THE EFFECTIVENESS OF WAREHOUSE MANAGEMENT IN THE CASE OF (3F) FINFINE FURNITURE FACTORY PLC

A Thesis Submitted to St. Mary's University in the Partial Fulfillment of the Requirement for Masters of Business Administration in General Management

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THESIS APPROVAL FORM

Effectiveness of warehousing management – "A case of (3F) Finfine Furniture Factory

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Declaration

I, Demelash shimels declare that this paper is a result of my independent research work on the topic entitled **"Effectiveness of Warehousing management –A Case Study of (3F) Finfine Furniture Factory Plc "** in partial fulfillment of the requirements for the Degree of Masters of Art in General Management at St. Mary's university. This work has not been submitted for a degree to any other university. All the references are also properly acknowledged.

Demelash shimels

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Date: _____

Statement of Certification

This is to certify that **Demelash Shimels** has carried out this research work on the topic entitled **"Effectiveness of Warehousing management – A Case Study of Finfine Furniture Factory (3F)"** under my supervision. This work is original in nature and has not been presented for a degree in any University and it can be submitted for the partial fulfillment of the requirements for the award of the degree of Masters of Art in general management.

Mohammed N. (Ass. professor)

Signature: _____

Date: _____

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Sincerely,

Demelash shimels

List of Acronyms/Abbreviations

3F: Finfine Furniture Factory Plc

GRN: Good Received Note

GTN: Good Transfer Note

WMS: Transportation management system

SCM: Supply Chain Management

WMS: Warehouse Management System

Abstract

The purpose of this research is to assess the existing warehousing Effectiveness of Finfine Furniture Factory plc (3F). The researcher prefers to use a descriptive research type, which helps to use both qualitative and quantitative data analysis. The target population is 59 employees and they were taken using census sampling methods. Questionnaires, as well as observation were used to collect primary data. The researcher validated the research by pilot testing of the questionnaires through distributing the questionnaires for some staff members of the company who involved in warehousing effectiveness. Then, the collected data were analyzed by using IBM SPSS statistics 20, such as percentages, frequencies, mean and standard deviation and the analyzed data were presented in tables. The findings showed that, in its current form, the warehousing effectiveness of the case company can be divided according to the five warehousing activity which is: Receiving, unloading, Storage, Order processing, and delivery. Moreover, results of the study revealed that even though respondents rating as a moderate or a little bit above the company overall warehousing effectiveness, there are also so many various challenges in performing those warehousing activity: lack of adequate warehousing facility, lack of information technology infrastructures, lack of training, lack of manpower (labor) and warehousing personnel's. Despite the limitation, the study is believed to create awareness about the concept, principle and Effectiveness of warehouse management in the case company. It is thus recommended that the company should have effective warehouse management training and try to improve the listed five ware housing activities of the company.

Key words: *Warehousing Effectiveness, Warehousing Management, Warehousing Activity*

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Warehouse is a facility in the supply chain to consolidate products to reduce transportation cost, achieve economies of scale in manufacturing or in purchasing (Bartholdi. et al., 2006)

Today's business environment requires implementing innovative solutions to effectively manage increasingly complex warehouse management activities while simultaneously reducing operational expenses (John. et al., 2011).

According to John.et al., (2011), warehouses occupy strategic positions between suppliers and customers. Oftentimes, warehouse operators are the last personnel to see and touch products before final delivery. As such, they are the final entity to inspect product quality, condition, and count, and verify documentation accuracy.

The objective of warehousing is to minimize the cost of labor, space, and equipment in the warehouse while meeting the cycle time and shipping accuracy requirements of the customer service policy and the storage capacity requirements of the inventory play (Michael. et al., 2007).

The efficiency and effectiveness in any distribution network is largely determined by the operation of the warehouses. Reduction in material handling, increase accuracy levels, improvement in service consistency & availability, increase speed of service are the main decision criteria in warehousing management (Hackman et al., 2001).

Warehouses are a substantial component of logistic operations, and an important contributor to speed and cost in supply chains. While there are widely accepted benchmarks for individual warehouse functions like order picking, little is known about the overall technical efficiency of warehouses. Lacking a general understanding of warehouse efficiency and the associated causal factors limits organizations ability to identify the best opportunities for improving warehouse practices (Andrew Johnson, 2010).

According to Tompkins (1998), the primary functions of a warehouse are receiving goods from a source, storing them until they are required, picking them when they are required, and shipping them to the appropriate user.

The effectiveness warehouse management can be shown in different forms, such as availability of required materials, reduction in material handling, increase accuracy levels, improvement in service consistency & availability, increase speed of service, & availability of required stock data are the main decision criteria in warehousing management (Hackman et al., 2001).

Warehouses are the final point in the supply chain represents approximately 20-24 per cent of total logistics costs (European Logistics Association and A.T. Kearney Management Consultants, 2004). Reduction in material handling, increase accuracy levels, improvement in service consistency & availability, increase speed of service are the main decision criteria in warehousing management (Hackman et al., 2001).

A study was done by Anteneh Berhanu on (2017), there were research reports studies in the case of effectiveness of warehouse management in UNCEF Gambele branch. This shows that effective and efficient management of any organization requires investigation that all its constituent elements operate effectively and efficiently.

As indicated by Richards (2014), warehouses have, in the past, been constantly referred to as cost centers and rarely adding value. The movement of production to the Far East, the growth of e-commerce and increasing demands from consumers has seen a step change in warehouse operations.

According to Heung and Gyu (2006), Warehousing takes up the cost of sales of a corporation and with today's highly competitive global business environment organizations are emphasizing on return on assets, and hence minimizing warehousing costs has become an important business issue. Many firms are automating their basic warehousing functions to achieve the increase in through put rates or inventory turns required for their warehousing operations to be cost effective. The Warehouse Management System optimizes the put away and storage of inventory through dividing the warehouse into designated areas and utilizing space in the most efficient way.

A well implemented warehousing management system helps in coordinating operations in the stores. This is imperative in ensuring smoothing of production and this benefits the organization from the economies of scale and improved customer service. Well implemented warehousing systems are designed to help in the specification of inventory procedures, operation and control (Forger 2004).

1.2. Statement of the Problem

Warehousing represents one of the most important assets that most businesses possess, because the turnover of inventory represents one of the primary sources of revenue generation and subsequent earnings for the company. In the manufacturing companies, nearly 60% to 70% of the total funds employed are tied up in current assets, of which inventory is the most significant component (Carter, 2002). Thus, it should be managed in order to avail the inventories at right time in right quantity. Moreover, according to Heung and Gyu (2006), Warehousing takes up to between 2% and 5% of the cost of sales of a corporation and with today"s highly competitive global business environment organizations are emphasizing on return on assets, and hence minimizing warehousing costs has become an important business issue. Many firms are automating their basic warehousing functions to achieve the increase in through put rates or inventory turns required for their warehousing operations to be cost effective.

Major and minor mistakes in warehousing can result to high losses. Incorrect storage can damage the goods. If the damaged goods are sold, they will either be sold in a much lower price or not be sold at all. The manufacturers will not be able to get back their investments. Failure to deliver the goods to the right destinations will cause the business to cover another round of delivery costs to do two things: to bring back the wrong goods and to deliver the right ones. Due to delays, goods can get damaged and intended recipients may not want to accept and pay for the delivery. Another adverse effect of wrong warehousing is that it can destabilize the prices of goods. If there is not enough supply due to the incompetence of the warehousing management, the prices of goods may rise to meet the unchanged demand of the consumers.

Based on observation of the company, the researcher observe that, in the warehouse of the given company it's evident that there is a sign of poor warehousing practices for instance; some storage areas were overfilled while others are underused (poor layout), absence of information communication technology infrastructure, poor warehousing facilities (facility looks jumbled and unorganized) and lack of basic and modern automatic guide machineries. Furthermore, most of the warehousing activities were performed through manually and such type of problems will create insufficient movements of the items, lead to great exposure of potential injuries, high time exhausted in the process of loading/unloading items, consumes too much manual labor.

Since, (3F) Finfine Furniture Factory follows the principle of producing for orders and stock, occasionally there is an excess inventory in the storage and these lead to bad exploitation of working area, barrier of movement in warehouse and creating extended lead time of responding

customer service which result to high losses. Thus, this particular study is concerns in assessing the current warehousing practices of (3F) Finfine Furniture Factory. It is also initiated to fill the knowledge gap that exists due to limited studies on the area.

1.3. Research Questions

In order to attain the research objective the study seeks to answer the following research questions:

➢ How does the selected company settle its product receiving activities in the warehouse?

➢ How does the selected company organize unloading products in the warehouse?

➢ How does the selected company organize its product storage activity in the warehouse?

➢ What are the major challenges in warehousing effectiveness of the selected company?

➢ How does the selected company handle product order processing activity?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this research is to assess the effectiveness of warehousing management in (3f) Finfine Furniture Factory Plc.

1.4.2 Specific Objectives

The specific objectives of the study are to:

➢ To assess how does the selected company settle its product receiving activities in the warehouse?

➢ To examine how does the selected company organize unloading product in the warehouse?

➢ To assess how does the selected company organize its product storage activity in the warehouse?

➢ To identify the major challenges in warehousing effectiveness of the selected company?

➢ To analyze how does the selected company handle product order processing activity?

1.5. Scope of the Study

This study is concerned with assessing the effectiveness of warehousing practices in (3f) FinFine Furniture Factory plc. The company has one main finished and three raw material warehouses, which are located in Oromia Region "AlemGena" town and additional six mini finished stock warehouses throughout the country. The research covers one main finished stock warehouse and

two raw material warehouse as well as six mini finished stocks. all warehouses of the company located in Addis Ababa, Piazza, Bambis, Salitemihiret ,Jemo and Saris sales branches. The rest adama branch is not included in the study due to location or distance from the main study area. And also Even if the warehouse activity is wide and need a deep research the researcher mainly focuses with research question and try to come up with finding and suggestion.

