Effect of Warehousing Practices on Organizational Performance: A Case Study of My Wish Enterprise P.L.C.

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

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STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than Addis Ababa University for academic credit.

Signed: _____ **Date:** _____

Kibrom Hailu Tesfay (**GSD: 7214/09**)

Statement of Certification

This paper has been presented for examination with my approval as the appointed academic advisor.

Advisor: Teklegiorgis Assefa (Asst. Prof.)

_____

Date & Signature

Addis Ababa University
School of Commerce

This is to certify that the thesis carried out by Kibrom Hailu Tesfay, entitled ***'Effect of Warehousing Practices on Organizational Performance:*** *A case study of My Wish Enterprise P.L.C.'* and submitted in partial fulfillment of the requirements of the Degree of Master of Art in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

Warehouses are used for receiving, storing, order picking and shipping goods. Warehousing refers to the activities involving storage of goods on a large-scale in a systematic and orderly manner and making them available conveniently when needed. Organizational performance is normally looked at in-terms of productivity, quality, customer satisfaction, and time outcomes. This research examined the effect of warehousing on organizational performance through a case study of My Wish Enterprise Plc. To achieve the objectives of this study an explanatory research design was used. Data was collected through a questionnaire survey from a total of 60 employees. The results of this study indicate that warehousing dimensions such as (receiving activity, storage activity, picking activity, shipping activity and order picking) have positive and significant relationship with organizational performance. The findings of the study indicate also that employees were well aware of the importance of warehousing activities on organizational performance. The results also indicate that, unlike order picking, the four warehousing dimensions (receiving activity, storing activity, picking activity, shipping activity) have a relatively more positive and significant effect on organizational performance. These dimensions contribute significantly (47.6%) *to organizational performance. Based on the findings of the study, several recommendations are made, including that order picking should be given higher priority so as to improve organizational performance, but also since this activity is at the closest interface with the customer - customer satisfaction is at risk. Finally, based on the gap observed, it would be to the benefit of My Wish Enterprise to streamline its warehousing operations through a formalization of its warehousing guidelines, to improve the knowledge capacity of staff with regards to warehousing operations, to improve the security measures i.e. with CCTV systems, and, in view of its expansive stock, to explore the possibility of digitalizing warehousing operations.*

Key Words: Warehousing, Organizational performance

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My family members, my wonderful wife, Meron Tsega, my sweet daughter, Rakeb Kibrom and adorable son, Aleph Kibrom are mentioned last only to emphasize the special nature of their extraordinary support during the course of my study and beyond.

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List of Acronyms/Abbreviations

MWE:	My Wish Enterprise
ANOVA:	Analysis of Variance
SKU:	Stock Keeping Unit
SOP:	Standard Operating Procedure
SPSS:	Software Package for Social Science

CHAPTER ONE

Introduction

This research paper which explores the effect of warehousing practice on the organizational performance of 'My Wish Enterprise', has five chapters. Chapter one is an introductory section giving a prelude to the study and providing some insights about the ground and assumptions on which the study is based. It contains sub sections such as background, statement of the problem, research question, research objectives, significance of the study, scope of the study, definition of key terms, and organizations of the study.

1.1 Background of the study

In a supply chain, warehousing function is very critical as it acts as a node in linking the material flows between the supplier and the customer. In today's competitive market environment companies are continuously forced to improve their warehousing operations. Many companies have also customized their value proposition to increase their customer service levels, which has led to changes in the role of warehouses (Grant, 2006).

In today's challenging and competitive world, success can hinge on whether a warehouse operation is productive and effective enough to meet expectations of customers. One way to gauge how effectively the warehouse operations are meeting these expectations is to conduct a warehouse operations assessment: a systematic review of the warehouse functions looking for possible improvements in efficiency and service. A good operations effect takes a quantitative look at the productivity and service levels of a warehouse operation; it enables to measure productivity and service and identify patterns and trends; it tells exactly where companies are and what they need to do to meet their goals. It also allows companies to compare their measurements with their own in-house goals as well as industry benchmarks (Curtis, 2016).

A well implemented warehousing management system helps in properly coordinating operations in the stores. This is imperative in ensuring smooth production which 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). 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 (Richards, 2014).

Major and minor mistakes in warehousing can result in 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 cost 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 (Edwards, 2010).

A more recent work in this area includes (Collins, 2006), which described the collection of warehouse metrics; i.e. picking and inventory accuracy, storage speed, and order cycle time. Performance measurement in the warehouse industry traditionally employs a set of single factor productivity measures that compare one output to one resource (or input). This is sometimes called the ratio method see (Tompkins, 2003, & Chen, 2007).

According to (Belayeneh, 2016) who did a study on warehousing within Ethiopian National Defense Force (NDF), although attracting high quality military equipment is the primary objective of the procurement department of the NDF, warehousing

systems fall short of the standard. There are no well-organized shelves in the warehouse and a system for the allocations of store materials system were not identified to improve their warehouse planning requirements. Moreover, the NDF seems to have given less value to issue of safety and protection of accidents issues in the warehouse.

The warehouse management system should be offline and not so much dependent on the internet so that warehouse activities will not be compromised due to fluctuations in connectivity. This helps to bring the manual and online systems to one offline independent system (Anteneh, 2017).

The rationale behind conducting this study, focusing on the private sector is that although adequate research has been conducted on the issue itself, very little of these research works bring to light the specific context of private companies in Ethiopia. Due to differences in the work cultures of private companies and the public sector, there are corresponding differences in their warehouse practices. It is with this in mind that this researcher has set out to do a case study on the warehousing practices of the My Wish Enterprise (MWE) as representative of private sector. The findings will contribute to making some general inferences on the warehousing practice of private organizations in Ethiopia and its impact on the organizational performances of such organization. It can also help identify the scope of improvement in this sector.

1.2 Statement of the problem

The study intends to examine the effect of warehousing practice on organizational performance at MWE. It will ultimately identify and pinpoint the non-performing areas and limitations of warehousing practices so as to improve time and cost efficiency at MWE.

The researcher also goes beyond such literature to reveal what researches have been undertaken under the context of the Ethiopia. We can count the efforts undertaken by the study of Anteneh (2011), in Non-governmental organization level, Belayhun, (2016) in Ethiopian defense, Daniel (2017) in banking sector, and Tewodros (2016) in Ethiopian trading enterprise which examined the assessment of warehouse management and challenges correspondingly. Though several studies have been conducted on warehouse management within the public sector and non-governmental organizations, little academic emphasis has been given to the workings of companies within the private sector in Ethiopia. Hence, there was no enough study on effect of warehousing practice on organizational performance at private company level. However, the rationale behind conducting this study is trying to fill this gap. On the other hand, the methodology employed by various studies conducted in Ethiopia on the same issues seems inadequate or inefficient to expose the reality on ground by applying the cause and effect relationship. Therefore, this research was used explanatory research design by applying quantitative research approach to examine dominant warehousing practice dimensions (Receiving Activity, Put-way Activity, Storage Activity, Order Picking, and Shipping Activity) and organizational performance. Hence from this, we can easily infer that there is high level of theoretical gap under this subject matter due to limitation of research undertaken within our academic studies.

During the preliminary assessment the researcher observed some indicators of major warehousing problems, including: some storage areas were congested while others are underused; overstocking and understocking; sign of poor stock control measures; poor ventilation; poor handling of documentation; poor warehousing facilities (i.e.

inadequate shelving); disordered warehouse pathways; and, finally, a dual system of both manual and electronic systems was employed.

Considering these gaps, this study attempted to examine the effect of warehousing practice on organizational performance in MWE along the five most frequently used warehousing practice indicators, namely; receiving activity, put-away activity, storage activity, order picking activity, and shipping activity as suggested by Edward Frazelle (2001) on organizational performance.

1.3 Research questions

The following questions aim as understanding how warehousing practice affects the organizational performance of MWE.

1. How does receiving activity affect organizational performance?
2. To what extent does put-way activity affect organizational performance?
3. To what extent does storage activity affect organizational performance?
4. How does order picking affect organizational performance?
5. How does shipping activity affect organizational performance?

1.4 Objective/Aim of the study

The objective of the study consists of general and specific objectives.

1.4.1 General objective of the study

The main objective of this research is to examine the effect of warehousing practice on organizational performance for MWE.

1.4.2 Specific objective of the study

1. To determine the effect of receiving activity on organizational performance.
2. To determine the effect of put-way activity on organizational performance.
3. To determine the effect of storage activity on organizational performance.
4. To determine the effect of order picking on organizational performance.
5. To determine the effect of shipping activity on organizational performance.

