



ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES

THE CHALLENGE AND PROSPECTS OF LOGISTICS  
MANAGEMENT PRACTICE: THE CASE OF ETHIOTELECOM

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**THE CHALLENGES AND PROSPECTS OF LOGISTICS  
MANAGEMENT PRACTICE: THE CASE OF ETHIO TELECOM**

A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY IN  
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DEGREE MASTER OF ARTS IN BUSINESS ADMINISTRATION.

By

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July,2021

**ST. MARRY UNIVERSITY**  
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## DECLARATION

I declare that this thesis has been composed by me and that it has not been submitted, in whole or in part before. it is a partial fulfillment of the requirements for the Degree of master's in business administration at St. Mary's University. Except I have made explicit references to the work of others

Name: Meron Kebede

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## **LIST OF ACRONYMS**

ETA	Ethiopian Telecommunications Authority
ETC	The Ethiopian Telecommunications Corporation
ET	Ethiotelecom
ERP	Enterprise Resource planning
WMS	Warehouse management systems
SCM	Supply chain management.
CLM	Council of Logistics Management

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## **Abstract**

*The ability to optimize the delivery of goods from manufacturer to consumer is the key to a successful business. Logistics is the science of the process of moving a product or service from the starting point producer to the end point consumer. The main objective of this study was to examine the challenge and prospects of logistics management practices in the case of ethio telecom with respect to logistics management practices of Customer service, warehouse management, inventory management, fleet operation management, information flow management and distribution management. Descriptive and explanatory research designs as well as quantitative research approach were employed in conducting the study. The population of the study was employees of ethio telecom working in warehouse, procurement, fleet operation, facilities, inventory, retail logistics and distribution management from which the sample was drawn. Stratified random sampling was used to select the appropriate sample of the study. Data was collected using questionnaires and analyzed using SPSS. Descriptive analysis namely percentage, mean and standard deviation were employed. The major finding of the study showed that the logistics management was not practiced effectively, and it is also found that characterized by poor, lack of coordination, low level of development of logistics infrastructure and inefficient fleet operation and material handling, the study recommends that to enhance the logistics management practices high degree of collaboration among logistic stake holders and should invest on identified challenges.*

*Key word: logistics, logistics practice and Challenges and prospects*

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

Creating and sustaining a competitive advantage of the company is a complex and sustained process that largely depends on the flexibility and willingness of the company to carry out rapid changes in their processes and to make them faster than their rivals. The continuous adjustment and improvement of the processes is the basis for the company's functioning in the current conditions, while at the same time is one of the key success factors. In this context arises the need for application of modern management practices in all aspects of the operations of the company, especially in the logistic management, which contributes to increasing competitiveness. (Hassini 2008).

Logistics has been described as important for integrating the internal operations of an organization with the supply chain processes to increase customer satisfaction. For instance, Bowersox *et al.* (2002) investigated all the supply management processes which can affect logistics and customer satisfaction and reported that a logistical value proposition and logistics have a big impact on customer satisfaction leveraging on order processing, inventory management, transportation, handling, and packaging, as well as facility network design.

One important management practice that can be applied in organizations today is Logistics management. Logistics management provides business organizations with the lowest total operations costs and increases the efficiency of the company's business activities. Collaboration among all the supply chain players coupled with a responsive approach can enhance organizational competitiveness through reduced lead-time facilitated by smooth flow of material from upstream towards the downstream end of supply chain. This approach will ensure end customers get value for their money and reduce the level of uncertainty in the industry (Waiganjo & Gatobu, 2014).

Logistics is vital element to improve both profitability and competitive performance of a firm (Hajiesmaeili et al., 2016). Logistics has become a fundamental factor for the generation of

competitive advantages and creation of value, through the planning, implementation and control of processes linked to physical flows, and the integration of processes along the supply chain (Alarcon & Antun, 2013). On one hand, the efficient management of the key and supporting logistical processes allows reduce the costs related to the goods flow through the supply chain, the production and physical distribution costs, and especially the storage, inventories, and transportation costs. On the other hand, the capacity for putting a product in the place and at the time where a demand exists, satisfying the clients' requirements before its competitors can do (Alarcon & Antun, 2013).

Logistics plays an important role in facilitating the flow of goods in and out of the company. The company need to facilitate the smooth flow of incoming raw materials (inbound) to the company with the aim to facilitate the operations. The proper inbound management will impact several aspects in the company, such as, on production schedules, distribution effectiveness, customer satisfaction and firm performance (Muslimin et al., 2015).Logistics is concerned with the efficient transfer of goods from the source of supply through the place of manufacture to the point of consumption in a cost-effective way while providing an acceptable service to the customer (Alan 2014).Business logistics is the continuous adjustment and improvement of processes is a key mechanism for the functioning of the company in modern conditions and a significant competitive advantage. Supply chain management practices impact not only overall organizational performance, but also competitive advantage of an organization (Karimi and Rafiee, 2014).

Logistic management has become one of the major strategies that companies are adapting to remain competitive through supplying goods in the current dynamic environment house and (stank 2001).Logistics management resulted in operational performance improvement through; decreased operation costs, improved customer satisfaction, increased productivity ,timely delivery of services to clients, reduced lead time and improved profit, faster response to customer's demands and use of modern technology in offering services (Mulama ,20120)

The researcher would be trying to explain and elaborate the challenges and prospects of logistics management practice of ethio telecom.

Telecommunications service was introduced in Ethiopia by Emperor Menelik II in 1894 when the construction of the telephone line from Harar to the capital city, Addis Ababa, was commenced.

Then the interurban network was continued to expand satisfactorily in all other directions from the capital. Many important centers in the Empire were interconnected by lines, thus facilitating long distance communication with the assistants or operators at intermediate stations frequently acting as verbal human repeaters between the distant calling parties.

The telecommunications sector was restructured and two separate independent entities namely the Ethiopian Telecommunications Authority (ETA) and the Ethiopian Telecommunications Corporation (ETC) were established by Proclamation No. 49/1996 on November 1996. As a continuation of the 2005/06-2009/10 five-year plan and after concentrating its efforts on education, health and agriculture, the Ethiopian government has decided to focus on the improvement of telecommunication services, considering them as a key lever in the development of Ethiopia, Ethio telecom is born, on Monday 29th November 2010, from this ambition of supporting the steady growth of our country, within the Growth Transformation Plan (GTP), with ambitious objectives for 2015.

Most of the technologies deployed thus far have been provided by ZTE and Huawei, which have often been preferred for offering vendor financing. In preparation for competition in the mobile market, Ethio Telecom has placed the expansion of LTE services as a cornerstone of its investment program to 2022. Ethio telecom is a sole telecom provider which operates to satisfy the telecom needs of the society by providing world class telecom services and making possible optimum profit from the sector. This in turn requires the provision of essential customer service at lowest possible total cost. Logistics management can help to improve the company's financial and market performance through delivering its services in the desired time and quality at the right place and at a reasonable cost to the final consumers, so to be competent the upcoming fierce gap by examining the challenges and prospects of logistics management practices on in of ethio telecom. Following the three-year company strategy, which is BRIDGE, supply chain division device its own strategy. Globally, Supply Chain and logistics management Strategy plays an integral part of a firm's success. Efficiently running Supply Chains also allow firms to minimize time to market for product and Services. Developing Supply Chain Strategy that is aligned with the company Strategic Objectives has a decisive role for the achievement of Business Plans.

Agile and efficient logistics management increases Competitiveness and Customer Satisfaction. The Telecom Industry, in Ethiopia, is expected to entertain Competition soon. The global business competition trends have given more focus on Excellency in logistic Operation to Succeed in the Market. Therefore, Supply Chain Strategy is formulated to ensure Supply Management Excellence and to be a source of Competitive Advantage for Ethio Telecom. ([www.ethiotelecom.et](http://www.ethiotelecom.et))

“To create Seamless logistic operations by adopting Lean and Efficient Supply Chain processes and establish Strong Relationship with business partners to ensure timely availing of sufficient resources, satisfied employees, happy partners and satisfied customers. ”To execute the strategy ET policy regarding logistic management practice stated as below. Distribution and Transportation request Plan: requestor unit shall prepare a distribution request for the items they specialize. Dispatching: distribution requests shall be organized based on geography and nature of material for efficient transportation. Delivery of goods shall be planned, monitored, and coordinated to ensure safety, timeliness, and efficiency. Depending on the nature of goods, convenient and secured transportation system shall be used for goods delivery.

Warehouse shall only be used for a temporary storage to safeguard goods. The establishment and/or expansion of the warehouse shall accommodate the existing and expected space demand, receiving and dispatching requirements. Inventory Verification and Reconciliation All inventories available in warehouse shall be physically verified and system records shall be updated accordingly at least once a year.

## **1.2 Statement of the problem**

The telecommunication sector is playing an important role in the economic development of any country because of increased progress in technology and a massive competition among all service providers in telecommunication sector (Roos and Edvardsson 2008). Due to privatization and liberalization of policy, Telecommunication sector is experiencing phenomenal global change all over the world (Beardand Hartmann 1999).

According to Vail (1994), costs of logistics businesses may reach 30% of the annual sales revenues and approximately ranges 50% to 60% of total operating costs. Accordingly, successful



logistics operations not only enable organizations reach market rapidly, with delivery of competitive products, but it may also reduce the total cost of these products while simultaneously improving customer satisfaction. In this regard, Tracey (1998) indicates that offering competitive prices mainly depend on logistics expense incurred across the supply chain and the level of logistics services provided. Moreover, logistics management process is one of the modern aspects in management in facing numerous economical, technological, and informational challenges (Nilsson, 2006; Ketikidis et al., 2008). This has led to a growing consensus on the importance of logistics management as the part of supply chain management in ensuring the effective and efficient flows of goods, services, materials, and related information along the supply chain (Cooper and Ellram, 1993; Edris, 2003; Christopher, 2011; Roushdy, 2012)

In a global world of business, organizations look towards some of the many options available in the form of opportunities and strategies to deal with the challenges that will deny them the chance of being market leaders. According to Mundia et al. (2015), organizations are adopting various strategies to ensure they remain competitive in the market. Enhancing logistics service capabilities will help to reduce the internal costs and improve competitiveness in the market and around the world (Boonpattarakan, 2012).

According to Janssen (2010) in logistics management, unwise decisions create multiple issues, failed or delayed deliveries lead to buyer dissatisfaction, damage of goods due to careless transportation is another potential issue, poor logistics planning gradually increases expenses and issues may arise from implementation of ineffective logistics system.

One important management practice that can be applied in organizations today is Logistics management. Logistics management provides business organizations with the total operations costs and increases the efficiency of the company's business activities. Collaboration among all the supply chain players coupled with a responsive approach can enhance organizational competitiveness through reduced lead-time facilitated by smooth flow of material from upstream towards the downstream end of supply chain. This approach will ensure end customers get value for their money and reduce the level of uncertainty in the industry (Waiganjo & Gatobu, 2014).

Ethio telecom has been undergoing multiple reform interventions that are bringing remarkable difference in resolving backlog issues, quick decision making and service affordability and quality.

