ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERECE
DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANGEMENT

PRACTICE AND CHALLENGES OF LOGISTICS MANAGEMENT:

THE CASE OF COMMERCIAL BANK OF ETHIOPIA

A Thesis Submitted to Addis Ababa University School of Commerce in Partial Fulfillment of the Requirements for the Degree of Masters of Art in Logistics and Supply Chain Management

By

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ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Practice and Challenges of Logistics Management,

The Case of Commercial Bank of Ethiopia Addis Ababa!

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Approval of Board of Examiners

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Declaration

I hereby declare that this study entitled “Practice and Challenges of Logistics Management: Case of Commercial Bank of Ethiopia” is my own work towards the Master of Art in Logistics and Supply Chain Management and that, to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgements have been made in the text.

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Date: - May /2017

Certification

This is to certify that Daniel Abi has carried out his research work on the topic entitled **"Practice and Challenges of Logistics Management; The Case of Commercial Bank of Ethiopia''** as a partial fulfillment of the requirement of Masters of Arts Degree in Logistics and Supply Chain Management. This study fulfills requirement to obtain academic degree from the university.

Advisor: Abebe Ejigu (PhD)

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Last but not the least, I would like to thank my family – their encouragement, support, and love enabled me to even contemplate this major understanding!

Daniel Abi
Addis Ababa

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List of Acronyms

CR:	Customer Response
EDI:	Electronic Data Interchange
ERP:	Enterprise Resource Planning
GPS:	Global Position System
IFM:	Information Flow Management
IM:	Inventory Management
IT:	Information Technology
LM:	Logistics Management
RFID:	Radio Frequency Identification
SC:	Supply Chain
SM:	Supply Management
SSP:	Supplier Service Policy
SPSS:	Statistical Package for Social Sciences
TM:	Transport Management
WEF:	World Economic Forum
WM:	Warehouse Management
WMS:	Warehouse Management System

Symbol

N = Amount of the peoples

X = Mean

S.D. = Standard deviation

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Abstract

Logistics is a vital area of management within most firms, whether they are manufacturing or service firms. Logistics is important because it creates value-value for customers and suppliers of the firm, and value for the firm's stakeholders. The purpose of this study was to assess Practices and Challenges of Logistics Management in Commercial Bank of Ethiopia Addis Ababa. This research conceptualizes and develops six dimensions of LM practice (Inventory Management, Supply Management, Warehouse Management, Transportation Management, Customer Response and Information Flow Management). The study employed descriptive design and both qualitative and quantitative approach were used. Data for the study was collected using a self-administered questionnaire procedure, where the questionnaires were administered to the selected respondents through drop and pick later technique. A sample size of 138 respondents was drawn from the sample frame using simple stratified random sampling technique to promote the needs for efficiency and representativeness from various departments. Data was analyzed by aid of Statistical Package for Social Sciences (SPSS) version 20. The study will be useful in the academic circles as it will contribute immensely towards filling the gaps in knowledge in the area of service industry particularly in banking as well it can be used as a base for future study. The study found that logistics management was not practiced effectively in Commercial Bank of Ethiopia. It also found that poor exchange of information, lack of integrated system, inadequate education or sensitization program are some of the major challenges. The study recommends that high degree of collaboration between various departments of the bank and deployment of logistics infrastructure and technology as an enabler. Also it recommends that CBE should be encouraged to adopt excellent human resource management.

Key words: Logistics, Logistics management, Challenges, Firm infrastructure, Technology, Human Resource Management (HRM), Internal customers

CHAPTER ONE

INTRODUCTION

Logistics management is one of the significant aspects of the success of the banking organizations because it creates value-value for customers and suppliers of the firm, and value for the firm's stakeholders. Logistics is also an engine that drives operation towards successful achievement of goals. This study seeks to assess logistics management practices and its challenges in Commercial Bank of Ethiopia.

This chapter indicated the general overview on the concept of logistics management, brief introduction of CBE along with the challenges it face, statement of a problem, the research questions, research objectives. The chapter also discussed the significance, limitation and organization of study.

1.1. Background of the Study

The quest of modern business organization for competitive advantage, greater share of the market and of course maximization of profits has made businesses to adopt innovative ways of doing businesses. Many businesses have come to the realization that to become competitive and also to maintain a competitive edge in the current business environment they need to find processes and management methods that enable the development of a more efficient organization with better results.

Now day's businesses focus on value addition as their way of doing business than any other thing else. This paradigm has given birth to other aspects of their operations and has been the subject of many studies, which focused their analysis on determination of the different effects and the importance of each for companies' competitive success (Stock et al., 2000; Bañón and Sanchez, 2002 and Norek et al., 2007). Further a study carried out in USA by Joint Research Initiative of Centre for Advanced Purchasing Studies, and Kearnly (1998) revealed; many

organizations are now placing emphasis on value chain and logistics management and this trend is likely to continue well into the future.

The commonality of the recent definitions in logistics is that, it is a process of moving and handling goods and materials, from the beginning to the end of the production, sale process and waste disposal, to satisfy customers and add business competitiveness (Tseng, Yue, & Taylor, 2005). It is the process of anticipating customer needs and wants; acquiring the capital, materials, people, technologies, and information necessary to meet those needs and wants; optimizing the goods or service-providing network to fulfill customer requests; and utilizing the network to fulfill customer requests in a timely way (Tseng, et*.al,* 2005). Simply, logistics is customer-oriented operation management and it involves the delivery of products or services for the client with assured quality and quantity.

The goal of logistics management is to optimize the number, size, and geographical arrangement of plant and warehouse facilities, select transportation methods, and control distribution costs (Mentzer, Soonhong & Bobbitt, 2004). Consequently, logistics management had done an excellent job of managing and moving inventory and the operational aspects of logistics (Mentzer, Flint, & Kent, 2004). For logistics to achieve its objective the art of management comes in hand.

In many ways the manufacturing industry goals and those of the services industry are similar, improve profit and customer satisfaction through better methods and processes, either by machine based or human processes (Barlow, 1997). As a result banks can subscribe to the logistics management concepts in order to achieve benefits the firms in manufacturing have exploited.

However, the study done by Fekadu *et. al*. (2013) revealed that, apart from the inefficiency of public infrastructures, Ethiopian logistics system in general is characterized by poor logistics management system and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number and age, damage and quality deterioration of goods while handling, transporting and in storage. The extent to which

the organizations continue to face problems in relation to logistics management depends on its level of awareness and acceptance of its importance.

Banking operations by their nature are designed to satisfy clients demand for security of deposits, access to funds, payment facilities and information. Efficient delivery of these services relies on assemblage of various facilities, personnel mobilization and technology acquisition all of which require coordination in order to ensure process synthesis in service offering, (Drury and Tayles, 2006). Banks logistic planning design influences its technical efficiency, resource availability for its operational needs and cost of doing business in its branches. Elements of logistics are remarkably expensive, if not controlled effectively. Holding stock or inventory in warehouses just in case it is needed is a highly costly activity. The stock itself is expensive and could become obsolete. Warehouses generally are expensive to build, operate and maintain. Vehicles to transport goods and personnel are expensive, in terms of both capital and running costs. There is thus a cost imperative to making sure that logistics is carried out effectively and efficiently, through the most appropriate allocation of resources along the supply chain.

Although there have been several research in the area of logistics management practices, little studies have been done to view it in the banking sector especially in Ethiopia. However, considering the issue of inventory, supply, warehouse, transport, internal customer responses and information flow management practices, there is the need for a focal study in this area as they are most often positively correlated to competitive advantage. Logistics management plays an important role of adding competitive advantage to a firm in customer support and business excellence (Buyukozkan, *et al.*, 2008).

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

1.2. Background of the Organization

The Ethiopian Monetary and Banking law that came in to force in1963 separated the function of commercial and central banking creating National Bank of Ethiopia and give birth to Commercial Bank of Ethiopia (CBE). CBE started operation on January 1, 1964 with a capital of Eth. Birr 20 million. Currently, CBE has more than 32,000 permanent employees, mobilizes 347 billion Br deposits, 1,186 branches and has more than 15 million customers throughout the country (3rdQuarter report, 2016/17).

CBE is structured on a system whereby a set of branches operate through a network. In recent year CBE implemented the core banking system which is characterized by increased application of computer for customer services such as withdrawal from any branch, self-service tellers ATMs for cash, electronic banking, and other real-time capabilities. However some operations are referred to the districts and head offices for final decisions. This arrangement creates a system of referral and facilities requisitions between the branches and head office. While such system is designed to afford efficient remittances of facilities and prevents duplication of efforts; without a carefully designed workable logistics management, the operational cost involved is likely to be sub-optimal and also a delay in decisions will deteriorate the customer service level.

The 2015/2016-2019/20 strategic plan, through proper implementation, is viewed as an instrument that gives and guides the organization in achieving its vision by 2025. According to this plan operational excellence is one of the strategic themes which encompass bringing about four critical levers: Client Excellence, Efficient and Effective Processes, a Streamlined Organization and Strong Underlying Capabilities. Logistics contributed significantly to efficient management of organizations (Lysons et al, 2000). Further according to Nansi (2001), no marketing, manufacturing or project execution can succeed without logistics support. For companies, ten to thirty five percent (10% to 35%) of gross sales are logistics cost. This means efficient logistics management leads to cost reduction. Even though, organizations particularly in the developing economies are known for making detailed planning for the management of financial, personnel and technology resources among others, the logistic aspects of other activities are left to the vagaries of circumstances.

The organization seeks in achieving and delivering services and ensuring proper implementation of the LM practices available to achieve its strategic plans. Therefore, the researcher has, thus, been

inspired to conduct a study on the practice and challenges of logistics management in CBE AA and forward possible recommendations that would enable the company to be competitive and meet it's vision.

1.3. Statement of the Problem

The need to carry out this study was motivated by the following factors:-

According to World Economic Forum (WEF), 2015, Ethiopian financial market development is one of the least developed in the world. At this time, almost all of our banks are in a fierce struggle in a few areas of banking operations. These areas include export financing, remittance inflow, and technological access. The logistics functions in many of these banks are perceived merely as isolated acts concerned mainly with the movement of physical items from the point of conception to the point of consumption rather than all-embracing acts of articulated planning and coordination associated with delivery of services to clients.

The peculiarity of banks operations as service businesses emphasizes staff emolument, and administration cost such as maintenance, rent, travelling and branch networking as preponderant. In addition, CBE's rising branch network and starting to provide different services to customers like ATM service and collection of cash from prominent customer's premises pressurized the demand on efficient logistics.

Apart from other resources, CBE handle for its routine activities the supply chain of its cash resources either in transit or in situ (sorting) operations all of which are influenced by the efficiency of its logistics management. Generally overhead costs associated with resource movement from the sources of their areas/destinations of needs will have effects on a firm's 'bottom-line'. According to researcher observation, the extent of such influence will depend largely on the effectiveness of the organization's logistics management. Logistics management provides cost advantages to organizations that make use of logistics services (Christopher, 2005).

The efficient operation of any organization demands a planned flow of materials to service its activities. Banking operation is no exception because without enough stock, services will come to a halt. CBE is a service rendering financial institution; with more than 1186 branches and

various departments and one that keeps stock to facilitate operations. This has made it necessary for the bank to buy and store various supplies to be able to serve the clients. From the interview made by the researcher with department heads however revealed that, the bank faced problems in relation to stock management; these are shortages of items, the holding of excessive stock, large amount of obsolete stock and stock losses. To ensure availability of supplies at the right time and at their right quantity one can think of how to control inventory. The resources are limited and hence the need to find the possible and effective ways of reducing cost of purchase and the cost of holding inventory in the bank.

Warehouses play a vital role to establish smooth and efficient logistics operations. Warehousing management is essential for the organization; however there are problems that occur for efficient and effective warehouse management from organization to organization. A proper warehousing management system is guaranty for organization assets to safeguard from different wastage like improper use of inventory, deterioration, fire accident, natural affects e.t.c.

Information sharing on forecast demand of products that have high demand variability is significant in assist reduces stock out and over-stocking related costs. Effective inter-organizational communication could be characterized by frequent, genuine and involving personal contacts between buying and selling personnel. And also as a major problem there is information flow gap between transporters, the company and warehouse staffs (Andrew C.M *et.al*, 2001).

Little focus has been opted to address the major logistics practices in banking organization and this indicates that are of little assistance towards providing an effective solution to embracing an effective performance of logistics in the banking sector. Application of effective logistics practices that increase performances of banking organizations remain core critical issue that should be dealt with, this will provide appropriate recommendations on challenges facing the implementations of logistics management practices.

This study therefore intended to answer some questions related to the extent of practical implementation and challenges of logistics management practices by empirically examining how inventory management, supply management, transport management, warehouse management,

customer response and information flow management are implemented in Commercial Bank of Ethiopia.

In general, to benefit from the operational objectives of efficient logistics management which includes rapid response, minimum variance, minimum inventory, movement consolidation, quality etc. as well as to enable the development of more efficient organization with better results, assessment of logistics management practices should be done. Analyzing and assessing logistics and supply chain practices will help discern important issues such as emerging trends and areas of concern which will help in taking remedial measures (Srivastava, 2006 as cited in Fekadu, 2013).The reasons mentioned provide strong basis for conducting this study.