1.5 Scope of the study

To make the research manageable, this study has limited its scope to analyzing the issues under discussion theoretically, methodologically, and geographically. Methodologically, the researcher used quantitative research in which quantitative approach allows the researcher to establish the strong relationship between variables. Theoretically, warehousing is a key ingredient in business movements which consist of receiving activity, put-away activity, order picking, shipping activity, and storage activity. And geographically, the rational for the MWE were chosen due to the proximity of the researcher to MWE in Addis Ababa.

1.6 Significance of the study

The importance of the study lies in its ability to pointing out the effect of warehousing practice on organizational performance and in generating supportive recommendations that possibly solve the problems in warehousing practices that the study identifies. The research output could also be used by MWE as guidelines to reconfigure its warehousing procedures thereby positively affecting its overall operational activities, including new warehousing activities such as receiving activity, put-away activity, order picking, shipping activity, and storage activity on organizational performance. Last but not least, the study adds to the existing body of knowledge in the field of supply chain and logistics management.

1.7 Limitation of the study

The researcher tried hard to collect the relevant information for the research work, but there have been challenges faced in the process. One major limitation relates to sample size and the generalization of the findings. Due to limited time and financial resources, the study didn't consider large sample size which could have generated different results with a possibility of boarder applicability. The researcher also faced problems like lack of up-to date and sufficient reference material, and lack of willingness of several participants to fill the questionnaire; there were some employees who would not volunteer to be part of the study for unknown reasons. Because of this, the possibility of generalization from the finding of the present study may be limited.

1.8 Operational definition of key terms

- ✓ **Receiving:** Receiving is the process of unloading, checking quality and quantity, and dissembling or repacking items for storage (Tompkins, 1984).
- ✓ **Put-away:** The put-away operation physically moves the items from receiving location to the storage area of the warehouse, which is also known as the reverse of order picking (Tompkins, 1984).
- ✓ **Storing activity:** material's movement from unloading area to its designated place in inventory (Yang, 2012; Mentzer & Konrad, 1991).
- ✓ **Order-picking:** The process of retrieving items from their storage locations and transporting them either to a sorting process or straight to the shipping area (Tompkins, 1984).
- ✓ **Shipping:** The final movement process occurs at the shipping operation. Shipping process involves inspecting, packing, palletizing and loading items into a carrier for further delivery (Tompkins, 1984).
- ✓ **Organizational performance:** Cheng, 2011 & Grace, 2012 have also defined organizational performance, from both financial and non-financial criteria, as the ability of an organization to fulfill its mission through sound management, strong governance and a persistent rededication to achieving results. Proper SCM practice will bring the competitive advantage over the competitors' interims cost, quality, productivity, customer satisfaction, etc.

1.9 Organization of the Study

The study is organized into five chapters. The first chapter deals with the introduction the study in which the background of the study, statement of the problem, objectives of the study, significance of study, scope and limitation of the study are outlined. The second chapter presents a review of related literature. The third chapter addresses the research methodology. The fourth chapter deals with the results and analysis of the study output. Finally, the fifth chapter addresses the discussion, conclusions and recommendations of the study.

CHAPTER TWO

Literature Review

Introduction

In this chapter, theories related to the research issues which are relevant to the present thesis work are described. The theoretical framework for warehousing is briefly set up discussing all the important factors related to warehousing. The purpose of this part of the thesis work is to set up a basis for the theoretical frame of warehousing concepts. Furthermore, different authors' ideas are discussed to assist and have a solid ground especially for the analysis and interpretation of the data and to make recommendation based on the findings.

2.1 Theoretical frameworks of warehouse management

2.1.1 Warehouse management

Different authors have defined warehousing management differently, but the most common definition describes a warehouse as a place that is used to hold necessary and enough materials which is needed by the firm including finished goods for sale, goods in the process of production, raw materials, and goods that will be consumed in the process (Teo, 2008).

Usual warehousing continuously is declining since the last decade of the 20th century with the introduction of Just in Time (JIT) techniques which are specially designed to enhance the return on investment (ROI) of a business by mitigating in-process inventory. JIT concept is based on delivering product directly from the factory to the retail outlet without the use of warehouse, but in some cases like offshore outsourcing and off shoring in about the same time period, the distance between manufacturer and the retailer increases considerably in many regions which builds the need of at least one warehouse per region or per country for a given range of products in any typical supply chain (Tompkins & Smith, 1998).

Recent developments in marketing field have led to the development of warehouse designing style, where the same warehouse is used for warehousing as well as retail

store. These types of warehouses are equipped with tall heavy-duty industrial racks, with the items which are ready for sale placed in the bottom parts of the racks and the palletized and wrapped inventory items being usually placed in the top parts. Exporters/manufacturers are using warehouses as a point of developing retail outlets in a particular region or country. The above concept cuts down the end cost of the product to the consumer which in turn enhances the production sale ratio. Warehousing concept is used as a sharp tool by manufacturers to reach directly to consumers by avoiding or bypassing importers or other middle agencies (Tompkins & Smith, 1998).

The recent trends and pressures on supply chain / logistics-forever increasing customer service levels, inventory optimization, time compression and cost minimization –have inevitably changed the structure of supply chains and the location and working of warehouses within the supply chains network. Certainly, the old concept of warehouses as go downs to store goods has been outdated. Warehouses perhaps better referred to as distribution centers; exist primarily to facilitate the movement of materials to the end customer (Tompkins & Smith, 1998).

The concept of throughput rather than storage, and the pressure to optimize inventory with improved customer service level have also seen the development of distribution centers that do not hold stock-the 'stockless depot 'such as trans-shipment depots with more cross-docking operations. This is very useful for different business groups with the complete facilities, but that can be determined by purpose of the companies and the organization conditions. For example, more of the developing countries are obtained from abroad, it is also will be costly and expose for different frequent order and may create out of stock, in case of this production or the mission can be interrupted. Unavailability of material in hand or store also very danger for economy and to achieve the organization mission (Mattsson, 2005).

2.1.2 Product intelligence paradigm

An approach that can treat different product instances in a special way based on their specific characteristics and needs has been argued to bring special benefits both in

manufacturing and in supply chain industrial contexts. Focusing on supply chain and logistics operations, the impact of such a product intelligence approach has been recently under consideration in several different areas such as road-based logistics, intermodal transportation and production logistics.

Due to the rapidly changing preferences of customers, orders received by warehouse companies (especially third-party-logistics ones) increasingly exhibit special characteristics, such as smaller order size, higher product variety, request of shorter response time, and request for changes after the order has been initially created and placed. This means that although the traditional performance targets for warehouse services (e.g. warehouse utilization, tighter inventory control) remain, in today's environment, they are subject to the specific, special needs of deferent customers. This is particularly true in third-party-logistics warehouses that manage a high variety of products and a big number of individual customers. Here, the operations are required to become more customer-oriented and more responsive to requests with different characteristics and needs in an efficient manner. Form this theory the warehouse management and utilization high variety operations takes place, the main target customer oriented and more responsive way of warehouse managements very important in this idea (Giannikas, 2013).

2.1.3. Theoretical Inventory Control Model

Control of inventory, which typically represents 45% to 90% of all expenses for business, is needed to ensure that the business has the right goods on hand to avoid stock-outs, to prevent shrinkage (spoilage/theft), and to provide proper accounting. Many businesses have too much of their limited resource, capital, tied up in their major asset, inventory. Worse, they may have their capital tied up in the wrong kind of inventory. Inventory may be old, worn out, shopworn, obsolete, or the wrong sizes or colors, or there may be an imbalance among different product lines that reduces the customer appeal of the total operation. Inventory control systems range from eyeball systems to reserve stock systems to perpetual computer-run systems. Valuation of inventory is normally stated at original cost, market value, or current

replacement costs, whichever is lowest. This practice is used because it minimizes the possibility of overstating assets (Giannikas, 2013).

The ideal inventory and proper merchandise turnover will vary from one market to another. Average industry figures serve as a guide for comparison. Too large an inventory may not be justified because the turnover does not warrant investment. On the other hand, because products are not available to meet demand, too small an inventory may minimize sales and profits as customers go somewhere else to buy what they want where it is immediately available. Minimum inventories based on reordering time need to become important aspects of buying activity. Carrying costs, material purchases, and storage costs are all expensive. However, stock-outs are expensive also. All of those costs can be minimized by efficient inventory policies (Giannikas, 2013).

2.1.3.1 The Eyeball System

This is the standard inventory control system for the vast majority of small retail and many small manufacturing operations and is very simple in application. The key manager stands in the middle of the store or manufacturing area and looks around. If he or she happens to notice that some items are out of stock, they are reordered. In retailing, the difficulty with the eyeball system is that a particularly good item may be out of stock for sometimes before anyone notices. Throughout the time it is out of stock, sales are being lost on it. Similarly, in a small manufacturing operation, low stocks of some particularly critical item may not be noticed until there are none left (Trunk, 1998).