In the case of ethiotelecom the company identified long time to market due to Poor operational efficiency on logistic management lack of logistic expertise, lack of smooth working systems that will challenge ethiotelecom ambition to remain dominant leader in the market. Noted and reported in the company's performance reports, shipment delays, unavailability of standard warehouse in desired locations, absence of access roads, shortage of trucks and materials handling equipment, poor packaging, and lack of integrated logistic practice within the company are among the major logistics related problems. Logistic did not get the required attention. Since there is no other telecom operator in the country the customers do not have other option to look other than waiting for ET to deliver its product and service after long waiting but due to the upcoming fierce competition following the announced a competitive market environment better logistic management practice would enable the company to be competitive in the upcoming market reform. The research paper will give insight on how to implement efficient logistic management practice by identifying challenges and practice of logistic management practice in the company, as to the researcher knowledge no such study conducted so far that include many of its logistic function too, so the paper will address above mentioned gaps.

### **1.3 Research Question**

1. What is the state of logistic management practice n Ethiotelecom?
2. What are the challenges faced logistic management practice in Ethiotelecom?
3. How prospects of logistics practice benefit to integrate with technology application?

### **1.4 Research Objective**

#### **1.4.1 General objective**

The General objective of the study is to examine the challenges and prospects of logistics management practices in Ethiotelecom.

### **1.4.2 Specific Objective**

**The specific objectives of the study are:**

1. To assess the current logistics management practices in Ethio telecom.
2. To determine the challenges of logistics management practices in Ethio telecom
3. To show the prospects of logistics practice to integrate with technology application.

### **1.5 Significance of the Study**

The significance of the study can be seen from different perspectives; the study will have significance to see the prospect and challenges of logistics management practice which in turn will help the company to give emphasis for its logistics management practice to enhance its organizational efficiency. This study will also serve as an input for researchers and other interested people in related topic and to acquire broader knowledge about the subject matter under the study. As a researcher I am also the beneficiary of this study by getting experience of how to conduct a research and the experience will help me to make another research.

### **1.6 Scope of the study**

This study is more concerned with the challenges and prospect of logistics management practice in Ethio telecom. Data were gathered from management and staff of the ethio telecom with specific focus on those employees in the facility and fleet and sourcing supply chain management. This study focuses on current logistics management practices which are structurally organized under facility management process. One of the limitations of this study was the practices selected may not cover all. Limitation related to methodology such as random sampling technique may encounter. The study was carried out on only in AA. This was because of limited time and inadequacies of funds to cover the remaining regions,

## **1.7 Organization/Structure of the Study**

The research paper was organized into five chapters. The first chapter is Introduction. Related theoretical and conceptual literatures discussed in chapter two and chapter three concentrated on methodological aspects. The fourth chapter of the study presents data analysis and presentation of the main findings of the study. The last chapter discusses conclusion and implication of the study based on the major findings of the study.

## **CHAPTER TWO**

### **RELATED LITRATURE REVIEW**

#### **2. Introduction**

This chapter of the study describes the relevant literatures. It explains the history and advancement of logistics, logistics management practices, prospects and challenges, integration, theoretical and empirical literature reviews as well as conceptual framework of the study.

#### **2.1 Theoretical literature**

Theory is a systematically organized knowledge applicable in a relatively wide variety of circumstances, especially a system of assumptions, accepted principles and rules of procedure devised to analyze, predict, or otherwise explain the nature or behavior of a specified set of phenomena (American Heritage Dictionary, 2012). Theories are analytical tools for understanding, explaining, and making predictions about a given subject matter (Zima, 2007).

Theory is a coherent and systematic ordering of ideas, concepts and models with the purpose of constructing meaning to explain, interpret and shape practice” (Garrison, 2000, p.3).

#### **2.2 History and Concepts and Historical development of logistic management**

Initially Logistics was a military activity concerned with getting soldiers and arms to the battlefield, but it is now seen as an integral part in the firm’s production process to carry raw materials, semi-finished goods and finished goods to market and customer’s (Kumar and Shirisha, 2014).

Firms have always and everywhere carried out typical activities today included in the concept of logistics, such as inventory and transportation. “Almost every sphere of human activity is affected directly or indirectly by the logistics process” (Lambert and Stock, 1993). However, before the development of the discipline of logistics, the historical practice was to manage them separately, without any co-ordination (Ballou, 1999)

Logistics as the part of a supply chain involved with the forward and reverse flow of goods, services, cash, and information including the managing of all transportation material handling, warehouse inventory, order processing and distribution, third-party logistics, and reverse logistics in logistics activities (Stevenson, 2009)

The 1950s, logistics was thought of in military terms. It had to do with procurement, maintenance, and transportation of military facilities, material, and personnel. Although a few authors before this time began talking about trading one cost for another, such as transportation costs with inventory costs, and discussed the benefits to the firm of getting the right goods to the right place at the right time, the organization within the typical firm around the activities currently associated with logistics was fragmented (Ronald, 2007)

Lambert and Stock (1993) observe that some principles of logistics were taken into consideration by the economic theory even then at the beginning of the 1990s, but they were not applied by the companies until the 1960s. Initially, logistics was just one of the centers of cost in a firm. It is only in recent years – earlier in USA and later in Europe - that business organizations have recognized the strategic contribution of logistics in achievement of competitive advantage (Christopher, 1992)

Logistics management is treated as a part of the supply chain management that deals with management of goods in an efficient way. It is the management process that integrates the movement of goods, services, information, and capital, right from the sourcing of raw material to the consumer. The goal of the logistics management is to provide the right product with the right quality at the right time in the right place at the right price to the ultimate customer (Ristovska et al., 2017).

During Second World War, many substantial developments occurred in areas such as science, technology, Strategies, and supply chain management. After the war, sustained development has been achieved in logistics (Chang, 1998).

Merriam-Webster defines logistics as the handling of the details of an operation.” Stevenson (2009) defines logistics as the part of a supply chain involved with the forward and reverse flow of goods, services, cash, and information.” He includes the managing of all transportation,

material handling, warehouse inventory, order processing and distribution, third-party logistics, and reverse logistics in logistics activities (Stevenson, 2009)

### **2.3 Logistics management**

Ever since the Council of Logistics Management (CLM) adopted the definition of logistics in 1984, the integration of somewhat disparate activities of transportation, procurement, inventory control, distribution management, and customer service has been a major thrust in many firms. Realizing the synergies that exist in these functions, many companies have extended the concept further upstream and downstream to include entities outside the company to include vendors and their vendors and customers and their customers. (Bagchi and Skjøtt-Larsen)

Logistics means planning and organizing activities that ensure that resources are in place so that the process can be effectuated accordingly in efficient and effective manner (Mellat-Parast and Spillan, 2014)

Logistics management is the process of strategically managing the procurement, movement and storage of materials, parts, and finished inventory (and the related information flows) 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, M. (1998).

Logistics management is the part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption to meet customer requirements. Logistic resources, such as tanks, pipelines, and ships, have the main objective of making products, equipment, and raw material flow easier throughout processes to maximize profits. W. *Ngam Srijit*, (2017).

### **2.4 Logistic Management practice**

It is the management process that integrates the movement of goods, services, information, and capital, right from the sourcing of raw material to the consumer (Springlike and Waldenburg, 2012).

Logistics implicates to the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. It comprises the management of raw materials flow to finished goods through an organization. The main functions of logistics managers involve organizing and planning of inventory, purchasing, transportation, warehousing activities.

Logistics implicates to the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption The goal of the logistics management is to provide the right product with the right quality at the right time in the right place at the right price to the ultimate customer (Mentzer et al., 2004)

McGinnis and Kohn (1990) refer to the logistics responsibilities in their article about logistics strategies. Those responsibilities are broken down into stages and include out bound transportation, 'intercompany' transportation, inbound transportation, finished-goods field warehousing and finished-goods plant warehousing, order processing, and finished-goods inventory management and raw materials/work-in-progress inventory management. The inclusion of these aspects of logistics makes them out to be some of the most important aspects in the field. They will be narrowed down to simply: transportation, warehousing, and inventory management, with packaging also being considered.

### **2.4.1 Customer order Management Practice**

According to The Supply Chain Management Professionals, (2007) logistics management is defined as that part of Supply Chain Management that plans, implements, and controls the efficient, effectively forward and reverses the flow and storage of goods, services and related information from the point of origin and the point of consumption to meet customers' demands.

As competition in the services sector is constantly increasing, the ability of companies to understand their customers and ensure their satisfaction with the services received is becoming more and more significant.( Mentzer, Flint & Kent (1999), In the 1980s and 1990s, when the business strategy began to focus on the customer satisfaction mission, logistics has been



transformed from a necessary cost to a competitive and strategic element. It became clear that integrated logistics plays a key role in satisfying the firm's customers and providing a competitive advantage. Logistics must be considered by the companies as a value-added process that directly supports the aim of the firm to be competitive in terms of high level of customer service and price (Slats, Bhola, Evers, Dijkhuizen, 1995)

A substantial number of studies have been emerged over the last decades to investigate the role of logistics management in meeting customers' needs and requirements (Bottani and Rizzi, 2006; Farhat, 2009; Wu and Hou, 2010; Ramanathan, 2010; Liu, 2011; Erkan, 2014; Nyaberi and Mwangangi, 2014).

In basic customer service programs, the focus is typically on the operational aspects of logistics and ensuring that the organization is capable of the seven rights to its customer: the right amount of the right product at the right time at the right place in the right condition at the right price with the right information (Bowersox et al., 2002).

The supply chain "is driven by customer demand and service requirements. The focus is meeting current and potential customer requirements, delivering products at the precise times and locations where they are needed" (Schary and Larsen, 1995)

Customer services in logistics include product availability, lead time to obtain the product, condition of the product when received and accuracy of filling an order (Reddy and Jayam, 2016).

According to Christopher (2011), customer service may be defined as the consistent provision of time and place utility. In other words, products do not have value until they are in the hands of the customer at the time and place required. There are clearly many facets of customer service, ranging from on-time delivery through to after-sales support. Essentially the role of customer service should be to enhance 'value-in-use', meaning that the product becomes worth more in the eyes of the customer because service has added value to the core product. Those companies that have achieved recognition for service excellence, and thus have been able to establish a differential advantage over their competition, are typically those companies where logistics management is a high priority (Christopher, 2011).

It is important for logistics companies while carrying their activities to show that their actions and deeds are concentrated on customers. Zairi (2000), analyzing customer satisfaction, indicates that customers comprise the aim of the company's activities, he focuses the fact that not service users and customers depend on the company, but the company's performance depends on its existing customers. Wirtz (2001) also stresses that customer satisfaction becomes the key element companies' focus on seeking to promote repeated business relationships and increase long-term profitability.

### **2.4.2 Warehouse Management practice**

Warehousing refers to the activities involving storage of goods on a large-scale in a systematic and orderly manner and making them available conveniently when needed. In other words, warehousing means holding or preserving goods in huge quantities from the time of their purchase or production till their actual use or sale. Being an essential component, logistics is a key aspect of modern supply chains and plays a critical role in the success or failure of business today (Frazelle, 2002).

The major functions of a warehouse are to store products to make an assortment for customers, to assemble customer orders, sometimes to add value to the orders by customization activities, organize transport to the customers, and ship orders timely, in the way desired by the customer (Goksoy,2013).Some of the important roles of warehouse are to make or break bulk. Consolidation centers, cross docking centers, transshipment, product fulfillment centers, returned goods depots, some other roles like customer support, installation, and repair services (Sayeed, 2013).