1.6. Significances of the Study

In general, the importance of any study is either for acquisition or addition of new knowledge or problem solving. The findings of this study may help the company to understanding its warehousing activity and provides a ground for the company to reduce its internal and external costs that could be resulted due to poor warehousing practices. It is anticipated that outcome of this research may provide information to the organization to overcome its existing problems of ware housing practice. The study may also provide additional information to the existing literature on effectiveness of warehouse management and further research needs in this area.

1.7. Limitations of the Study

Lack of current research articles or literatures to be reviewed in the area of the study is one of the limitations of this study. The major limitation during the research was, some employees were not cooperating to answer and return the question on time is the other limitation of the study.

1.8.   Definition of the basic terms

 The basic terms applied in this study were based on the following definition:

➢ Warehouse: is a place where item are received, stocked and dispatched (Aronovich, et al., 2010).

➢ Product turnover time: is the amount of time that it takes for a product to be sent out of your ware to customer after it has arrived (sneha vushnu,2016)

➢ Processing order: is takes in receiving an order and it being sent to the ware house (saxena. 2003)

➢ Warehouse management: has been defined as the combination of planning, decision-making and controlling inbound, storage and outbound flows (Faber, 2013).

- Materials Management is the single manager organization concept embracing and planning, organizing, motivating and controlling of all those activities and personnel principally concerned with the flow of materials in to an organization (Fearon, 1973).
- Supply Chain Management is a network of relationships, with the goal to deliver superior value, i.e., the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole (Christopher 2005).

1.8. Organization of the Study

This research is structured with five chapters. Each chapter has its own sub units. The first chapter deals with background of the study, statement of the problem, research questions, objective of the research, significance, and limitation of the study. Chapter two present the review of literature. Chapter three research methodologies, chapter four focuses on data analysis and discussions and finally, chapter five present conclusions and recommendations of the study.

CHAPTER TWO

LITIRATURE REVIEW

2.1. Defining Warehouse

The warehouse has been viewed in many different ways and has many definitions. (Cavinato, 1990) views the warehouse as the place to hold, move, sort, transfer and change the form of inventories. Whereas, (Spencer, 1993) argues that the warehouse is a production system. He states that the warehouse is a combination of single operations, culminating at the end as a whole process. (Gunasekaran et al, 1999) believe that the warehouse is a combination of both physical processes of material handling and methodologies such as inventory control and production control.

According to Jessop.et al., (1986), Store is a temporary location for materials needed for operational purposes, and should be planned and organized in such a way that the period of residence of each stock item is as short as possible consistent with economic operation.

Besides, Storage is the management of storehouse and stockyards, the operation of handling and storage equipment and the safe custody and protection of stock as well as store keeping is those procedures and means whereby goods are received, identified, stored, issued, accounted for, and replenished in accordance with defined levels of service and with due regard for the statutory requirements for health and safety (Tompkins. et al, 1998).

2.2 History of Warehousing

The warehousing concept takes us way back to the creation of granaries to store food, which was stored for drought and famine and this food was available for purchase in the conditions of emergency, famine, drought etc.   As the European explorers began to discover new shipping trade routes all over the world, the importance of warehouses grew for the storage of products and commodities which were brought from far way places.   The ports were the main locations of the warehouses, since majority of the trade between the countries was carried by ships (Tompkins. et al., 1998).

In early days man used to store excess food and keeping animals for emergency surplus. As the civilization developed, local warehouses were introduced. Normally merchandise is stored in connection with shipping, trading, and manufacturing activities. During the Middle Ages

improvement in human knowledge gave rise to warehousing to handle the storage of shipped items. The first known major commercial warehouse was built in Venice, a center of major trade routes. In late 1800"s in the United States, transportation between port cities and inland cities were effectively provided by railroad. Freight cars were used as warehouses on wheels, and were especially used in grain harvest season. Shortages in freight cars induced the railroad companies to partition the transportation and warehousing functions. During this time period because of monopoly on both warehousing and freight by railroad companies favored large corporations, giving them free warehousing services with the use of the railroads. The warehousing facility was provided as an additional service to transportation, and the service so provided was part of the clearance terminal. The word terminal describes the warehouses were located in the center of the city, normally close to the wholesale market district and railroad depot (Tompkins. et al., 1998).

By the end of World War I, hand trucks were used for material handling in warehouses and stacking was done by hand, and stacking heights were designed in 8-to 12-foot range. During World War II, the fork lift truck and wooden pallets were introduced. Stacking height of merchandise was increased to 30 feet, nearly a 300 percent increase due the mass production of forklift truck.

Warehousing systems have seen a continuous growth throughout the history, they have been moving forward from local storehouses during the middle ages to multimillion dollar facilities. In 1960s and 1970s in the US automated warehousing meant automated storage/Retrieval systems (AS/RS). The main factor which gave rise to this development was the doubling of the value of business inventories between 1962 and 1972 and the value was tripled between 1972 and 1982. After the late 1980s the AS/RS systems became obsolete and more emphasis was paid on reducing inventories, small batch production and Just in time delivery (Tompkins. et al., 1998)

2.3 Warehouse Management System

A warehouse management system, or WMS, is a key part of the supply chain and primarily aims to control the movement and storage of materials within a warehouse and process the associated transactions, including shipping, receiving, put away and picking. The systems also direct and optimize stock put away based on real time information about the status of bin utilization (Saxena, 2003). Warehouse management systems often utilize Auto ID Data Capture (AIDC)

technology, such as barcode scanners, mobile computers, wireless LANs and potentially Radio-frequency identification (RFID) to efficiently monitor the flow of products.

Once data has been collected, there is either batch synchronization with, or a real-time wireless transmission to a central database. The database can then provide useful reports about the status of goods in the warehouse (Saxena, 2003).

The primary purpose of a WMS is to control the movement and storage of materials within a warehouse – you might even describe it as the legs at the end-of-the line which automates the store, traffic and shipping management (Saxena, 2003).

The effectiveness warehouse management can be shown in different forms, such as availability of required materials, reduction in material handling, increase accuracy levels, improvement in service consistency & availability, increase speed of service, & availability of required stock data are the main decision criteria in warehousing management (Hackman et al., 2001).

In order to maximize warehouse efficiency it must be fully integrated with the preceding and subsequent operation i.e. goods in wards and goods issued. Instead of being considered as a loss – center it should be studied, planned and managed as profitability – center. Profits (except on direct sales) are unlikely, but, as in the case of other supplies activities, savings made here can contribute directly to company profit – if not wasted elsewhere in the business! Stores equipment must be suitable for the sage preservation and rapid issues of the materials stored.

Safety in stores should be a major consideration, for this is an area with an unexpectedly high accident rate. Even in a small factory the location of the stores can affect work flow and thus productivity and profitability. The sitting of stores at the center of gravity of demand appears an attractive solution. However, particularly in a small factory, this may lead to the stores being continuously compressed by the demands for more production space surrounding it, while at the same time having to carry increasing stocks to support the increasing production (Compton, 1979).

2.4. Measuring Warehouse Effectiveness:

There is only a limited amount of space in your warehouse and you will need to ensure that you are making best use of this space to make the highest profit. The business profits will be very closely linked to the efficiency of your warehouse, so analyzing all of these key efficiency factors in detail is a very prudent move to make. Measuring the time it takes to complete each of these processes will help you to determine how efficient your warehousing system is. Delays in any of the steps listed below, can significantly impact the efficiency of your business because it will hold up the other processes within your warehouse. (Sneha Vishnu, 2016).

- **Product turnover time**:

The product turnover time is basically the amount of time that it takes for a product to be sent out of your warehouse to a customer after it has arrived. If the product turnover time is too slow then you will be losing money and limiting the amount of products that your company can process through the warehouse.

- **Unloading and recording the product**:

When a delivery first arrives in your warehouse, you will need to unload the goods and record what you have received. The time it takes to unload the delivery is important as if it is slow you will create a bottleneck of goods and will be unable to process them. The efficiency of this process will depend upon the organization of the warehouse and the lifting device that you have available for the job.

- **Organizing and storing the delivery**:

Unloaded the delivery and determined what it is that you have received; you need to organize and store the products. How you do this depends upon your storage setup and will be a significant factor in overall product turnover time. The racking systems and picking processes put into action will impact the speed of product turnover.

- **Processing orders**:

Final stage in warehouse product turnover is the receipt and processing of orders. The time is takes in receiving an order and it being sent to the warehouse will impact turnover times and the organization of product picking processes will too.

Various types of material are stored in the warehouse. Each material has its own characteristic. Some of the materials are affected by environmental conditions, the method of storage, and the time of storage. For e.g. rubber, material like conveyors, tires and vulcanizing are affected by temperature, refractory material is affected by moister or humidity steel items rust in the presence of moisture and air some material become deformed, if not stored proper and cannot be used any more. Materials handling refers to the process of moving, controlling, protecting as well as storing materials such as goods, items, etc. for manufacture, disposal, and distribution or even for consumption.

This process is very crucial because all the materials should be handled well in order to keep it safe, to reach its destination safely and to maintain their quality and condition. In other words, good materials handling is important. (Saxena 2003),

- **Value Adding Activities in a Warehouse**

Value-Added Warehousing is a relatively new concept in the logistics industry and is based in part on bridging the gap within the existing transportation and distribution process of shipping and assembling consumer products. In essence, Value-Added Warehousing services are those which complement and enhance freight transportation, warehousing, and logistics-based industries by assembling and customizing products moving through a distribution facility.

They improve product flow to reduce and often eliminate storage, while enabling customization to fit the needs of customers. Logistics-based companies which utilize Value-Added Warehousing services are typically able to lower their inventory of finished goods until company or customer orders are actually received. Overall, this process enables a more cost-effective supply chain approach to distribution, providing more flexibility and cost savings (Wills, 2007).