2.1.3.2 Reserve Stock (or Brown Bag) System

This approach is much more systematic than the eyeball system. It involves keeping a reserve stock of items aside, often literally in a brown bag placed at the rear of the stock bin or storage area. When the last unit of open inventory is used, the brown bag of reserve stock is opened and the new supplies, it contains are placed in the bin as open stock. At this time, a reorder is immediately placed. If the reserve stock quantity

has been calculated properly, the new shipment should arrive just as the last of the reserve stock is being used (Giannikas, 2013).

To calculate the proper reserve stock quantity, it is necessary to know the rate of product usage and the order cycle delivery time. Thus, if the rate of product units sold is 100 units per week and the order cycle delivery time is two weeks, the appropriate reserve stock would consist of 200 units (I00u x 2w). This is fine if the two-week cycle holds. If the order cycle is extended, the reserve stock quantities must be increased. When the new order arrives, the reserve stock amount is packaged again and placed at the rear of the storage area (Giannikas, 2013).

2.1.3.3 Perpetual Inventory System

Various types of perpetual inventory system include manual, card-oriented, and computer- operated systems. In computer-operated systems, a programmed instruction referred to commonly as a trigger, automatically transmits an order to the appropriate vendor once supplies fall below a prescribed level. The purpose of each of the three types of perpetual inventory approaches is totally either the unit use or the dollar use (or both) of different items and product lines. This information will serve to help avoid stock-outs and to maintain a constant evaluation of the sales of different product lines to see where the emphasis should be placed for both selling and buying (Giannikas, 2013).

2.1.4 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, 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 (Tompkins, 1998).

2.1.5 Defining of Warehouse

The warehouse has been viewed in many 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, 1999) believe that the warehouse is a combination of both physical processes of material handling and methodologies such as inventory control and production control.

(Jessop, 1986), define 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, 1998).

(Fesseha, 2004) define store keeping is the activity of receiving or distributing stores or supplies. The duty of the stores is to receive, store and issue materials. The store is alienated in to receiving section, tools stores, general stores, raw materials stores,

finished part stores and so on. The receiving section receives all incoming materials, checks the correctness of the quantity received, arranges for inspection and thereafter sends the materials to the respective stores along with a report called Goods Inward Note or Materials Receipt Note.

2.1.6 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 Stock Keeping Unit (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 (Michael, 2007).

To cope with 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, 2007).

2.1.7 The Functions of Warehouse Management

The functions of management uniquely describe managers' jobs. The most commonly cited functions of management which equally applies for warehouse management are planning, organizing, leading, and controlling, although many experts have identified

additional functions of management. Frenchman Henri Fayol identified 5 functions of management, which he labeled: planning, organizing, commanding, coordinating and controlling (Frenchman, 1930).

2.1.7.1 Warehouse Planning

Planning is the activity concerned with making or formulating plans. It entails deciding how the predetermined objectives of the enterprise, or a department of it, should be achieved in the most efficient and economical way in accordance with policy. Plans can be looked upon as being routes to objectives. Once objectives have been set, planning is necessary to work out how to achieve those objectives within the framework of the policy formulated. In the warehousing process there are several planning issues from the initial stage of a warehouse to its day to day operations. Planning should be undertaken according to a certain hierarchy that reflects different planning time horizons (Frenchman, 1930).

2.1.7.2 Leading in Warehouse

The third function of management is leading which is also referred to as influencing, motivating or directing. It is one of the most important functions of management to translate company's plans into execution. CIPS define leadership as the process of influencing others to work willingly towards an organization's goals and to the best of their capabilities. Mullins defines leading as 'a relationship through which one person influences the behavior or actions of other people'. Leadership is about coping with change. It is that inert-personnel aspect of management which deals directly with energizing, creating a sense of direction and communicating a vision. Effective leading requires the manager to guide, supervise, inspire and motivate subordinates, communicate effectively, and effectively use power for the achievement of organizational goals. It can, essentially, only be exercised over people. It requires the manager to coach, assist, and problem solve with employees. If managers are effective leaders, their subordinates will be enthusiastic about exerting effort toward the attainment of organizational objectives. Leading has following elements (Frenchman, 1930:

- **Directing** – It aims at achieving the best not just out of an individual but achieving the best through the groups or teams of people through team building efforts. It also means coordinating various people and their activities. The commanding of subordinates should always be consistent with company policies, and every manager should treat subordinates in line with the standards of the company.

- **Supervision** – implies overseeing the work of subordinates by their superiors. It is the act of watching & directing work & workers. Managers must supervise subordinates in their daily work and inspire them to achieve company goals. Likewise, it is the responsibility of managers to communicate company goals and policies to subordinates.

- **Motivation** – means inspiring, stimulating or encouraging the sub-ordinates with zeal to work. Positive, negative, monetary, non-monetary incentives may be used for this purpose. The purpose of motivating employees is to increase productivity. Employees that are highly motivated generally go above and beyond in their job performance, thereby playing a vital role in the company achieving its goals. For this reason, managers tend to put a lot of focus on motivating their employees.

- **Communications** – is the process of passing information, experience, opinion etc. from one person to another. It is a bridge of understanding. It is the responsibility of managers to communicate company goals and policies to subordinates. Effective communication is vital in maintaining a productive working environment, building positive interpersonal relationships, and problem solving. Understanding the communication process and working on areas that need improvement help managers to become more effective communicators. The best way to find areas that need improvement is to periodically ask themselves and others how well they are doing.

To become effective at leading, managers must first understand their subordinates' personalities, values, attitudes, and emotions. Therefore, the behavioral sciences have made many contributions to the understanding of this function of management.

Personality research and studies of job attitudes provide important information as to how managers can most effectively lead subordinates (Frenchman, 1930)

2.1.7.3 Warehouse Controlling

Warehouse controlling is the last of the four functions of management and like other management function it is an ongoing process. Controlling as the process of checking whether proper progress is being made towards the objectives and goals and acting if necessary, to correct any deviation; and controlling is the measurement & correction of performance activities of subordinates in order to make sure that the enterprise objectives and plans desired to obtain them as being accomplished. Controlling requires a clear understanding of where responsibility for deviations from standards lies. It ensures that, employees perform the work allocated to them in the ways laid down and with no wastage or duplication of time, effort or materials. It comprises supervising the people employed, checking their work and the machinery and equipment used, to ensure that the end products are the desired objectives; it includes the recording of performances to provide a guide for future similar activities (Koontz & O'Donell, 1968).

2.1.7.4 Warehouse Organizing

Organizing is the second function of management and refers to formal arrangement of jobs within an organization. Organizing can be thought of as the process of bringing together physical, financial and human resources and developing productive relationship amongst them for achievement of organizational goals. Management must organize all its resources in order to implement the course of action it determined in the planning process and create a mechanism to put plans into action. Organizing as a process involves: identification of activities, classification of grouping of activities, assignment of duties, delegation of authority and creation of responsibility, coordinating authority and responsibility relationships.

Once the plans have been formulated, to organize a business first it requires identifying the activities and grouping them based on their classification to ensure that the objectives are achieved as planned. Organizing, then, be the process of

ensuring the right staff, the right materials and the right machines are in the right places at the right times and in the right quantities so that work will proceed in accordance with the formulated plans, without delays, hold-ups or stoppages.

In determining the internal structure, management must look at the different divisions or departments, the coordination of staff, and what is the best way to handle the necessary tasks and disbursement of information within the company. Management will then divide up the work that needs to be done, determine appropriate departments, and delegate authority and responsibilities. People within the organization are given work assignments that contribute to the company's goals. Tasks are organized so that the output of everyone contributes to the success of departments, which, in turn, contributes to the success of divisions, which ultimately contributes to the success of the organization.

Assigning work and granting authority are two important elements of organizing. Organization design is the process of deciding how organizations should be structured and function. Assignment of duties in the best possible manner is known as staffing which includes manpower or human resource planning. Staffing involves selection, recruitment, induction and positioning right people for the job at right time, and always secures a sufficiently skilled and educated workforce in the organization.

It also includes decisions on remuneration packages, performance appraisals, training, retraining, development, mentoring, counseling, and designing and administering the motivational packages. Managers must organize all its resources particularly human resources in an efficient manner and structure and align the activities of the organization. Delegation of authority is an elementary art of management. In every organization, the ultimate authority must rest somewhere, and there must be a clear chain of direct authority relationships from superior to subordinate throughout.

One of the difficult problems of management structure is the choice between a narrow 'span of control' and a 'flat' organizational structure. Span of control refers to the

number of subordinates managed by a superior. Organizing and co-coordinating are very closely linked, and frequently coordinating is an essential continuation of organizing. Coordinating involves ensuring that all efforts move smoothly together in the same direction. It ensures that although different staff might perform different work, all their efforts mesh smoothly together and are directed towards achieving the common objectives.