Warehousing includes space determination, stock layout, configuration, and stock placement (Ballou 2003) in logistic warehousing delivering the right product in the right quantity relies on warehousing picking and dispatching accurately warehousing ensure that products are delivered to the right customer at the right place on time, it also ensures cost efficient by delivering the product at the right price and in perfect order and condition. Piennar and voght(2006)

Warehouse management system is a critical component of an effective overall supply chain management and plays a critical role in assuring high levels of customer service and overall

logistics performance. Warehouse management involves deciding on the location of the warehouse with the lowest cost that will provide easy access to its customers and suppliers.

Warehouse plays a key part in ensuring that company meets its productivity goals. Warehouse Management System adds efficiency, consistency, and quality control to the process by helping you move goods through your warehouse at maximum speed, improving every stage of the fulfillment process.

Warehouse performance management has an important role in improving logistics' business activities. Good warehouse management could increase profit, time delivery, quality, and customer service. Frazelle model (2002)

When considering the level of effort involved in warehouse operations, the greatest expenditure of effort is in the picking process. To gain efficiencies in picking the labor time to pick orders needs to be reduced and this can achieve in several ways. Companies with the most efficient warehouses have the most frequently picked items closest to the shipping areas to minimize picking time. These companies achieve their competitive advantage by constantly reviewing their sales data to ensure that the items are stored close to the shipping area are still the most frequently picked. (Mulama 2012).

Warehouse portrays two critical functions (Lambert and Stock, 2001).

- Time utility-value created or added to a product by making something available at the right time.
- Place utility- value created or added to a product by making something available at the right place.

WMS is a database driven IT tool used to improve the efficiency of the warehouse by coordinating warehouse activities and to maintain accuracy inventory by recording warehouse transactions Shiao and Lee 2009. Proper and effective use of WMS can greatly increase the efficiency and productivity of a warehouse, thus helping to achieve warehousing costs reduction of the company.

### **2.4.2.1 Reverse logistics**

Growing environmental concern, a higher customer sensibility to the environment and the development of specific legislation, concerning the environment have led firms to devote much attention to the industrial recovery of used products and materials (Bloemhof-Ruwaard, Fleischmann, van Nunen, 2000), taking responsibility for the entire lifecycle of their products. In particular, the public interest in recycling and reuse of materials has begun to grow when it was discovered that the use of recycled materials could significantly reduce the use of energy. This has led companies to recognize three main things (Johnson and Wood, 1993): - a product's ability to be recycled adds to its value; - new channels in supply, distribution and new return movement networks must be managed; - recycling influences the choice of materials for product packaging. The branch of logistics which deals with the management of physical return flows is called reverse logistics.

The reverse logistics concept is stated as the movement of material from the consumption point back to the original point. It is different from forward logistics which specifically refers to transport from the place of origin to the point of consumption (Rogers & Tibben-Lembke, 2001). Therefore, the approach intends to utilize transports fully and decrease the number of empty returns freights.

### **2.4.3 Inventory Management**

Inventory is the stock of any item or resource used in an organization. An inventory system is the set of policies and controls that monitors levels of inventory and determines what levels should be maintained, when stock should be replenished, and how large orders should be (Augustine 2013).

Well planned and effectively controlled inventories can contribute to the effective operation of a firm and to a firms profit the basic challenge is to determine the inventory level of the inventory level that works most effectively with the operating system existing within in the organization (Donald W,Dobler 1995)

The main aim of inventory management is to ensure that organizations hold inventories at the lowest cost possible while at the same time achieving the objective of ensuring that the company has adequate and uninterrupted supplies to enhance continuity of operations (Mpwanaya, 2005).

One of the major challenges in managing a supply chain is that demand can change quickly, but supply takes longer to change. Warehouses allow us to respond quickly when demand changes (Bartholdi and Hackman, 2014). A storage function is needed because production and consumption cycles rarely match. The storage function overcomes differences in needed quantities and timing (Kotler et al., 2005).

#### **2.5.4 Distribution Management**

To optimize the potential for turning competitive advantage into profitability, a firm needs to develop successful coordination within and beyond its borders (Dyer and Singh, 1998). Coordinating the order fulfillment rate to meet actual consumption is good from the customer's point of view, if it contributes to fulfilling the delivery date of a consumer and reduces logistics costs. (Togar M. et al 2002)

There are basically two types of distribution: commercial distribution (commonly known as sales distribution) and physical distribution (better known as logistics). Distribution involves diverse functions such as customer service, shipping, warehousing, inventory control, private trucking-fleet operations, packaging, receiving, materials handling, along with plant, warehouse, store location planning, and the integration of information.

Companies must decide on the best way to store, handle, and move their products and services, so that they are available to customers in the right assortments, at the right time and in the right place. Physical distribution and logistics effectiveness will have a significant impact on both customer satisfaction and company costs. A poor distribution system can destroy an otherwise good marketing effort (Kotler et al., 2005).

Poor coordination among members of the chain can lead to dysfunctional operating performance. Some of the negative impacts of poor coordination include higher production prices, longer delivery times, higher transport costs, higher failure and harm rates and poorer customer service (Lee et al., 1997). (Togar M. et al. 2002)

## **2.4.5 Fleet Operation Management**

Transportation plays a connective role among several steps; it is the planning of all these functions and sub-functions into the system of goods movement to minimize cost as a result maximize service to the customers that constitute the concept of business logistics. The system, once put in place, must be effectively managed. (Fair & Williams 1981)

Transportation in logistics system has also a role of service quality. By means of well- handled transportation system, goods could be sent to the right place at the right time to satisfy customers“ demands. Specified pickup and delivery times, predictable transit time and zero loss and damage as well as accurate and timely exchange of information and invoicing are service related in transportation management. It all brings efficiency for the company to satisfy customers. Therefore, transportation is the base for efficiency and economy in the business logistics and expands other functions in logistics system. In addition, a good transportation system performing in logistics activities brings benefits not only to service quality but also to company competitiveness (Fair and Williams 1981).

By enabling information exchange across functional silos; amid geographically disparate operations; and in various languages, currencies, and business units, it has developed into enterprise software that is finding growing appeal. Furthermore, its functionalities make it suitable for organizations that not only have complex logistics operations, but also those that may have basic transportation needs (Robert Steiner, 2017)

Transportation is an essential and a major sub-function of logistics that creates time and place utility in goods. In fact, the backbone of the entire supply chain is the transportation management that makes it possible to achieve the well-known seven Rs- the right product in the right quantity and the right condition, at the right place, at the right time, for the right customer at the right cost (Kumar and Shirisha, 2014).

Transportation management deals with transportation mode, fleet size, route selection, and vehicle scheduling and freight consolidation. All four areas are economically interrelated and should be planned in an integrated manner to achieve maximum benefit (Reddy and Jayam, 2016).

- There are two fundamental economic principles that have an impact on transportation efficiency: Economies of scale-decreased transportation cost per unit as the size of a shipment increases.
- Economies of distance-decreased transportation cost per unit of weight as distance increase. The goal from a transportation perspective is to maximize the size of the load and the distance being shipped while still meeting customer service expectations.

Transport system is the most important economic activity among the components of business logistics systems. It provides the physical link through the movement and storage of materials for production, and outbound logistic through the movement and storage of finished goods to the customer (Sabry, 2015). Transportation is a key process in the logistics chain, which is involved at every stage, right from the manufacturing of the product to its final delivery at the required location. By moving goods from locations where they are sourced to locations where they are demanded, transportation provides the essential service of linking a company to its suppliers and customers (Reddy and Jayam, 2016).

#### **2.4.6 Information and material flow management**

According to Bowersox et al. (2002), Information flow identifies specific locations within a logistical system that have requirements. Information also integrates the three operating areas. Within individual logistics areas, different movement requirements exist with respect to size of order, availability of inventory, and urgency of movement Coordination with upstream to coordinate production and inbound transportation. Coordination with downstream retailers to coordinate inventory level with outbound transportation Full coordination with upstream and downstream.

According to Azevedo et al. (2007), while the logistical system converts materials into products, through the creation of value for customers, the information and communication systems convert data into information, to facilitate managerial decision making. Information is a resource to be used for decision making that subsequently enhances logistical effectiveness, efficiency, and flexibility. For its turn, these factors provide the possibility of firms becoming more competitive.

The final goal of any logistics system is to satisfy the customer. In fact, each component of the logistics system can affect whether a customer receives the right product, at the right place, in the

right condition, for the right cost, at the right time (Lambert and Stock 2001). Among these criteria, place and time utility have the greater importance and are considered as a measure in the determination of efficiency for material and resource flow in the logistics system. (Donald J. Bowersox et al. 2009).

Information flow identifies specific location within a logistics system that has requirements and is concerned with directing operations to receive and ship inventory as required to support customer and purchase orders (Donald J. Bowersox et al., 2009)

Supply chain management needs a high level of co-ordination and co-operation between firms with differing and even conflicting goals and management practises. But “co-ordination places heavy demand on information flows” (Scharj and Larsen, 1995). E-business, in terms of business-to-business, provides a perfect answer to this demand, reducing transaction costs and facilitating the communication between different firms or units. It gives the opportunity to increase productivity and to better satisfy logistics goals, the flow of information and so the information system are crucial elements of a chain logistics system just as they are a key part of the internal logistics system. But achieving the integration of information between all members of the supply chain is a more difficult task than integration in a single firm. Furthermore, it is now seen as a key factor in gaining competitive advantage. The potential impacts of internet on the supply chain are the following:-integrating information flow throughout the supply chain reducing the number of intermediates - because of the previous impact, decreasing costs reducing lead-time - improving flexibility and, so, reducing the time of reaction to global business changes. Internet improves the integration of the individual processes, leading to a reduction in extra stocks and resources and to a better overall performance of the total supply chain (Slats, Bhola, Evers, Dijkhuizen, 1995). Thus, each involved partner gains competitive advantages. To conclude, internet, overlapping the difficulties in the adoption of the Electronic Data Interchange (EDI), such as the lack of standards (Scharj and Larsen, 1995), makes the links easier within the supply chain and facilitates the chain reengineering to optimize its efficiency and effectiveness. In such a way, e-business development should push the implementation of supply chain management.



## **2.5 Challenges of Logistics Management Practices**

In present day global economics, logistics plays a key role in facilitating trade and, by extension, ensuring the success of business operations. Logistics managers have seen increasing challenges to create and keep efficient and effective logistics and supply chain methods.

Increasing Logistics costs is another challenge of logistics. Cost has always been the main indispensable dimension in assessing the logistics performance (Bakar et al., 2014).

Logistics infrastructure is required to transmit products and services to different producers and demand centers in different parts of the globe. Constraints with logistics infrastructure affect the logistics performance (Bakar et al., 2014).

ethiotelecom logistics management system in general is characterized by poor logistics management and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number, deterioration of goods while handling, transporting and in storage. The extent to which the organizations continue to face problems in relation to logistics management depends on its levels of awareness and acceptance of its importance.

The other challenge of logistics is information flow fragmentation. Information integration permits to examine the operations of the organization in totality and not in a fragmented, functionally isolated manner (Bagchi and Larsen, 2002).

Integrated information must flow between the company and its suppliers, carriers, forwarders, warehouses, and customers. It must also move internally among purchasing, customer service, logistics, manufacturing, sales, marketing, and accounting. And doing this goes beyond Email, faxes, and phone calls. Investment in information technology is not an alternative anymore; it is a requirement for logistics and corporate effectiveness. No GPS Tracking System is installed to the vehicles. In simpler terms, it is a logistics platform that enables users to manage and optimize the daily operations of their transportation fleets, in addition Lack of logistic expertise are also a challenge.