Consolidation: Warehouse unites these single items into a bulk order according to the manufacturers or plant requirements and then ships the unified product. (Wills, 2007).

Product mixing: Normally a warehouse receives different kind of finished products from different plants, and one customer needs different mix of products which is effectively performed by warehouse.

Service: The service performed by the warehouse can be of different types starting from receiving until shipping of goods. For example some warehouse performs extra decorative things to the products before the final shipping to the customers. (Wills, 2007)

Contingency protection: It is very important for the warehouses to maintain a back up data and other essential records in order to cope with any kind o situations. Normally, warehouse plans in advance for any future requirements such as inventory maintenance or storing of products or security of goods etc, thus always equipped with contingency protection.

Smooth operation: Warehouse between manufacturer and customer makes the operations very effective since different value adding activities are being performed at the warehouse. Consolidation and product mix are the two important activities which improve the customer satisfaction level and enable a smooth operation.

2.5 Warehouse Activities

In order for the reader to get an insight of this thesis area of research, following will describe basics behind warehouse activities. The theory in this section follows general warehouse philosophy and is similar to several renowned publications in the field of warehousing, both old and new. Bartholdi & Hackman, (2011) illustrates the normal physical activities and flows in a warehouse. The inbound processes are represented by receiving and put-away whilst the outbound process includes picking, packing and shipping. In the following section, brief descriptions of (Bartholdi & Hackman"s, 2011) different activities in the inbound and outbound processes are presented, as well as other descriptions that are relevant to the topic.

Receiving: - is the first operation in the warehouse. This process starts by notification of the arrival of goods. Then begins process of unloading, counting, identifying, quality control, and goods acceptance (incoming inspection) related to a type and quantity by unloading staff according to the company rules. When the goods are accepted, the receipt is issued. The acceptance depends on the delivery status – the delivery date, the quality of delivery, the planned schedule which should also minimize a truck waiting time. Receiving represents about 10 % of the cost in a normal warehouse.

Unloading: - prior to the unloading of a stock keeping unit (SKU) is being made, it's important that a (convenient) storage location is selected for storage. The reason for this is because the storage location many times reflects how quickly and how cost-efficient it later on will be retrieved for a customer. To do this, the warehouse staff needs to be able to control the inventory, i.e. the storage locations. Workers and managers need support to able to quickly access information about available storage locations, things to consider can be, how much weight a storage location tolerate, how spacious they are, how easily they are accessed etc. The put-away can then be realized with the help of various equipment such as forklifts, roll trolleys or conveyers. Put-away usually corresponds to about 15 % of warehousing operating payments.

Storage: - there are two main storage types, dedicated storage and shared storage. In general, a unique address is assigned to every single location in a warehouse, regardless if it's dedicated or shared location. A dedicated location is a storage, which is reserved for a specific and allocated SKU. In this manner, high frequent SKUs are assigned to more convenient locations, which streamline order picking. However, a consequent of dedicated storage is often that volume utilization becomes insufficient.

The other type of storage, shared storage, can on the other hand be used to improve space utilization. Here, SKUs can be assigned to several locations. Once such a location becomes empty, another SKU can be assigned to this specific location. Consequently, the utilization of the inventory will be higher, the tradeoff is of course that a SKU can be located in many different locations and can thus be harder to find without good systems in place.

Pick: - normally, order-picking (retrieving a SKU from storage location) represents about 55 % of total warehouse operating costs. But it can also be further broken down to traveling, searching, extracting and paperwork and other activities. As a mean to get the right information to the order pickers, pick-lines are used, which contain instructions on what to pick, in what quantity and in what units of measure. Each pick-line corresponds to a specific location in the warehouse. It should further be notable that a pick-line may consist of several picks from the same location. Of course picking have been of large interest for automating due to high operating cost and manual handling.

Pack/Ship: - packing is also a quite labor-intensive activity because of the magnitude of orders (and SKUs) that are handled; often inspections take place at this stage as well. The inspections are performed to control that the orders are complete and accurate, order accuracy is a crucial

measure and important to create good service to customers. Inaccurate orders can generate both expensive returns and poor reputation.

In general, the numbers of units that are handled in the shipping dock are lower compared to that of picking. The reason for this is because customers" ask for consolidated shipments, which means that orders are packed together on a single carrier (e.g. pallet or case), which enables economics of scale benefits due to lowered shipping and handling expenses. However, there are customers, e.g. e-commerce actors such as Amazon, who are more likely to ship goods separately, even though one customer buys two books just a quarter of an hour apart from each other. In this case, rapid response is more important, and shipments can be sent separately because it's not a concern for customers.

2.6. Warehousing Classification

Variety is something we see every day in our life. People are different from each other. Some people to live a peaceful calm life, on the other hand some people like to rush from one meeting to another and work as an accountant for example. Just like variety being a part of everything, it is a part of warehousing as well. Warehouses can be classified depending on the ownership or functions. According to their functions, warehouses can be classified in following main categories

➢ *Raw material and component warehouses***:** This is the warehouse type where the raw materials for manufacturing are held.

➢ *Work-in-process warehouses***:** In a manufacturing company it can be needed to keep a stock for partially completed products and a work-in-process warehouse is used for this purpose.

➢ *Finished goods warehouses*: This is where the finished goods are stored.

➢ *Distribution warehouse and centers***:** This is where finished products are accumulated from many different manufacturing points to be delivered as combined shipment to the customers.

➢ *Fulfillment warehouses and centers*: This is where items are received picked and shipped in small orders for individual customers.

➢ *Local warehouses***:** In some circumstances it will be useful to have local warehouses to supply strictly local demands.

2.7. Role of Warehouse in Supply Chain

Since inventory holding and the customer serving are key warehouse functions which implies warehouse has an important role to play in supply chain. Some of the important roles of warehouse are to make or break bulk. Consolidation centers, cross docking centers, transshipment, product fulfillment centers, returned goods depots, some other roles like customer support, installation and repair services. The roles mentioned here are associated with some concepts like agility, production postponements and time compression which are recognized as increasing trends in warehousing. Thus inventory has important role on warehouse in modern supply chains (Baker, 2007).

Warehouses function as node points in the supply (value) chain linking the material flows between the supplier and the customer As a result of the highly competitive market environment companies are continuously forced to improve their warehousing operations. Many companies have also customized their value proposition to better meet customer demands, which has led to changes in the role of warehouses. In such conditions improvement of order processing and materials handling can bring significant cost savings and at the same time increase customer value. (Tommy Blomqvist, 2010)

2.8 Warehouse Performance Measurement

One of the primary goals of logistics management is to establish appropriate indicators that measure and ensure that logistical activities are fulfilled as they were initially planned.

Agreeing on variables that are the key to improving performance, systematically collecting data on these variables, and then displaying the set of data in statistical terms is a major goal of many process improvement projects.

Despite their considerable success in some companies, process improvement programs can be difficult to implement because it appears that a key condition for their effectiveness is that employees through all levels of the organization develop a good understanding of the work process in which they are involved (Hoyles et al., 2007).

Key objectives in designing warehouse operations include increasing productivity, reducing cycle time, and increasing accuracy Often times these objectives may conflict with one another because a method that focuses on productivity may not provide a short enough cycle time or a method that

focuses on accuracy may sacrifice productivity. Researchers and managers typically attempt to find a set of measures which collectively (Gunasekaran et al., 2004)

Capture most, if not all, of the performance dimensions thought to be important, over both short- and long-term horizons. It is also advisable to review the warehouse performance measures periodically because this way it is possible to estimate the development of warehousing operations by comparing results between different time periods with each other. Because logistics performance is multi-dimensional, the selection of logistics measures is dependent on the nature the business. Typical business measures are based on financial, productivity, quality, and cycle time performance. Warehouses can be held accountable for same measures. These so called hard performance measures are typically impersonal, accurate, easy and inexpensive to collect. (Frazelle, 2002).

Because it may be hard to justify the profitability of warehousing, financial perspective of performance measurement is often concentrated on cost-accounting. This typically involves creating an activity-based costing program for the warehouse. Even private warehouses are constantly facing a competitive situation because of third-party logistics providers. These measures can be used as a basis for comparing third party proposals. A company whose warehousing costs are higher than those of a third party provider should reconsider the possibility of outsourcing its warehousing operations. Cycle time can be used as an indication of the warehouse's service capability because reduction in the order cycle time leads to a reduction in the supply chain response time (Gunasekaran et al., 2004).

Changing Trends of Warehousing:

Due to the changing trends in the businesses, warehousing and distribution operations should adopt to the emerging changes and growing needs of the customers. The term „Globalization" brought rigorous changes in the field of logistics. The distribution operations now pay more emphasis on fewer inventories, smaller order sizes, larger SKU catalogues, quicker order turnaround, increased customized packaging and value adding services. Once the businesses concentrated only on local distribution centers and now all the companies give more importance on having more globalized distribution centers, and instead of having single network channel, they are having multiple distribution channels.

In order to cope to these changing trends every second, most of the companies have deployed new technologies such as Warehouse management systems (WMS) and Transportation management systems (TMS) and some have decided to redesign the processes and facilities to meet the emerging requirements as well as to reduce costs and improve service levels to the customers at the same time. Some large scale businesses have gone one step ahead and decided to deploy automation of the whole warehousing operations. Some have already opted to outsource all their warehousing operations to third party logistics provider (Michael. et al., 2007).

2.9. Empirical Literature Review

A research done by Dagnachew Tadesse (2015) at the Addis Ababa University under the heading "The Role of Warehouse Personnel Practice on warehouse Performance- A Case Ethiopian Electric Utility" reveals that poor practice of warehouse personnel negatively affected the overall operation of the corporation. The study showed that the utilization of unqualified personnel in the organization is contributing to the organization's lower performance.