Managers must harmonize the procedures and activities performed by the company, meaning that every activity of each organizational unit should complement and enrich the work of another. Co-ordination is just as essential in top management as it is at junior management and supervisory levels. For example, the managing director or general manager must ensure that the efforts and activities of all the different departments of an enterprise are in harmony, and in co-operation; as we said earlier, there is no point in, for example, the sales department endeavoring to sell items not yet in stock or in production! Good relations and communications between departmental managers must be developed and fostered so that they all work together in concert (Steven, 2005).

2.1.8 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).

2.1.9 The Purpose of Warehousing

A warehouse is a commercial building used for the storage of goods. The most important element of warehousing is order processing which generally refers to the workflow coupled with delivering products ordered by a customer. The prime objective of most warehouses is to facilitate the movement of goods from suppliers through the supply chain to the end consumer while meeting the customers' demand in a timely and cost-effective manner. In the old days of warehousing, inventory was seen to represent the wealth of a company. However, these days this is not the case anymore. Instead, many companies have noticed the high cost associated with holding inventory. In practice, however, there are overriding factors such as meeting customer demand and expectations that make it hard to operate without inventory.

Even though the new technologies in e-commerce, supply chain integration, quick response, just-in-time delivery and efficient consumer response that connect the manufacturing with the end customers, businesses are still struggling to eliminate the existence of a warehouse. Thus, to meet the customer's requirements warehouse needs to be properly coordinated and maintained (Van, 2012).

Valid reasons for holding inventory include, for example, buffering cycles between two production processes, covering demand during supplier's lead-time, enabling savings by using volume discounts, coping with seasonal fluctuations, providing a variety of products in a centralized location, or holding anticipation and investment stocks. As a result, the basic aim of most warehouses is simply to minimize the total cost of operations while providing a desired level of service (Krajewski & Ritzman, 2005).

Warehousing also plays an important role from the supply chain perspective. Despite all the integration initiatives, supply chains will never be so well coordinated that warehousing can be completely eliminated. (Frazelle, 2002) states that warehouses are important for a supply chain because they provide storage for raw materials, components, work-in-process, and finished goods; operate as distribution and order fulfillment centers; and perform localized and value-added warehousing.

2.1.10 Today's Warehouse Requirements

Traditional warehousing continuously is declining since the last decade of the 20th century with the introduction of Just in Time (JIT) techniques, which are specially designed to enhance the return on investment (ROI) of a business by mitigating in-process inventory. Recent developments in marketing field have led to the development of warehouse designing style, where the same warehouse is used for warehousing and as a retail store. These types of warehouses are equipped with tall heavy-duty industrial racks, with the items, which are ready for sale, are placed in the bottom parts of the racks and the palletized and wrapped inventory items being usually placed in the top parts. Today's warehouse requirements are:

Execute more and smaller transaction, (2) Handle and store more items, (3) Provide more product and service customization, offer more value-added services, Process more return, Receive and ship more international orders, at the same time, warehouses today have, less time to process an order, less margin for error, less young, skilled, English-speaking personnel, less warehouse management system capability (Tompkins & Smith, 1998).

2.1.11 Warehouse Design and Layout

Designing warehouses is challenging because it involves so many trade-off decisions. Each warehousing function needs to be carefully implemented in order to achieve operational targets. These targets are often expressed in terms of capacity, throughput, and customer service levels. A typical structured approach of warehouse designing could be as follows: Determining the overall space requirements for all warehouse processes, specify a U-shape, straight-thru, or modular overall flow design, locate functions with high adjacency requirements close to one another, assign processes with high storage requirements to high-bay space and labor-intensive processes in low-bay space, document expansion and contraction strategies for each warehouse process (Baker & Canessa, 2009).

Design and layout principles for warehouses

Use straight-line or direct flow of goods in and out of the warehouse with goods being delivered at one end, held, and ranked according to ABC analysis, utilize an effective storage plan to maximize warehouse operations and to avoid inefficiencies, use efficient materials handling equipment, minimize aisle space within the constraints of the size, type and turning circle of materials handling equipment, maximize use of the building's height to use the cubic capacity fully, Use an efficient system of product identification, Plan for growth, Ensure full attention is given to health and safety issues. The way, in which various warehousing functions are arranged, depends on many issues. Firstly, the physical quality of the warehouse facility may set certain restrictions. For example, receiving and shipping functions should normally be located near the facility input and output points. On the other hand, the facility may have some fixed obstacles that hinder entering and performing work tasks in certain areas. Second, management typically wants to balance the flow patterns between various activities and minimize the travel distances for stock movement. This can be achieved through systematic identification of stock locations and adjacency requirements between different warehouse activities. Finally, product attributes may require certain kind of handling procedures (Baker & Canessa, 2009).

Some items, for example, may be temperature sensitive which requires processing them in a climate-controlled location. (Baker & Canessa, 2009) in their article "Warehouse design: A structured approach" has acknowledges that the warehouse design process is highly complex. The authors often seem to tackle this complexity by describing sequenced procedures for creating an appropriate warehousing solution. However, because there are a high number of decision variables, it may not be possible to identify an "optimal" solution. As a result, steps in the design process are typically interrelated and reiterative decision-making methods are needed during the process. In designing warehousing systems, it is desirable to maximize: (1) space utilization; (2) equipment utilization; labor utilization; accessibility of all materials; protection of all materials (Tompkins. 1996).

2.1.12 Problem Areas in Warehousing

Warehouse management was very simple to handle in earlier days when everything was performed manually. The biggest problems then were the bar codes and space utilization in the warehouse. There has been drastic change in today's Internet world, after the outbreak of this internet technology everything was looking even simpler than the earlier days with more efficiency and consumption of less time and gaining a competitive advantage with potential economical savings. The evolving technology changed the warehousing methods a lot with logistics being carried out a quicker pace and with very little scope for error. Although there are many technologies evolving every day, many problems are also arising making Warehousing more complex. This in turn is affecting the whole supply chain management (Hompel, 2007).

2.1.13 Types of Warehouses

Stores facilities can be broadly broken in to two categories; stores buildings and stockyards. There are different kinds of warehouses and the classification of warehouses can be made from the following viewpoints: On the basis of structure, ownership, and service rendered. Raw material and component warehouses: It hold raw materials and always in a position to induct raw materials onto a manufacturing or assembly process. Work-in-process warehouses: This warehouse hold partially completed products and assemblies at various points along production line or an assembly line. Finished goods warehouses: It holds inventory usually to balance the variation between production schedules and demand. Normally these warehouses are situated near manufacturing plant, and it is characterized by the flow of full pallets in and full pallets out, assuming the product size and volume authorizes pallet-sized loads track (Pochet, 2010).

Distribution warehouse and distribution centers: Distribution warehouses accumulate products from various manufacturing points for combined shipment to the common customer. Normally, the warehouses are located central to either the production locations or the customer base. Product movement represented by full pallets or cases in and full case or broken case quantities out. Fulfillment warehouses

and fulfillment centers: It receives, pick, and ship small orders for individual consumers (Sousa, 2008).

Local Warehouses: These warehouses mainly for responding to the customer demand. Frequently, single items are picked, and the same item is shipped to the customer every day (Rood, 2001).

Value-added service warehouses: Key product customization activities takes place like packaging, labeling, marking, pricing, and returns processing. There is also one more classification of warehouses according to which geographical area they cater to:

- ✓ Centralized warehouse
- ✓ De-centralized warehouse (Rood, 2001).

Centralized warehouse: Centralization generally refers to the allocation of the warehousing services to one business unit which provides services to the whole firm. The decisions are made at the central location for the entire network. The main characteristics of a centralized approach are control, efficiency and good economy (Rood, 2001).

De-centralized warehouse: Decentralization approach gives the individual business units autonomy and independence over their own resources without any major considerations over the remaining units unless there is a necessity for the overall organization policy. In this approach each facility identifies its most effective strategy without considering the impact on the remaining facilities in the network and this leads to the local optimization. The main characteristics of the decentralized approach are empowerment of individual business units, flexibility, and service orientation (Rood, 2001).

2.1.14 Warehousing Activities

The basic warehousing activities are to receive customer orders, store or keep goods, retrieve required items, and finally prepare and ship those items. There are many ways to organize these operations but the overall process in most warehouses shares the

following common phases. Therefore, the basic warehousing activities includes: receiving, identification and sorting, dispatching to storage, placing in storage, storage, retrieval from storage, order accumulation, packing, shipping, record keeping. (Tompkins, 1984).

