the study and conclusions drawn from them, the following possible and plausible recommendations are suggested for actions to be undertaken by each stakeholder at different levels.

- The firms can improve late deliveries of finished footwear to satisfy customers and increase their loyalty by applying subcontracting of the orders to other footwear enterprises and working overtime.
- The inventory management system of the firms can consider the real demand of the market, and plan using ERP software which helps for efficient utilization of the available resources and reduce waste. They can apply different simple inventory control software to easily handle and manage their inventory level.
- In order to have a good supply as well as customer integration, advanced IT tools are crucial. Therefore, Ethiopian footwear manufacturing firms can be able to develop this infrastructure in order to connect individual warehouse with the production and procurement departments.
- Bonded supply warehouses scheme for accessories and components of footwear will be emerged for easy supply of accessories and components of footwear and reducing the lead time for importing these items from abroad. This scheme is already applied for supply of chemicals for tanneries and found to be convenient.
- The government can create a mechanism to secure accessories and components supply on domestic sources, and work closely with these industries so as to solve their problems and upgrade their productivity which in turn reduces higher dependency on outside suppliers and reduce foreign currency explicitly import substitution.
- The firms can work closely with transport companies and stake holders like customs for fast delivery of finished goods to their customers. In addition to this these freight transport companies are recommended to apply modern technology Like GPS for easily tracking of loads.

- The firms can design the warehouse in such a way that maximize the space utilization, future expansion areas, reduce accidents on employees, and use modern technology like Radio Frequency Identification to easily identify the required items and improve service for their customers.
- The firms can also measure their logistics performance using different metrics like financial, productivity, quality and cycle time. This will help them to easily know their gap and take the required corrective actions.
- Since it is one of the priority sectors that get a great consideration, the Government is expected to increase the efficiency of custom office operations and arrange adequate amount of foreign currency for import of raw materials for these firms. Customs clearance procedures can be simplified so that firms waiting time will be reduced significantly and access to raw material inputs be improved.
- It is also recommended for some of the most critical support organization like Customs, Bank and Investment Agency to prepare accountable and effective special window (access) to this sector for their services. The government also needs to benchmark the logistics experiences of successful countries for the support of this sector.
- Above all, short-term as well as long-term trainings and workshops on best logistics operations could be arranged by the Ministry of Industry so as to equip managers and supervisors by the knowledge of different concepts of logistics and its applications.
- Generally, it would be better for all stakeholders to work with equal commitment and sense of urgency to strengthen the logistics performance of the footwear manufacturing firms and to improve the competitiveness of this sector on the international market.

5.4. Suggestions for further study

For future research studying the logistics practices and challenges by expanding the scope i.e. by including the stakeholders of these firms like Ministry of Industry, transporters and customs office, etc. is recommended. Other logistics activities like sourcing, manufacturing, etc shall also be studied in detail.

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Annex I - Profile of Ethiopian Medium and Large Footwear Manufacturing Firms

Summary of Footwear Company Profiles											
S N	Company name	Capital in birr	Land area in m ²	Expo rt/loc al (%)	Man power			Production capacity ¹ in pairs/day			Labor produ ctivity ²
					M	F	Total	Actual	Ideal	%	
1	Anbessa Shoes S.C	155,263,472	8,501	4/96	299	526	825	1,550	2,500	62.00	1.88
2	Bostex PLC	-	4,000	90/10	52	78	130	150	200	75.00	1.15
3	ELICO Fontenina Shoe Factory	40,000,000	74,784	50/50	47	111	158	600	1,000	60.00	3.80
4	Kangaroo Shoes Factory	17,224,000	2,600	10/90	59	191	250	650	800	81.25	2.60
5	Modern Zege Leather Products PLC	7,000,000	-	40/60	52	74	126	400	800	50.00	3.17
6	OK Jamaica Shoes Factory	13,647,083	2,440	17/83	29	72	101	300	500	60	2.97
7	Peacock Shoes Factory	-	-	40/60	74	152	226	1,500	2,000	75.00	6.64
8	Ramsay Shoes Factory	20,000,000	4,000	55/45	116	215	331	1200	2000	60	3.63
9	Ras Dashen Shoes Factory	15,000,000	2,000	70/30	35	56	91	1000	1200	83.33	10.99
10	Tikur Abay Shoe S.C (old + new)	30,852,605	41,253	20/80 80/20	348	323	671	2,300+ 600	3,900+ 1,000	59.18	4.32
11	Walia Leather and Leather Products PLC	25,800,000	5,000	75/25			115	400	1,000	40.00	3.48
12	Sheba Leather Industry Plc	-	-	30/70	-	-	-	600	1000	-	-
13	George Shoes Ethiopia PLC	25,800,000	16,500	100/0	386	583	969	1,300	3,000	43.33	1.34
14	Huajian Int'l Shoe City (Ethiopia) PLC	289,100,000	Shade	100/0	1319	1690	3,009	4,000	5,500	72.73	1.33
15	Mohan PLC	75,000,000	5,000	25/75	49	71	120	800	1,800	44.44	6.67
16	New wing Addis Shoes Factory	3,900,000	29,076	100/0	171	606	777	1,000	3,000	33.33	1.29
17	Oliberte Limited (Ethiopia Branch)	2,710,227	-	100/0	50	70	120	100	150	66.67	0.83
	Total/average				3,086	4,818	7,904				