1.4. Research Questions

The primary aim of this study is to: assess the logistics management practice and challenges of CBE in Addis Ababa, propose to implement best practices of logistics management and more specifically tries to answer the following basic research questions.

i. To what extent inventory management is practiced in CBE?
ii. To what extent procurement management is practiced in CBE?
iii. To what extent transport management is practiced in CBE?
iv. To what extent warehouse management is practiced in CBE?
v. To what extent customer response management is practiced in CBE?
vi. To what extent information flow management is practiced in CBE?
vii. What are the challenges related to logistics management facing CBE?

1.5. Objective of the Study

1.5.1 General Objective of the Study

To assess logistics management practices and it's challenges in Commercial Bank of Ethiopia AA area.

1.5.2 Specific Objectives of the Study

i. To analyze the practice of bank's inventory management
ii. To pinpoint the practice of bank's supply management
iii. To analyze the practice of bank's warehouse management
iv. To examine the practice of bank's transportation management
v. To find out the practice of bank's customer response
vi. To analyze the practice of bank's information flow management
vii. To identify the most critical challenges of logistics in CBE

1.6. Scope of the Study

The primary goal of the study is to assess internal logistics management practices and challenges in CBE AA along the six major dimensions of logistics management, namely inventory management, Supply, warehouse management, transportation management, customer response, and information flow management. The reason for focusing on the first five dimensions of logistics management practices has been derived from the consensus of scholars on their majority. Finally a study of the six's dimension, information flow management, is essential as logistics management is supported by enormous information flow. Information is a driver whose importance has grown as organizations have used it to become both more efficient and more responsive. It is the factual component that provides organization needed to make optimal decisions and on which decisions about each of the other dimensions are based.

Data were gathered from management and staff of the CBE with specific focus on those employees in the facility management process. This study focuses on current logistics management practices which are structurally organized under facility management process.

1.7. Limitation of the Study

One of the limitations of this study is, as with previous logistics management practices studies, 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 CBE's facility management process in AA. This was as a result of limited time the researcher had and

inadequacy of funds also made the researcher cannot conduct a more expanded research. A longer time and enough resources would have helped to unearth more findings especially with inclusion of various districts.

The findings from this study cannot be generalized for CBE as a whole and for other firms. All participants responded within a particular time frame and only given a single opportunity to respond. Therefore, it cannot be reliably established whether such data would hold true over time. However, a pilot study was administered in order to test for feasibility, validity and reliability of the research instruments.

1.8. Significance of the Study

This study will be used as a base for future study in the area of logistics management in relation to banking sector, particularly in Ethiopia. In addition, since inefficient logistics management practices have the potential of impacting negatively on customer satisfaction and cost of doing business which in effect could spell dire consequences it will be very useful for managers to comprehend the significance and role of logistics management practices in the banking sector. In particular the dimensions and their constituent items offer a significant insight into the current logistics management practices and their challenges in CBE AA. It also give a clue the area that need improvement so that CBE will enable to fully take advantage of benefits that efficient logistics management practices concept can offer for it's success.

1.9. Organization of the Study

The main sections of the study are arranged as follows:

Chapter one provides a general introduction to the topic of the study-"Practice and Challenges of Logistics Management the case of Commercial Bank of Ethiopia Addis Ababa". This chapter gives background to the study, followed by the statement of the problem of the study; research questions, objective, scope, significance, as well as the limitations of the study are discussed in this chapter.

Chapter two reviews the existing literature on the topic of the study. The theoretical framework considered the existing literature on the definition of logistics, importance of logistics, major dimensions of logistics management, and logistics challenges. The empirical framework reviewed actual research works that have been done in similar research topics. The conceptual framework is a schematic model used to create a vivid pictorial impression of what the research seeks to achieve and how it is conducted.

Chapter three presents the research methodology. It discusses the research approach, research design, population of the study, the sample frame, sample size and sampling procedure, pilot test, instruments used as well as data collection procedure. The method of data analysis is also discussed in this chapter.

In chapter four data collected is analyzed by using statistical and other data analysis tools. The findings of the research are also presented and discussed in this chapter.

In chapter five conclusion and recommendations are made based on the findings of the study and suggestion for future study also made.

1.10. Definition of Terms

Practices

This is a conventional, traditional, or otherwise standardized method employed to achieve the desired objective.

Challenge

Macmillan dictionary defines “challenge” as something that needs a lot of skill, energy, and determination to deal with or achieve. Whereas Cambridge dictionary defines it as (the situation of being faced with) something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability.

Firm Infrastructure

Firm infrastructure includes general management, planning management, legal, finance, accounting, public affairs, quality management, etc,

Human Resource

The activities associated with recruiting, development (education), retention and compensation of employees and managers.

Technology

Technology Development includes technology development to support the value chain activities such as Research and Development, Process automation, design, and redesign.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.0. Introduction

Logistics management had received much attention over the past decade from practitioners and government (Tilokavichai, *et al*., 2012). Realizing the importance of sustainability in logistics management was critical for competitive advantage because operational performance had a positive impact on company‘s financial performance (Tilokavichai, *et al.,* 2012). Since logistics management consisted of many activities including customer service, orders processing, inventory management, transportation, storage, packaging, demand and forecasting, production planning, purchasing and procurement, facility location, and distribution that were supported by enormous information flow every organization wanted to impress the efficiency on its practices.

2.1. Definition of Logistics

Logistics is an interdisciplinary field relying on other sciences such as economics, mathematics, applied economics, organizational theory and engineering sciences (Klaus, 2009). The researcher further revealed that, besides this interdisciplinary aspect, research in this area is aggravated by the co-existence of different, overlapping definitions of the concept of logistics. Logistics can be examined as:

- ✓ a service comprising transportation, warehousing, packaging, cargo handling, forwarding and related activities, which influences essentially the spatial and time dimensions of consumer value;
- ✓ a process or subsystem within the company (its three main stages being procurement, production and distribution logistics) or transgressing its limits, related to the flow of goods;
- ✓ a management activity or corporate co-ordination function.

Christopher (2010), defined logistics as the information and material flows throughout an organization. He further noted that it is the process of strategically managing the parts and finished inventory (and related information flow) through the organization at cost effective fulfillment of orders. **A**ccording to CSCMP (2007), logistics management is that part which implements, and controls the efficient, effective forward and reverses flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements.

Stevenson (2009) defined logistics as the part of a supply chain involved with the forward and reverse flow of goods, services, cash, and information. He included the managing of all transportation material handling, warehouse inventory, order processing and distribution, third-party logistics, and reverse logistics in logistics activities (Stevenson, 2009). Logistics encompasses all of the information and material flows throughout an organization. It includes everything from the movement of a product or from a service that needs to be rendered, through to the management of incoming raw materials, production, the storing of finished goods, its delivery to the customer and after-sales service (Ittmenn& King, 2010).

2.2. Importance of Business Logistics

Logistics is increasingly playing an important role in everyday business, and becoming a major factor of differentiation in the market, as referred to by Bowersox et al. (2002) and Gunaseakaran and Ngail (2003). In the current competitive climate there is strong pressure, on one hand, to operate in product and service differentiation, and on other hand, operate on the price factor allowing its reduction. As Melnyk et al. (2009) mention, logistics can manage these aspects, constituting a strategic or value-creation tool.

Logistics have facilitated a couple of activities in the past and still doing so today. Many production firms and the service sector have relied on logistics for their operational activities in order to attain their business or operational targets. The story is not different for many firms and businesses today since logistics is still a necessary ingredient in the production and provision of services (Christopher, 2005). Logistics is a means of tactically managing the buying, handling and issuing of supplies to the places where they are required.

When logistics management activities are better carried out, it leads to value addition and cost minimization. For many firms, a combination of value and cost advantages will enable them, emerge winners in present day keen competition. Thus logistics management practices which relate to areas such as transportation management and inventory management when effectively managed may lead to a higher revenue flow, cost structure improvements, and reduction in transportation costs.

The significance of logistics management had evolved from a more passive and cost minimization oriented activity to a key success factor for firm competitiveness (Spillin, Mcginnis& Liu, 2013). There was therefore an emerging consensus about the need for companies to handle logistics issues together with economic and business issues (Tuttle & Heap, 2008). It was therefore clear that logistics management played a big role in any economy and it is a critical contributor to the competitiveness of a country as well as organizations.

Logistics is important because it creates value-value for customers and suppliers of the firm, and value for the firm's stakeholders. Value in logistics is expressed in terms of time and place. Products and services have little or no value unless they are in the possession of customers when (time) and where (place) they wish to consume them. To many firms throughout the world, logistics has become an increasingly important value-adding process for a number of reasons.

Lysons et.al (2000), highlights some important logistics concepts which contributed significantly to efficient management of organizations. For instance, total system management, trade-offs, and cooperative planning. Thus, logistics in intra-organizational and inter-organizational functions is a prominent activity in companies, since it plays an important role in supply management, both internally and externally.

According to Nansi (2001), no marketing, manufacturing or project execution can succeed without logistics support. For companies, ten to thirty five percent (10% to 35%) of gross sales are logistics cost. This means, efficient logistics management leads to cost reduction. Christopher (2005), logistics and supply chain management can provide a multitude of ways to increase efficiency and productivity and hence contribute significantly to reduced unit cost.

A paper presented at a symposium of European commission, 1997, identified the importance of logistics in achieving quality production and distribution of goods and services. The paper mentioned that logistics management ensures better services, better customer orientation, guaranteeing quality in design and production of goods and environmental quality standards; Word Press (2008).In addition, the importance of logistics in purchasing and product development, manufacturing and assembling, warehousing inventory, transport and delivery cannot go unmentioned.

In general logistics is important for the following reasons:

Costs are Significant

According to the International Monetary Fund, logistics costs average about 12 percent of the world's gross domestic product. Depending on the particular industry, logistics costs may range from 4 percent of sales (pharmaceuticals) to over 30 percent of sales (food and food products). It has been noted that for many firms, after the cost of goods sold, logistics represents the highest cost of doing business.

The economic forces of change are further acting to alter logistics cost relationships and force careful re-planning of logistics systems around the world. Trade barriers are falling as free trade is encouraged in countries that previously had strictly managed economies. Tariffs are being eliminated to allow the free flow of goods across political boundaries, giving firms the opportunity to reposition their logistics networks for lower costs and higher customer service. Finally, the world economies seem to be on a wave of economic deregulation that will heighten competition. Since transportation is frequently a target for deregulation, logistics system costs will be affected.

Logistics is important to strategy

Firms spend a great deal of time finding ways to differentiate their product offerings from those of their competitors. When management recognizes that logistics impacts on a significant portion

of a firm's costs and that the result of decisions made about the supply chain yields different levels of customer service, it is in a position to use this information effectively to penetrate new markets, increase market share, and increase profits.

Logistics is a key to customer service

Research over the years has shown that logistics variables are dominant in the minds of customers when they evaluate the service offerings for a product; see Sterling& Lambert (1989), Harrington& Lambert (1989), Lalonde & Zinszer (1976), Marr (1994), Baritz & Zissman (1983), Jackson *et al.* (1986). Frequently, one-half of the customer service variables are logistics related and delivery time typically ranks the highest among all service variables. Since customers respond to a company's service offerings with their patronage, revenues are frequently determined by logistics variables.

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

2.3. Components of Logistics Management Practices:

Frazelle (2002) and Kent (2001) states that logistics has comprised of five interdependent activities; these are inventory management, supply, transportation, customer response, and warehousing. Whereas, Bower (2005), identifies four major components of logistics; information management, inventory control, warehousing and transportation. Due to the enormity of logistics operations, not all aspects were being covered in this research, but rather those major logistics activities are selected. This research analyzed both physical activities and non-physical activities that were Inventory management, Supply, transportation, Warehousing, Customer response and information flow management. This is because, since CBE as service organization is particularly concerned with logistic management of its billion (currency) stocks, information technology and inventory management of its stationery and equipment as well as transportation of its personnel and other facilities.

2.3.1. Inventory Management

Inventory is an idle stock of physical goods that contain economic value, and are held in various forms by an organization in its custody awaiting packing, processing, transformation, use or sale in a future point of time. Stevenson (2009) defined an inventory as a stock or store of goods. It was also considered as stocks of anything necessary to do business (Mangarulkar, *et al.,* 2012)

Inventory management is the process of consistently having the optimal amount of row materials for transformation and finished products available in order to deliver them rapidly to meet a customer‘s inventory requirement in a competitive manner (Bowersox, *et al*., 2010).

Any organization which is into production, trading, sale and services of a product will necessarily hold stock of various physical resources to aid in future consumption and sale. Stevenson (2009) referred to inventories as a vital part of business, as they were necessary for operations and also contributed to customer satisfaction. Inventory is the common thread that ties all the functions and departments of the organization together. While inventory is a necessary evil of any such business, it may be noted that the organizations hold inventories for various reasons, which include speculative purposes, functional purposes, physical necessities etc.

Inventory has to be monitored where ever it is held (Ballard, 1996).Mangarulkar et al. (2012) also stated that, stocks must be well managed in order to maximize profits. Inventory control is the supervision of the storage, supply and accessibility of items to ensure an adequate supply without excessive oversupply (Miller, 2010). It relates to policies and operating procedures designed to optimize the organization’s use of inventory. The decision making factors in inventory control are cost of holding stock, cost of placing an order and cost of shortage. With adequate data on these three variables available, businesses can know to what extent they can hold inventory to avoid mark downs and losses. Clearly inventory management is important to business and vital to logistics success (Laird, 2012).