2.1.14.1 Receiving activity

Receiving is the process of unloading, checking quality and quantity, and dissembling or repacking items for storage. It is the setup operation for all other warehousing activities. It allows the warehouse to schedule receipt and unloading within the warehouse. Product will be inspected and any noted exceptions, such as damage, incorrect counts, wrong description, and so on. Receiving the merchandise properly is the key to warehouse operations, because it will create problems in put away, storage, picking and shipping, if the damaged or inaccurate deliveries are allowed into the warehouse then the same must be shipped. Few world-class receiving practices are: direct shipping, cross-docking, receiving scheduling, pre-receiving, receipt preparation, etc. (Tompkins, 1984).

2.1.14.2 Put-away activity

The put-away operation physically moves the items from receiving location to the storage area of the warehouse, which is also known as the reverse of order picking. The term put away defines the appropriate location for items and transferring them to the specified storage location to wait for demand. When product is put-away, the storage location should also be scanned to record where the product has been placed. This information will subsequently be used to construct efficient pick-lists to guide the order-pickers in retrieving the product for customers. Most of the principles which enhance or streamline the picking process work well for put away (Tompkins, 1984).

2.1.14.3 Storage Activity

This is very important because where the warehouse operator store the product determines to a large extent how quickly and at what cost the operator later retrieve it for a customer. This requires managing a second inventory, not of product, but of

storage locations. The operator must always know what storage locations are available, how large they are, how much weight they can bear, and so on. When product is put away, the storage location should also be scanned to record where the product has been placed. This information will subsequently be used to construct efficient pick lists to guide the order-pickers in retrieving the product for customers. Put-away can require a fair amount of labor because product may need to be moved considerable distance to its storage location. Put-away typically accounts for about 15% of warehouse operating expenses (Bartholdi & Hackman, 2011).

2.1.14.4 Order-picking activity

The process of retrieving items from their storage locations and transporting them either to a sorting process or straight to the shipping area. This process requires warehouse personnel to select the items ordered by the customer or manufacturing operation in the storage area. The order information is given to the warehouse personnel on a pick slip or in case of an automated warehouse, the information is given to the computer. The personnel or automated process will locate the materials – handling system would run the picking process, when the order arrives at the shipping preparation area, the items would be placed in an exterior (shipping) package or on pallet. Then, a shipping label indicating the ship-to person/firm and address is attached to the package. Finally, the complete customer order is staged for loading into transport vehicle (Tompkins, 1984).

2.1.14.5 Shipping activity

The final movement process occurs at the shipping operation. Shipping process involves inspecting, packing, palletizing and loading items into a carrier for further delivery. Product is likely to be staged if it must be loaded in reverse order of delivery or if shipping long distances. When one must work due to the staged freight it must be double handled. The trailer is likely to be scanned to register its departure from the warehouse. Out of these activities, receiving and put away belong to the inbound logistics process, which means that they are concerned with the flow of materials coming into the warehouse. Order picking and shipping, on the other hand, belong to

outbound logistics and are concerned with moving materials out of the warehouse (Tompkins,1984).

2.1.15 Organizational performance

Organizational performance refers to how well an organization fulfilled its market and financial goals (Yamin, 1999). The short-term objectives of warehosuing management are primarily to increase productivity and reduce inventory and cycle time, while a long-term objective is to increase market share and profits for all members of the supply chain (Tan, 1998). According to (Yamin, 1999) firm performance refers to how well a firm achieves its market oriented goals as well as its financial goals. Financial performance measurements are the accounting-based measurements such as ROI, percentage in market share, rapid turnover of inventories, return on asset, etc (Yamin, 1999). (Li, 2006) measured firm performance through its market share, return on investment, the growth of market share, the growth of sales, growth in return on investment, profit margin on sales, and overall competitive position.

Organization performance refers to the effectiveness of the organization in fulfilling its purpose. Some organizations aim to trade successfully to return financial benefits to shareholders, while others have non-financial objectives such as service to the community. Organizational performance encompasses three specific areas of firm outcomes; financial performance which is concerned with profits, returns on assets, and return on investment; product market performance which centers on sales and market share; and shareholder return that involves total shareholder return and economic value added. Therefore organizational performance comprises the actual output or results of an organization as measured against its intended outputs which are its goals and objectives (Richard, 2009).

Organizational performance refers to a function of an organization's ability to meet its goals and objectives. How successful an organization achieves its objectives, satisfies social responsibilities or both depends upon how well an organization carries out its activities (West, 1990). Organizational function is an important factor in the performance of a society or nation. How well the organizations of the society do their

job organizational performance, gives rise to debate (Stoner, 1989). Organizational performance is evaluated regardless of the system being used, either formal or informal. Systematic ways of appraising organizational performance throughout the company are however desirable so that each manager can help to improve current performance and identify individuals who show the greatest potential for higher management positions (Pigers, 1989).

Financial Indicators for Measuring Organizational Performance

The financial indicators, called and classic indicators (traditional) represent the fundamental management tool by which performance it can be measured the financial performance of organization and who show the way to lead in a certain perspective. The usual financial indicators are expressed in the form of some significant reports between two sizes of balance sheet or the profit or loss account of society. For the calculation and interpretation of the financial indicators, the managers use as a starting point the financial statements which are like a "scorecard" for business. With the help of financial statements, the company activities are transposed into a set of numbers that provide valuable information about the organization's performance, which play an important role in managerial decisions substantiation. Since there is an unlimited number of financial indicators by which it can measure the organizational performance, there are financial indicators widely accepted, which have proved their worth in financial analysis. Depending on aspects of performance that it detects, these indicators are grouped in three main categories: - Cash position (refers to the property of patrimonial elements to change into money) - equity structure (entail the leverage degree of company) - return (indicator that measures the company's earning power) (Achim, 2010).

Non-Financial Indicators for Measuring Organizational Performance

Nonfinancial indicators, of activity or qualitative, characterize better the company's performances because they directly touch the sensitive points of the organization. With the help of the nonfinancial indicator we measure the organization's performance, regarding the social and ecological issues, unlike financial indicator that measure the economical (financial) performance of organization. Thus, it can be

appreciated the analysis based on nonfinancial indicators comes to complete the analysis made based on financial indicators (Achim, 2010).

In the specialty literature exist an unlimited number of nonfinancial indicators, making it impossible to identify a complete set of nonfinancial indicators, which ensures a standard system for organizational performance measurement, with universal applicability. Due to the increasing complexity of company's activity, the experts recommend that to use some multiples nonfinancial indicators that are well tested and that produce signals apparently unambiguous such as time, productivity, customer satisfaction, quality, and cost indicators of non-financial performance.

2.1.15.1 Measurement of organizational performance

A performance indicator is a detailed quantitative and/or qualitative descriptor. It describes what the organization is doing or has done. There can be more than one indicator for each performance measure.

- ✓ **Cost:** Measures based on cost include cost minimization, able to offer prices as low, capacity utilization, operation with less merchandising cost, offer competitive prices, and inventory investment minimization. Cost related performance indicators examined through On-time delivery, shipping accuracy, Delivery accuracy, Picking accuracy and other (Rimiene, 2008).
- ✓ **Quality:** An organization can offer product quality and performance that creates higher value for customers via compete based on quality, offer products that are highly reliable, offer products that are very durable, and offer high quality products to our customer. About the quality embraces measures linked with customer satisfaction (external) and operations quality (internal). The inventory, the warehouse physical area in which the products remain until they are picked, is also considered as an important management part to achieve a high warehouse performance (Frazelle, 2001).

- ✓ **Productivity:** Productivity can be defined as the level of asset utilization or how well resources are combined and used to accomplish specific, desirable results (Frazelle, 2001).

- ✓ **Time:** An organization can provide timely the type and volume of product required by customer(s), in terms of deliver the kind of products needed, deliver customer order on time, provide dependable delivery, Time to solve customer complaints, and order processing time. Concerning to the time, the most used metrics are order lead time, receiving operation time and order picking time, respectively. Surprisingly, order picking time is in the third position, even though, (Gu, 2007) state that past research has focused strongly on order picking since this activity has large impact on the warehouse performance. One reason could be that in the literature, the order picking time is more specially treated in optimization works. Analyzing the time spent by a product in the warehouse through all activities.

- ✓ **Customer satisfaction:** performance measures include customer satisfaction in terms flexibility, information and material flow integration, risk management, and suppliers' performance in terms of delivering the right good in the right time. Shares a sense of fair play with its customers, frequently interacts with customers to achieve reliability, responsiveness, and improve some basic standards, frequent follow-up with its customers for quality/service feedback, frequently measures and evaluates customer satisfaction. Customer satisfaction measures how well the expectations of a customer concerning a product or service provided by a company have been met. Businesses often use customer satisfaction surveys to gauge customer satisfaction. Moreover, customer satisfaction measured related to customer satisfaction degree, number of complaints, number of new customers Indicators oriented on Human Resources, quality and fluctuation of labor force, satisfaction and work motivation and use of teamwork (Nistor, 2014).