Demand fluctuations. Variability of demand over daily, weekly, monthly, and seasonal cycles is one of the main causes of the underutilization of vehicle capacity (Waters2007). Vehicles that are acquired with sufficient space or weight to accommodate peak loads inevitably spend much of their time running with excess capacity. Companies are subject mainly to seasonal fluctuations can hire additional vehicles or outsource more of their transport at peak periods, allowing them to carry a regular baseload of traffic on their own vehicles during the year. For those exposed to demand volatility daily, the efficient management of transport capacity presents a much greater challenge (Waters 2007). It is clearly very difficult to maintain high load factors across a vehicle fleet subject to this degree of demand variability. Companies have often been prepared to accept lower vehicle utilization.

Unreliability of delivery schedules. Where schedules are unreliable, transport managers are naturally reluctant to arrange backhauls or more complex collection and delivery routes within which higher degrees of load consolidation can be achieved. Companies understandably prioritize outbound distribution to customers and fear that a vehicle engaged in backhauling may not be repositioned in time to handle the next delivery. Available survey evidence suggests that the probability of a delivery being delayed can be relatively high.

Most of the delays, however, occurred at the reception bays of factories; distribution centers (DCs) and shops, where back-door congestion ‘increases the average length and variability of loading and off-loading times (Waters 2007). Vehicle size and weight restrictions as noted above, some loads reach the maximum weight limit before all the space in the vehicle is occupied. Conversely, some low-density loads exhaust the available space before the legal weight limit is reached. This results in underutilization of the vehicle in terms of either volume or weight (Waters 2007).

Logistics infrastructure is required to transmit products and services to different producers and demand centers in different parts of the globe. Constraints with logistics infrastructure affect the logistics performance (Bakar et al., 2014).

## **2.6 Prospects of logistic Management**

Understanding the past and observing the present allows an extrapolation to what might be in store for logistics/SCM in the future. The trend toward increased globalization, free trade, and outsourcing all contribute to a continued and growing interest in logistics/SCM. According to a McKinsey & Company study: by the year 2020, 80 percent of the goods in the world will be manufactured in a country different from where they are consumed compared with 20 percent now. There will be a tremendous shift in the movement and consumption of goods, all of which will require ever better management of the associated supply chain processes. There will be a shift in strategy. In the past, the focus of logistics/SCM has been on efficiency. As Drucker (1962) put it, physical distribution.

ERP facilitates coordination among some parts of the logistic process sourcing Warehousing and inventory management is available .ERP provides an integrated and continuously updated view of core business processes using common databases maintained by a database management system. Logistics managers keeping electronic records of inventories facilitate inventory control and shorten the time required for ordering products (Storey et al., 2006). Detailed records kept for each executive transport in the company, facilitates the selection of any subsequent transport, comparing the cost of previous transports. The evidence of each transport shows the time required for delivery and the so-called breakpoints. The future planning of any transport avoids all breakpoints that have occurred in previous transports. A detailed record of any transport should also be carried out in a special program or electronically. The existence of such systems and databases allows quick comparison of data from past activities and provides improved activity or reducing potential costs and time lost so the company can choose the most favorable and cheapest option (Bowersox et al., 2007).

The introduction, implementation and continuous improvement of the logistics management practice are important tools in the process of increasing efficiency and effectiveness of the operations and maintaining the competitive advantage. There is couple of factors affecting supply chain efficiency: procurement process, distribution, staff competencies and technology (Kanda and Iravo, 2015)

The phenomenon of business globalization, which leads to the development of a world-wide network, of production relocation, of final market internalization together with increasing competition make, day by day, more difficult the governance of logistics operations. Therefore, many enterprises have focused their activities on core business and contracted out other activities such as logistics one. The process of outsourcing began many years ago with single logistics functions, such as transportation or warehousing. Then it moved, following the evolution of the logistics concept.

This complexity consists of firstly in the fact that the supply chain must co-ordinate procurement, production, and distribution in different environments. Secondly, it must overcome the barriers to the international business concerning mainly different trade barriers, regulation of exchange rates, transportation services and infrastructure, production requirements, consumer segmentation, etc. (Scharj and Larsen, 1995). Thus, a rapid development of Logistics Service Provider supply, in a form of new economic industry, has been led (Boscacci, Pesaro, 2001). In accordance with the other members of the chain and their corporate strategic objectives, they have the task to achieve both the effective service and the efficiency in the supply chain. Outsourcing the management of logistics activities should consist of developing strategic alliances or partnerships or other inter-organizational structure. ethio telecom planned to implement lean logistic system.

### **2.6.1 Lean thinking concepts**

The most prominent intersection can be seen between the logistics and the production area (Bednár, Vidová, & Beluský, 2012).

Lean Thinking is a philosophy of management and/or business strategy that objective of streamlining the flow of production (Womack & Jones, 2003), while seeking to reduce costs through a system of identification and elimination of waste, making the customer receive exactly what he needs, at the requested time and in the quantity requested (Ferreira, Francescki, Melo, Silva, & Reichert, 2017). The analysis of the concepts and principles of the lean mentality should always precede the choice of management tools since the concepts dictate the behavior of the system concepts knowledge are relevant in decision making and determination of appropriate tools. Operating with smaller stocks, greater flexibility, and better customer service - all at the same time - requires a very coherent logic, and often surprising for its simplicity. Unlike the

traditional SCM, which has excessive inventory and tolerates many inefficiencies, the lean culture is to maximize flow value, to reduce waste and loss (Guimarães & Rodriguez, 2018). Simplicity is a fundamental part of Lean Logistics.

## **2.7 Logistic Integration**

The use of information technology (IT) plays a central role in enabling supply chain integration. It allows supply chain partners to increase the extent of information exchange. It also enables sharing of information in real-time, which increases the information visibility in the extended logistic activities.

The systemic approach (Di Meo, 1985) is the basic element of integrated logistics. The logistics system integrates in a single entity all the constituent activities of procurement, production, and distribution sub-systems. These activities are mainly the following: purchasing, inventory management and control, transport issues such as mode decisions and scheduling, warehousing, plant and depot location, materials handling, transformation (manufacturing, assembly, packaging, etc.), unitization, delivery, after-sales, and post-delivery services, return goods handling and information management.

A detailed record of any transport should also be carried out in a special program or electronically. The existence of such systems and databases allows quick comparison of data from past activities and provides improved activity or reducing potential costs and time lost so the company can choose the most favorable and cheapest option (Bowersox et al., 2007)

Logistics integration is viewed as the competency that links an enterprise with its customer and supplier information from and about customer flows through the enterprise in the formed sales activity, forecast and orders. Thus, the integration is viewed in terms of two interrelated efforts, material flow and information flow (Donald J. Bowersox, 2009).

Integration has been one of the dominant themes in the development of logistics management (Mckinnon, 2001). Logistics management is an integrating function that coordinates all logistics activities (Kwateng, 2014).

This integration logistics function enables firms to ensure a smoother and faster flow of material and related information from the point of inception to the point of consumption (Agrawal, 2007). According to (Bagchi 2004) Integration is the quality of the state of collaboration that exists among departments and stakeholders that are required to achieve unity of effort by the demands of the environment. System-wide management of entire logistics chain as a single entity, instead of separate management of individual logistical functions.

In a system each logistics function (i.e, transportation, warehousing, storage, etc.) cannot pursue an individual goal but must be subordinated to the global logistics aim, which consists in achieving the customer's satisfaction in the most cost-effective way. It does not consist in, for example, minimizing the transport cost or inventory cost. The total cost analysis (Ballou, 1999; Christopher, 1992; Lambert and Stock, 1993; Johnson and Wood, 1993), which includes in the total logistics cost the cost of lost sales, is the key to manage the entire logistics process the logistics process lack integration responsibility is fragmented in the functional areas and act as a separate entity especially not integrated to the fleet operation system and they even located at different division resulting to act separately and not in the same page to contribute to the successes of company strategy.

As previously noted, integrated logistics is a process crossing the departmental boundaries and coordinating the single functional activities as a single operating unit. It focuses on the physical material and product flows and the correlative information flows within a single firm. "The supply chain encompasses logistics, but it is more" (Schary and Larsen, 1995). According to the above definition, the supply chain management extends across organizational boundaries to include all organizational units involved in the flow of products and material.

## **2.8 Empirical research**

This section reviews what other researchers have done in the field of logistics management. The section considers the research arguments, their findings as well as their recommendation. Waweru et al. (2015) study revealed that to gain superior logistics performance, the logistics management or supply chain management must have the ability to meet customer satisfaction, response to customer compliant, delivery on timely basis, have a fill rate, a stock out, probability and accuracy.

A study done by Nge et al. (2016) concluded that logistics activities, factors of logistics activities and critical factors affecting those logistics activities are important element for business performance. Focusing on the enhancement of logistics capabilities is associated with superior firm performance (Olav Arrieta and Ellinger, 1997).

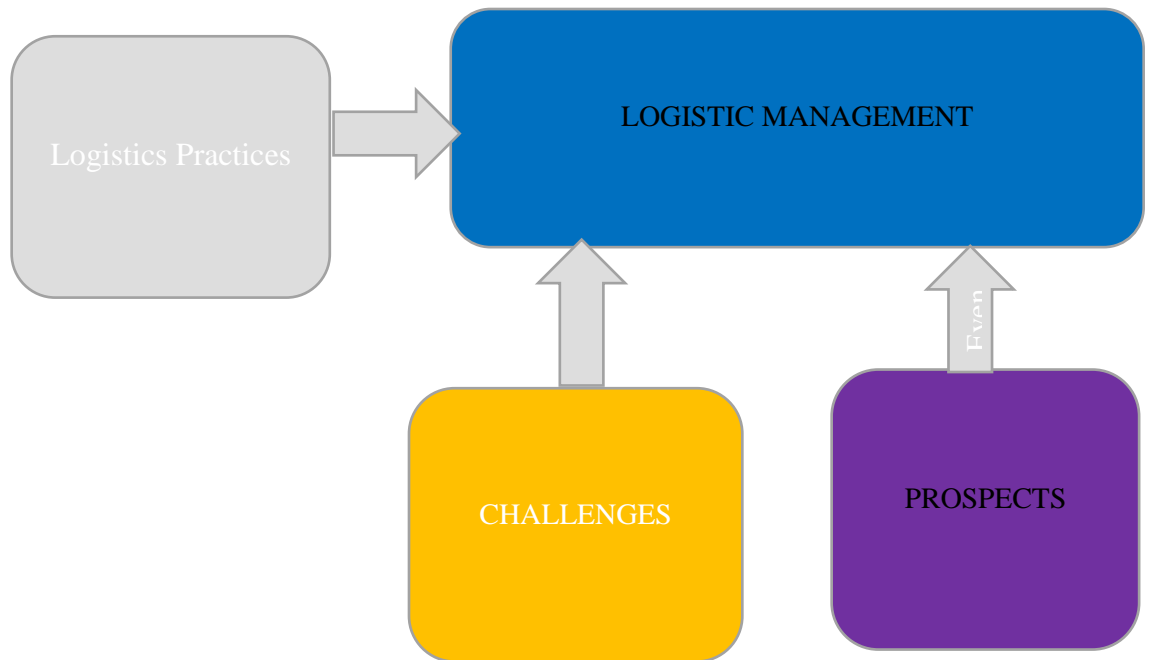
Logistics affects, many procedure activities in business, bad logistics management leads to increasing operational cost and decreased customer service, logistics interfere with many business areas and thus it is suggested to identify and determine service cost trade-offs to provide positive benefits.