The other research done by Beyen Gashu (2016) at the Addis Ababa University entitled "Improving Inventory Management at SUR Construction Company.

Inventory management techniques such as minimum-maximum level, safety level, lead-time analysis, and inventory cost decision and economic order quantity are not applied in the company. Hence, researcher concludes that the main contributing factor for inventory management in effectiveness to the construction company, which results in high stocks outs and non-moving obsolescence items, rush ordering, unplanned and urgent purchasing items, is the staff development and capacity incompetence.

The other research done by Anteneh birhanu (2017) at Addis Ababa university under the heading 'the effectiveness of ware house management in save the children" A case of Gamble emergency office" reveals that high number of respondents rated the save the children, Gambela emergency warehouse services are low with the exception of its quality inspection procedures. Based on the findings, the study showed that the organization devised a system of inventory control but the office which is under this study hasn't shown much effort to put it in to practice. Materials which are required to be availed in continuous bases were not identified and maximum and minimum level of stock was not determined. It is observed that some food items purchased for the use of refugees were found expired in the warehouse. The information exchange process between

warehouse personnel and user departments found to be weak that active operation time of some awards elapsed without distributing those materials purchased and stored in the warehouse from same award.

2.10   Conceptual Framework

(Jabareen, 2009) defines conceptual framework as a network or a plane of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena. Accordingly this thesis introduces the conceptual framework that developed for the study. The framework which developed for this study is formulated based on approaches and concepts identified in the literature review in this chapter. The purpose of the framework is to explicate the conceptual logic and direction of the study. It engages leading ideas and helps to explain the significance of these study's concepts.

The main activities which are included under warehousing are (Tompkins, 1984):

Receiving: - the process of unloading, checking quality and quantity, and dissembling or repacking items for storage.

Unloading: - defining the appropriate location for items and transferring them to the specified storage location to wait for demand.

Storage: - is the physical containment of merchandise while it is awaiting a demand.

Order processing: **-** facilitating appropriate order regarding storage and warehousing activities

D**elivery: -** inspecting, packing, palletizing and loading items into a carrier for further delivery.

Figure 2.8: Conceptual Framework
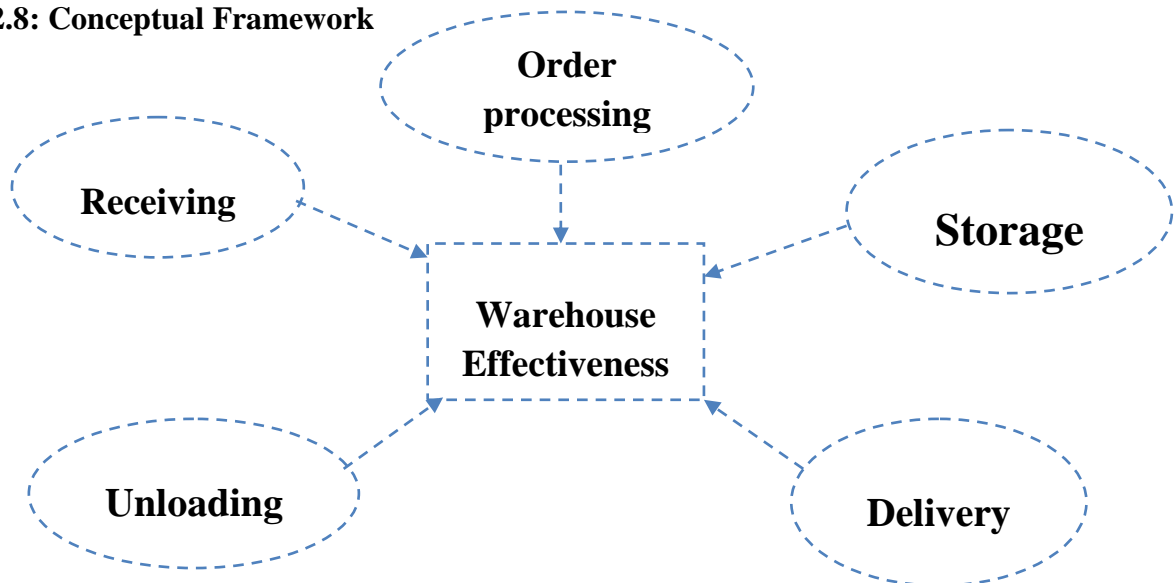
Source: - Adopted modifications with from (Tompkins, 1984)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Description of the Study Area

The current 3F FINFINE FURNITURE FACTORY was established in 1959EC with the name of RIBA ETHIOPIA joinery furnishing share company, after the highest share of Mr. RIBA was sold to ECAFCO the companies name changed to Futura furnitures.c after been departed from E.C.A.F.CO. The companies name becomes (3F). The company Capital at the time of its establishment was 210,000 (two hundred ten thousand birr only) and the number of employees where 58 only which 8 of them were foreigners.

In 1971 E.C. government of the country with its policy to transfer private manufacturing companies to public 3F was again owned by government. By the year 1988 E.C the company ownership transferred to current owner, at the time it had a 2.8 million birr production per year and the number of employees were reached to 200.

After been transferred to private investors the company showed magnificent changes, its' paid up capital in 1988E.C.when it's sold to current investors was 27,000,000(twenty seven million birr) and the number of employees were up to 200.

Currently the companies' paid up capital is 248,170,000.00(Two hundred forty eighty million one hundred seventy thousand) birr. The number of employees is now more than 562 both permanent and contact. In two decades the company's paid up capital has increased 6 times higher than when it was in 1988EC.(Source: company profile)

3.2. Research Approach

Qualitative research is the approach usually associated with the social constructivist paradigm which emphasizes the socially constructed nature of reality (alzheimer-europe.org, 2009). The researcher adopts an inductive research approach which means, the researcher develops a theory or look for a pattern of meaning on the basis of the collected data through questioners, interview and observation. This involves a move from the specific to the general and is sometimes called a bottom-up approach.

3.3. Research Design

As Adams et al (2007) described research design is the blueprint for achieving research objectives and answering research questions. In order to describe and examine the current warehousing practices of case company, the researcher follows a descriptive type of research design. Descriptive research allows the researcher to assess and describe the nature; condition and degree of the present situation of warehousing practices of the selected company. Therefore, the researcher prefers to use a descriptive research type, which helps to use both qualitative and quantitative data analysis.

3.4. Data Source and collection method

The data used for a research work can be collected from several sources. The data which is used for both theoretical as well as the empirical approach can be collected from various sources such as archival records, interviews, observations, physical artifacts etc. This collected data can be basically divided into two different types, primary and secondary data (Kumar, 2005). The proposed research design was guided by the study objectives and the set research questions and collect data both from primary and secondary sources. The data collection techniques used for this particular study broadly categorized as (1) Questionnaire (2) Semi-structured interview questions as well as (3) Observation.

In order to address the questions of the thesis related data need to be collected in a correct way. The data needed for the research can be collected either as secondary data or as primary data (Hussey. 1997), explain the difference between them as follows: Secondary data for this thesis are collected from literature (books, journals, research papers, articles and company files and reports), Internet, and databases. Furthermore, training handout and annual report of the company will be other source of data for this thesis. Primary data can be both qualitative and quantitative, where interviews and some observations fall under qualitative research methods, and other observations and surveys fall under quantitative research methods. In this thesis a suitable method to collect the primary data were questioner, interview and observation. Since the purpose of this thesis is to assess the effectiveness of warehousing, i.e. to assess the existing situation, it is important that the chosen method can reach many potential respondents. A good way to find the relevant information was questionnaire; interviews and observation were the main source of primary data for this thesis.

3.5. Target Population and Sampling Techniques

A population is any complete group with at least one characteristic in common (Mugenda & Mugenda, 2003) Since the study is limited to the existing warehousing practice of the case company, coming to the sampling issue, since the employees working in the warehousing are small in number, taking a sample was not justifiable, as a result, census method used to consider all warehouse staff and managers who are working closely in company.

The population comprised of 59 and individuals who are working closely with warehouse management section.

The population's sizes comprised the following target population:-

➢ The entire member of staff thirty Eight (38) workers and their supervisor who are currently work in warehouse section of the company.
➢ 12 (Twelve) other section managers who are working closely with warehousing section due to their work nature.
➢ 9 (nine) non- manager staff of other sections which is working closely with warehousing section due to their work nature

Therefore, in the course of conducting this research the target population is 59 which comprises of individuals from warehouse management section, marketing department, production department, purchasing and procurement department, finance department, and human resource department of the company. As the study covers all the employees in the stated department and census were used to conduct the research. Furthermore, employees and individuals who are working closely and received service from the warehouse section were selected based on purposive sampling. According to Tashakkori (2003), a purposeful sampling technique allows the researcher to select participants based on a specific purpose rather than randomly.

3.6. Ethical Consideration

Before writing the proposal, it is useful to consider the ethical issues at all phases of the research process that can be estimated and described in the thesis. With consideration for research sites, potential readers, studies contain ethical practice. All human organizations have some ethical issues to observe. Divulging of information by employees that can affect the institution is among several ethical issues relating to the staff of any company. To check the ethical clearance of the study, respondents are informed about the purpose of study, not to mention their name in responding questions and to get the response result or the report of study. Therefore, confidentiality of personal data kept ethically and respondents were treated with respect.

3.7. Reliability and Validity

Validity is the degree to which a test measures what it purports to measure (Creswell, 2009). Validity defined as the accuracy and meaningfulness of the inferences which are based on the research results. It is the degree to which results obtained from the analysis of the data actually represents the phenomena under study. He contends that the validity of the questionnaire data depends on a crucial way the ability and willingness of the respondents to provide the information requested.

A pilot study was conducted to refine the methodology and test instrument such as a questionnaire before administering the final phase. Questionnaires will be tested on potential respondents to make the data collecting instruments objective, relevant, suitable to the problem and reliable as recommended by (John Adams et al., 2007).