¹Production capacity (PC) in pairs/day = actual PC/ideal PC*100%. [in %]

²Labor productivity = total actual output in pairs per day/number of workers. [in pairs /worker]

Source: LIDI Statistics 2015

Annex II –Questionnaires

April, 2016

Dear Participant

I am a MA student in Logistics and Supply Chain Management in Addis Ababa University School of Commerce and I am conducting a study on **Logistics Practices and Challenges of Ethiopian medium and large Leather Footwear Manufacturing Firms**. The objective of this project is to describe logistics practices and challenges in footwear firms. Through your participation, I eventually hope to understand how logistics is practiced and the related challenges.

Enclosed with this letter is a brief questionnaire that asks a variety of open and close ended questions about your experience toward logistics practices and challenges in your respected firm. I am asking you to look over the questionnaire and, if you choose to do so, please complete the questionnaire and call me on the phone number provided below, so that I will come and take it on any time that is convenient for you.

Please do not write your name on the questionnaire. Your responses will not be identified with you personally, nor will anyone be able to determine which company you work for. Nothing you say on the questionnaire will in any way influence your present or future employment with your company.

I hope you will take a few minutes to complete this questionnaire. Your participation is voluntary and there is no penalty if you do not participate.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me at 0920332985/0918167056 or at melbewbaba2000@gmail.com.

Thank you in advance for your cooperation!

I. Demography of Respondents

1. Current Position /title.....
2. Number of total work experience in the footwear firm.....
3. Age
 - a. Under 25 b. 25- 30 c. 30 - 35 d. 35 - 40 e. above 40
4. Sex.....
5. Educational level
 - a. Level 3 b. level 4 c. BSc/BA d. MSc /MA e. PhD

II. Logistics Practices

1. Is there a formalized logistics department in the firm you are currently working?

Yes ☐ No ☐

If not in which department you exercise logistics practices?

2. Do you measure performance of logistics practices? Yes ☐ No ☐

If your answer is **yes**, what are the performance metrics used for measurement

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3. Is there a Logistics Information System/LIS in your firm? Yes ☐ No ☐

If your answer is **no**, which method of communication do you use for customers' communication? *You can mark more than one.*

a. Calling b. mailing c. Faxing d. Posta

1. Customer Service

Do you develop and maintain a customer service policy? Yes ☐ No ☐

If your answer is **yes**, please state your customer service policy shortly

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Please rate the following customer service practices in your company.

<i>Customer service practices</i>	<i>Rating</i>				
	1.never practiced	2.poorly practiced	3.moderately Practiced	4.well practiced	5.extensively practiced
Responding quickly to the customer's needs					
Fulfilling customer orders in the promised date					
Using up to date information for forecasting of customers 'needs					
Proper organizing of Invoicing and collection methods					
Applying electronic communication like EDI or ERP with customers for joint planning					
Sharing technical information with customers when required					
Creating long-term relationships with your customers					
Measuring and evaluating customer satisfaction level					

2. Inventory management

Please rate the following Inventory planning and management practices in your company.