A study done by Muslim in et al. (2015) shows that logistics operation has a significant impact on financial performance. According to them logistics cost and service quality has positive impact on financial performance. According to the study conducted by Tilokavichai et al. (2012) about Analysis of Linkages between Logistics Information Systems and Logistics Performance Management under Uncertainty companies can achieve more efficient and higher performance if they systematically plan their logistics management strategy.

## **2.9 Conceptual Framework**

A conceptual framework is a visual or written product, one that, “explains either graphically or in narrative form, the main things to be studied, concepts, or variables and the presumed relationship among them (Wilson et al., 2015).it shows coordination among all logistic stake holder will bring efficiency. The below figure illustrates conceptual framework of the study how coordinated logistics practices bring efficiency to achieve organization objective.

Research Conceptual Framework Combining the above concepts of logistics management practices, and challenges results in the proposed model in figure 2.1.



**Fig.2.1 Conceptual framework**

Source: Own, 2021



## CHAPTER THREE

### RESEARCH DESIGN AND METHDOLOGY

#### 3. Introduction

This chapter deals with the methods that have been used in the research to come up with the findings of the study. Thus, it introduces the research approach, the research design, the research population, sample size, sampling technique, instruments, data collection procedure, pilot testing and data analysis.

Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study that specific procedures or techniques used to identify, select, process, and analyze information (Kothari, 2004).

#### 3.1 Research Design

Research can be classified as exploratory, descriptive, and explanatory (Saunders, Lewis, and Thornhill, 2007). The objective of descriptive research is to portray an accurate profile of persons, events or situations“ (Robson, 2002).The research design considered a descriptive research designs which helps to realize the objectives and answer the research questions. Descriptive research seeks to tell “what exists” or “what is” about a certain phenomenon. Accurate observations and assessment arise from data that ascertain the nature and incidence of prevailing conditions, practice or description of object and process. This research design enabled the researchers to gather data from a wide range of respondent to examine the challenges and prospects of logistics practices.

#### 3.2 Research Approach

Research approaches are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation .In social research like this study, there are two basic kinds of research approach that are linked to the methods used. They are quantitative and qualitative research approach. They differ in many aspects and depend on several things, such as research questions, research paradigms and methods. Most importantly, they must serve the aims of the research. This research adopted a mixed Concurrent Embedded Strategy with big emphasis given to quantitative method. This method has been chosen because the researcher wanted to support the

quantitative data by the information obtained through qualitative data as well as to unearth challenges facing ethiotelecom with respect to the logistics aspects.

### 3.3 Target population and Sample size

The Target populations are 193 staff and management member of supply chain division and facility and fleet operation division who are currently working at different corporate offices.

The size of sample should neither be excessively large, nor too small. It should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability, and flexibility (Kothari, 2004), the Sample size refers to the actual number of respondents that would be representative of the population under study (Blumberg et al, 2008). So, the sample size was 129 from the total population 193 determined by the below formula from the target population.

### 3.4 Sampling techniques

Sampling is the process or technique of selecting a suitable sample for the purpose of determining parameters or characteristics of the whole population. To determine the sample size, the researcher first collect list of staffs involved in the expansion projects from the six circles and calculate the sample size accordingly.(Amdmas et al 2007).

The researcher used stratified random sampling method from probability sampling technique to select respondents from the target population. If a population from which a sample is to be drawn does not constitute a homogeneous group, stratified sampling technique is generally applied to obtain a representative sample.

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

n = where n = number of samples

N = Total Population

e = Error tolerance – Confidence level ,0.05 at 95%

$$= \frac{193}{1 + 193 (0.05^2)}$$

The target populations are in different working units, it is more appropriate to use stratified random sampling to draw representative from all working units (strata). The representatives selected from each stratum using simple random sampling technique.

### 3.1 Table for view of sampling plan

Strata by working unit	Number of employees (target population)	Sample size
Fleet operation	54	27
Distribution	38	24
Inventory	31	26
Warehouse	42	21
Retail logistics	28	31
Total	193	129

**Source: Based on data from ET ERP system**

### 3.5 Source of data

Saunders (2007) defines two types of data, namely primary and secondary. Depending on the research data type and collection method, the researcher used primary data and secondary data.

Primary data are reliable ways to collect data because the researcher knows the exact sources of data and how it has been gathered and analyzed since it is being collected by the researcher.

### 3.6 Data collection instruments

Depending on the research data type and source of data, there are different ways of data collection methods, well-structured questionnaires is used, the structured questionnaires and int review is developed using the 5-point Likert Scale since each variable or topic comprises series of questions which fit with the mere purpose of using rating scale about a given topic .

### 3.7 Data collection procedure

The primary data was collected using questionnaire included close-ended questions as questionnaire are simple to administer and relatively inexpensive to analyze. Questionnaires were distributed in person and other relative nearly located to the working place. To maintain the validity of the constructs and scale used in this research, most of the questionnaires were adopted from previous research with modifications and some of the questionnaires were developed based

on careful review of literatures. Secondary data (past data that had been previously collected and tabulated through use of graphs charts and reports) were collected from Enterprise resource planning data base and unpublished materials of ET, journals, books, and internet.

### **3.8 Data analysis method**

After data collected through questionnaire, its completeness was verified, coded, and entered computer using SPSS version 20. According to Boone and Boone (2012), Likert scale data are analyzed at the interval measurement scale. Likert scale items are created by calculating a composite score (mean) from four or more type Likert-type items; therefore, the composite score for Likert scales should be analyzed at the interval measurement scale. The analysis was carried out depending on each specific objective. Hence, the statistical tool frequency distribution and mean have been employed to see the response distributions on the 5-point likert items. In this study simple tabulation of the responses on a statement-to-statement basis were done. This is the most basic form of information, but it provides an indication of the frequency, or the number of times one variable was considered at a time

### **3.9 Validity**

It is the extent to which a test measures what it claims to measure (Lakshmi and Mohideen, 2013). A measure is valid if it measures what it is supposed to measure. According to Kindy et al. (2016), content validity is the extent to which the item in an instrument covers the entire range of the significant aspects of the area being investigated. It is the degree to which the measurement device, in this case, the measuring questions in the questionnaire, provides sufficient coverage of the research investigative questions. To maintain the validity of the instruments, most of the questionnaires were adopted from previous research. Some of the questionnaires were developed based on careful review of literatures. In addition, pilot testing of questionnaires was conducted to obtain a feedback from the respondent on validity and responses were collected and questionnaire was adjusted subsequently. According to Baker (1994), a pilot study can also be the pre-testing or 'trying out' of a research instrument. The advantages of conducting a pilot study are that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated.

### 3.10 Reliability

The extent to which measurements are repeatable when different persons perform the measurements on different occasions under different conditions with supposedly alternative instruments which measure the same thing (Drost, 2011). Reliability is consistency of measurement or stability of measurement over a variety of conditions in which basically the same results should be obtained.

Cronbach's alpha reliability (Cronbach, 1951) is one of the most widely used measures of reliability in the social and organizational sciences. Cronbach's alpha reliability describes the reliability of a sum (or average) measurements where the measurements may represent greater, occasions, alternative forms, or questionnaire/test items. When the measurements represent multiple questionnaire/test items, which is the most common application, Cronbach's alpha is referred to as a measure of "internal consistency" reliability to ensure the reliability within the process, the questionnaires were designed based on theory and Cronbach's alpha reliability measurement scale has been used.

A study is reliable if the results of a study can be reproduced under a similar methodology. A commonly accepted rule of thumb for describing internal consistency using Cronbach's Alpha to test or scale and expressed as a number between 0 and 1. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of items in scale (Gliem and Gliem, 2003), provide the following rules of thumb: if " $\alpha > 0.9$  – Excellent,  $0.8 \leq \alpha < 0.9$  – Good,  $0.7 \leq \alpha < 0.8$  – Acceptable,  $0.6 \leq \alpha < 0.7$  – Questionable,  $0.5 \leq \alpha < 0.6$  – Poor,  $\alpha < .5$  – Unacceptable.

**Table 3.2 Cronbach Alpha reliability**

Cronbach's Alpha	No of items	Reliability result
.803	57	Good

**Source: SPSS analysis**

### **3.11 Ethical considerations**

Ethics refers to the appropriateness of your behavior in relation to the rights of those who become the subject of your work or who are affected by it” Saunders et al (2009, pg. 183 -184) • “Ethics are norms or standards of behavior Ethics are norms or standards of behavior that guide moral choices about our behavior and our relationships with others and our relationships with others” Cooper and Schindler (2006, pg. 116).

Research ethics deals with how we treat those who participate in our studies and how we handle the data after we collect them. In this regard, the survey questionnaire has clear introductory and instruction part regarding the purpose of the research and ethicality and respondents were not enforced to return the questionnaire. The researcher keeps respondents’ privacy, anonymity (i.e protecting the identity of specific individual from being known) and confidentiality (i.e keeps the information in secret) (Saunders et al., 2007).

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

#### 4. Introduction

This chapter presents the data analysis, research findings and discussions with respect to research objectives and research questions stated in the first chapter of the study. Descriptive statistics is used to analyze the data.

#### 4.1 Response Rate

Response rate is formally defined as the number of completed questionnaires divided by the number of eligible sample members (Frohlich, 2001). Response rates are generally considered to be the most widely compared statistic for judging the quality of surveys (Johnson and Owens, 2008). There is no specific response rate that guarantees an unbiased representation of the population.

A total of 129 questionnaires were administered to Ethio Telecom selected work unit and 129 were returned representing a response of 100 %, so it is sufficient to conduct the research.

**Table 4.1 Response rate of distributed questionnaires**

No distributed questioner	Number of returned questioner	Response rate %
129	129	100

**Source: Survey of the study 2021**

#### 4.2 Characteristics of Respondents

This section summarizes demographic characteristics of the respondents such as gender, age, year of experience, educational qualification, and current position.

**Table 4.2 Characteristics of respondents**

Respondent profile		Frequency	Percent
Gender	Male	83	64.3
	Female	46	35.7
	Total	129	100
Work division	Warehouse Mgt	21	16.3
	Fleet Operation Mgt	27	20.9
	Inventory Mgt	26	20.2
	Retail logistics Mgt	31	24
	Distribution Mgt	24	18.6
Year of Experience	Less than 1yr	22	17.1
	3 to 5 yr	35	27.1
	6 to 8 yr	60	46.5



	Above 8 yr	12	9.3
	Total	129	100
Educational qualification	First degree	98	76
	Above degree	14	10.9
	Diploma	17	13.2
Current Position	Management	18	14
	Non -Management	111	86
	Total	129	100

**Source: Survey of the study(2021)**

The rationale for routinely considering Gender in implementation research is multifold. Gender is important in decision-making, communication, Stakeholder engagement and preferences for the uptake of interventions. Gender roles, gender identity, Gender rations, and institutionalized gender influence the way in which an implementation strategy works, for whom, under what circumstances and why. Gender of respondents was considered in the data gathering in this regard. Here is detail about gender respondent 64.3% are Male and 35.7% Female.