2.1.16 Effective warehousing practice Performance

(Crişan, 2009) states that Companies could gain cost advantage using their logistics area of the business. because warehouse management is a possible source of cost improvements from logistics that companies could use during this economic crisis. Best practices in warehouse performance measurement which lead to performance improvements and their solution lead to the optimal use of storage space, customer relations activity, quality level, assets usage and costs. The main contribution of performance measurement is to find what the causes that generated a poor performance were. After this step, there must be found solutions for improving performance and immediately improve performance, for avoiding inconveniences before it's too late, for monitoring customer relations, for process and cost control and for maintaining quality (Ackerman, 2003). As per my detail investigation the warehousing practice was measured based on the five warehousing function measurements such receiving activity, put way activity, storage activity, order picking activity, and shipping activity.

2.2 Empirical Literature Review

(Dagnachew, 2015). "The Role of Warehouse Personnel Practice on warehouse Performance- A Case of Ethiopian Electric Utility" reveals how poor performance 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 study concludes by showing that the corporation's management didn't recognize the importance of qualified warehouse personnel to the good performance of the corporation.

A study of "Improving Inventory Management at SUR Construction Company" indicate that major 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, the researcher concludes that the

main contributing factor for inventory management is ineffective to the construction company (Beyen, 2016)

Facility location research in the context of humanitarian relief is focused on determining the location of warehouses and distribution centers. for example, developed a mixed-integer linear program to determine facility configurations where the objective is to minimize the average global distance from the nearest warehouse to the victims. Ultimately, the model is designed to determine the optimal locations for warehouses of non-consumable inventories required for the deployment of aid efforts (Akkihal, 2006).

(Barbarosoglu, 2002) developed a mixed integer mathematical programming model for helicopter mission planning during a disaster relief operation. In this framework, tactical decisions are made at the top level, while operational decisions are made at the base level. Consistency between the two models is achieved with an iterative coordination procedure.

There are several reasons for measuring performance: for improving performance, for avoiding inconveniences before it's too late, for monitoring customer relations, for process and cost control and for maintaining quality. The main instruments for assessing performance are performance indicators, also named key performance indicators. They are specific characteristics of the process which are measured to describe if the process is realized according to pre-established standards. The best way to use indicators is to compare process values with normal, standard values. If there are poor results, poor performance, in reality, improvements for the process must be made. Indicators are used basically for comparison with expected values (Ackerman, 2003).

Present a software tool which allows selecting public warehouses according to the following criteria: storage surface and volume; dangerous items; possibility for temperature control; separation of storage areas; geographical distance to highway connection, train, waterways; certification; opening hours; assistance with customs;

use of technology; handling equipment; number and characteristics of docks etc. (Colson and Dorigo, 2004).

2.3. Conceptual framework of the study

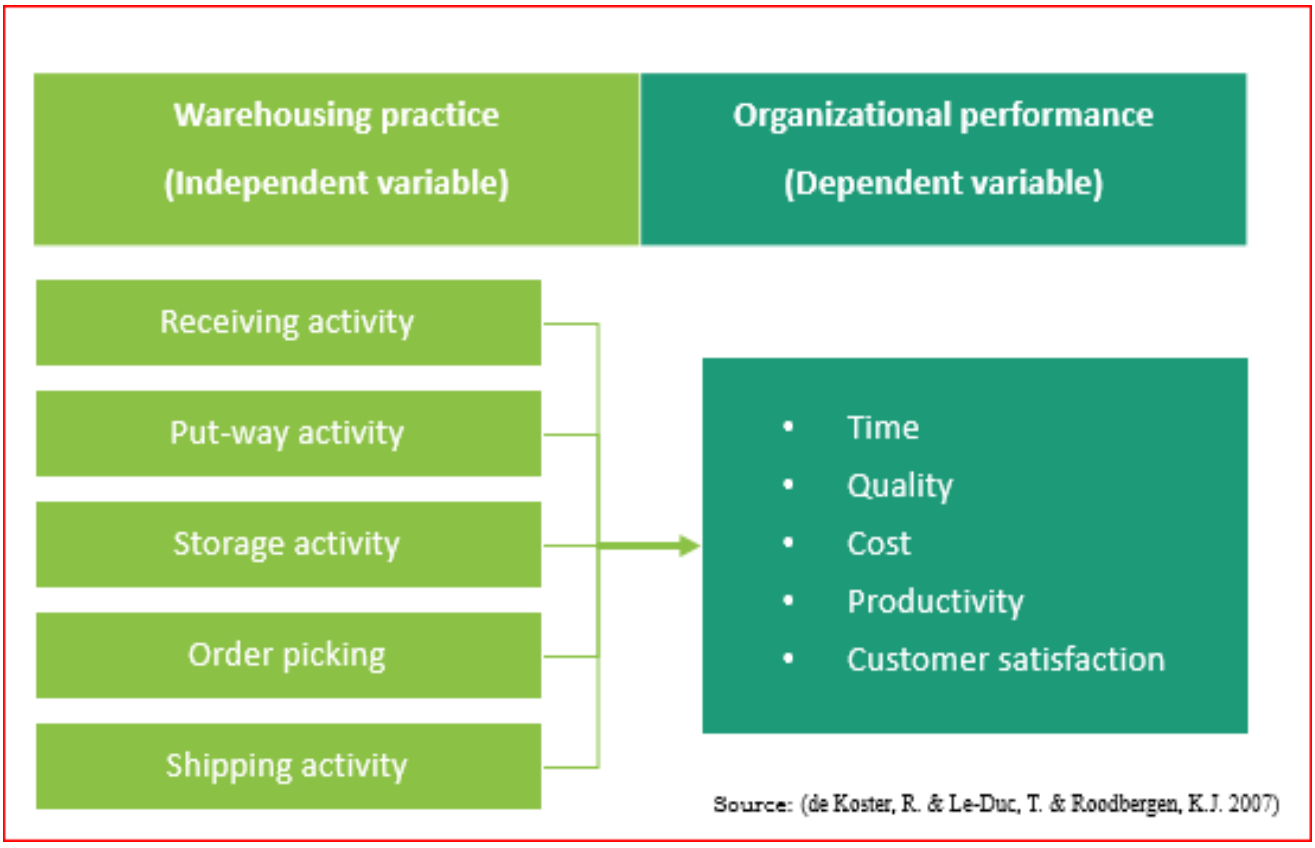

Fig 1: Conceptual framework of the study (own design)

This conceptual framework outlines the link between warehousing practice and the organization performance of a company. It provides a structured way for a research that identifies the significance between the independent and dependent variables.

CHAPTER THREE

Research Methodology

Introduction

Research is about the systematic understanding of a problem in order to identify solutions. In other words, it is a way of gathering data or information which we then organize in a coherent way, so that we can act or use it. A basic research design and method is a formal way of going about asking questions. We usually begin with the identification of a specific problem, from which we design questions in a structured way to interpret the problem

3.1 Description of the study area

MWE P.L.C has been providing world class reliable and quality products for over 10 years. The company offers a wide range of integrated solutions. The company vision is that customers will buy from the company, not only because of the products they sell, but to benefit from the services the company offer.

MWE PLC represents the world's leading manufacturers of machinery and engines for earth-moving, mining and petroleum industries; building and road construction, electric power generation, materials handling and farming applications. Working with certified partners from all around the world, the company guarantees high quality standard products and services. The company brands are handpicked by their quality of products, stability of service, accessibility of spare parts and state of the art technology facilities (https://mywishenterprise.com/ - date accessed 15/11/2018).
This study focuses on the functioning of three warehouses that MWE currently runs. Two are sub warehouses, and one is main. The main warehouse is 2,000 square meters, and the sub warehouses are 500 and 700 square meters.

3.2 Research Approach

Before conducting research, it is important to clearly set out the research approach. In social research like this study, there are two basic kinds of research approach that are linked to the methods used. They are quantitative and qualitative research approaches (Silverman, 2005). Most importantly, they must serve the purpose of the research. This research adapted with big emphasis given to the quantitative method (Creswell, 2003). This method has been chosen because the researcher wanted to examine the cause and effect relationship between independent variables and dependent variable.

3.3 Research Design

Research design refers to the structure of an enquiry and to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you effectively address the research problem; it constitutes the blue print for collection, measurement and analysis of data (De Vaus, 2001). Among the different types of research designs the researcher used causal research/explanatory research design.

3.4 Target Population and sample size

Target population is defined as the entire aggregation of respondents that meet the designated set of criteria (Kothari, 2004). The population, also called the universe, is the set of people or entities to which findings are to be generalized and the population must be defined explicitly before a sample is taken (Garson. 2012). All warehouse personnel and those of other departments which have direct relationship with the warehouse are taken to constitute the study population. Due to the very small number of the target population, which is 65 in number, the entire population was taken for the study, i.e. to conduct census survey, rather than sampling from the population. This is based on the suggestion that if the target population is smaller (e.g. 100 or less) census survey is most appropriate and effective methodology to achieve a desirable level of precision (Israel, 2013).