Furthermore, most of the respondents were managers and workers who are currently work in warehouse section of the company. Therefore, the researcher expects that the respondents have given credible answers that would probably be answered to another future independent researcher.

One of the most commonly used indicators of internal consistency is Cranach's alpha coefficient. Identically, Cranach's alpha coefficient of a scale should be above 0 .7 (DeVellis 2003). The alpha value of this research is 0.875 which shows a good reliability. And the researcher also test the reliability by expert's comments, and from triangulating the primary data obtained from the questionnaires and observation. Issues raises by respondents were gathered and questionnaires were refined accordingly. Besides, proper detection by an advisor was also taken to ensure the content validity of the instruments. Finally, the improved version of the questionnaires were printed, duplicated and dispatched.

3.8. Data Analysis Plan

In general there are two types of data analysis techniques namely: qualitative and quantitative where by the choice of these methods greatly depends on the type of information the researcher has at hand (Kumar, 2005). If most of information collected contains numerical, the analysis calls for quantitative tools and descriptive statistics can be used to characterize the data. In contrast, if most of the data collected are in words which mean data gathered using individual interviews, and open –ended questions, it is logical enough to apply qualitative data analysis tools (Nunnery et al., 1994).Therefore, as determined in the data collection tool for this study, data were collected via questionnaire, interview and observation. Accordingly, the collected data were analyzed using descriptive statistical techniques such as; percentages mean, and standard deviation as well as the analyzed data was presented in tables.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study in reference of objectives mentioned in chapter one. The findings are presented and analyzed using frequency tables and finally the relationship between the variable is established with the aid of computer program called SPSS.

Particularly, statistical tools like: percentage, frequency, mean and standard deviation were employed. The survey was conducted during two weeks" time and a total 49 questionnaires were effectively used for analysis that shows response rate of 83.05%.

Table 4.1: Overall Response Rate

Population	Number	Percent
Number of questioner distributed	59	100%
Returned questioner	56	94.92%
Incomplete questioner	7	11.86%
Total collected question	**49**	**83.05%**

As inferred in the preceding part of this study, the target population of this study comprised of 59 employees and individuals who are working closely and received service from the warehouse section. However, from the total 59 questionnaire distributed 56 were returned from which 7 were not correctly filled and rejected only 49 respondents have filled and returned the questionnaire, which essentially made the response rate about 83.05%.

4.2 Respondents' Demographic Information

The demographic profile of the sample respondents is presented and analyzed below. The purpose of assessing respondents" age, sex, is that, to determine whether the researcher considered heterogeneity of sample units. On the other hand assessing the work experience and education level of the respondents" is that, when the respondents are more experienced and educated they

have better opportunity to understand the case and give better response than else. A percentage and frequency characteristic of the respondents is presented in the following subsequent table.

As depicted on the following table, As far as respondents" age is concerned, the majority of the respondents 42.86% were aged between 18 to 25 years followed by the age categories of 26 to 35 years, 36 to 45 years and above 45 years respectively with percentage scores of 30.61%, 18.37% and 8.16% in that order. With regard to gender males dominate the respondents" list registering about 67.35% of the total respondent with females taking the remaining 32.65% of the respondents. On the other hand, out of the total respondents 24.49% of them were managers who are currently work in warehouse management section of the company as well as managers from other section which is working closely with warehousing section due to their work nature and the reaming 75.51% are non- manager staffs of warehouse management section and non- manager staffs of other sections which is working closely with warehousing section due to their work nature.

As indicated on the below table 4.2 with respect to educational status of respondents, the highest education level attained by majority of the respondents was college Diploma/TVET/ holders which represents, 29 (59.18%) out of the valid respondents second degree holders represent 1(2.04%)and first degree holders which accounts 14(28.57%). The remaining 5 (10.20%) of the respondents were below diploma level (Grade 10 completed, Grade 12 completed and different certificate holders). Thus, from the above fact, one can easily understand that most of the respondent of the company certified with diploma and above educational accreditations. Therefore, it can be assumed that they are able to understand and clearly identify the existing warehousing practices and its challenges. Moreover, it increases the validity of the findings.

Table 4.2: Respondents Demographic Information

	Choice	**Frequency**	**Percent**
Age	*18-25 Years*	*21*	*42.86%*
	26-35 Years	*15*	*30.61%*
	36-45 Years	*9*	*18.37%*
	Above 45 Years	*4*	*8.16%*
	Total	*49*	*100*
Gender	*Male*	*33*	*67.35%*
	Female	*16*	*32.65%*
	Total	*49*	*100*
Educational Background	*Below College Diploma*	*5*	*10.20%*
	College Diploma	*29*	*59.18%*
	First Degree (BSc, BA)	*14*	*28.57%*
	Second Degree (MSc, MA)	*1*	*2.04*
	Total	*49*	*100*
Years Of Service	*Below 1 year*	*2*	*4.08%*
	1 to 2 years	*21*	*42.86%*
	3 to 5 years	*17*	*34.69%*
	Above 5 year	*9*	*18.37%*
	Total	*49*	*100*
Work Position	*Managerial*	*12*	*24.49%*
	Non managerial	*37*	*75.51%*
	Total	*49*	*100*

Table 4.3. Distribution of the respondents by department

The respondents were further required to indicate the department they were designated at the time of the study.

	Frequency	Percentage
Marketing Department	17	34.69%
Finance Department	4	8.16%
HR Department	2	4.09%
Purchasing and procurement	20	40.82%
Production Department	6	12.82%
Total	49	100%

Table 4.3 shows that, most of the employees (40.821%) were working in purchasing and procurement department, (34.69) in marketing department, (12.25% in production department and respectively in human resource and finance department indicate (4.09%) respondents. most purchasing and procurement, and marketing departments has major activities in the study or as respondent.

4.3 The Warehousing activities of (3f) Finfine Furniture Factory Plc

Finfine Furniture Factory Plc has two main warehouses, the one which is located in Mirab Shewa Zone of the Oromia Region "Alemgena" town and the other which found in Addis Ababa city around "Saris" inside the compound of company's headquarter and additional six mini warehouses (the extensions of the main warehouse).. All warehouses personnel in the secretion is the main element that accomplishes all the processes; receives the incoming goods, puts them away, stores the them, handles replenishment, retrieves the ordered items, picked one by one or as a batch and deliver them accordingly etc.

In the present case, the company has finished goods and raw materials as inventory. In the case of Alemgena Main warehouse, the number of materials to be monitored is less compared to Saris Main warehouse with respect to ware house storage capacity and material availability, which means that Alemgena main warehouse, has scope for good inventory management when compared to Saris main warehouse due to less number of materials.

An analysis was performed based on the information gathered through questionnaires and observations. Descriptive statistics was used in an effort to examine the mean scores and the corresponding standard deviations under the respective scales of each of the items of the dimensions. Hence, this particular attempt has the importance of answering the research questions on the basis of the perceptions of the respondents on the warehousing practice of the case company. The answer to the first research question provides the basis for our study. The question regarding the warehouse receiving effectiveness practices demonstrate how products are receiving by the case company, while the second research question help us to identify how the case company unloading products, the third research question which addressed the storage utilization a of the case company, the fourth research question provides information regarding the process ordering of the case company and finally the fifth question provide the information about the overall delivery activity of the product in the case company. Therefore, as determined in the data collection tool for this study, data were collected via questionnaire, interview and observation. Accordingly, the collected data were analyzed quantitatively and qualitatively. Particularly, statistical tools like: mean and standard deviation were employed.

4.3.1 Warehousing Activities

1. Receiving effectiveness indicator

Receiving activity in the case company can be divided into two main parts, receipt of the raw materials and receipt of finished products. Raw materials are delivered by the suppliers which is their responsibility and some time by the case company. The finished goods are produced in the production facility of the company, inspected and packed. The finished goods were received from production and stores at main warehouse and after then delivered straight to the customer otherwise transfer to company sales branches (mini stores). Here, all company sales branches control their mini warehouses separately and all finished goods were transferred from manufacturing section to them via Good Transfer Note (GTN).

Table 4.4: Receiving effectiveness indicators summary of responses

Receiving Effectiveness		SDA	DA	N	A	SA	MEA	S/DIVI
4.4.1	In our warehouse there are guidelines that provide instructions to receive items properly	34.69%	42.86%	12.24%	6.12%	4.08%	2.04	1.04
4.4.2	We are successful in minimizing loss by inspecting items properly.	38.78%	42.86%	8.16%	4.08%	6.12%	1.96	1.10
4.4.3	Our warehouse personnel utilize a reasonable warehouse spaces at the time of receiving.	12.24%	20.41%	34.69%	28.57%	4.08%	2.92	1.08
4.4.4	Our warehouse personnel inspect received materials on the reasonable time.	12.24%	18.37%	30.61%	32.65%	6.12%	3.02	1.23
4.4.5	Accidents are not occurred in our warehouse on equipment's at the time of receiving.	4.08%	6.12%	40.82%	34.69%	14.29%	3.49	0.96
4.4.6	The shelves for each received materials in the warehouse are adequate to store and put away	4.08%	42.86%	30.61%	14.29%	8.16%	2.79	1.02
4.4.7	In our ware house quantity of received materials reporting the document	10.20%	12.24%	18.37%	40.82%	18.37%	3.45	1.23

The mean values of each of the items of response receiving effectiveness indicator were calculated between 1.96 and 3.49 with almost comparable standard deviations that range between 0.96 and 1.23. The lowest mean value is registered in the case of successfully in minimizing loss by inspecting items properly and the highest mean value is registered in the case of accidents are not occurred in our ware house on equipment at the time of receiving.