Most organizations have some type of inventory planning and control system. An inventory system is the set of policy that controls and monitors inventory level and determine what level

should be maintained, how large orders should be made and when stock should be replenished. All inventory management techniques shows that carrying unnecessary stock of goods and materials adds to the operational cost of the organization and therefore reduces its profitability. Therefore, the solution to reducing overall cost of holding inventory lies with adopting the use of efficient procedures to manage and control physical inventory of goods. Thus, organizations must invest thoroughly in ensuring that the right stock is available when and where it is needed.

The inventory management problem becomes more complicated when some kind of demand forecast is included in the decision making process. The problem is sometimes referred to as the combined inventory management and forecasting problem (Kurawarwala and Matsuo, 1996; Davies, 1993). One widely used approach in determining and meeting requirements for parts and products is material requirements planning (MRP). Frazelle (2002) also describes world-class practice in inventory deployment as optimal inventory positioning, dynamic redeployment, postponement, and Materials requirements planning (MRP).

Material Requirement Planning (MRP)

Ballou(1999), defined material requirement planning as a mechanical method of supply scheduling where the timing of purchase or of production output is synchronizing to meet period by period operations requirement. It tries to manage inventory by avoiding unnecessary inventory, and place more emphasis on only needed stock (Stock and Lambert, 2001).

Lysons and Gillingham (2003), defined material requirement planning as a product- oriented computerized technique aimed at minimizing inventory and maintaining delivery schedules. It relates the dependent requirements for the materials and components comprising an end product to time periods known as ‘buckets’ over a planned horizon (typically one year) on the basis of forecasts provided by marketing and sales and other input information. Coyle et al. (2003), explained material requirement planning as a set of logically related procedures, decision rules, and records designed to translate a master production schedule into time-phased net inventory requirements for each component item needed to implement this schedule. Often, it is stated that MRP is best suited for items with dependent demand, i.e. in situations where no item-specific

demand forecasting is needed. However, the approach can also be used with independent demand items.

Lysons and Gillingham (2003), outlined the aims of material requirement planning as follows:

i. To synchronize ordering and delivery of materials and components with production requirements.
ii. To achieve planned and controlled inventories and ensure that required items are available at the time of usage or not much earlier.
iii. To promote planning between the purchaser and the supplier to the advantage of each.
iv. To enable rapid action to be taken to overcome material or component shortage due to emergencies, late delivery and so on.

Coyle et al. (2003) also explained the goals of material requirements planning as follows:
Ensure the availability of materials, components and products for planned production and for customer delivery.

i. Maintain the lowest possible inventory level.
ii. Plan manufacturing activities delivery schedule, and purchasing activities.

In doing so, the material requirement planning system considers current and planned quantities of parts and inventory products, as well as the time used for planning.

Františekněmec (2003), on his study found that with the increasing emphasis and interest in logistics and supply chain management, continuous replenishment and just in-time programs, good inventory information is mandatory, not optional, for success in today's competitive markets. Effective inventory management is one of the key factors for success. According to Oballah et al. (2015), inventory investment and inventory records accuracy have a positive influence on organization. Also, Anichebe and Agu (2013) in their study concluded that there is significant relationship between good inventory management and organizational effectiveness. Problems are likely to rise when inventory is not tracked properly, inefficiency and additional costs mount; supplies get lost, shrinkage can go unchecked, stock-outs occur, critical equipment

locations are uncertain, and on-hand inventory can balloon unnecessarily. All of this leads to inefficiency and additional costs.

2.3.2. Supply Management

Purchasing, supply management, and procurement are used interchangeably to refer to the integration of related functions to provide effective and efficient materials and services to the organization.

Companies are depending, on some level, on materials, products and services provided by other companies. Banking organizations procure various items within different categories of the requirements which include; stationery, printing services, cleaning materials, consultancy services, legal services, security services, computer accessories, vehicles and machinery, ATM, soft wares, insurance services amongst others.

The primary objective of procurement is to provide companies with the materials and services needed in order to keep the efficiency of their operations at high level. Procurement is the business management function that ensures identification, sourcing, access and management of the external resources that an organization needs or may need to fulfill its strategic objectives. The uncertainty factors, such as fluctuations of availability and price of the materials, have increased the importance of procurement, (Dobler and Burt, 2000).

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

Appropriate and accurately managed procurement process, helps to keep the inventory and loss at minimum level and to obtain the materials and services needed at lowest price possible and

with the quality that fulfill the company's requirements. One of the most important objectives of procurement is to find and develop a competent collaboration with the suppliers. Properly managed procurement can improve company's competitive position in the market (Lambert and Stock, 2001). Many factors should be considered before establishing a contract with a supplier. A company should evaluate how well the supplier can adjust to their requirements, for instance, in terms of lead time, price and quality. Also the supplier should be evaluated carefully in terms of its experience, reputation and reliability, (Lambert and Stock 2001).

In recent times the majority of companies place their orders using electronic interfaces instead of the traditional way to place orders by phone and fix machines or even in some cases by post. Electronically placed orders enable faster and more accuracy transitions and entries of orders, which on the other hand enable to reduce inventories, without decreasing the level of customer service. Customers can also benefit from these prompt order entries, in the form of reduced order cycle times and reduced inventories (Lambert & Stock 2001). In comparison to manually managed order systems, electronically managed order processes save time and reduce risk of human errors (Lambert & Stock, 2001).

Procurement practices are used to support operational needs of the company by focusing on how purchasing is done, how the product is received from suppliers, building relationships with vendors and managing the procurement process by identifying opportunities and managing internal operations (Fantazy, Kumar, & Kumar, 2010). The role of procurement moved far beyond the traditional belief i.e. its primary role is to obtain goods and services in response to internal needs. Rather purchasing beyond supporting operational requirements, it helps to develop strong relationships with other functional groups, manage the procurement process and the supply base efficiently and effectively, and support organizational goals and objectives.

Effective purchasing strategies involve:

- Monitoring supply markets and trends (e.g., material price increases, shortages, changes in suppliers) and interpreting the impact of these trends on company strategies
- Identifying the critical materials and services required to support company strategies in key performance areas, particularly during new product development

- Developing supply options and contingency plans that support company plans
- Supporting the organization's need for a diverse and globally competitive supply base

2.3.3. Transportation Management

Empirical research showed that the key element in a logistics chain was transportation management, which joined the separated activities (Tseng, *at el.,* 2005) and it influenced the performance of logistics system hugely (Tseng, *at el.,* 2005). Transportation is defined as the activities involved in shipping any goods or finished products from suppliers to a facility or to warehouses and sales locations (Kenyon and Meixell, 2010).Transportation, major component of logistics, plays a key role because without the efficient movement of finished goods and raw materials the entire system would not be able to work at its full potential (Randall et al., 2010).

The goal for any business owner is to minimize transportation costs while also meeting demand. As Frazelle (2002) states, the objective of transportation as to link all pick-up and delivery-points within the response time requirements of the customer service policy and the limitations of the transportation infrastructure at the lowest possible cost. Transportation costs generally depend upon the distance between the source and the destination, the means of transportation chosen, and the size and quantity of the product to be shipped. In many cases, there are several sources and many destinations for the same product, which adds a significant level of complexity to the problem of minimizing transportation costs (Lambert, 2004). On the other hand, Tyndall and colleagues (1998) argues that the most significant advances in modern logistics practices have not been in cost reduction, but in improved processes to move goods and material between nations in a timely and seamless manner. Nevertheless, in designing a logistical system, a delicate balance had to be maintained between transportation cost and service quality. In some circumstances low-cost, slow transportation was satisfactory. In other situations, faster service was essential to achieving operating goals. Finding and managing the desired transportation mix across the supply chain was a primary responsibility of logistics management.

Nowadays, most of the companies outsource their transportation duties, using third parties' services that specialize especially in this line of business. Many logisticians claim that it is cheaper and more effective to give into the hands of transportation companies that have more

experience than holding own transportation fleet. Whereas, some companies use their own transportation vans to deliver goods, and this is a sign of good logistics management practices (Hoske, 2009).

Without well-developed transportation systems, logistics could not bring its advantages into full play. A good transport system in logistics activities could provide better logistics efficiency, reduce operation cost, and promote service quality. Hence, logistics managers must comprehend transport system operation thoroughly. According to (Taylor 2005), transportation occupies one-third of the amount of logistics costs, so it influences the performance of logistics systems hugely. Thus, an important part of business competitiveness is in the correct design and implementation of transport strategies, with greater or less impact, depending on the type of business.

The study by Bemnet (2004) on Ethiopian transport system explored that, transport costs are very high in Ethiopia. According to the World Bank Report (1991) efficiently organized flows of goods and information are only possible if there is a well-developed transport and communication infrastructure. The report also described that in sub-Saharan African countries, this infrastructure is poorly managed and maintained.

2.3.4. Warehouse Management

The business dictionary defines warehousing as the performance of administrative and physical functions associated with storage of goods and materials. These include receipt, identification, inspection, verification, putting away, retrieval for issue, dispatching, inventory management etc. According to Bartholdi JJ and Hackman ST (2006), warehouse is a facility in the supply chain to consolidate products to reduce transportation cost, achieve economies of scale in manufacturing or in purchasing. It 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. Warehouse creates time utility by bridging the time gap between production and consumption of goods.

According to Lambert et al. (1998) warehouse contribute to a multitude of the company's missions, like; achieving transportation economies (e.g. combine shipment, full-container load), achieving production economies (e.g. make-to-stock production policy),taking advantage of quality purchase discounts and forward buys, supporting the firm's customer service policies, meeting changing market conditions and uncertainties (e.g. seasonality, demand fluctuations, competition), overcoming the time and space differences that exist between producers and customers, providing temporary storage of material to be disposed or recycled (i.e. reverse logistics).

One of the objectives of warehousing is maximizing the utilization of resources within the warehouse. Warehouse layout is also important in achieving greater efficiencies. Caron et al, (2000), find that the warehouse layout has a considerable effect on order picking travel distance. The more expanded concept of warehousing is, inventory control aimed to maximize profits while providing good customer service (Tompkins & Smith, 1998). The objective of present warehouse management is to efficiently and effectively organize the processes in a warehouse (Faber, 2013), i.e. it encompasses both the objectives of inventory control and warehousing.

Warehousing, being an essential component of logistics, is a key aspect of modern supply chains and plays a critical role in the success or failure of businesses today (Frazelle, 2002). In a broader context, a company's warehouse operations can influence the firm's corporate performance in manners such as logistics costs, customer service and business alignment (Van Den Berg, 2012).

Several sources imply that keeping good control over a corporation's warehouse(s) is of great importance. Warehousing is costly in terms of human resources and of the facilities and equipment's required, and its performance will affect directly on overall supply chain performance. Inadequate design or managing of warehouse systems will jeopardize the achievement of required customer service levels and the maintenance of stock integrity, and result in unnecessarily high costs. Warehouse operations that still use hard copy pick tickets find that it is not very efficient and prone to human errors.

In the present business world, all the warehouses are striving to attain an ideal warehouse in which every equipment is automated and integrated with the computer systems which minimize the effort put on to perform the operation and cuts down the cost for the operation. This will at the same time reduce the man power required to perform various operations in a warehouse. There are also Warehouse Management Systems in place to make the administrative function easier and most warehouses are fully automated to ease the burden on wage cost. For example, a study conducted by Belarmino and Fernando (1999) explored that high efficiencies are gained after implementing Radio Frequency Identification in warehouses, including a reduction in the number of movements, the number of errors, the stocktaking, less paperwork, and a more rapid invoicing.

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

2.3.5. Customer Response

Customer service is the final objective, the output of the logistics and therefore it is situated on the top of the logistics chain of activities. For logistics the customer is any delivery destination. That means that customers might be ordinary consumers or just company departments, branches and warehouses which appear to be customers of their suppliers. The need for effective exchange between internal suppliers and customers has been widely discussed in the literature. (Lings and Brooks 1998, Heskett et al, 1984, Magidson and Polcha1992, Azzolini and Shillaber 1993, Hart 1995, Brooks and Smith 1993, Brooks 1992, 1993,1995, and Davis 1992). Denton (1991) also implies that some internal suppliers will exist because of the internal services which they provide.

Great customer service (for the external customer) depends on excellent internal customer service. An internal customer is anyone in the organization who helps the organization serves the end customer. It is an integral part of the value chain. Many services organizations make the mistake of focusing the vast majority of their customer service and satisfaction activities on external issues often to the exclusion of key internal issues such as inventory management and logistics. However, these key internal issues can also play an important role in facilitating or hampering desired levels of customer service and satisfaction. When looking to support its customers, a service organization should focus not only externally, at its direct customer interface and interaction, but also internally, at its logistics activities as well.

According to Frazelle (2002), the logistics of customer response includes the practices of developing and maintaining a customer service policy, monitoring customer satisfaction, orders entry, order processing, and invoicing and collections. The role of customer service is to provide time and place utilities in the transfer of goods and services between the supplier and the consumer. In another form, the product has no value until it is in the hands of the consumer. Availability is a complex concept, influenced by many factors that together form the customer service. These factors include the frequency of the delivery and its safety, the stock level and the time interval the order is released (Adriana & Daniela 2010).

According to Adriana & Daniela (2010), customer service is the chain of sales activities and meeting customers' requirements which begins with receiving the orders and ends with the delivery of the products to customers, in some cases continuing to maintenance services. Within organizations, customer satisfaction ratings can have powerful effects. They focus employees on the importance of fulfilling customers' expectations. Furthermore, when these ratings dip, they warn of problems that can affect sales and profitability.