3.5 Data Sources and type

The principal sources of data for the research is primary data source. One of the primary source tools i.e. the questionnaire, has three parts: demographic and knowledge, warehousing practice and organizational performance. The questionnaire is designed, developed and utilized by the researcher based on the information from different unpublished manuscript these. The questionnaire will be used to collect data from every individual respondent.

3.6 Data Collection procedures

This study is designed to explore the overall effect of warehousing practice on organizational performance in MWE and help identify the scope of improvements. To achieve the said purpose/objectives, the study to used quantitative research model which is mainly based on primary data. The first step that was conducted, before the next design of the data collection, was to speak to the Deputy Managing Director to get an overall impression of the company, and of the problems encountered in warehouse management. On the basis of this discussion and an analysis the questionnaires used in previously conducted studies the researcher, with the support of his advisor and academic colleagues, customized a closed-ended likert-scale questionnaire, with a space for open comments at the end of each question. Before the implementation of the questionnaire the researcher briefed the target group on the purpose of the study and provided information on operational terminology. The researcher then conducted the questionnaire with each of the respondents. Secondary sources (reports, books, articles etc.) were also used to develop the questionnaire and conceptual framework.

3.7 Ethical Consideration

Several ethical considerations were considered throughout the study. Written consent was taken from Addis Ababa University, School of Commerce mentioning the purpose of the research, based on which verbal consent has been obtained from MWE and each study participants.

Ethical issues also addressed by explaining the essence of the study to the all respondents. They were also made to understand their role in the data collection activity to find answers to the research questions. The response that the participants gave is analyzed without any change by the researcher. In addition to the above the reference works of other researchers and authors are cited appropriately. Furthermore, the researcher makes sure that all the respondents take part in the research on voluntary basis and treated with respect.

3.8 Methods of Data Analysis

Quantitative data were analyzed using descriptive statistics and inferential statistics. The Statistical Package for Social Sciences (SPSS) aided in the analysis. SPSS version 16.0 performed explanatory data analysis and descriptive statistics. Frequency tables are used to summarize the respondent's profile in the form of frequency and percentages

First, descriptive statistics of the variable is calculated in line with (Malhotra, 2007), which states that using descriptive statistics method helps the researcher in picturing the existing situation. In the descriptive analysis mean and standard deviation are used the study. While making interpretation of the results of mean and standard deviation, the scales were reassigned as follows to make the interpretation easy and clear.

Table 3.1: Range for interpreting quantitative data

Range	**Interpretation-1**	**Interpretation-2**
1-1.8	Strongly Disagree	Very dissatisfied
1.81–2.6	Disagree	Dissatisfied
2.6 –3.49	Neutral	Moderately satisfied
3.5–4.9	Agree	Satisfied
5–5	Strongly Agree	Very satisfied

Source: (Best, 1977).

Through quantitative data analysis, the researcher conducted a correlation test to determine the relationship between each variable for each hypothesis. The magnitude or the strength of the relationship was determined by the correlation coefficient describing relationship. Correlation coefficient is a measure of the degree of relationship between two variables; it can vary between -1.00 and +1.00. The stronger the relationship between the variables, the closer the coefficient is to either -1.00 or +1.00. The weaker the relationship between the variables, the closer the coefficient is to 0. Multiple regression analysis was used to investigate the effect of warehousing on organizational performance. Because of the regression functions, the equation of multiple regressions on this study is generally built around two sets of variables, namely dependent variable (organizational performance) and independent variables of warehousing.

3.9 Reliability and Validity

3.9.1. Reliability

The Cronbach alpha coefficient is an indicator of internal consistency of the scale. A high value of the Cronbach alpha coefficient suggests that the items that make up the scale "hang together" and measure the same underlying construct. A value of Cronbach alpha above 0.70 can be used as a reasonable test of scale reliability (Gaur & Gaur, 2009).

3.9.2. Validity

The first step in assessing validity is called the face validity test. Face validity establishes whether the measuring device looks like it is measuring the correct characteristics. The face validity test is done by showing the instrument to experts and actual subjects and analyzing their responses qualitatively (Gaur & Gaur, 2009). Therefore, the researcher has tested the face validity of the instrument by way of his academic advisor.

CHAPTER FOUR

Results and Analysis

Introduction

This chapter presents and analyses the data collected in the study on the effects of warehousing practice on organizational performance in MWE. This takes form through a descriptive and inferential analysis. The statistical analysis is performed in SPSS version16.0.

4.1. Response Rate

The sample consisted of employees of MWE. The researcher distributed 65 questionnaires, out of which 60 questionnaires were successfully completed and returned with a non-response rate of 7.7%. Finally, the total of 60 respondents, were used in this study amounting to a response rate of approximately 92.3%.

4.2. Demographic and Knowledge Characteristics

Descriptive analysis was used to present the data collected in relation to the demographic and knowledge factors for more clarification. It is mainly important to make some general observations about the data gathered with the help of general or demographics questions. The demographics and knowledge factors used in this research are gender, age, level of education and length of relationship of the respondents with the company and it is presented below.

Table 4.1: Demographic and Knowledge Characteristics

		Frequency	Percent
Gender	Male	36	60.0
	Female	24	40.0
	Total	60	100.0
Age	20-25	12	20.0
	26-31	33	55
	32-37	13	22
	38-43	2	3
	Total	60	100
Education Level	Below diploma	10	17
	Diploma	12	20
	Degree	30	50
	Masters	8	13
	Total	60	100.0
Working Experience	1-3	10	16.6
	4-6	25	41.7
	7-9	13	21.7
	10-12	12	20.0
	Total	60	100.0

Source: own survey, 2019

As shown in Table 4.1. Gender distribution of the sample, 36 (60%) of the total respondents are male; 24(40%) are female. This implies that the proportion of male employees is slightly larger than that of female employees in MWE plc.

The respondents' age is presented in the above table. The table shows that 55.0 % of the respondents are between the age of 26-31 years, followed by the respondents who are under the 32-37 at 22%- and 20-25-years age to be 20% of the respondents. The rest 3.3% are between 38-43 years old.

The educational level of the respondents is shown in table 4.1. As can be seen from the table 50.0 % of the respondents hold a first degree. 20 % of them are diploma holders, 17% of them are below diploma holder and the remaining of 13 % have second degrees. This implies that the proportion of employees that have a bachelor's degree is larger followed by the proportion of employees that have diplomas.

The data indicating the work experience of the respondents with MWE is presented in Table 4.1. Accordingly, 41.7 % of the respondents have work experience with the MWE ranging from 4 to 6 years. While 21.7 % of the respondents have work experiences in the range of 7-9 years, 20 % of the employees being regular staff with MWE have served from 10-12 years, while 16.6 % of them are employees with work experiences of 1-3 years with the same employer.

4.3 Descriptive Analysis

Descriptive statistics was assessed to examine the mean scores and the corresponding standard deviations under the respective scales of each of the measurement items of the dimensions. Hence, this attempt has the importance of addressing some of the research questions based on the perceptions of the respondents on the level of warehousing practice of the MWE. In the descriptive analysis mean and standard deviation were used. Whereas, while making interpretation of the results of mean and standard deviation, the scales were reassigned as follows to make the interpretation easy and clear.

Table 4.2 Guideline for Interpreting Quantitative Data

Range	**Interpretation-1**	**Interpretation-2**
1-1.8	Strongly Disagree	Very dissatisfied
1.81–2.6	Disagree	Dissatisfied
2.6 –3.49	Neutral	Moderately satisfied
3.5–4.9	Agree	Satisfied
5–5	Strongly Agree	Very satisfied

Source: (Best, 1977).

4.3.1 Receiving Activity

Table 4.3: Receiving activity

Items of Receiving Activity	Mean	Std. D.
MWE has Standard Operating Procedure (SOP) for receiving of goods.	4.4000	.8067
Most of the time, our warehouse workers perform appropriate inspections of goods at receiving stage.	3.5167	1.1570
Most of the time, our warehouse workers utilize a reasonable warehouse spaces during receptions of goods.	4.0333	1.0078
Most of the time, our warehouse workers confirm all the goods arrived are perfectly matched with what originally ordered.	4.4833	.9476
MWE warehouse personnel inspect received materials on the reasonable time.	3.5833	1.1393
Receiving Activity Grand Mean	4.0033	.62868

Source: own survey, 2019

As can be seen above, receiving activity is satisfied/agreed with the grand mean of (4.00) and this indicates the current receiving activity of MWE which includes the typical carrier processing like unloading, item identification, recording the goods receipt, quantity and quality inspection, un-packing, and sorting activities is good. Because the research validated bench mark for this variable state as per the interpretation law set by (best, 1977) it is totally agreed or satisfied.