The noticeably represented mean scores of the items of receiving activity indicator suggest that respondents in the company believe that lower efforts have been made by Finfine Furniture Factory plc to enhance warehousing practices in the case of receiving activity except in the case of utilizing a reasonable warehouse spaces at the time of receiving in which case the score is

moderate suggesting that relatively moderate efforts have been exerted in performing the receiving activity.

2. Unloading effectiveness Indicator

The second major factor raised in this study is assessment unloading effectiveness of the case company. The following five unloading activities indicators were used to assess the study.

Unloading activity in the case company starts when receiving lists are arrived at the indicated warehouse and unload and keep items in the ware house until it will be loaded for the customer from finished warehouse and loads to factory production from raw material warehouse.

Table 4.5: Unloading effectiveness indicators summary of responses

Unloading effectiveness		SDA	DA	N	A	SA	MEA	S/DIVI
4.5.1	Most of our warehouse personnel's are skilled to perform unloading activities	16.33%	28.57%	20.41%	26.53%	8.16%	2.81	1.24
4.5.2	The space between shelves in the warehouse is enough to move the workers and machinery	10.20%	38.78%	30.61%	12.24%	8.16%	2.69	1.08
4.5.3	In our warehouse, items are placed in the correct location.	34.69%	32.65%	14.29%	10.20%	8.16%	2.24	1.27
4.5.4	Most of the time our warehouse personnel's performs unloading activity manually via labor force.	6.12%	8.16%	14.29%	42.86%	28.57%	3.80	1.14
4.5.5	The design of the warehouse layout is easy to access items, free from damage of items and convenient to load and unload.	34.69%	32.65%	18.37%	6.12%	8.16%	2.20	1.22

The mean values of each of the items of response score in unloading effective's indicator were calculated between 2.20 and 3.80 with almost comparable standard deviations that range between 1.08 and 1.27. The lowest mean value is registered in the case of the design of warehouse layout is easy to access items, free from damage of items and convenient to load and unload and the

highest mean value is registered in the case of most of the time our warehouse personnel's performs unloading activity manually via labor force.

The noticeably represented mean scores of the items of unloading activity indicator suggest that respondents in the company believe that lower efforts have been made by Finfine Furniture Factory plc to enhance warehousing practices in the case of unloading activity.

3. Storage utilization Indicator

The storage location assignment influences essentially the expected total storage and order picking time, which consists of travel time, stowing and retrieving time, and administration related time. The travel time may take up to 50 % of the total time spent on storing and picking an item (Francis and White, 1992). Therefore, several studies have addressed storage location assignment problem with the objective to minimize the travel time.

Table 4.6: Storage Utilization indicator summary of responses

Storage Utilization indicator		SDA	DA	N	A	SA	MEA	S/DIVI
4.6.1	Our warehouse personnel utilize warehouse spaces properly.	20.41%	22.45%	26.53%	18.3%	12.24%	2.80	1.31
4.6.2	Our warehouse has total product damage in the warehouse like product breakage, leakage etc.	10.20%	14.29%	14.29%	22.40%	38.78%	3.65	1.39
4.6.4	Our warehouse storage locations are utilized properly no discrepancies b/n bin cards and inventory compared to a physical inventory count.	22.45%	30.61%	28.57%	12.24%	6.12%	2.49	1.16
4.6.5	In our warehouse damaged items are detected promptly to separate location.	24.49%	30.61%	24.49%	10.2%	10.20%	2.51	1.26
4.6.6	The design of the warehouse is easy to access items and convenient to load and unload.	22.45%	30.61%	28.57%	12.24%	6.12%	2.57	1.32

The mean values of each of the items of response score utilization indicator were calculated between 2.49 and 3.65 with almost comparable standard deviations that range between 1.16 and

1.39. The lowest mean value is registered in the case of our warehouse storage location are utilized properly no discrepancies between bin cards and inventory compared to a physical inventory count and the highest mean value is registered in the case of our warehouse has total product damage in the warehouse like product breakage, leakage etc.

So, this suggests that respondents are rating Finfine Furniture Factory plc. storage activity as moderate or a little bit above, as in the case of their evaluation regarding the design of the warehouse to access items, warehouse spaces availability in reducing damage of items and convenient of the warehouse spaces to load and unload item and the design of the warehouse to access item whereas regarding insufficient warehouse space between the stored items, and utilizes warehouse spaces properly is a little bit lower effort is exerted..

4. Processing order Activity Indicator

The fourth major factor raised in this study is assessment process ordering of the case company. The following four process ordering indicators were used to assess the study.

Table 4.7: Process ordering indicator summary of responses

Processing order indicator		SDA	DA	N	A	SA	MEA	S/DIVI
4.7.1	Warehouse personnel's are skillful in processing order procedure.	24.49%	36.73%	20.41%	10.20%	8.16%	2.42	1.21
4.7.2	In our warehouse product are received accurately and timely.	24.49%	28.57%	22.45%	12.24%	12.24%	2.59	1.32
4.7.4	In our warehouse product are ordered accurately and timely.	24.49%	36.73%	14.29%	14.29%	10.20%	2.49	1.29
4.7.5	The current inventory management system of the company assist the company's to facilitate its fast delivery.	22.45%	32.65%	28.57%	12.24%	4.08%	2.43	1.10

The mean values of each of the items of response score utilization indicator were calculated between 2.42 and 2.59 with almost comparable standard deviations that range between 1.10 and 1.32. The lowest mean value is registered in the case of warehouse personnel's are skillful in

processing order procedure and the highest mean value is registered in the case of in our warehouse product are received accurately and timely.

The noticeably represented mean scores of the items of process ordering indicator suggest that respondents in the company believe that lower efforts have been made by Finfine Furniture Factory plc to enhance warehousing practices in the case of unloading activity

5. Delivery Activity Indicator

The last major factor raised in this study is delivery activity of the case company. The following four process ordering   indicators were used to assess the study

Table 4.8: Delivery Activity indicator summary of responses

Delivery Activity indicator		SDA	DA	N	A	SA	MEA A	S/DI VI
4.8.1	Goods are delivered to buyer according to the specification and quality	20.41 %	30.61 %	20.41%	24.49%	4.08 %	2.61	1.19
4.8.2	Goods are delivered to buyer w/out any damage	20.41 %	30.61 %	20.41%	18.37%	10.20%	2.67	1.28
4.8.4	Our warehouse delivery staffs are physically competent.	20.41 %	24.49 %	20.41%	18.37%	16.33%	2.86	1.38
4.8.5	Our warehouse performs delivery activity manually via labor force.	30.61 %	28.57 %	16.33%	16.33%	8.16 %	2.43	1.31
4.8.6	Our warehouse performs delivery activity to customer via transport	10.20 %	12.24 %	16.33%	32.65%	28.57%	0.57	1.31
4.8.6	In our warehouse there is enough product quantity availability	10.20 %	16.33 %	20.41%	28.57%	24.49%	3.41	1.31

The mean values of each of the items of response score utilization indicator were calculated between 2.39 and 3.57 with almost comparable standard deviations that range between 1.19 and 1.38. The lowest mean value is registered in the case of always products are ready for delivery on the right time and the highest mean value is registered in the case of in our warehouse performs delivery activity to customer via transport.

So, this suggests that respondents are rating Finfine Furniture Factory plc. Delivery activity indicator as moderate or a little bit above. This shows that most of the time warehouse workforces have shown a better performance in delivering items to their customers.

Table 4.9: Warehouse space capability

Does the company follow a proper location of materials?	Frequency	Percent	Valid Percent	Cumulative Percent
Very Satisfactory	5	10.2%	10.2%	10.2
Satisfactory	9	18.37%	18.37%	28.6
Somehow Unsatisfactory	19	38.78%	38.78%	67.3
Unsatisfactory	16	32.65%	32.65%	100
Total	49	100%	100%	

As shown in the exceeding table 4.9, 19 (38.78 %) and 16(32.65%) over the total respondents replied "somehow unsatisfactory" and "unsatisfactory" respectively and the remaining 5(10.2%) and 9(18.37%) of respondents were believes the company's warehouse space capability is enough a proper material location. Based on this fact it is possible to conclude that, the company didn't has a proper material warehouse space capability.

Beside to the questionnaires that was distributed to the selected participant of the study of the company and the interview that was conducted with top level managers as well as non-managers staff of the company, the researcher also took a physical observation about the how the company space capability selection of materials. Improper location of materials has been seen in both main warehouses; scrap woods and unused paints are stored in open yard of "Saris warehouse". This could lead to incapability of having closer control of the responsible store keeper to the respective materials. This could also lead to loss of materials and or discrepancies between the physical balance and documentation kept by stores. Besides it is a potential fire cause for the organization.

4.10: Computerized technology Requirement

Does the company use any computerized warehouse management system	Frequency	Percent	Valid Percent	Cumulative Percent

Yes	5	10.2%	10.2%	10.2
No	32	65.31%	65.31%	75.5
I can't Determine	12	24.49%	24.49%	100
Total	49	100%	100%	

As can be seen in the table 4.10 above, the respondents were asked "Does the organization use any computerized warehouse management system". Majority 32(65.31%) of the respondents mentioned that they beloved that the company didn't implement any computerized warehouse management system to facilitate its warehouse operation and the next 12 (24.498%) respondents can't determine whether the company's use a computerized warehouse management system and the remaining 5(10.2%) respondents were beloved that the company implement a computerized warehouse management system and they state that specifically Acc pack software & Excel. This system specifically helps for finance and marketing department invoicing and controlling system, there is no mechanism to manage warehousing system.

Alemgena as well as in Saris main warehouse there are only equipment which is used for handling materials is a pallet jacks. As a soft technology, to provide accurate information on inventory and storage location the company must implement best information technology infrastructures, by doing thus the company facilitate its warehousing operation and potentially reduce discrepancies.