Educational level considered in the study with the intent to check the capacity of respondents about their educational status. The result shows that majority of the respondents are bachelor's degree holders 76% whereas respondents with master's degree holder are 10.9% while the remaining 13.2% are diploma level. It can be inferred from the finding that respondents are well

educated to understand the aim of the research and value of the questions to the research and believed to give reliable and valid response to the questionnaire.

Work division is another demographic variable which was considered in the study. The researcher included in the study to make sure that respondents belong to the related employees work activity consequently, the respondents were appropriate to collect data about the day-to-day activities of logistic management. As a result, the study found out that 20.9 % of the respondents were from fleet operation section, followed by warehouse management work unit (16.3%), Distribution section (18.6%), Inventory mgt 20.2% retail logistic 24%. This implies that the respondents were able to understand the different logistics practices required by the research based on the different work units they belong.

The study findings shows that majority of the respondents (9.3%), had a work experience of above 8 years where 27.1% had a work experience of between 3 to 5 years. only 9.3% had below 1 years of work experience as indicated in the table, this shows that majority of the respondents had served for a considerable period which implies that they were able to give credible information relating to the study. Job position of participants is one demographic factor considered in the study to make sure that respondents are included from all levels of position.

The result from the above table indicated that most of the respondents 86% (N=111) were non-management, whereas 14 % (N=18) Management members. The result shows respondents were appropriate to collect data about the day-to-day activities of Ethio telecom logistics management and decision makers.

### **4.3 Analysis of data collected from respondents**

Various kinds of rating scales have been developed to measure attitudes directly (i.e., the person knows their attitude is being studied). The most widely used is the Likert scale (1932). The Likert scale is a five (or seven) point scale which is used to allow the individual to express how much they agree or disagree with a particular statement psychometric response **scale** in which responders specify their level of agreement to a statement typically **in five points**: (1) Strongly disagree (2) Disagree (3) Partially agree (4) Agree; (5) Strongly agree. To interpret the mean score, the researcher adopted the interpreting procedure as shown below. Likert scale Interval points

$$\text{Interval} = \frac{\text{The highest Score} - \text{The lowest Score}}{\text{Number of Interval}}$$

$$\text{Interval} = \frac{5 - 1}{5} = 0.8$$

The average score (mean) obtained from each item was interpreted into degree of the factors as follows.

**Table 4.3 Likert Scale points**

Likert Scale	Average Score	Rating
Strongly agree	Average Score = 4.21 – 5.00	Very High
Agree	Average Score = 3.41 – 4.20	High
Neutral	Average Score = 2.61 – 3.40	Average
Disagree	Average Score = 1.81 – 2.60	Low
Strongly Disagree	Average Score = 1.00 – 1.80	Very Low

**Source: Survey of the study(2021)**

#### 4.3.1 Customer Order Management practice

Table 4.4 Response to customer order Management practice

Customer order Management practice	Frequencies of response						Mean	STD
	SA	A	PA	D	SD			
Ensure supply of material and product timely	5	18	21	81	4	2.52	0.91	
	3.9%	14%	16.3%	62.8%	3.1%			
Achieve customer satisfaction with the lowest cost	19	26	18	51	15	2.81	1.17	
	12%	20%	14%	39%	15%			
Supply of goods and service without interruption	15	13	28	48	25	3.31	0.843	
	12%	10%	21%	37%	19%			
Flexible and swift customer order filing system	5	25	17	36	46	2.22	1.2	
	3.9%	19.4%	13.2%	27.9%	35.7%			
Much deliveries more precisely to customer needs	9	49	33	24	14	2.76	1.25	
	9.60%	37.9%	25.6%	18.6%	11%			
Use continuous improvement tools	12	20	33	35	29	2.71	1.11	
	9.3%	15.5%	25.6%	27.7%	22.5%			
Overall mean ,SD						2.7	1.08	

Source :Survey data,2021

As observed in the above table 4.4 results revealed that overall mean ( $M=2.71$ ,  $SD=1.08$ ) the researcher looks for establishing the level of agreement on various aspects of customer Order management. Six questionnaire items were used to examine the prevailing status of this practice, about the current customer order management practice in Ethio telecom response from the above table showed that ensuring supply of material and product timely 62.8% disagree, 16.3% partially agree 14.% agree and 3.9% strongly agree and 3.1% strongly disagree ,about achieving customer satisfaction with the lowest cost 39% % disagree 20% agree and 15 % strongly disagree and 12% strongly agree. 37% disagree, 19% strongly disagree 21 %partially agree 10 % agree and 12% strongly agree about Supply of goods and service without interruption and 27.9 disagreed, 35.7% strongly disagree 19.4% agree 13.2 %partially agree and 3.9%about flexible and swift customer order filing system.37.9% agree,25.6% partially agree 18.6% disagree 11% strongly disagree and 9.6% strongly agree about much more precisely to customer needs 27% disagree 25.6% partially agreed 22.5 % strongly disagree 15.5% agree and 9.3% strongly disagree about continuous improvement tools and partially agree.

The finding revealed that ethio telecom customer order management is still on average stage disagreeing to the literature review of customer order management. According to Bowersox et al. (2002),the primary value of logistics is to accommodate customer requirements in a cost-effective manner. In basic customer service programs, the focus is typically on the operational aspects of logistics and ensuring that the organization is capable of the seven rights to its customer: the right amount of the right product at the right time at the right place in the right condition at the right price with the right information.

### 4.3.2 Warehouse Management practice.

**Table 4.5 Response to warehouse management practice**

Warehouse Management practice	Frequencies of response						Mean	STD
	SA	A	PA	D	SD			
Warehouse space utilization	7	14	22	54	32	2.7	0.9643	
	5.4%	10.8%	17.1%	41.9%	24.8%			
Item labeling and stock in the right place	5	18	17	55	34	2.6	1.03	
	3.9%	14.2%	13.2%	4.9%	26.3%			
Order picking accuracy	9	75	20	19	6	2.4	0.9195	
	7%	58.1%	15.5%	14.7%	4.7%			
Use of Automation(ERP)	30	55	20	24	0	3.1	1.02	
	23.3%	42.6%	15.5%	18.6%	0%			
Proper Safety & security systems on warehousing equipment and facilities implemented	11	9	18	54	37	3.7	1.026	
	8.50%	7%	14%	41.8%	28.6%			
Standard warehouse layout	3	9	31	68	18	2.1	0.7628	
	2.3%	7%	24%	57.4%	9.3%			
Proper inbound handling, accurate inventory record timely outbound and disposal	7	8	30	54	30	2.3	0.8365	
	5.4%	6.2%	23.3%	41.8%	23.2%			
Overall Mean						2.7	0.937	

**Source: Survey data, 2021**

The research also demonstrated on table 4.5 the warehouse management practice in Ethiotelcom revealed that an overall mean ( $M=2.7$ ,  $SD=.937$ ), with its specified questioner,

According to the survey result on the above table 41.9 % disagree & 24.8% strongly disagree about Warehouse space utilization and 24.8 % agree ,whereas 17.1% partially agree and 10.8 % agree and 5.4%strongly disagree .Item labeling and stock in the right place, whereas 44.9% agreed 26.3% disagreed,14.2 % and 15.5 %,7 % strongly agree and 14.7% disagree and 4.7% strongly disagree, Order picking accuracy 58.1% agree and 15.5% % partially agree, 4.7% disagree ,14.7% strongly agree and 7% strongly disagree. Whereas most the respondents agree on the use of proper Automation. 42.6% agree and 23.3 % strongly agree, 15.5% Partially agree 18.6% and ,However, 41.8 %disagree and 28.6 % employees disagree on proper Safety & security systems warehousing equipment and facilities ,57.4 % disagreed and 24 % partially

disagree,9.3% strongly disagree and 2.3% strongly agree about Standard warehouse layout. 41.8 % disagree and 23.2 % strongly disagreed 23.3% partially agree, 6.2% agree and 5.4 strongly disagree on Proper inbound handling, accurate inventory record timely outbound and disposal.

As per the finding use of Automation (ERP) and order picking accuracy are highly rated ,the result indicates the warehouse is performing under the expected daily performance shipment/Customer order postponed to the next day mentioning different reason, Ensure right material Handling system this is also low negligence of proper materials handling management contributes to several negative consequences such as, breakages of materials, dissatisfaction by client, and reduction in the productivity of workers, materials wastage, high project cost and delay in the progress of work at hand, this also undermined resulting longtime to ship, warehouse standardization, Item labeling and stock in the right place, Proper Safety &security systems on warehousing equipment and facilities are at average level in contrast with the literature review .

According Frazelle (2002) Warehouse performance management has an important role in improving logistics' business activities. Good warehouse management could increase profit, time delivery, quality, and customer service.

### 4.3.3 Information and Material Flow

**Table 4.6. Response to Information and material flow management**

Information and material flow Management	Frequencies of response						Mean	STD
	SA	A	PA	D	SD			
Flow of accurate and real time information	13	10	29	48	13	2.42	0.8818	
	10%	7.7%	17.8%	37.2%	10%			
High level Integration of material flow	10	18	39	44	18	2.6	0.9424	
	7.7%	14%	30.2%	34%	14%			
The information exchange is supported by IT tool	34	51	28	14	2	2.7	1.035	
	26.3	51%	21.7	10.8%	1.5%			
Smooth information flow to all logistic Function	10	41	50	17	11	3.4	1.25	
	7.8%	31%	38.8%	13.2%	8.5%			
Information sharing among logistic partners	28	21	72	5	3	2.62	0.944	
	21.7%	16.3%	55.8	3.9%	2.3%			
Integration with existing system	8	5	42	66	8	2.35	0.836	
	6.2%	3.9%	32.2%	51.2%	6.2%			
Monitoring with the existing ICT	19	25	58	20	5	3.3	1.069	
	14.7%	19.4%	45%	15.5%	3.9%			
Overall Mean						2.8	0.994	

**Source: Survey data, 2021**

Based on the respondent feedback on the above table with overall mean ( $M=2.8, SD=0.994$ ), Majority of the respondents rated average to a large extent that the information and material flow did not provide the required support to integrate the whole logistics management practice as expected in contrast with the literature review.

According to, Scary and Larsen (1995) the supply chain is driven by customer demand and service requirements. The focus is meeting current and potential customer requirements, delivering products at the precise times and locations where they are needed.”

The finding revealed that information and material flow management is partially practiced meaning on average level .According to Azevedo et al. (2007), while the logistical system converts materials into products, through the creation of value for customers, the information and communication systems convert data into information, to facilitate managerial decision making. Information is a resource to be used for decision making that subsequently enhances logistical

effectiveness, efficiency, and flexibility. For its turn, these factors provide the possibility of firms becoming more competitive generally; the sector needs to be further coordinated to take the issue of information and material flow management to its optimal improvement. As it difficult to achieve best quality of service with the observed few scores lower than average value given for information management as the primary objective of information flow management is to reconcile these differentials to improve overall supply chain performance. It is important to stress that information requirements parallel the actual work performed in market distribution, whereas these areas contain the actual logistics work, information facilitates coordination of planning and control of day-to-day operations. Without accurate information the effort involved in the logistical system can be waste.