2.3.6. Information Flow Management

Information Flow is the sharing of information on transfer or exchange of information indicating the level and position of inventory, sales data, and forecasting information, information about the status of orders, production schedules and delivery capacity, and firm performance measures (Wardaya, *et al*, 2013).The saying that 'information is moved and not product is important in this

case. Information-enabled collaboration reduces costs across the chain while enhancing customer service and value. Effective inter-organizational communication could be characterized by frequent, genuine and involving personal contacts between buying and selling personnel (Krause & Ellram, 1997).Unfortunately, few companies have fully harnessed information's ability to enhance supply chain performance (Fawcett et al, 2007). Advances in information technology have changed modern business practice, making collaborative supply chain management possible (Chatfield et al, 2004). Information's competitive value is widely heralded it substitutes for inventory, speeds new product design, shortens order fulfillment cycles, drives process reengineering, and coordinates SC activities (Hult et al., 2004).

Information, known as the back bone of the logistics operation, plays a control role in exploring more effective and efficient logistics solutions. The tremendous growth of the importance of IT is a testimony to the impact information can have on improving an organization. As the importance of information grows, so does the importance of IT in gathering and analyzing those data to make a decision. ERP, EDIs', tracking devices, GPS, RFID, management systems, routing systems are all tools that allow for a smooth operation. However, the choice of IT system needs to make the trade-off between the cost of information (a reduction in efficiency) and the responsiveness that information creates in the supply chain (Chopra and Meindl, 2001).

The importance of information to logistical performance has historically not been highlighted. This neglect resulted from the lack of suitable technology to generate desired information. Management also lacked full appreciation and in-depth understanding of how fast and accurate communication could improve logistical performance. Both of these historical deficiencies have been eliminated. Current technology is capable of handling the most demanding information requirements. If desired, information can be obtained on a real-time basis. Managers are learning how to use such information technology to devise new and unique logistical solutions.

Information flow is a key element of logistics operations. Paper-based information flow increases both operating cost and decreases customer satisfaction. Electronic information movement and management provide the opportunity to reduce logistics expense through increased coordination and to enhance service by offering better information to customers.

2.4. Challenges of Logistics Management

Macmillan dictionary defines “challenge” as something that needs a lot of skill, energy, and determination to deal with or achieve. Whereas Cambridge dictionary defines it as (the situation of being faced with) something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability. Poor logistics planning and decision making can result in excessive expenditures, missed delivery deadlines, sub-optimized freight runs and damaged goods.

A study by McKinsey and Company (2011) highlighted unclear communication between logistics services providers and users lead to business interruption is one of the challenges. **T**he distinct shortage of logistics and supply chain expertise, including information system support capabilities, which have become hurdles to logistics and supply chain development (Long, 2003). According to Dolven 2002 and Kerr 2005, inadequate logistics infrastructure coupled with lack of skilled workers and management is blamed for the high level of loss, damage and deterioration of stocks experienced.

A number of studies have been conducted on the state of logistics management issues in less developed countries. Many of the less developed countries lack logistics facilities; the task of developing a good logistics system in these nations is quite challenging. For example, according to a study conducted by Goh and Pinaikul (2002), inefficient logistics information systems, acute transportation bottlenecks, climate changes, lack of modern logistics management techniques and expertise, high cost of acquiring and installing automated logistics equipment, and the current inefficiency of the logistics information systems are the factors that hinder logistics development in Thailand.

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

Management's resistance to change according to Razzaque (1997) has also been identified as one of the challenges to logistics development. There is no infusion of new ideas and no desire for new or innovative ways of doing things. Managers in less developed countries fail to understand and appreciate the role and importance of logistics as a distinct management function; consequently they are reluctant to support the establishment of such a department in their organizations. Moreover, people in logistics related occupations are perceived to be corrupt and dishonest, and this de-motivates qualified persons from pursuing a career in logistics or related fields.

ICT is increasingly regarded as a vital resource that supports many business processes (Alshawi 2001). In the logistics industry, ICT such as internet, extranet, ethernet, electronic data interchange (EDI), facilitates the integration of supply chain activities (Angeles 2000). These technologies range from tracking devices (RFID & EPCs), Transport Management Systems, EDIs, Point of Sales Systems, etc. Although these devices have great benefits, they still come with a great cost of acquisition.

The outcomes of the study done by Fekadu *et.al* (2013), revealed that the challenges on developing good logistics system in Ethiopia are multifaceted and include; poor logistics management system and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number and age, damage and quality deterioration of goods while handling, transporting and in storage.

Shaharuddin et al. (2014) classified the obstacles from 38 articles into two major groups: internal barriers and external barriers in logistics management. There are 13 internal barriers and 7 external barriers, suggesting that there are ample opportunities for logistics to improve their managements since internal barriers are generally under the direct control of the firm. Hence, firms should consider taking extra motivation to tackle internal issues to improve environmental efforts. The internal barriers are employee attitude, top management support, communication, resources, wrong perceptions, culture, strategic capabilities, financial, performance metrics, and uncertainty of results, technology, risk issues, and infrastructure. External barriers consist of economics, competitive pressure, regulations, technical information, institutional weaknesses, support and guidance, and market barriers.

These challenges are listed with different researchers but looking through our country and since Commercial Bank of Ethiopia is working in different sector it faces various challenges.

2.5. Research Gaps

Several studies have focused on LM practices but most have failed in their quest to provide enough information on the LM practice and challenges of banking organizations. As Richard (2008) states, no emphasis has been made by banks in the sector in managing and creating efficiency in logistics and supply chain management. This justifies the existence of LM flaws and problems in the banking sector inhibiting the achievement of competitive advantages and the set goals. It is against this backdrop that the study thus, by assessing the logistics management practices of CBE, strove to identify measures that should be taken to improve the practices of LM. This will provide appropriate recommendations on challenges facing the implementations of LM practices. While the present assessment has contributed to the understanding of these practices and challenges, further analysis in some areas like the impact of logistics on operational efficiency of banks is required to ensure the capacity needs of logistics addressed adequately.

2.6. Conceptual Framework of the Study

Conceptual frameworks can act like maps that give coherence to empirical inquiry. According to Botha (1999), conceptual frameworks are defined as "a type of intermediate theory that attempt to connect to all aspects of inquiry (e.g., problem definition, purpose, literature review, methodology, data collection and analysis)". A conceptual framework was constructed to inform the development of the survey instruments noted in previous chapters.

Logistics operations are enormous, i.e. all aspects of logistics management cannot be covered by a study. The boundaries of research on LM are, therefore, dependent on the researcher's goals and the problems at hand. In this study, the aim was to assess the logistics management practices and challenges of CBE with a focus on major logistics activities. This research analyzed both physical activities and non-physical activities. Logistics management practice in this framework is constructed in six dimensions. These are Inventory management, Supply, transportation, Warehousing, Customer response and Information flow management. The practices are used as a

framework to design the questions in the questionnaire for data collection. In addition, according to Porter (1995), success in fulfilling an organization's logistical mission depends on how it organizes and performs the activities of obtaining various supplies needed for its operations, the way how inventories are managed including storage, and transportation to the place where needed. This also entails, human resource development, providing the needed technology, improving the firm's infrastructure.

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

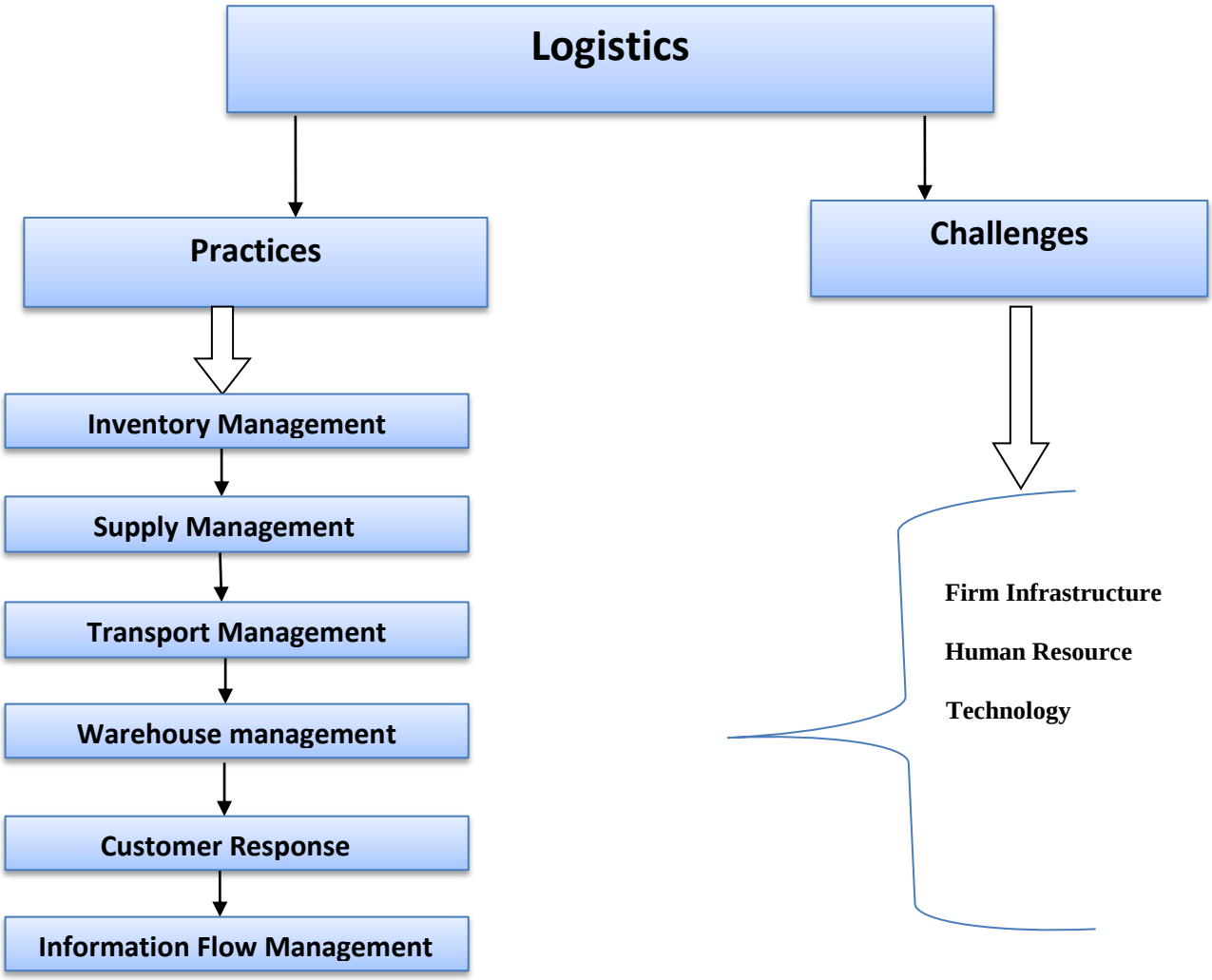

Figure: 2.1. Conceptual framework adopted from Frazelle (2002), Taylor (2005) & Bower (2005), Porter (1995)

2.7. Summary of the Chapter

This chapter reviewed literature on the research study with the initial section exploring the definition and importance of logistics management. This chapter also explores the empirical review of various authors, who have done a research on the logistics management practices, their challenges and contribution to organizations success. The conceptual framework is also dealt with in this chapter and it identifies the variables which are various independent variables such as inventory management, procurement management, warehouse management, transportation management, customer service and information flow management. The chapter also identifies the research gap the study seeks to fulfill. The next chapter deals with the research methodology and its related features.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0. Introduction

Research as defined by many authors (Bashir, Afzal & Azeem, 2008; Creswell, 2003; McMillan and Schumacher, 2006; and Best, 2006) is the systematic application of scientific method to the problem under consideration. Research methodology therefore presents the overall framework on how research results may be achieved through data collection and analysis.

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.

3.1. Research Approach

According to Silverman (2000), before conducting research it is important clearly to set out the research approach, as well as the related concepts, theories, methodologies and methods. 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 a number of things, such as research questions, research paradigms and methods. Most importantly, they have to serve the aims of the research. This research adopted a mixed Concurrent Embedded Strategy with big emphasis given to quantitative method (Creswell & Plano Clark, 2007).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 CBE with respect to the logistics aspects. A mixed methods design is useful when either the quantitative or qualitative approach by itself is inadequate to best understand a research problem as well as when the strengths of both quantitative and qualitative research can provide the best understanding (Creswell, 2007).

Quantitative method was used for data's collected through close ended questionnaire. According to Silverrman (2001), quantification gives greater confidence in the accuracy of conclusions derived from qualitative data; and it gives the reader a chance to think through the data on their own to cap on the researcher's findings. Qualitative method was employed to collect datum that can describe and support the information obtained through quantitative methods and challenges facing CBE in relation to logistics.

3.2. Research Design

A research design is a master plan that specifies the methods and procedures for collecting and analyzing the needed information and provides a framework or plan of action for the research (Zikmund, 2003). It is also defined as a general framework of how the researcher intends to go about answering the research questions. Saunders et al. (2007) and Cooper and Schindler (2006) assert that research design is a blueprint for collection, measurement and analysis of data.