Observation of the actual scene also confirms that, warehouse helpers around the warehouses are contributing a lot for the smooth running of the operations and for the immediate responses of the user departments by carrying out the labor related works whenever materials are loaded and unloaded. The researcher believes that, this issue must be resolved for the better warehouse operation as well as for the company's overall performance.

Table 4.11 occupying major space in the store

Which item occupying the major space in the store?	Frequency	Percent	Valid Percent	Cumulative Percent
Active items	32	65.31%	65.31%	7.5
Obsolete items	10	20.41%	20.41%	24.5
scrap	7	14.29%	14.29%	100
Total	49	100%	100%	

As can be seen in the above table 4.11, majority 32(65.31) of the respondents respond that, its active materials that occupy the major space 10(20.41%) respondents believe obsolete items that occupy the major space and the remaining 7(14.29%) respondents' that its scrap items that occupy the major space. As it can be inferred from the above data the storage space is occupied by active materials and a few obsolete and scrapes materials.

Thus from the above analysis we can conclude that, Finfine Furniture Factory plc were facing a huge warehouse space problem. It also indicates that the stores are not capable in holding all the incoming materials. The store room capability can be improved either by constructing additional stores or removing (disposing) unnecessary materials from the store.

Table 4.12: Location of Materials

Does the company follow a proper location of materials	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	12	24.49%	24.49%	85.3
No	25	51.02%	51.02%	65.3
I can't Determine	12	24.49%	24.49%	100
Total	49	100%	100%	

As shown in the exceeding table 4.12, 25 (51.02 %) and 12(24.49%) over the total respondents replied "No" and "I can't Determine" respectively and the remaining 12(24.49%) respondents were believes the company follows a proper material location. Based on this fact it is possible to conclude that, the company didn't follow a proper material location.

Beside to the questionnaires the researcher also took a physical observation about the how the company carried out the location selection for materials. Improper location of materials has been seen in both main warehouses; scrap woods and unused paints are stored in open yard of "Saris warehouse". This could lead to incapability of having closer control of the responsible store keeper to the respective materials. This could also lead to loss of materials and or discrepancies between the physical balance and documentation kept by stores. Besides it is a potential fire cause for the organization.

Table 4.13: Training Practice

Warehouse Management Training Availability

Does the company provide warehouse and material management training?	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	6	12.24%	12.24%	12.2
No	25	51.02%	51.02%	63.3
I can't Determine	18	36.73%	36.73%	100
Total	49	100%	100%	

As shown in the exceeding table 4.13, majority 25(51.02%) of the respondents repaid that there is no training given by the company to the employees, 18 (36.73%) said that they can't determine and only 6 (12.24%) of the respondent believes that the company provide a training related to warehouse management. This shows that the company does not have sufficient trainings that enable its warehouse staffs to improve their capacity.

In addition to the responses obtained through questionnaire, there is an interview conducted with warehouse employees and warehouse supervisor. According to their response, still now there is

no well organized training program within the company to the employees as well as managers.

Table 4.14: Safety of Warehouse Personnel in the Warehouses

As indicated in the underneath table 4.15, the majority of the responses 20(40.82%) of the respondents believe that the safety of warehouse personnel's is not protected, 12(24.49) reply that

How do you judge the safety of warehouse personnel in the warehouses?	Frequency	Percent	Valid Percent	Cumulative Percent
Protected	12	24.49%	24.49%	24.5
Unprotected	20	40.82%	40.82%	65.3
I can't Determine	17	34.69%	34.69%	100
Total	49	100%	100%	

warehouse personnel's are protected and the remaining 17(34.69 %) respondents can't Determine the situation. This implies that the company should improve the safety of its warehouse personnel's, so as to eliminate cost related with warehouse safety and to motivate the employee by providing good working condition.

Observation of the actual scene also confirms that, warehouse helpers around the warehouses are contributing a lot for the smooth running of the operations and for the immediate responses of the user departments by carrying out the labor related works whenever materials are loaded and unloaded. The researcher believes that, this issue must be resolved for the better warehouse operation as well as for the company's overall performance.

Observation of the actual scene also confirms that; in the company. Fire is seen as a severe hazard, since most of the items are made of lumber. The main raw materials are wood, paints and other chemicals which are very flammable in nature. The company does not have a sprinkler system; instead they have section securing doors which are normally open wide on the sides parallel to the walls. These doors are very durable and are designed to isolate the section that is on fire from the rest of the facility.

CHAPTER FIVE

Summary, Conclusions and Recommendations

This chapter provides the summary of major findings, conclusions and recommendation of the study.

5.1. Summary of Findings

The purpose of this study was to assess the effectiveness of warehousing management in (3f) Finfine Furniture Factory Plc. By making particular emphasis on the five main warehousing activities; Receiving effectiveness, unloading effectiveness, storage utilization, processing order activities, and delivery activities. This study was conducted using qualitative and quantitative research method. The study also depends solely on the perception of selected respondent's from a focal firm.

From the 59 target population a total of 49 respondents have filled and returned the survey questionnaire making the response rate about 83.05%. About 67.35% of the respondents are males, while females constituting the remaining 32.65% of the total respondents.

To address the research questions rose above, questionnaire, interviews discussion with warehouse personnel, and relevant documents were used to collect the required data. The questionnaire included close-ended and few open-ended questions. Most of the respondents are aged between 18 and 35. First degree holders and college diploma are the major portions who took part in the study.

Relevant literature reviews were conducted and data collection instruments developed. The data obtained were analyzed and interpreted by using spss, percentage and frequency.

The other main finding was, when the company organizes its warehouses activities the process starts with receiving the incoming goods. In this process, the goods are accepted at the warehouses to be delivered to their stocking positions. In unloading activity the company uses manual unloading activity, once the goods are received and then the material is stored in the warehouse as per the type of items. When an order is coming from as per processing order, the delivery activities are followed or items are loaded on the trucks and shipped. in evaluating the case company's warehousing activities the analyses result revealed that;

➢ The mean values of each of the items of receiving effectiveness indicator were 2.81 with almost comparable standard deviations. These mean scores of the items of receiving

effectiveness indicator suggest that respondents in the company believe that lack of receiving activities have been made by the company to enhance warehousing practices and rating the case is moderate..

➢ The mean values of each of unloading effectiveness indicator were 2.75 with almost comparable standard deviations. Respondents in the company believe that lack of unloading effectiveness have been made by the company to enhance warehouse activities and rating the case company unloading activity as moderate.

➢ The mean values of each of storage utilization indicator were 2.804 with almost comparable standard deviations that range between 1.16 and 1.39. These shows that the company is facing lack of store utilization and respondents were rating the case company storage activity as moderate.

➢ The mean values of each of processing order effectiveness indicator were 2.479 with almost comparable standard deviations that range between 1.10 and 1.32. So this suggests that respondents are rating the case company process order effectiveness as poor order processing activities.

➢ The mean values of each of delivery effectiveness indicator were 2.848 with almost comparable standard deviations that range between 1.19 and 1.38. So this suggests that respondents are rating the case company process order effectiveness as moderate or a little bit above

The research indicated that there were several major challenges in warehousing Effectiveness of the company such us; Absence of Computerized Warehouse Management System ,lack of proper location of materials, lack of Warehouse Space utilization, Lack of Training Availability, unavailability of Safety Procedures, Absence of space capability of the company warehouse, etc… That analyses result also revealed.

5.2. Conclusions

The following conclusions have been drawn on the bases of the findings of the data analysis.

From the research findings, the study can conclude that the company is facing many problems regarding warehouse management effectiveness. The company's warehouse is not well organized and by the company management staff and employee the given attention regarding the issues are not well. There is lack of internal operation flexibility to address the case.

The descriptive analysis shows that, receiving activity in this company can be divided into two main parts, raw materials and finished products. Raw materials are delivered by the suppliers which is their responsibility some time if its local material the company can deliver. The finished goods are produced in the production facility of the company and after that the main warehouse received the product and delivered straight to the customer otherwise transfer to company sales branches. Here, all company sales branches control their mini warehouses separately and all finished goods were transferred from main warehouse section to them via good transfer note.

The data collected reflect that majority of the respondent in the company believe there is no effort to enhance warehousing in the case of receiving effectiveness. Therefore, based on the analysis the case company's receiving effectiveness is exposed for different challenges like, their lack of guide line that provide instruction, lack of using reasonable time to inspect receiving product, there is shortage of shelves for each receiving materials and lower efforts have been made to enhance its receiving activity.. This may possibly lead to dissatisfaction of its warehouse staff and company's unprofitability and in a long-run there may be a chance losing its customers.

Study findings also shows that, the company unloading effectiveness task the company uses a labor force to move and place items to store location and which includes keeping the materials and equipment's in an appropriate store. Once the receiving list has been completed the labor force start unloading items manually.

Therefore, based on the analysis the case company's unloading effectiveness is exposed for different challenges like, lack of space between shelves in the warehouse, no machinery to unload items and poor warehouse design are some of the factors. The finding also reflects that there is moderate unloading effectiveness in the company and to increase its operation the company must

use modern machinery to unload products, evaluate the design of the warehouse space available to protect products from damage.

Furthermore, the analyzed data reveals that, most respondents suggests and evaluates the company storage utilization indicator as moderate , as in the case of their evaluation there is lack of using warehouse space utilization, there is breakage or leakage in the warehouse. In evaluating warehouse storage utilization the researcher disclose that respondents in the company believe that lower efforts have been made by the company to enhance warehouse effectiveness.

In evaluating the order-processing order activities indicator of the company the researcher disclose that respondents in the company believe that lower efforts have been made by company in processing order to enhance warehousing practices. This implies the fact that the attempts made by the company are not as such substantial. In addition, the research signifies that respondents are rating the case company processing order effectiveness as moderate.