<i>Inventory management practices</i>	<i>Rating</i>				
	1.never practiced	2.poorly practiced	3.moderately Practiced	4.well practiced	5.extensively practiced
Correct identification of all materials in the stock /availing nice inventory information					
Availing lowest inventory driven cost					
Replenishment planning and inventory deployment					
Ensuring the stock levels within the established maximum stock levels and emergency order point/ optimal inventory positioning					
Creating collaborative arrangement with customers and suppliers for inventory management					
Having a system for wastage free utilization of available materials inventory					

3. Supply

What are your criteria for selecting your suppliers? Please *give them rank as first, second, third, fourth and fifth.*

- Quality of raw materials or service
- Reliability of delivery of service
- Supplier flexibility.....
- Supplier responsiveness.....
- Price of products or service.....

Please rate the following supply practices in your company.

<i>Supply practices</i>	<i>Rating</i>				
	1.never practiced	2.poorly practiced	3.moderately Practiced	4.well practiced	5.extensively practiced
Sending and receiving of electronic communication with suppliers					
Effective implementation of purchase order processing					
Effective communications with suppliers on research activities and new product development					
Transparent information sharing about each other's inventory status with your suppliers					
Collaborating with your supplier's development program(s)					
Creating long-term relationships with your suppliers					
Frequently measuring and analyzing suppliers' performance					
Rewarding your suppliers based on their performance					

4. Transportation

4.1 How do you transport the finished footwear to your local customers and your retail shops?

a. Using your own fleet b. outsourcing c. renting

4.2 Does your firm outsource the transportation of the finished footwear to your foreign customers?

a. Yes b. no

Please rate the following transportation practices in your company and your freight forwarders.

<i>Transportation practices</i>	<i>Rating</i>				
	1.never practiced	2.poorly practiced	3.moderately Practiced	4.well practiced	5.extensively practiced
Transportation of finished footwear to your local customers in an environment friendly manner					
Timely arrival of standardized raw material loads to your warehouse by transporter companies					
Collaborative relationships with transport companies					
Checking the transportation of the imported raw materials on time from dry ports					
Strategic use of third-party logistics providers					
Measurement of transport performance for local delivery of finished footwear					
Measuring the transport performance of transport companies and rewarding them accordingly					

5. Warehousing

5.1 Which type of warehouse you are currently using?

- a. private b. public c. both public and private

5.2 Which type of material handling equipment you are using? *You can mark more than one*

- a. Conveyors b. Carts c. Cranes d. Forklifts e. Automatic Guided Vehicles

Please rate the following transportation practices in your company.

<i>Warehousing practices</i>	<i>Rating</i>				
	1.never practiced	2.poorly practiced	3.moderately Practiced	4.well practiced	5.extensively practiced
Storing products according to recommended storage guidelines					
Storage space optimization					
Applying Warehouse Management System software for stock control					
Accurate identification of all storage locations					
Applying Radio Frequency Identification to identify items					
Making the records and reports of warehouse up to date					
Waist-level handling and lifting aids usage					

III. Logistics Challenges

Different literatures identified the following logistics challenges. Please circle the challenge that faces your firm from the following lists (you can circle as much as possible).

Geographical Challenges	Demographical Challenges	Environmental Challenges	Legislative Challenges	Technological Challenges	Other Challenges
1.Traffic congestion	1.Ageing of population	1.Climate changes	1.Regulation and lengthy bureaucratic procedures	1.Costly new technology	1.Changes in fuel prices
2.Insufficient road development and maintenance	2.Growing concentration of population	2.Green logistics	2.Funding disagreements	2. Inability to access and apply the growing logistics knowledge base	2.Security issues like terrorism
3.Higher distances	3.In appropriate culture	3. Natural disasters like cyclones and floods	3.Higher taxes	3.Lack of modern management techniques	3.Delay due to maintenance of roads
4.Difficult geographical location of some places	4.Bad Human behaviors		4.Restriction on imported items	4.Insufficient logistics management capacity	4.Low quantity of vehicles
	5.Resistance to change		5.Foreign currency shortage	5.Poor exchange of information	5.Short product life cycle
			6.Low efficiency of customs	6.Lack of integrated system	
			7.Long lead time in port		

If there are **Logistics Challenges** that are not mentioned, please list them on the space provided.

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Annex III- Cronbach's Alpha values

Customer service practices

Cronbach's Alpha	N of Items
.912	8

Inventory management practices

Cronbach's Alpha	N of Items
.839	6

Supply practices

Cronbach's Alpha	N of Items
.924	8

Transportation practices

Cronbach's Alpha	N of Items
.886	7

Warehousing Practices

Cronbach's Alpha	N of Items
.897	7