According to Cooper and Schindler (2006) descriptive research design enables the researcher to narrate how various behaviors and events occur. It describes a phenomena occurring in a population without influencing the subjects been studied. Descriptive research is mainly done when a researcher wants to gain a better understanding of a topic. That is, analysis of the past as opposed to the future. Given the objectives- to obtain a comprehensive understanding of the current Logistics management practices and it's challenges as illustrated in chapter two under conceptual framework, this study therefore used descriptive research design.

3.3. Unit of Analysis

The unit of analysis for this study is the facility management process of CBE and units of observation is the employees identified in the target population of the study.

3.4. Population of the Study

According to Garson (2012), the population, also called the universe, is the set of people or entities to which findings are to be generalized and the population must be defined explicitly before a sample is taken.

The study population comprises of permanent employees of CBE that works in the facility management process, i.e 448 however the target population of the study only comprises those employees embraced in facility management process of the bank and that works in relation to logistics. Target population is defined as the entire aggregation of respondents that meet the designated set of criteria (Kothari, 2004). It is a set of all members of a real or hypothetical set of people, events or subjects to which a researcher wishes to generalize his/her results (Ngechu, 2004). The number of employees under each segment is presented in table 3.1.

3.5. Sampling Design

Sampling is a key component of any investigation and involves several considerations. The aim of most investigations is to obtain information about a population. A census or sample of the population is taken for analysis. The staff of CBE is quite large hence a sample was used for the study. The sampling design mainly describes the sampling frame, sampling techniques and sample size.

3.5.1 Sampling Frame

The sampling frame is a list of elements from which a sample may be drawn, also called working population (Zikmund, 2003). According to Garson (2012), the target population to which the researcher wishes to generalize is ideally the same us sampling frame. The sampling frame of the study is presented as shown below in Table 3.1.

Table.3.1. Target Population

S/N	Population	Target Population
1	Facility Management (Central)	24
2	Procurement Section	81
3	Warehouse Section	64
4	Transport Section	116
	Total	**285**

Source: CBE Facility Management Process.

3.5.2. Sampling Techniques

Both stratified random sampling and purposive sampling techniques were used to select respondents from the target population. Stratified sampling is a way of ensuring that particular strata or categories of individuals are represented in the sampling process (Fox, et al. 2009). Accordingly, the departments of the employees were taken as strata. For the random sampling techniques a random number table was employed to randomize the selection process. Whereas, purposive sampling technique was used to select staff and departmental personnel from those sections whose activities are related to logistics and those whose activities unrelated with logistics management are excluded from sampling frame such as, building construction, acquired asset management and archive. Purposeful sampling is used so that individuals are selected because they have experienced the central phenomenon (Creswell, 2007).

3.5.3. Sample size

Singh,et al. (2014) described that sampling is related with the selection of a subset of individuals from within a population to estimate the characteristics of whole population.

In addition to the purpose of the study and population size, three criteria usually will need to be specified to determine the appropriate sample size: the level of precision sometimes called sampling error, the level of confidence or risk of error, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976).

Singh,et al. (2014) described that sampling error range is often expressed in percentage points usually ±5 percent. However, for continuous data, 3% margin of error is acceptable (Krejcie & Morgan, 1970). As the study used five-point likert scale to measure a continuous variable its sampling error is 3%.

The study used 95% confidence interval because it is acceptable for most research (Jamess E. Bartlett, Joe W.Kotrlik, Chadwick C. Higgins, 2001). In other words, this means that 95 out of 100 samples will have the true population value within the range of precision specified. There is always a probability that the sample obtain by the researcher or investigator does not represent the true population value (Singh,et al., 2014).

Singh,et al. (2014) described that, the degree of variability in the attributes being investigated, refers to the distribution of attributes in the population. The variables with more homogeneous population, the smaller the sample size required. If the more heterogeneous population, the larger the sample size required to obtain a given level of precision. For example, a proportion of 50% indicates a greater level of variability than either 80% or 20%. This is because 80% and 20% indicate that a large majority do or do not, respectively, have the attribute of interest. Because a proportion of .5 indicates the maximum variability in a population, it is often used in determining a more conservative sample size, that is, the sample size may be larger than if the true variability of the population attribute were used. Hence, the study used a proportion of 50% level of variability.

Cochran's sample size formula for continuous data is presented as follows

$$\text{no} = \frac{(t)^2 * (s)^2}{(d)^2} = \frac{(1.96)^2 * (1.25)^2}{(0.15)^2} \sim 267$$

Where t = value for selected alpha level of .025 in each tail = 1.96 (the alpha level of .05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error.)

Where s = estimate of standard deviation in the population = 1.25 (estimate of variance deviation for 5 point scale calculated by using 5 [inclusive range of scale] divided by 4 [number

of standard deviations that include almost all (approximately 98%) of the possible values in the range]).

Where d = acceptable margin of error for mean being estimated = .15. (number of points on primary scale * acceptable margin of error; points on primary scale = 5; acceptable margin of error = .03 [error researcher is willing to accept]).

Accordingly, for a population of 285, the required sample size is 267. Since this sample size is above 5% of the population (285*.05=14, the study applied Cochran's (1977) correction formula to calculate the final sample size. These calculations are as follows:

$$n= \frac{no}{1+\frac{no}{population}} = \frac{267}{1+\frac{267}{285}} = 138$$

Where population size = 285

Where n_0 = required return sample size according to Cochran's formula= 267.

Where n= required return sample size because sample > 5% of population.

Therefore, the study was sought to gather information from 138 employees. This sample was deemed good representation of the populations since the sample size is greater than 10 percent of the target population. Mugenda and Mugenda (2003) argue that for a sample to be a good representative of the population it should be at least 10 percent of the target population.

Since the target population among the stratum varies, the study used proportionate stratification to get sample size for each stratum. After fixing the number of sample from the strata, questionnaires were distributed to employees randomly. Accordingly, 138 staffs were randomly selected to collect their feedback regarding practices & challenges of logistics activities in the bank.

Table 3.2.Sample Distribution

S/N	Population	Population		proportionate stratified sample	
		Target Popn. Qty	**Stratum Weight**	**Sample Size**	**Stratum weight (sampling fraction)**
1	Facility Management(Central)	24	0.084211	12	9%
2	Procurement Section	81	0.284211	39	28%
3	Warehouse Section	64	0.224561	31	22%
4	Transport Section	116	0.407018	56	41%
	Total	**285**	**1**	**138**	**100**

3.6. Data Collection Method

The types of data used for the study includes primary data obtained through questionnaire, and interview. While secondary data was obtained from CBE annual report, journals, articles websites, books, along with different related studies about logistics management practices and challenges. The purpose of sourcing for secondary data was to help in the formation of problems, literature review and construction of questionnaire.

3.6.1. Primary Sources

Primary data for the study included data of respondents to questionnaires and structured interviews with managers and other employees from the four departments of the facility management process of CBE. Quantitative data collected through survey method particularly through semi-structured questionnaire on one hand, and on the other hand qualitative data collected through case study particularly through structured interview. The questionnaires had both open ended and closed ended questions and were administered using drop and then pick later method. During qualitative data collection a face to face interview was made with purposively selected respondents of department heads.

3.6.2. Secondary Sources

The researcher gathered data from the CBE annual and quarter reports. Data was also gathered from the websites, journals, and books along with different related studies about practice and challenges of logistics management to supplement the research.

3.6.3. Data Collection Instrument

Questionnaire:

Questionnaires that have both open and closed ended questions were employed as the data collection method. This is because, questionnaire is simple and clear to analyses and it allows for tabulation of responses and quantitatively analyzes certain factors. As stated by Creswell and Miller (2000), in a questionnaire there may be open and closed questions. Closed questions are considered to be quantitative and open-ended questions are considered to be qualitative in questionnaires (Denscombe, 2007). The closed questions, which are one where responses are restricted to small set of responses that generate precise answer, were used to develop the empirical study. Whereas the open ended questions allow the respondents in order to not miss the important challenges. By using open–ended questions, the respondents are given enough space to express their own point of view (Denscombe, 2007).

The questionnaire was designed to meet the objectives of the study. It was adopted from previous works of Frazelle (2002), and Taylor (2005), but the researcher designed it to suit the objectives of the study in order to solicit answers that would meet the objectives. The researcher first did a pre-test of the questionnaire to ensure that the objectives were being met.

A five point likert-type scale was used in order to provide the extent of the respondents feelings or opinions on the practice and challenges of logistics management where by a scale of one implies strong disagreement with an issue or statement while a scale of five implies a strong agreement in that order (Patton, 2002). The questionnaire consisted of two sections and 36 questions representing (Part I) the demographic characteristics of the respondents, and (Part II) the study variables. The study variables questionnaire focused on logistics management practices and challenges in different activities like inventory, transport, supply, customer response,

information flow and warehousing. The statements were structured as simply as possible, in wording and language that would be perceived as logical by all the elements included in the population.

Structured Interview:

A structured interview was also used to gather qualitative data. Interviews were performed based on the established interview guide. Interviewees were selected based on their relevance in relation to the task at hand. In order to obtain sufficient information the researcher used personal interview with management bodies and technical and support staff of the case company. In total, 6 employees were interviewed. From that, the questionnaire was modified for the respondents. Research issues like practices and challenges of logistics management, and logical justifications of the case company was addressed through interviews which are difficult to obtain through questionnaire in as much detailed as require.

3.7. Method of Data Analysis and Presentation

Sullivan (2001) opined that data analysis can be the most challenging and interesting aspect of research. It refers to deriving meaning from the data that had been collected in a study. Primary data whose nature is both qualitative and quantitative as described were collected and analyzed using quantitative and qualitative data analysis techniques respectively. For ease of analysis, procedures within Statistical Package for Social Sciences (SPSS) version 20 were used to quantitatively analyze the data collected from field work through questionnaires which mainly involve six major activities namely, data preparation, counting, grouping, and statistical testing (descriptive statistics). The data from open ended questions and interviews has been analyzed qualitatively. Responses from the conducted interviews were also used to reinforce these findings as well as to identify challenges. 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 (Zikmund, 2007). And primary activities questions have high

reply ratio and high mean and relatively low standard deviation results. To check whether there is a significance difference among the distribution of preferences in terms of given items, the Cronbache's Alpha test has been applied.

3.8. Pilot Testing of the Research Instrument

Pre-testing of the instrument is undertaken prior to the main study on a group of respondents. The purpose of the pre-test activity is to ensure that the questionnaires are meaningful, easily understood and appropriate for the main fieldwork. The activity enabled the researcher to become more familiar with items of the questionnaires and prepare them accurately for the main work. Mugenda and Mugenda (2003) proposed that a sample size from the range of 1- 10% of the sample frame is an appropriate frame to engage in a pilot test. The sample size for this study is 138 respondents, hence 14 respondents from the sample size was sufficient for the purpose of pilot testing to ascertain the suitability, appropriateness and clarity of the questionnaire items in addressing the variables under investigation and at the same time determine the reliability of the instrument. After corrections were made, the questionnaires were distributed to staff and management. The selected respondents for the pilot test were not again used in the main study.

3.9. Data Validity and Reliability

According to Golafshani (2003), validity determines whether the research truly measures that what it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull's eye" of your research object? Researchers generally determine validity by asking a series of questions, and will often look for the answers in the research of others. To create a good foundation for analysis the design of the questionnaire (see Appendix 1) was constructed according to the literature review of main logistics activities described in chapter two. In addition, questionnaires included a variety of questions on the knowledge of the top management officials and their staff about practice and challenges of logistics management of CBE. Content validity was further ensured by formulating the questions in simple language for clarity and ease of understanding. As a result more questions were added to ensure higher representativeness. Rephrasing of some questions was done to clarify the questions and more appropriate alternative response choices were added to the closed-ended

questions to provide for meaningful data analysis (Burns and Grove, 1993). Finally Clear instructions were given to the subjects.

Once the data was coded the researcher conducted preliminary analysis to test for reliability using Cronbach‘s alpha. Cronbach‘s alpha is known as a good measure of reliability (Monette, e*t al.,* 2002). Nunnally (1978) offered a rule of thumb of 0.7 which is the cutoff value of Cronbach alpha for being acceptable. Its values ranges from 0 to 1 with Cronbach‘s alpha values between 0.8 and 1.00 indicating a considerable reliability, values between 0.70 and 0.80 indicate an acceptable reliability while values below 0.70 are considered less reliable and unacceptable. The results from reliability analysis aided to suggest whether questionnaire should be reformulated or not. Further, as discussed above, a pilot study was administered in order to test for validity and reliability of the research instruments.

3.10. Ethical Issues of the Research

The researcher ensured the willingness of the respondent for the interview and to fill questionnaire before starting data collection and never enforce any one to provide feedback; however, the researcher tried to approach systematically and convince them in order to get their proper feedback. Only volunteered respondents were contacted and fill questionnaire, and interviewed. The researcher explained the objectives of the research for the respondents that the feedback of the questionnaire and interview from them would only be used for the research purpose and can never be used as a tool for corrective action. Finally, the researcher assured the confidentiality of the feedback and would not disclose their identity after collecting the required feedback.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION and DISCUSSION

4.0. Introduction

The findings of the study are presented in this chapter. Necessary discussions of the findings are also made to establish understanding and to show relationships among variables in relation to literature and the research objectives. The data gathered was analyzed using SPSS version 20. Data were sorted and ranked according to the mean values to be dealt with descriptively to provide insight into the practice and challenges of logistics management in Commercial Bank of Ethiopia.