The descriptive analysis reveals that, even if the company has delivery truck to transport raw materials and finished good ,most of the respondents mentioned that they is lack of delivery activity indicator like ,damaged product are loaded ,delivery dalliance of products and lack of enough product availability to facilitate its warehouse operation. In evaluating delivery activity the researcher disclose that respondents in the company believe that lower efforts have been made by the company to enhance delivery effectiveness.

The descriptive analysis also shows that, nearly every one of the respondents mentioned that they beloved that the company didn't implement any computerized warehouse management system to facilitate its warehouse operation. As the research reveals, every warehouses of the company perform their operations manually this may result some errors and some delay while performing their jobs furthermore it may also result de-motivation of the employees.

The research also discovers that, the management shouldn't constantly expose its staff to training in order to improve their skills on warehousing activity. In addition, the research also expose that, the company's warehouses capacity is somehow unsatisfactory to hold the incoming material. They also disclose that the safety and security of warehouses are not that much reliable. A lot of the respondents indicated that lack of management support and leadership as the major cause of the problems noticed in the warehouse services.

5.3. Recommendations

Based the major findings and conclusion shown above, the researcher recommends the following actions to overcome the problems

➤ Management staff should support the employee to resolve the warehouse effectiveness issues as soon as possible.

➤ Separate receiving and storage sections shall be built in the warehouse section with a new warehouse layout. Inspections are necessary in order to confirm that the suppliers delivered the right quantity of products, at the right time and in good condition

➤ The company must use modern machinery to unload products, evaluate the design of the warehouse space available to protect products from damage and train employees how to unload the product effectively

➤ The storage racks which are currently used for storing items can be re-designed by adding additional shelves. This recommendation aims to solve the disorganized situation in the store area by providing the advantage of storing individual items rolls on the small shelves that are suggested. It is aimed to improve the efficiency output.

➤ Procedures and manual are very important for the company to the smooth running of the warehouses order processing to perform the task.

➤ The company must arrange the delivery truck properly to satisfy their need.

➤ The researcher strongly recommends investing machinery like forklift and pallet jacks by doing so, the company may possibly minimize its main time wasting source which is loading and unloading of materials manually.

➤ Implementing safety precautions will improve the product condition at warehouse. As a result, the researcher recommends implementing safety measures as soon as possible is vital in securing both the inventories as well as employees.

➤ The researcher recommends that, the management should constantly expose its staff to training in order to improve their skills on warehousing.

➤ The warehouses section perform its operations manually this may result some errors and some delay while performing their jobs. An important way in order to improve the warehouse management is investing in an information technology (database system) for the warehousing.

➤ Currently most of the spaces of the warehouses are occupied by the obsolete materials, so the researcher recommends that removing those obsolete materials. This can maximize the capacity of the stores for the new incoming items.

- Furthermore, it is very important to take the workers of company employee opinions into consideration since they will be conducting the necessary changes and recommendations which are presented to them. Without the workers acceptance, addressing these changes and recommendations is pointless. Moreover, it is also important to take into consideration that the company is in high competing business environments.

5.4. Limitations of the Study

The limitation of the study is the fact that though the unit of analysis was only the warehouses of the company, the study was purely conducted on the basis of the responses obtained from the employee of the company since it assumed the company perspective. To have a holistic insight, one needs to have to more other similar company perspective in order to consider it as an industry.

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Questionnaires

ST.MARY UNIVERSITY

GRADUATE STUDIES DEPAERTMENT OF MASTERS OF BUSINESS ADMINISTRATION IN GENERAL MANAGEMENT

Dear respondents:

I'm a graduate student at St. Mary's University in the Department of business administration. Currently, I'm conducting a research entitled "The effectiveness of warehouse management in the case of (3F) Finfine Furniture Factory Plc as a partial requirement for the award of Masters of Degree in General Management.

The purpose of this questionnaire is to gather data for the proposed study, and hence you are kindly requested to assist the successful completion of the study by providing the necessary information. Your participation is entirely voluntary and the questionnaire is completely anonymous. I confirm you that the information you share will stay confidential and only used for the aforementioned academic purpose only, thus not affects you in any way rather it may possibly help you in improving the warehouse effectiveness of your company. So, your genuine, frank and timely response is vital for the success of the study. I want to thank you in advance for your kind cooperation and dedication of your precious time to fill this questionnaire.

Regards,
Demelash Shimels

Note:

 No need of writing your name.

 indicate your answer with a check mark (X) on the appropriate cell both for part I and part II questions and also encircle your choice for part III.

 You can provide answer in Amharic for the open ended questions

 If you need further explanation please do not hesitate to contact me through my personal phone+251912193345, e-mail demelashshimels@yahoo.com or in person.

Part I: Respondents Profile:

1. Age: ☐18-25 year's ☐26-35 year's ☐36-45 year's ☐above 45 years

2. Sex: ☐Male ☐Female

3. Educational Qualification:

☐Below College Diploma ☐College Diploma ☐First Degree (BSc, BA)

☐Second Degree (MSc, MA) ☐PHD and above

4. Current Position_____

5. Year of service in the current position:

☐Below 1 year   ☐1 to 2 years   ☐2 to 5 years   ☐Above 5 year

Part II:

Please indicate your choice by putting the check mark (**x**) on the appropriate cell.

Where; *1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree*.

Please indicate the degree to which you agree with the following statements regarding the warehousing practices of your company. (Please take your key warehouse activities in mined while rating the statements).

	Warehouse effectiveness	*Score*				
		1	2	3	4	5
	Receiving effectiveness Indicator					
6.1	In our warehouse there are guidelines that provide instructions to receive items properly.					
6.2	We are successful in minimizing loss by inspecting items properly.					
6.3	Our warehouse personnel utilize a reasonable warehouse spaces at the time of receiving.					
6.4	our warehouse personnel inspect received materials on the reasonable time.					
6.5	Accidents are not occurred in our warehouse on equipment's at the time of receiving.					
6.6	The shelves for each received materials in the warehouse are adequate to store and put away.					
6.7	In our ware house quantity of received materials reporting the document					

Unloading effectiveness Indicator						
6.8	Most of our warehouse personnel's are skilled to perform unloading activities.					
6.9	The space between shelves in the warehouse is enough to move the workers and machinery.					
6.10	In our warehouse, items are placed in the correct location.					
6.11	Most of the time our warehouse personnel's performs unloading activity manually via labor force.					
6.12	The design of the warehouse layout is easy to access items, free from damage of items and convenient to load and unload.					
Storage utilization Indicator						
6.13	Our warehouse personnel utilize warehouse spaces properly.					
6.14	Our warehouse has total product damage in the warehouse like product breakage, leakage etc.					
6.15	Our warehouse storage locations are utilized properly discrepancies b/n bin cards and inventory compared to a physical inventory count.					
6.16	In our warehouse damaged items are detected promptly to separate location.					
6.17	The design of the warehouse is easy to access items and convenient to load and unload.					
Processing order Activity Indicator						
6.18	Warehouse personnel's are skillful in processing order procedure.					
6.19	In our warehouse product are received accurately and timely.					
6.20	In our warehouse product are ordered accurately and timely.					
6.21	The current inventory management system of the company assist the company's to facilitate its fast delivery.					
Delivery Activity Indicator						
6.22	Goods are delivered to buyer according to the specification and quality.					
6.23	Goods are delivered to buyer without any damage.					
6.24	Our warehouse delivery staffs are physically competent.					
6.25	Our warehouse performs delivery activity manually via labor force.					
6.26	Our warehouse performs delivery activity via machinery.					
6.27	In our warehouse there is enough product quantity availability					
6.28	Product are ready for delivery on the right time					

Part III: Please encircle on your answer choices and write your feeling on the space provided for open ended questions.

6. Does the company use any computerized warehouse management system?

    A) Yes   B) No   C) I can't determine

If "*Yes*" Specify the types of software you uses? _____

7. Does the company follow a proper location of materials?

    A) Yes   B) No   C) I can't Determine

8. Which item occupying the major space in the store?

    A) Active Items   B) Obsolete Items   C) Scrap

9. Does the company provide warehouse and material management training?

    A) Yes   B) No   C) I can't Determine

10. How do you judge the safety of warehouse personnel in the warehouses?

    A) Protected   B) Unprotected   C) I can't Determine

11. How do you judge the warehouse space capability the company?

    A) Very Satisfactory   B) Satisfactory   C) Somehow Unsatisfactory
    D) Unsatisfactory

12. Do you think the warehouse services have got major problems which needs improvement?

    A)   Yes   b)   No

13. If your answer is yes, please state the areas which need improvement in the future.

_____

_____

If you have additional comments or ideas about warehouse practice of the company please don't hesitate to express your feeling

_____

_____

I highly appreciate your time and contribution to this research. Thank you very much and Best

Annex II
Semi- structured Interview Questions non-Managers
Part I: General Information

This part of the interview the researcher tries to gather some general information about the background of the respondents.

1. Age: ☐   18-25 years ☐   26-35 years ☐   36-45 years ☐   above 45 years

2. Sex:☐   Male ☐   Female

3. Educational Qualification:

     ☐   Below College Diploma ☐   College Diploma ☐   First Degree (BSc, BA)
     ☐   Second Degree (MSc, MA) ☐   PHD and above

4. Current Position_____

5. Year of service in the current position:

     ☐   Below 1 year ☐   1 to 2 years ☐   2 to 5 years
☐   Above 5 year

Part II:

6. How is the warehouse managed? Please explain the procedure.

7. How many warehouses does the company use? (Explain for raw material, end product, etc.)

8. How did the company decide the location of the warehouse/s?

9. How did the company decide on the layout of the warehouse?

10. How does your information system work?

11. What kind of storage materials are being used in the warehouse? (Types of racks, etc.)

12. How are the goods checked in?

13. How is the scheduling for reception of goods?

14. Have there been any problems in the warehouse process? Please explain

I highly appreciate your time and contribution to this research. Thank you very much and Best wishes!