#### 4.3.4 Distribution Management Practice

Table 4.7 Response to distribution Management practice

Distribution Management practice	Frequencies of response						
	SA	A	PA	D	SD	Mean	STD
Take advantage of Automated data collection technology	0	40	36	32	21	2.7	0.803
	0%	31%	27.9%	24.8%	16.3%		
Established advanced shipping notification	3	18	54	45	9	2.73	1.07
	2.3%	14%	41.9%	34.9%	7%		
Capture and manage critical KPIs	45	31	29	10	14	3.6	1.32
	34.9%	24%	22.5%	7.8%	10.9%		
Expedite the delivery process (from order initiation to delivery)	12	22	4	70	21	2.5	1.219
	9.3%	17.1%	3.1%	54.3%	16.3%		
integrated approach with all all-logistics stake holder	10	21	17	31	50	2.4	1.44
	7.8%	16.3%	13.17%	24%	38.8%		
Load analysis considering truck loading capacity	10	15%	10%	50	44	2.4	1.2
	7.8%	11.6%	7.8%	38.8%	34.1%		
advance notification about incoming shipment	23	44	18	22	22	2.7	1.52
	17.8%	34.1%	14.4%	17.1%	17.1%		
overall mean, SD						2.9	1.2

**Source: Survey data, 2021**

To the extent in which distribution management practiced by Ethio telecom is shown in the above table 4.7 an overall mean (M=2.72, SD=1.22). Finding revealed that 31% of the respondent agrees



and 27.9% partially agree, 24.8% disagree, and 16.3% strongly disagree. On automated data collection, 41.9% and 34.9% disagree 14% agree 7% strongly disagree. About advance shipping, capture and manage critical KPI 34.9% and 24%, 22.5% partially agree 7.8% disagree 10.9% strongly disagree ,expedite delivery processes 54.3 % strongly disagree 17.1% partially agree 7.8 % strongly agree and 16.3% strongly disagree ,Integrated approach 38.8% strongly disagree 24% disagree and 7.8% strongly disagree 16.3% agree and 13.17% partially agree . Load analysis considering truck loading capacity 34.1% strongly disagree and 38.8% disagree 7.8% partially agree, 11.6% agree and 7.8% strongly disagree which is the least rated, advance notification 34.1% agree and 17.8% strongly agree.

Generally, respondents give positive feedback on fulfillment of managing critical shipment and being effective in taking advantage automated data collection for process. Yet on load analysis based on the result, we can conclude that economies of scale were not achieved through consolidation smaller load with the larger one and reduce the number of trips between destinations. To speed up the delivery process the section should play a vital role as being a mediator among all logistic stakeholders; the finding disagrees with the literature review stated on chapter two.

According to Kotler et al (2005). Companies must decide on the best way to store, handle, and move their products and services, so that they are available to customers in the right assortments, at the right time and in the right place. Physical distribution and logistics effectiveness will have a significant impact on both customer satisfaction and company costs. A poor distribution system can destroy good marketing effort.

### 4.3.5 Inventory Management Practice

Table 4.8 Response to Inventory Management

Inventory Management practices	Frequencies of response						
	SA	A	PA	D	SD	Mean	STD
Track inventory by using GPS and Barcoding	13	14	12	33	57	2.7	0.803
	10.1	10.9%	9.3%	25.6%	44.2%		
Keep inventory in transit in a way to reduce cost	61	58	10	0	0	2.73	1.07
	47.3%	45%	7.8%	0%	0%		
Accurate record keeping	17	43	60	4	5	3.6	1.32
	17.1%	33.3%	49.6%	3.1%	3.9%		
Daily check on safety stock to mitigate risk of stock out	2	62	41	24	0	3.3256	0.79218
	6%	48.1%	31.8%	18.6%	0%		
Keep inventory data up to date as possible	4	48	38	30	9	2.9766	0.99182
	3.1%	37.2%	29.8%	23.3%	7%		
Using ABC analysis for inventory category	22	27	33	39	8	3.1008	1.21092
	17.1%	20.9%	25.6%	30.2%	6.2%		
Overall Mean,STD						3.14	0.0832

**Source: Survey data,2021**

Table 4.8 summarizes the level of agreement on Inventory Management Practice in ethiotelecom over all mean(M=3.14, .0832).Whereas low rate observed on inventory trucking by using GPS and Barcoding with mean and SD. (M=1.4,SD=.6189) As the shown in table 4.16 the study sought to establish the state of inventory management practices in ethio telecom. Tracking inventory using GPS and barcoding 44.2% disagree and 25.6 disagree, 10.1 % strongly agree, 10.9%agree and 9.3 % partially agree. that most of the materials are not situated for this, reduced cost in inventory in transit 47.3% and 45% strongly agree and agree respectively with high rate and 7.8 % partially agree ,accurate record keeping 33.3% agree and 49.6 % partially agree 17.1% strongly agree and 3.1% and 3.9% strongly disagree, Daily check on safety stock to mitigate risk of stock out 48.1 % agree and 31.8% partial agree and 18.6 disagree , keep inventory data up to date as possible 37.2 % agreed and 29.8% partially agree 23.3 % partially disagree and7 strongly disagree ABC analysis for inventory category 30.2% disagree and 25.6 % partially agreed. 20.9% agree and 17.1% strongly agree the result showed ethiotelecom inventory management practiced

on average level, but companies should be keen in managing their inventory to reduce costs, improve the quality of service, enhance product availability, and ultimately ensure customer satisfaction. Well planned and effectively controlled inventories can contribute to the effective operation of a firm and to a firms profit the basic challenge is to determine the inventory level of the inventory level that works most effectively with the operating system existing within in the organization (Donald W,Dobler 1995)

#### 4.3.6 Fleet operation Management practice

Table 4.9 Response to Fleet operation Management

Fleet operation Management practice	Frequencies of response						
	SA	A	PA	D	SD	Mean	STD
Enhanced performance due to Efficient Driver Management	5	11	13	93	7	2.1	0.6968
	3.9	8.5%	10.1%	72.1%	5.4%		
Manage shipment with GPS trucking device	0	0	8	41	80	1.45	0.0861
	0%	0%	6.2%	31.8%	62%		
Un Fragmented loads, Scheduled request, and Proper size load	10	17	3	92	7	2.06	0.6636
	7.8%	13.2%	2.3%	71.3%	5.4%		
Reduced Vehicle down Time due to maintenance delay	13	18	4	87	7	2	0.5
	10.1%	14%	3.1%	67.4%	4%		
Load consolidation &Route optimization	13	26	2	83	5	2.1	0.6154
	10.1%	2.2%	1.6%	64.3%	3.9%		
Offer Swift material delivery	11	18	17	45	38	1.9	0.6672
	78.5%	13.9%	13.2%	34.9%	29.45%		
Reduced operation cost and promote service quality	9	13	2	88	17	1.95	0.565
	7%	10.1%	1.6%	68.2%	13.2%		
Overall Mean						1.93	0.542

Source : Survey data,2021

Regarding Fleet operation Management practice most of the respondent rated low with an average overall mean(M=2.09,SD=.7428),Efficient driver management 72.1% disagree 3.9 % strongly agree 8.5% agree 10.1% partially agree 5.4% strongly disagree, regarding Manage shipment with GPS trucking device majority of the respondent 62% strongly disagree and 31 % disagree 6.2% partially agree ,un Fragmented loads, Scheduled request, and Proper size load also disagreed

71.3% 7.8% strongly agree 13.2% agree 2.3%) partially agree and 5.4% strongly disagree, Reduced Vehicle down Time due to maintenance delay 67.4% disagreed 10.1% strongly agree 14% agree 2.3%) partially agree and 4% strongly disagree ,Load consolidation & Route optimization 64% disagreed, 10.1% strongly agree 20.2% agree 1.6% partially agree and 3.9% strongly disagree Offer Swift material delivery 29.45% strongly disagree and 34.9% disagree 7.8% strongly agree 13.9% agree 13.2% partially agree. Reduced operation cost and promote service quality 68% % disagree 7% strongly agree 10.1% agree 1.6% partially agree 13.2% strongly disagree.

As per the finding above fleet operation management the least rated practice characterized by inefficient transport service failed to provide or give the required support as needed. Fleet management in logistics system has also a role of service quality. By means of well-handled transportation system, goods could be sent to the right place at the right time to satisfy customers' demands. Specified pickup and delivery times, predictable transit time and zero loss and damage as well as accurate and timely exchange of information and invoicing are service related in transportation management. It all brings efficiency for the company to satisfy customers. According to Fair & Williams (1981), Transportation plays a connective role among several steps, it is the planning of all these functions and sub-functions into the system of goods movement to minimize cost as a result maximize service to the customers that constitute the concept of business logistics. The system, once put in place, must be effectively managed.

### 4.3.7 Challenges of logistics Management practice

Table 4.10 Response to Challenges of logistics Management practice

Challenges of logistics Management	Frequencies of response						Mean	STD
	SA	A	PA	D	SD			
lack of Logistic Infrastructure	0	25	39	41	24	2.5	0.976	
	0%	22.5%	30.2%	31.8%	8.6%			
lack of coordination among logistics stakeholders within the company	20	49	31	13	16	2.5	1.11	
	15.5%	38%	24%	10.1%	12.4%			
unreliable delivery schedules	9	3	0	43	74	2.65	0.523	
	7%	2.3%	0%	33.3%	57.4%			
un Planned demand Raised from user side	0	3	28	32	66	2.31	0.873	
	0%	2.3%	21.7%	24.8%	51.2%			
Manage its distribution function and ensure in a cost-effective manner	11	35	0	43	40	3.1	0.97	
	8.50%	27.1%	0%	33.3%	31.1%			
Effectively managed its distribution and ensure real- time delivery	0	21	18	69	21	3.1	0.885	
	0%	16.3%	14%	53.5%	16.3%			
Shortened the distribution lead time (the time which elapses between the receipt of customer's order and the delivery of goods).	1	35	51	42	0	2.9	1.045	
	0.8%	27.1%	39.5	32.6%	0%			
Overall Mean, SD						2.8	0.924	

**Source; Survey data, 2021**

As can be seen in the table 4.15 response for challenges and prospects of logistic with an over mean (M=2.8, SD=.9166), the table above depicts that the respondent's response on challenges of logistics infrastructure 30.2% partially agree and 22.5% agree 31.8% disagree 8.6% strongly disagree. Coordination among logistics stakeholders within the company 38% agree and 24% partially agreed, Professional logistic expertise 33.3% disagree and 27.1 % agreed 22.5% partially agree 14% strongly agree 3.15% strongly agree .Reliable delivery schedules, 57.4% disagree and 33.3% agreed, 7%) strongly agree 2.3% agree .Un Planned demand raised from user side 51.2 % strongly disagree and 24.8% disagreed 2.3% agree and 21.7% partially agree favorable Government and Environmental regulation, 41.1% agree and 34.1% disagreed 23.3 % partially disagree and 1.6% strongly agree, manage its distribution function, and ensure in a cost-effective manner 31.1% strongly disagree and 33.3% disagree, 8.5% strongly agree and 27.1% effectively managed its distribution, and ensure real- time delivery, 53.5 % disagree and 16.3% strongly

disagree 14% partially agree .Shortening the distribution lead time (the time which elapses between the receipt of customer’s order and the delivery of goods 39.5% partially agreed and 32.6 % disagreed 27.1 agree and .8% strongly disagree.