This chapter has two sections:

Section 1: Summarize the response rate and describe the demographic data of employees by using descriptive statistic (frequency, percentage, mean).

Section 2: Analyze the practices and challenges of logistics management in Commercial Bank of Ethiopia (mean and Standard Deviation).

4.1. Response Rate

Responses were gathered from staffs of CBE's facility management process. One hundred twelve (112) responses in all were gathered out of the one hundred thirty eight (122) questionnaires administered. This represented 91.8% response rate i.e. from the number of questionnaires distributed to each group, facility management central (12), procurement (39), warehouse (31) and transportation (56), 112 responses 11, 36, 31, and 42 with a response rate of 92%, 92%, 74% and 75% were received respectively. The rate is satisfactory according to the argument of Cooper and Schindler (2003) that sets a response rate of 30% to 80% as adequate.

4.2. Respondents Profile

The study sought to determine the different demographic characteristics of respondents in order to determine their knowledge and understanding of questions posed to them in the questionnaire. As can be seen in Table 4.1, 35 (31.3%) of the participants from whom responses were gathered from were females whiles 77 (68.7%) were males. With their age ranges, it could be seen that 34.8% were between 36 and 45 years, followed by about 25.9% who were between the age of 26 and 35 years. Also, about 25% were above 46 years and just about 14.3% were below 25 years. Given their educational background, close to half (43.8%; n=49) of them are degree holders, while about 25.9% have diploma. Also, about 22.3% had others whereas a very few respondents (8%) had master degree. The respondents were from various units of the facility management-facility management central, procurement, warehouse, and transport with percentage of responses of 9.82%, 32.14%, 20.54% and 37.5% respectively. Most of the respondents were found to be senior staff representing 40.16% (16.96% manager and 23.2% senior staff) of responses, followed by 24.13% who were 27 officers with just 22 (19.64%) junior officer. A few respondents 18(16.07%) were rest on other category. About 33.93% of the respondents have worked in CBE between 11 and 15 years, whereas about 33.04% and 19.64% have worked in the hospital for 5 -10 years and more than 15 years respectively. A few respondents (13.39%) have worked less than 5 years. These are summarized as displayed in Table 4.1.

Table 4.1: Personal Information of Respondents

DEMOGRAPHY	CHARACTERISTICS	Frequency	Frequency %
GENDER	Female	35	31.30%
	Male	77	68.70%
	N	112	100.00%
AGE	Below 25	16	14.30%
	26 - 35 years	29	25.90%
	36 - 45 years	39	34.80%
	Above 46	28	25.00%
	N	112	100.00%
EDUCATIONAL QUALIFICATION	Diploma	29	25.90%
	Bachelor's degree	49	43.80%
	Master's degree	9	8.00%
	Other	25	22.30%
	N	112	100.00%
LENGTH OF YEARS WORKED	Less than 5 year	15	13.39%
	5- 10 years	37	33.04%
	11 - 15 years	38	33.93%
	More than 15 years	**22**	19.64%
	N	112	100.00%
JOB CATEGORY	Facility Management(Central)	11	9.82%
	Procurement Section	36	32.14%
	Warehouse Section	23	20.54%
	Transport Section	42	37.50%
	N	112	100.00%
POSITION/STATUS	Manager	19	16.96%
	Senior Officer	26	23.20%
	Officer	27	24.13%
	Junior Officer	*22*	*19.64%*
	Other	18	16.07%
	N	112	100.00%

Source: Field study (2017)

Based on these, it is believed that most of the respondents provided responses that represent the true state of logistics management practices and its challenges in CBE.

4.3. Scale Reliability Analysis

The data for this research was generated using scaled responses, it was deemed necessary to test for reliability. "Since summated scales are an assembly of interrelated items designed to measure underlying constructs, it is very important to know whether the same set of items would elicit the same responses if the same questions are recast and re-administered to the same respondents" (Reynaldo and Santos, 1999). Cronbach's Alpha statistics using SPSS version 20 was applied to check the reliability of a set of questions designed to test 5-point Likert scale as described so far. The individual Cronbach's 'α' for the survey designed for the study is determined. As seen from Table 4.2, all alpha coefficients ranged between 0.724 and 0.821which is well over the accepted limit of 0.70. These results indicate that the data has a high level of internal consistency within the multi-item scales.

Table 4.2: Reliability Coefficient of the Study Variables (Final Questionnaire)

Dimensions of Logistics practice	Cronbach's Alpha	N of Items
Inventory Management	.821	5
Supply	.806	5
Transport Management	.734	4
Warehouse Management	.736	5
Customer Response	.724	4
Information Flow Management	.739	4

4.4. Analysis of Responses

Employees level of agreement on the practice and challenges of logistics management are measured on a five-point Likert type scale (1 = strongly disagree; 5 = strongly agree).

4.4.1. Inventory Management Practices of Commercial Bank of Ethiopia

The first objective of the study was to examine the inventory management practices in Commercial Bank of Ethiopia. Inventories held by Commercial Bank of Ethiopia constitute mostly hardware &accessories, furniture & fittings, and office equipment's. These include ATM

card, gust chair, desks, computers, photocopy machine as well as other office consumable such as printing stationery, and printer cartridge and toner, etc.

In the following tables, the respondents were asked to rate their opinion from 1 (strongly disagree) to 5 (strongly agree).The mean of the opinions score for each variable indicates the level of inventory management practices and its challenge, which the S.D indicates the deviation from the central value (mean score).

Table 4.3: The Inventory Management practice

1. Inventory Management		**Level of Agreement**					**Total**	X	S.D
		S.Disagree	Disagree	Neutral	Agree	S.Agree			
		1	2	3	4	5			
IM1	The inventory model used to determine the quantity ordered is based on real demand analysis								
	Frequency	20	64	13	9	6	112		
	Percent	17.9	57.1	11.6	8	5.4	100	2.26	1.020
IM2	The inventory model used target to minimize overall total inventory costs like holding, ordering, and stock out								
	Frequency	7	6	9	62	28	112		
	Percent	6.3	5.4	8	55.4	25	100	3.88	1.049
IM3	Replenishment planning and inventory deployment has a positive impact on customer satisfaction (Branches & Different Departments)								
	Frequency	30	55	8	11	8	112		
	Percent	26.8	49.1	7.1	9.8	7.1	100	2.21	1.158
IM4	The company has a system for wastage free utilization of materials inventory								
	Frequency	19	57	16	11	9	112		
	Percent	17.0	50.9	14.3	9.8	8.0	100	2.41	1.127
IM5	Materials in stock are correctly identified								
	Frequency	22	54	16	13	7	112		
	Percent	19.6	48.2	14.3	11.6	6.3	100	2.37	1.115
						Aggregate Mean		2.6250	
						Aggregate S.D		.83618	

Table 4.3 shows respondents' opinions on the inventory management practices in facility management of Commercial Bank of Ethiopia. The respondents were asked for their opinion

about “The inventory model used to determine the quantity ordered is whether based on real demand analysis or not?” As shown in table 4.3, the findings disclose that the majority of the respondents (75.0%) disagree or strongly disagree on the above question. 80.4 % of them agreed or strongly agreed that the inventory model used target to minimize overall total inventory costs like holding, ordering, and stock out. The mean value 2.21 indicates that the respondents do not agree with the idea that replenishment planning and inventory deployment has a positive impact on customer satisfaction (Branches & Different Departments). The majority (67.9%) disagreed or strongly disagreed that the company has a system for wastage free utilization of materials inventory. The majority (x=2.37) disagreed that materials in stock are correctly identified.

4.4.2. Supply Management Practices of Commercial Bank of Ethiopia

Table 4.4: The Supply Management practice

2. Supply Management		**Level of Agreement**					**Total**	X	S.D
		S.Disagree	Disagree	Neutral	Agree	S.Agree			
		1	2	3	4	5			
SM1	The company has an organized marketing research team to find new and potential suppliers							3.94	.952
	Frequency	4	7	9	64	28	112		
	Percent	3.6	6.3	8.0	57.1	25.0	100		
SM2	The company create long-term relationships with suppliers							2.47	1.048
	Frequency	12	64	13	17	6	112		
	Percent	10.7	57.1	11.6	15.2	5.4	100		
SM3	The company settle payment and close contracts on time							3.88	1.105
	Frequency	5	13	6	54	34	112		
	Percent	4.5	11.6	5.4	48.2	30.4	100		
SM4	The company target to minimize acquisition and logistics cost							4.04	.879
	Frequency	2	8	5	66	31	112		
	Percent	1.8	7.1	4.5	58.9	27.7	100		
SM5	The company has an information communication technologies (E-procurement) and data base systems in facilitating procurement practices.							2.37	1.115
	Frequency	22	54	16	13	7	112		
	Percent	19.6	48.2	14.3	11.6	6.3	100		
						Aggregate Mean		3.3393	
						Aggregate S.D		.76822	

Table 4.4 shows respondents' opinions on the supply management practice of Commercial Bank of Ethiopia. Regarding the company's marketing research team to find new and potential suppliers, most of them (57.1 %) agreed and (25.0%) strongly agreed that the team is very organized. In creating long term relationships with suppliers, 64 respondents do not agreed that the company is weak n creating long-term relationship. Majority of the respondents agree (48.2%) or (30.4%) strongly disagree that the company settles payment and close contracts on time. The company target to minimize acquisition and logistics cost according to the response of the majority (66) respondents. 48.2% of the respondents disagreed that the company has an information communication technologies (E-procurement) and data base systems in facilitating procurement practices.

4.4.3. Transport Management Practices of Commercial Bank of Ethiopia

Table 4.5: The Transportation Management practice

3. Transport Management		**Level of Agreement**					**Total**	X	S.D
		S.Disagree	Disagree	Neutral	Agree	S.Agree			
		1	2	3	4	5			
TM1	The current vehicle scheduling practices has improved efficiency in logistics							2.26	1.020
	Frequency	20	64	13	9	6	112		
	Percent	17.9	57.1	11.6	8.0	5.4	100		
TM2	The transportation system of the company like timely delivery and safety satisfy users							2.12	1.088
	Frequency	31	59	7	8	7	112		
	Percent	27.7	52.7	6.3	7.1	6.3	100		
TM3	The company has sufficient transportation units							3.91	.945
	Frequency	4	7	10	65	26	112		
	Percent	3.6	6.3	8.9	58.0	23.2	100		
TM4	The company reach or applied economies of scale and economies of distance to minimize transportation cost per unit							2.32	1.109
	Frequency	22	59	11	13	7	112		
	Percent	19.6	52.7	9.8	11.6	6.3	100		
						Aggregate Mean		2.6518	
						Aggregate S.D		.77718	

The mean value (2.26) indicates that majority of the respondents disagree that the current vehicle scheduling practices have improved efficiency in logistics. 80.4 % of the respondents disagree or strongly disagree that the transportation system of the company like timely delivery and safety satisfy users. On the other hand, the company does not have sufficient transportation units as the mean value (3.91) indicates. Most of the respondents (72.3%) disagree that the company reach or applied economies of scale and economies of distance to minimize transportation cost per unit.

4.4.4. Warehouse Management Practices of Commercial Bank of Ethiopia

Table 4.6: The Warehouse Management practice

4. Warehouse Management		**Level of Agreement**					**Total**	X	S.D
		S.Disagree	Disagree	Neutral	Agree	S.Agree			
		1	2	3	4	5			
WM1	The design of the warehouse is easy to access items free from damage and convenient to loading and unloading							2.07	1.080
	Frequency	32	61	6	5	8	112		
	Percent	28.6	54.5	5.4	4.5	7.1	100		
WM2	The design of warehouse system is properly done to improve service and eliminate errors in warehouse operation							1.96	.874
	Frequency	30	68	7	3	4	112		
	Percent	26.8	60.7	6.3	2.7	3.6	100		
WM3	Warehouse operators are skilled to use computer and other technologies to perform warehouse activities							3.57	1.306
	Frequency	13	14	9	48	28	112		
	Percent	11.6	12.5	8.0	42.9	25.0	100		
WM4	The company has various dockets like internal request form, waybill							3.77	1.155
	Frequency	9	9	9	57	28	112		
	Percent	8.0	8.0	8.0	50.9	25.0	100		
WM5	Most warehouse activities are automated							1.96	.770
	Frequency	25	74	7	4	2	112		
	Percent	22.3	66.1	6.3	3.6	1.8	100		
						Aggregate Mean		2.6661	
						Aggregate S.D		.73589	

Majority of the respondents (83.1%) disagree or strongly disagree that the design of the warehouse is easy to access items free from damage and convenient to loading and unloading. The mean value (1.96) indicates that the majority respondents disagree that the design of the warehouse is easy to access items free from damage and convenient to loading and unloading. On the other hand, the mean value indicates that Warehouse operators are skilled to use computer and other technologies to perform warehouse activities (3.57) and the company has various dockets like internal request form and waybill (3.77). Majority of the respondents disagree that most warehouse activities are automated.

4.4.5. Customer Response Practices of Commercial Bank of Ethiopia

Table 4.7: The Customer Response practice

5. Customer Response		**Level of Agreement**					**Total**	X	S.D
		S.Disagree	Disagree	Neutral	Agree	S.Agree			
		1	2	3	4	5			
CR1	Orders are fulfilled in the promised date							2.02	.747
	Frequency	30	50	32			112		
	Percent	26.8	44.6	28.6			100		
CR2	The organization uses up to date information for forecasting internal customer's needs							1.98	.684
	Frequency	27	60	25			112		
	Percent	24.1	53.6	22.3			100		
CR3	The company applies electronic communication like EDI or ERP with other section for joint planning							1.62	.738
	Frequency	60	35	17			112		
	Percent	53.6	31.3	15.2			100		
CR4	There is a well-develop tool to check internal customer satisfaction in logistics activities							1.97	.741
	Frequency	32	51	29			112		
	Percent	28.6	45.5	25.9			100		
						Aggregate Mean		1.8973	
						Aggregate S.D		.53855	

Majority (44.6%) responded that orders are not fulfilled in the promised date. The organization does not use up to date information for forecasting internal customer's needs according to many

(1.98) respondents. The mean value (1.62) indicates that the company does not apply electronic communication like EDI or ERP with other section for joint planning. The majority (45.5%) also does not agree that there is a well-develop tool to check internal customer satisfaction in logistics activities.

4.4.6. Information Flow Management Practices of Commercial Bank of Ethiopia

Table 4.8: The Information Flow Management practice

4. Information Flow Management		Level of Agreement					Total	X	S.D
		S.Disagree	Disagree	Neutral	Agree	S.Agree			
		1	2	3	4	5			
IFM1	Information gathering and information flow system is to meet the company's information flow procedure							2.62	.989
	Frequency	13	45	26	28	0	112		
	Percent	11.6	40.2	23.2	25	0	100		
IFM2	The company invest in information technology that provide real-time information flow							2.21	.716
	Frequency	12	71	22	7	0	112		
	Percent	10.7	63.4	19.6	6.3	0	100		
IFM3	The company has integrated data bases							2.13	.822
	Frequency	22	62	19	9	0	112		
	Percent	19.6	55.4	17.0	8.0	0	100		
IFM4	The company uses online systems regarding monitoring of orders, schedules and inventories (CAD, CAM etc.)							2.14	.815
	Frequency	21	63	19	9	0	112		
	Percent	18.8	56.3	17.0	8.0	0	100		
						Aggregate Mean		2.2768	
						Aggregate S.D		.62992	

The majority respondents (x=2.62) disagreed that information gathering and information flow system is according to the company's information flow procedure. 63.4 % of them disagreed that the company invest in information technology that provide real-time information flow. Moreover, majority of the respondents (55.4%) responded that the company does not have

integrated data bases. The mean value (2.14) indicates that the response of the majority inclines to disagreeing with the idea that the company uses online systems regarding monitoring of orders, schedules and inventories (CAD, CAM etc.).

4.4.7. Qualitative Data Analysis

All the identified problems and recommendations that are described below have been obtained through interviewing four department heads and from the open ended questions provided to the selected samples to describe their perception for the persistence of logistics management challenges.

Summary of Interview Responses

Respondents of department heads were asked to describe the logistics practices of the bank and most of them responded that the logistics section were not given much attention in the past and activities were performed in a traditional way, for instance there weren't specific performance measurement for activities and deployment of technology as well. But know as they said, there are some measures that the bank is taking to improve the logistics activities. In the near future the bank is trying to implement ERP system.

Regarding inventory, the bank uses MRP as inventory management method where various sections of the bank prepare annual budget and send to the supply section and inventory control is carried out manually when the supplies arrive or dispatched to various districts, process, branches etc in the warehouse.

Similarly, respondents of department heads were also asked to describe the challenges that currently exist with respect to logistics of the organization and most of them responded that poor information sharing, lack of logistics professional, lack of modern logistics management techniques and inability to use information to aid business decision making are the preponderant challenges.

Summary of Open ended Question Response

From the open ended questions, were respondents asked to describe their perception on the challenges of logistics management with respect to firm infrastructure, human resources and technology the study findings re summarized as follows.

Firm Infrastructure

Challenges related to the firm infrastructure comprise inadequacy of transport vehicle, inadequacy of warehouse, weak logistics planning, shortage of finance, and low level of management commitment. Regarding the responses of the respondents, the logistics aspects of the company is not given much attention like other activities; most of the logistics activities are done traditionally. However, most of the above challenges are not a big concern for commercial bank of Ethiopia.

Human Resource

Shortage of logistic expertise, inadequate education or sensitization program**,** recruitment policy concerning professionals in the field, poorness in hiring and retaining competent logistics professionals and resistance to change are challenges related to human resource. According to the answers of the respondents, shortage of logistic expertise, inadequate education or sensitization program and poorness in hiring and retaining competent logistics professionals are challenges to CBE.

Technological Challenges

Technological challenges include costly new technology, inability to access and apply the growing logistics knowledge base, lack of modern management techniques, insufficient logistics management capacity, poor exchange of information, lack of modern management techniques, and communication. Yet only lack of modern management techniques, poor exchange of information and lack of integrated system and communication are found to be challenges for CBE.

Table 4.9. Major challenges of logistics management identified from open qualitative data

Shortage of logistics expertise
Inadequate education or sensitization program
Poorness in hiring and retaining competent logistics professionals
Lack of modern management techniques
Lack of top management commitment
Poor exchange of information
Lack of Integrated system and communication

4.5. Discussion of Findings

As clearly indicated in the data presentation, various variables are discussed under the different logistics practice of CBE and the challenges that are present. In this part the results and findings from the study are discussed as following. Accordingly, the results of the study are discussed in line with research questions. The discussion contains not only the responses that were found through questionnaires but the data found through interview is also included. In addition, the results of the study are discussed by linking them to relevant literatures in the area. For making the discussion more clear, the findings are discussed by categorizing the effectiveness of the logistic practice into five groups. The width of the class interval is as follows. For the aggregated mean between 1.00–1.80, the logistic practice is not effective at all; 1.81–2.60 the logistic practice is slightly ineffective; 2.6 –3.40 the logistic practice is moderately effective; 3.41– 4.20 the logistics practice is effective and 4.21– 5.00 the logistics practice is very effective.

As the results of the study indicates, the majority respondents do not agree that the inventory model used to determine the quantity ordered is based on real demand analysis. Literatures show that inventory management is the process of consistently having the optimal amount of raw materials for transformation and finished products available in order to deliver them rapidly to meet a customer‘s inventory requirement in a competitive manner (Bowersox, *et al*., 2010). Another literature also shows that good inventory management is necessary (Ballard, 1996).

Mangarulkar et al. (2012) also stated that, stocks must be well managed in order to maximize profits.

But this study shows that the inventory model of CBE does not use target to minimize overall total inventory costs like holding, ordering, and stock out. The replenishment planning and inventory deployment of the organization does not have a positive impact on internal customer satisfaction. Literatures found that with the increasing emphasis and interest in logistics and supply chain management, continuous replenishment and just in-time programs, good inventory information is mandatory for success in today's competitive markets (Františekněmec, 2003).

The majority also agrees that the company does not have a system for wastage free utilization of materials inventory. In addition the materials in stock are not correctly identified. This affects the organization's effectiveness because there is significant relationship between good inventory management and organization's effectiveness. According to Oballah et al. (2015), inventory investment and inventory records accuracy have a positive influence on organization. As the aggregated mean (2.6250) of the inventory management practices of CBE, the inventory management practice is moderately effective.

On the supply management practice of Commercial Bank of Ethiopia, finding new and potential suppliers is very important for organizations. As it is indicated in the finding part, the company's marketing research team is organized to find new and potential suppliers. Literatures also show that supplier selection, price and timing determination is very important for the productivity of the company (Frazelle, 2002).However, the majority respondents reported that the company is weak in creating long-term relationship.

On the other side the company settles payment and close contracts on time. The company target to minimize acquisition and logistics cost according to the response of the majority. In comparison to manually managed order systems, electronically managed order processes save time and reduce risk of human errors (Lambert and Stock 2001, 151.) However, the finding shows that the company has gaps in information communication technologies (E-procurement) and data base systems in facilitating procurement practices. In general, the aggregated mean (3.3393) shows that the supply chain management is moderately effective.

The findings of the transportation management indicate that the current vehicle scheduling practices of CBE have no improved efficiency in logistics. Nonetheless literatures indicate that the key element in a logistics chain is transportation management which influences the performance of logistics system hugely (Tseng, *at el.,* 2005). The organization has also gaps in timely delivery and safety of users. On the other hand, the company has sufficient transportation units. However the company does not apply economies of scale and economies of distance to minimize transportation cost per unit. But According to (Taylor 2005), transportation occupies one-third of the amount of logistics costs, so it influences the performance of logistics systems hugely. The aggregated mean (2.6518) also shows that the transportation management practice needs a lot of improvement hence the practice is moderately effective but not with the desired quality.

In the findings of the research it is clearly seen that the design of the warehouse is not easy to access items free from damage and is not convenient to loading and unloading. The design of the warehouse system of CBE is not properly done to improve service and eliminate errors in warehouse operation. As Tompkins and Smith reported, inventory control aimed to maximize profits as well as providing good customer service (Tompkins & Smith, 1998). But the design of warehouse system is not done to improve service and eliminate errors in warehouse operation. In contrast, the result indicates that the warehouse operators are skilled to use computer and other technologies to perform warehouse activities. The company also has various dockets like internal request form. Frazelle (2002) indicated that one of the characteristics of a world-class logistics for the organization is using integrated logistics information system. However, the study indicates that most warehouse activities of CBE are not automated. The aggregated mean (2.6661) also confirms that the warehouse management practice is moderately effective but needs to fulfill some gaps.

The findings of the customer response practice indicated that the bank does not fulfill the promised date of orders. According to Adriana & Daniela (2010), customer service is the chain of sales activities and meeting customers' requirements which begins with receiving the orders. The organization has also gaps in using up to date information for forecasting internal customer's needs and does not apply electronic communication like EDI or ERP with other section for joint

planning. Another finding also indicates that the logistics of customer response includes monitoring customer satisfaction (Frazelle, 2002). Yet, in CBE the majority of the respondents disagree that there is a well-develop tool to check internal customer satisfaction in logistics activities. The customer response practice of CBE is very weak in this area. The aggregated mean value (1.8973) shows that it is slightly ineffective in customer response.

The results of information flow management indicates information gathering and information flow system of CBE is not according to the company's information flow procedure. Advances in information technology have changed modern business practice, making collaborative supply chain management possible (Chatfield et al, 2004). However the finding of this study reveals that the company does not invest in information technology in relation to logistics that provide real-time information flow. Moreover, majority of the respondents responded that the company does not have integrated data bases. In addition, the response of the majority shows that the company has gaps in using online systems regarding monitoring of orders, schedules and inventories (CAD, CAM etc.) Overall, the aggregated mean (2.2768) indicates that the information flow management practice is slightly ineffective.

The challenges of logistics that are found in CBE are related to firm infrastructure, human resource and technology. Lack of top management commitment which is pronounced by not giving much attention like other activities of the bank is found to be the major challenge. Human resource challenge includes shortage of logistic expertise, inadequate education or sensitization program and poorness in hiring and retaining competent logistics professionals. As technology advances upgrading of skills is required to meet them. Logistics skills such as warehousing, transportation management, inventory control and purchasing are very crucial. In addition, skills like needs assessment, safety and security, monitoring and evaluation are also important (Altay, Tatham, Peter and Nezih, 2013). The logistics practice of CBE shows drawbacks in hiring very skilled professionals in this area.

The technological challenges include lack of modern management techniques, poor exchange of information and lack of integrated system. Advanced automation, software systems and high tech advances in warehousing and tracking systems are essential (Baker, 2015).Nevertheless what is observed in the logistics practice of CBE is the opposite. The organization is weak in applying

modern management techniques which comprises modern technology. Literatures agree that responsiveness to customer demand, and overall customer satisfaction, cannot be achieved without proper management of both the goods movement and information flow throughout the supply chain (Janak, 1996).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary of Findings

This study found many interesting finding about the logistics management practices of CBE. As clearly indicated in the data presentation, various variables are discussed under the different logistics practice of CBE and the challenges that are present. Thus, the researcher has come up with the following summary of findings;

- ✓ Achieving the lowest inventory driven cost, ordering based on real demand analysis, replenishment planning and inventory deployment to satisfy internal customer are weekly practiced. In general the inventory management practice of CBE is found to be moderately effective.
- ✓ On the supply management practice as it is indicated in the finding part, it target's to minimize acquisition and logistics cost. However, the company is weak in creating long-term relationship. Finally, the supply management is moderately effective.
- ✓ The findings of the transportation management indicate that the current vehicle scheduling practices of CBE have no improved efficiency in logistics. Transportation management practice is moderately effective but not with the desired quality. Hence, it needs a lot of improvement.
- ✓ The design of the warehouse is not easy to access items free from damage and is not convenient to loading and unloading. However, the study also indicates that most warehouse activities of CBE are not automated. The warehouse management practice is moderately effective.
- ✓ The organization has also gaps in using up to date information for forecasting internal customer's needs and does not apply electronic communication like EDI or ERP with other section for joint planning. The customer response practice is slightly ineffective.
- ✓ The company does not have integrated data bases. In addition, the company has gaps in using online systems. Overall, the information flow management practice is slightly ineffective.

- ✓ The major challenges of logistics in CBE in relation to firm infrastructure, human resource and technology were also found. The analysis of the result revealed that lack of top management commitment, shortage of logistic expertise, inadequate education or sensitization program, poorness in hiring and retaining competent logistics professionals, lack of modern management techniques, poor exchange of information and lack of integrated system are the major challenges.