The respondents were asked to indicate their opinion about ET logistics management challenges and majority rated low on logistics infrastructure, lack of logistics expertise that the company challenges especially planning demand, Real-time delivery and ensuring cost effective distribution. The result agrees with the previous stated points on literature review on challenges section.

### 4.3.8 Prospects of integrated technology application

Table 4.11 Response to prospects of integrated technology application

Prospects of integrated technology application	Frequency response						
	SA	A	PA	D	SD	Mean	STD
The Ability to Integrate Multiple Platforms	9	25	17	78	0	2.7	1.005
	7%	19.4%	13.2%	60.5%	0%		
Greater security and reduced cost	4	16	46	43	20	2.5	0.993
	3.1%	12.4%	35.7%	33.3	15.5%		
Agile logistic service	23	17	28	36	28	2.7	1.372
	17.8%	14%	21.7%	27.9%	21.7%		
Promote Green logistic	0	8	25	63	33	2	1.155
	0%	6.2%	13.2%	48.8%	25.6%		
Existence of geographical boundaries among logistic activities	14	33	22	52	8	2.5	1.139
	11.6%	25.6%	17.1%	40.3%	6.20%		
Overall mean, SD						2.46	0.566

Source: **Survey data, 2021**

Reflection from the respondents on ability for integrated platforms,60% disagree and 19.4% agree 7% strongly agree 13.2% partially agree. Greater security and reduced cost 35.7% partially agree and 33.3% disagree 15.5% strongly disagree 12.4%agree and 3.1% strongly agree. And 14% agree. Agile logistic service 27.9% disagree and 21.7 % agree, and 21.7% strongly disagree, Promote Green logistic,48.8% disagree,25.6% strongly disagree and 13.2 % partially agreed with the least rated and finally geographical boundaries among logistic stakeholder 40.3% disagree and 25.6 %agreed. Finding reveled due to lack of integrated technology application the company

couldn't benefit promoting green logistics as stated on company supply chain strategy and emphasizing the removal of geographical boundaries from logistic stake holders to work as one section for a better integration and result, as soon the company face competition logistic service are not agile to meet customer demand. Integration has been one of the dominant themes in the development of logistics management (Mckinnon, 2001). Logistics management is an integrating function that coordinates all logistics activities; this integration logistics function enables firms to ensure a smoother and faster flow of material and related information from the point of inception to the point of consumption (Agrawal, 2007).

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 5. Introduction

The study conducted to assess challenges and prospects of logistics management practices in ethio telecom, to determine the challenges of logistics management practices and prospects of logistics. The chapter provides the summary of findings with respect to the study objectives, conclusions, and recommendations of the study as well as limitations and suggestions for future research.

#### 5.1 Summary of findings

The study covered all ET logistics management practices customer order management practices, warehouse management practices, inventory management practices, Fleet operation, reverse management practices, information and material flow practices and distribution management, challenges of logistic management and prospects of integrated technology application.

- Achieving the lowest inventory driven cost, ordering based on real demand analysis, replenishment planning and inventory deployment to satisfy customer are moderately practiced.
- Fleet operation management practices management system of the company was the least practiced with inefficient logistics operation.
- Warehouse management practices are moderately practiced. Were inefficient space utilization and performance and productivity. Warehouse shall only be used for a temporary storage to safeguard goods.
- Company does not have integrated data bases. In addition, the company has gaps in using the existing systems properly. Overall, the information flow management practice is slightly ineffective.



## 5.2 Conclusions

Based on the findings presented in the previous section, the following conclusions are drawn.

- ethiotelecom logistics practice is characterized by poor due to lack of coordination ,limited logistics infrastructure, lack of integration among logistics stakeholder and
- Fleet operation management practices management system of the company was the least practiced with inefficient logistics practice. Late delivery, not achieving economies of scale and distance to minimize unit cost of transportation are the major problems drawn.
- Information and material flow could not meet current and potential customer requirements, delivering products at the precise times and locations where delayed.
- Challenges of logistic management practice the company faced challenges which hinder smooth operation at moderate level. Integrated technological application also could not benefit the company rather it complicates. Geographical boundaries among all logistics partners should be removed and act as one entity rather than separate entity.

## 5.3 Recommendations

Eventually, the researcher, to create Seamless logistic operations by adopting Lean and Efficient logistics service the researcher recommends the points wants to forward recommendations for ethiotelecom management and other stakeholders to improve company logistics management practice.

- **Fleet management** Implementation of fleet management system improves the visibility of available trucks and improves fleet operation efficiency and productivity that result in reduced transportation costs, so ET should install GPS on vehicles to automate.
- **Inventory management practice** is well practiced except barcoding and GPS tracking ET would benefits over more traditional means of asset tracking. They hold much more information than a traditional barcoding the company should look for it to apply.
- **Warehouse management practice** also need to work much on safety and warehouse facilities to avoid dangerous consequences of poor warehouse management like workplace injury, it should improve daily operation capacity and standardize warehouse

lay out and implement warehouse management system (WMS) which is an enabling factor for performance and productivity improvement in addition to ERP. The establishment and/or expansion of the warehouse shall accommodate the existing and expected space demand, receiving and dispatching requirements.

- **Customer order management practice and distribution management** practice should anticipate the demand of customer and coordinate and being customer-centric understand the urgency to address any customer request on the spot. Distribution requests shall be organized based on geography and nature of material for efficient transportation. Delivery of goods shall be planned, monitored, and coordinated to ensure safety, timeliness, and efficiency.
- **Information and material flow management** should take a lead to avoid gaps that hinder the smooth flow of both information and material flow using appropriate IT tool.
- **System Integration** among all logistic stake holders should be implemented as some of the logistics practices are not integrated with the existing enterprise resource module ERP.
- The integration should exceed beyond information exchange through email and plan to strengthen the integration through advanced systems like enterprise resource planning (ERP) and warehouse management systems (WMS) for order and inventory management, and document and information sharing.
- **The company should invest on identified** Challenges faced on logistics practice especially on logistic infrastructure upgrade, professional logistic expertise, and unplanned demand from user side to reduce cost and improve the logistic activities. Geographical boundaries among all logistics partners should be removed and act as one entity rather than separate entity.

#### **5.4 Limitations and suggestions for future research**

The limitation in the study which are left for future research is the study focused logistics management practices only out bound shipment, But the study did not include all logistics management practices like customer clearance, hence conducting further studies considering several other issues including sourcing and suppliers.

Considered only internal challenges of logistics management practices faced ,therefore it suggests further studies to be done outside challenges of logistics management practices like inbound from customs clearance, with procurement and other supplier relation. And suggests showing relationship of logistics management practice to bring efficiency on company performance.

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## APPENDIXES

### APPENDIXES A: Questionnaire

St. Mary's University

School of Graduate Studies

Department of Business administration

#### Dear Participant,

The purpose of the questionnaire is to collect primary data to conduct the study for the partial fulfillment MBA at St. Mary's University on "The challenge and prospect of logistics management practice in Ethio telecom, I kindly request you to fill this questionnaire genuinely assuring that the data will be used solely for the intended purpose and be kept confidential. I would like to thank you in advance for your participation. Please do not hesitate to call on +251929046224 or email at [Merukayemu@gmail.com](mailto:Merukayemu@gmail.com) for any enquiry on the questionnaire.

#### I. General Information

##### 1. Gender:

Male

Female

##### 2. Education level:

Certificate

Diploma

First Degree

Second Degree and above

##### 3. Work Division

Distribution Management  Fleet Operation

Warehouse management  Inventory Mgt

Retail logistics

##### 4. For how long you have been working in this division.

Less than 1 Year

3-5 years

6-8 years

Above 8 years

**5.Position**

Management

Non-Management

**II. Research Question**

Please, indicate the degree of agreement or disagreement that fits the situation in your company best putting tick mark (√) in the box. Please, tick per statement based on a five-point scale Where 1 = strongly disagree, 2 = disagree, 3 = Neutral, 4 =agree, 5 = strongly agree.

**I. Logistic Management practice in Ethio telecom regarding warehouse and customer satisfaction.**

No	Customer order management practice	Strongly Agree	Agree	Partially agree	Disagree	Strongly Disagree
1	Ensure supply of product and service timely.	5	4	3	2	1
2	Achieve customer satisfaction with the lowest cost					
3	Supply of goods and service without interruption					
4	Flexible and swift customer order filing system					
5	Much deliveries more precisely to customer needs					
6	Use continuous improvement tools					
<b>Warehouse Management</b>						
1	Warehouse space utilization					
2	Ensure right material Handling system					
3	Item labeling and stock in the right place					



4	Order picking accuracy					
5	Use of Automation (ERP)					
6	Safety and security systems, warehousing equipment, and facilities.					
7	Standard warehouse lay out					
8	proper inbound, handling, accurate inventory record, timely outbound and disposal.					

II. Logistic Management practice regarding Distribution management and information and material flow.

No	Information and material flow	Strongly Agree	Agree	Partial agree	Disagree	Strongly Disagree
1	Flow of accurate and real time information					
2.	High level Integration of material flow					
3.	The information exchange is supported by IT tool					
4	Smooth information flow to all logistic Function					
5.	Information sharing among logistic partners					
6	Lack of integration with the existing system					
	<b>Distribution Management</b>					
1	Established advanced shipping notification					
2	Take advantage of Automated data collection technology					
3	Capture and manage critical KPIs					
4	Expedite the delivery process (from order initiation to delivery)					
5	Load analysis considering truck loading capacity.					
6	integrated approach with all logistics stake holder					

### III. Logistic Management practice regarding Inventory Management and Fleet operation.

S/N	Inventory Management practice	Strongly Agree	Agree	Partially agree	Disagree	Strongly Disagree
1.	Track inventory by using GPS and Barcoding					
2.	Keep inventory in transit in a way to reduce cost					
3.	Accurate record keeping					
4.	Daily check on safety stock to mitigate risk of stock out					
5	Keep inventory data up to date as possible					
6.	Using ABC analysis for inventory category					
	<b>Fleet operation Management practice</b>					
1	Efficient Driver Management to enhance performance					
2	Manage shipment with GPS trucking device					
3	Vehicle down Time due to maintenance delay					
4	unfragmented loads, unscheduled request. And smaller size loads					
5	Load consolidation & Route optimization observed					
6	Offer Swift material delivery					
7	Reduced operation cost and promote service quality					

#### IV. Challenges of logistic management

S/ N	Challenge of logistics management	Strongly Agree	Agree	Partially agree	Disagree	Strongly Disagree
1	Limited logistic Infrastructure					
2	Lack Coordination among logistics stakeholders within the company					
3	Lack of Professional logistic expertise					
4	unreliability of delivery schedules					
5	Planned demand Raised from user side					
6	Government and Environmental regulation					
7	Manage its distribution function and ensure in a cost-effective manner					
8	Effectively managed its distribution and ensure real- time delivery					
9	Effectively managed its distribution functions and reduced the demand and supply gaps.					
10	shortened the distribution lead time (the time which elapses between the receipt of customer's order and the delivery of goods).					

#### v. Prospects of integrated technology application for the better logistic operation

No		Strongly Agree	Agree	Partially agree	Disagree	Strongly Disagree
1	The Ability to Integrate Multiple Platforms					
2	Greater security and reduced cost					
3	Agile logistic service					
4	Promote Green logistic					
5	Geographical Boundaries among logistic activities					