5.2. Conclusion

This paper aims to describe the extent of logistics practices and identify major challenges in commercial bank of Ethiopia.

The study used primary data, both qualitative and quantitative, by using questionnaire and interview to describe the extent of logistics practices and identify major challenges in Commercial Bank of Ethiopia Addis Ababa. The percentage and descriptive statistics were used to analyze the data. Data analysis was done by the use of SPSS. The major findings of the study are listed here in below;

The logistics management practices of CBE as described in the discussion part of the study are either moderately effective or slightly ineffective. In conclusion of 112 respondents, there are 4 activities that are managed moderately effective. These are inventory management (mean =2.625), supply management (mean = 3.3393), transportation (mean = 2.6518), and warehouse (mean = 2.6661). Two activities that are managed slightly ineffective are: customer response (mean=1.8973) and information flow management (mean=2.2768).

In addition, there is no long term relationship between suppliers and CBE which is driven by the spirit of cooperation and collaboration to achieve a common goal. Existing operations of warehouse management is not that much satisfactory in comparison with the present standards and the overall design of the warehouse is still poor to access items and not convenient to load and unload.

Most of CBE's logistics management has limited access to modern ICT blessings to operate more efficiently and effectively.

The higher standard deviations obtained in most of the items indicated that there is a higher variation in respondent responses.

Major challenges of logistics management in CBE found to be Shortage of logistics expertise, poorness in hiring and retaining competent logistics professionals, Lack of modern management techniques, Lack of top management commitment, poor exchange of information and Lack of Integrated system and communication.

The finding also has an implication for CBE as it provides a means to apply best and recent logistics practices that suit the existing conditions and factors affecting its operation. The management of CBE should understand and emphasis the need to overcome logistics challenges for its success.

Generally, the value of the results of this study is a better understanding of the existing logistics practices and challenges in Commercial Bank of Ethiopia.

5.3. Recommendation

The researcher revealed that logistics management is not well practiced in CBE, for the practices to have efficient and effective logistics management, and to curb various challenges with respect to logistics, a number of recommendations have been made here;

- Improving inventory practices calls for a high degree of collaboration and visibility across all parties (branches and departments) as well as utilizing sophisticated technologies. It should therefore be understood that proper inventory management starts with an understanding of purchasing rights products in the right quantity at the right price, and the right time from the right vendor. Therefore the purchasing department should work closely with other department.
- In CBE, there is a need to transition from the manual stock taking activity to a more information centered inventory control activity. CBE need to modernize its inventory management system to increase efficiency. Applying the concepts along with the practices such as the right stock valuation and different techniques results in optimal inventory levels. By using these key concepts and practices to gain insight will enhance

CBE's inventory record accuracy, inventory investment and inventory turnover in the purchasing departments and will go a long way to improve optimal inventory management.

- The organization should have to maintain long term relationship with selected suppliers especially with those that provide critical items like Visa Card, ATM and different technologies.
- For better vehicle scheduling and improved efficiency in transportation CBE has to apply modern technology Like GPS for easily tracking.
- CBE can design the warehouse in such a way that maximize the space utilization, and use modern technology like inexpensive tagging device and Radio Frequency Identification to easily identify the required items and as well as additional security against theft.
- Literature shows customer satisfaction ratings within organizations can have powerful effects. Thus, CBE should have any standard tool to check level of internal customer response or satisfaction to take corrective action based on the results from the tool.
- Improvement on logistics information systems does influence the performance of primary functions of logistics management that is; transportation, inventory management, supply management and information flow and by extension influences firm performance. As a result, the study recommends that CBE should include information management in its strategic plan and in particular investment in information technology which may make good information sharing.
- The role of top management has been researched extensively. They motivate, support and inspire followers. Their commitments is key in achieving compititve performance. Therefore top management has to allocate resources supportive to efficient logistics management practices and give due attention.
- In this new millennium, the role of human resource remains vital to organizations; HRM practices can positively affect logistics performance. To address the challenges associated with generating the human capital needed and acute shortage of labor to address logistics requirements, the bank should adopt excellent HRM practices. Specially following activities should be managed better: Employment and Training. The lack of basic skills training is undoubtedly partially responsible for some of operational inaccuracy issues. A

training needs analysis of logistics related staffs in general should be undertaken. After that all personnel involved in logistics management should be trained.

- CBE have to deploy infrastructure and technology as an enabler. Technology, which was earlier mistaken to be a driver for doing business in a particular fashion, has become a "necessary" enabler for aligning business. IT can thus achieve breakthroughs in the area of logistics design and operation, configuration and planning, which otherwise can never be thought about. Having explained above the problems facing CBE with respect to technology, this thesis proposes that there should be at least some of the basic IT infrastructure in place in order to make operations effective and efficient.
- Finally, Commercial Bank of Ethiopia must realize that operational innovation is crucial if they want to gain competitive advantage in logistics management. Operations, how work is done, affect the very essence of its existence. The effects ripple outward to all aspects of the enterprise. Breakthrough innovations in operations can help destroy competitors and shake up industries, and ultimately contribute to the financial success of the company.

5.4. Suggestions for Further Study

This study provides a lot of facts and findings about the logistics management practices and challenges of Commercial Bank of Ethiopia in Addis Ababa. Apart from the findings that this research had described and explained, it has also provided valuable implications for studying logistics issues for future research. The suggestions for further studies are as follows:

Firstly, it needs to expand the respondents of the primary research into the whole organization, and further in to other banks to have an industry wise understanding.

Secondly, next studies should test hypothesis to measure the relations among logistics management practices in banks and the effects of practices on banks performance, operational or financial performance by using more advanced technique to analyze the primary data such as: Pearson Correlation, Correlation Coefficient, and effect size.

Finally, while the present assessment has contributed to the understanding of these practices, further analysis in some areas is required to ensure the capacity needs of LM addressed adequately.

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Appendix I

QUESTIONNAIRE

Dear Madam/Sir,

This research using this questionnaire seeks to assess practice and challenges of Logistics management in Commercial Bank of Ethiopia Addis Ababa Districts which will be submitted in partial fulfillment of requirements for award of MA degree in logistics and supply chain management. It will seek to describe the logistics management practices in the aforementioned organization and identify the challenges it faces, and suggest measures to be taken to solve the challenges based on the findings.

INSTRUCTIONS

1. In order to make the research outcomes complete, reliable and fruitful, please complete the questionnaire by considering each question thoughtfully and honestly.
2. Your answers will be treated with the highest degree of confidentiality and data collected from this research will be used solely for academic purposes and will reported in aggregate.
3. If you have any questions or dilemma please contact me via Tel. +251911955322 or Email:danielabi@cbe.com.et

I thank you in advance for your cooperation, and honesty in answering the following questions.

PART 1: BACKGROUND DATA

1. Your Gender i. Female [ ] ii. Male [ ]

2. Age

i. Below 25 [ ] ii. 26-35 [ ]
iii. 36-45 [ ] iv. Above 46 [ ]

3. What is your level of education?

i. Diploma ii. Bachelor's degree [ ]
iii. Master's degree [ ] iv. Other [ ]

4. **How long have you been working in this banking?**

i. Less than 5 year [ ] ii. 5 to 10 years [ ]
iii. 11 to 15 years [ ] iv. More than 15 ears [ ]

5. In which process, department or section are you?

i. Facility Management (Central) ☐ ii. Procurement ☐
iii. Warehouse ☐ iv. Transport ☐

6. What is your position in the organization?

i. Manager ☐ ii. Senior Officer ☐ iii. Officer ☐
iv. Junior Officer ☐ v. Other ☐

PART 2: LOGISTICS MANAGEMENT PRACTICES							
	Strongly Disagree 1	**Disagree 2**	**Indifferent 3**	**Agree 4**	**Strongly Agree 5**		
Please indicate the extent to which you agree with the following as practiced at Commercial Bank of Ethiopia							
1.INVENTORY MANAGEMENT				**1**	**2**	**3**	**4**	**5**
IM1	The inventory model used to determine the quantity ordered is based on real demand analysis			[ ]	[ ]	[ ]	[ ]	[ ]
IM2	The inventory model used target to minimize overall total inventory costs like holding, ordering, and stock out			[ ]	[ ]	[ ]	[ ]	[ ]
IM3	Replenishment planning and inventory deployment has a positive impact on customer satisfaction (Branches & Different Departments)			[ ]	[ ]	[ ]	[ ]	[ ]
IM4	The company has a system for wastage free utilization of materials inventory			[ ]	[ ]	[ ]	[ ]	[ ]
IM5	Materials in stock are correctly identified			[ ]	[ ]	[ ]	[ ]	[ ]
2.SUPPLY MANAGEMENT				**1**	**2**	**3**	**4**	**5**
SM1	The company has an organized marketing research team to find new and potential suppliers			[ ]	[ ]	[ ]	[ ]	[ ]
SM2	The company create long-term relationships with suppliers			[ ]	[ ]	[ ]	[ ]	[ ]
SM3	The company settle payment and close contracts on time			[ ]	[ ]	[ ]	[ ]	[ ]
SM4	The company target to minimize acquisition and logistics cost			[ ]	[ ]	[ ]	[ ]	[ ]
SM5	The company has an information communication technologies (E-procurement) and data base systems in facilitating procurement practices.			[ ]	[ ]	[ ]	[ ]	[ ]

3.TRANSPORT MANAGEMENT		**1**	**2**	**3**	**4**	**5**
TM1	The current vehicle scheduling practices has improved efficiency in logistics	[ ]	[ ]	[ ]	[ ]	[ ]
TM2	The transportation system of the company like timely delivery and safety satisfy users	[ ]	[ ]	[ ]	[ ]	[ ]
TM3	The company has sufficient transportation units	[ ]	[ ]	[ ]	[ ]	[ ]
TM4	The company reach or applied economies of scale and economies of distance to minimize transportation cost per unit	[ ]	[ ]	[ ]	[ ]	[ ]
4.WAREHOUSE MANAGEMENT		**1**	**2**	**3**	**4**	**5**
WM1	The design of the warehouse is easy to access items free from damage and convenient to loading and unloading	[ ]	[ ]	[ ]	[ ]	[ ]
WM2	The design of warehouse system is properly done to improve service and eliminate errors in warehouse operation	[ ]	[ ]	[ ]	[ ]	[ ]
WM3	Warehouse operators are skilled to use computer and other technologies to perform warehouse activities	[ ]	[ ]	[ ]	[ ]	[ ]
WM4	The company has various dockets like internal request form, waybill	[ ]	[ ]	[ ]	[ ]	[ ]
WM5	Most warehouse activities are automated	[ ]	[ ]	[ ]	[ ]	[ ]
5. CUSTOMER SERVICE SATISFACTION		**1**	**2**	**3**	**4**	**5**
CSS1	Orders are fulfilled in the promised date	[ ]	[ ]	[ ]	[ ]	[ ]
CSS2	The organization uses up to date information for forecasting internal customer's needs	[ ]	[ ]	[ ]	[ ]	[ ]
CSS3	The company applies electronic communication like EDI or ERP with other section for joint planning	[ ]	[ ]	[ ]	[ ]	[ ]
CSS4	There is a well-develop tool to check internal customer satisfaction in logistics activities	[ ]	[ ]	[ ]	[ ]	[ ]

6. INFORMATION FLOW MANAGEMENT		1	2	3	4	5
IFM1	Information gathering and information flow system is to meet the company's information flow procedure	[ ]	[ ]	[ ]	[ ]	[ ]
IFM2	The company invest in information technology that provide real-time information flow	[ ]	[ ]	[ ]	[ ]	[ ]
IFM3	The company has integrated data bases	[ ]	[ ]	[ ]	[ ]	[ ]
IFM4	The company uses online systems regarding monitoring of orders, schedules and inventories (CAD, CAM etc.)	[ ]	[ ]	[ ]	[ ]	[ ]

7. If you have additional comments on challenges of logistics on the following problems please write it.

- What problems did you observe in?

Logistic Infrastructure**:**

_____
_____
_____

Human Resource:

_____
_____

Information Technology Adoption:

_____
_____

Interview

A: Interview Questions

1. What can you say about your company's logistics management practices?

_____
_____

2. Do you think your organization is well performing in the supply process? If no what are the challenges?

_____
_____

3. Do you believe all the delivered goods and services are procured at the right time from the right supplier in right quality and quantity with the right price? If no what do you think the reason and your suggestion to solve these problems?

_____
_____
_____

4. What type of inventory model or tool used to minimize inventory cost as same time that satisfies internal customer by making the products available?

_____
_____

5. Do you think that your warehouse management system modernized that can be minimized error and give fast service?

_____
_____

6. What difficulty (ies) have you faced or observed on your occupancy in your company related to inventory management, supply, transportation management, customer response, warehouse management, and information flow management with logistics practice and other related issues that you remember?

_____
_____

Appendix II

One Sample Statistics of Mean of Means of the Study Variables

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Mean of Inventory Management	112	2.6250	.83618	.07901
Mean of Supply Management	112	3.3393	.76822	.07259
Mean of Transport Management	112	2.6518	.77718	.07344
Mean of Warehouse Management	112	2.6661	.73589	.06954
Mean of Customer Response	112	1.8973	.53855	.05089
Mean of Information Flow Management	112	2.2768	.62992	.05952