To add up, the standard deviation for receiving activity is .628. This standard deviation is low meaning that there is no extreme in the positive and negative score. Hence, practice of receiving activity could be dominant/controlling, or prevailing over all others practice of warehousing practice.

4.3.2 Put-way Activity

Table 4.4: Put-way Activity

Items of Put-way Activity	Mean	Std. D.
MWE warehouse personnel are skilled to perform put away activities.	3.766	1.03115
Most of the time, our warehouse has enough space to move goods/workers/machineries during put-away activities.	4.550	.72311
In MWE warehouse, goods are placed in the correct location.	3.383	1.12131
MWE warehouse personnel perform put away activity manually via labor force.	3.900	.85767
The MWE design/layout is convenient to perform put-away activities.	3.350	1.32544
Put-way Activity Grand Mean	3.790	.61111

Source: own survey, 2019

The result shows regarding i.e. Put-way Activity is satisfied/agreed with the grand mean of (3.79) and this indicates the contemporary Put-way Activity of MWE which comprises the process that moves material from the receiving area to the storage, replenishment, or pick areas is importance. Because the research validated bench mark for this variable state as per the interpretation law set by (best, 1977) it is completely agreed or satisfied. Moreover, the standard deviation for put-way activity was .611. This standard deviation is low meaning that there are no extremes in the positive and negative in the scoring.

4.3.3 Storage Activity

Table 4.5: storage activity

Items of Storage Activity	Mean	Std. D.
Most of the time, our warehouse team are appropriately using available storage area for storing goods.	3.533	1.0328
Most of the time, our warehouse team are effective in minimizing total goods damage that are stored in the warehouse.	3.416	1.0133
In our warehouse, there is enough space between goods storage and walking way.	3.750	1.0516
Most of the time, incoming goods are stored in their identified storage locations.	3.333	1.0523
MWE warehouse personnel utilizes a reasonable warehouse spaces for goods handling.	4.366	.6880
Storage Activity Grand Mean	3.508	.7715

Source: own survey, 2019

As indicated in Table 4.5 the aggregated value of Storage Activity has scored agree with the value of (3.508) and this designates the current storage Activity of MWE present practice is working with the handling of goods and material. Since, storage activities are the focal points for product and information flow between sources of supply and beneficiaries. This degree of agreement is supported by research validated bench mark for this variable state as per the interpretation law set by (best, 1977) it is entirely agreed or satisfied. Moreover, the standard deviation for storage activity was .771. This standard deviation is low meaning that there is no extreme in the positive and negative in the scoring.

4.3.4 Order Picking Activity

Table: 4.6: Order picking activity

Items of Order Picking Activity	Mean	Std. D.
MWE warehouse personnel are skillful in performing order picking process.	3.0000	.84372
Most of the time, our warehouse workers are performing order picking process errors free.	4.3500	.89868
Our warehouse design/layout is convenient for an easy order picking process.	3.3333	1.05230
MWE inventory management system facilitates the order picking process.	3.1167	.90370
MWE has adequate shelves for the goods in the warehouse to facilitate order picking process.	3.0500	.94645
Order Picking Grand Mean	3.5750	.56367

Source: own survey, 2019

Table 4.6 presents that the organization order picking activity is satisfied/agreed with the grand mean of (3.57) and this indicates the recent order picking activity of MWE is works shows that there is the essential labor and parts involved in pulling an item from inventory to fulfill a customer's order. Therefore, the research validated bench mark for this variable state as per the interpretation law set by (best, 1977) it is thoroughly agreed or satisfied. Moreover, the standard deviation for order picking was .563. This standard deviation is low meaning that there is no extreme in the positive and negative in the scoring.

4.3.5 Shipping activity

Table: 4.7: Shipping activity

Items of Shipping Activity	Mean	Std. D.
The warehouse team have enough awareness about how the motions of them have impact on satisfaction of customers.	3.8167	1.15702
MWE personnel serve customer on the reasonable time (i.e. from the moment an order is received at the storage facility until the time the order is shipped to the client).	4.3167	.79173
Most of the time, goods are delivered to the company customers as per the orders specification.	4.0333	.78041
Most of the time our warehouse personnel perform perfect order delivery lead time to the company customers.	4.2167	.71525
Shipping Activity Grand Mean	4.1500	.55921

Source: own survey, 2019

As can be observed, the Shipping Activity is satisfied/agreed with the grand mean of (4.150) and this indicates the contemporary Put-way Activity of MWE which indicates the preparation of usable commodities for shipment to customers and the placement of those commodities on vehicles for transport to the customers is crucial. Because the research validated bench mark for this variable state as per the interpretation law set by (best, 1977) it is fully agreed or satisfied. Moreover, the standard deviation for put-way activity was .559. This standard deviation is low meaning that there are no extremes in the positive and negative in the scoring.

4.3.6 Organizational Performance

Table 4.8: Organizational performance

Items of Organizational Performance	Mean	Std. D.
Receiving Activity has a significant positive effect on performance of MWE.	4.266	.5783
Put-way Activity has a significant positive effect on performance of MWE.	4.050	.8522
Storage Activity has a significant positive effect on performance of MWE	4.266	.7782
Order Picking has a significant positive effect on performance of MWE.	4.000	.9019
Shipping Activity has a significant positive effect on performance of MWE.	3.783	.9930
Organizational Performance Grand Mean	4.073	.6638

Source: own survey, 2019

As shown from table 4.8: Organizational performance is satisfied/agreed with the grand mean of (4.07) and this indicates the existing operational performance of MWE which shows that the company's performance as compared to goals and objectives within the productivity, quality, customer satisfaction, time, and cost is good. Because the research validated bench mark for this variable state as per the interpretation law set by (best, 1977) it is agreed. Moreover, the standard deviation for organizational performance was .663. This standard deviation is low meaning that there are no extremes in the positive and negative in the scoring.

4.4 Inferential Analysis

4.4.1 Reliability Analysis

A scale reliability test was conducted to check whether a scale applied in this research consistently reflected the subset it measures. To carry out the reliability analysis, Cronbach's Alpha (α) was used. It is the most common measure of scale reliability and a value greater than 0.700 is considered as very acceptable (Field, 2009; Cohen and Sayag, 2010) and according to (Cronbach's, 1951), a reliability value (α) greater than 0.600 is also acceptable. The accepted limit of Cronbach's α is 0.70 in this paper and was found to be more than 0.70 that was 0.700. Therefore, data obtained using these scales suitable for further analysis.

Table 4.9: Reliability result

S/no	Independent Variables	Cronbach's Alpha result
1	Receiving Activity	.700
2	Put-way Activity	.713
3	Storage Activity	.700
4	Order Picking	.916
5	Shipping Activity	.823
6	Organizational performance	.890

Source: own survey, 2019

4.4.2 Correlation analysis

This part shows the results of the inferential statistics conducted using the SPSS 16.0. To achieve the objective of this study indicated earlier, Pearson's Product Moment Correlation Coefficient, and multiple regression analysis were computed. Using these statistical tools conclusions were drawn. The relationship between the different aspects of warehousing practice (receiving activity, put-way activity, storage activity, order picking activity, and shipping activity and organizational performance was investigated).

The interpretation was made based on the following measurement scale intervals or range. 1 perfect, 0.8-0.9 very strong, 0.5-0.8 strong, 0.3-0.5 moderate, 0.1-0.3 modest, >0.1 weak, 0 zero, -1 perfect, -0.8 - -0.9 very strong, -0.5- -0.8 strong, -0.3 - -0.5 moderate, -0.1 - -0.3 modest, and > -0.1 weak (Mc Danail and Gates (2006). These findings are presented below.

4.4.2.1 Assessment of Autocorrelation

This assumption can be tested with the Durbin-Watson test which test for serial correlation between errors and the value closer to 2 are acceptable (Field, 2009). If the Durbin-Watson is substantially less than 2, there is evidence of positive serial Correlation. The Durbin-Watson statistics value are 1.827 suggests that there is no severe autocorrelation among error terms.

Table: 4.10 Correlation analysis

		Organizational Performance
Receiving Activity	Pearson Correlation	.401**
	Sig. (2-tailed)	.002
Put-way Activity	Pearson Correlation	.361**
	Sig. (2-tailed)	.005
Storage Activity	Pearson Correlation	.325*
	Sig. (2-tailed)	.011
Order Picking Activity	Pearson Correlation	.477**
	Sig. (2-tailed)	.000
Shipping Activity	Pearson Correlation	.611**
	Sig. (2-tailed)	.000

Source: own survey, 2019

Correlation analysis between receiving activity and organizational performance

Pearson correlation test was conducted to know the degree of relationship between the independent variable, which is receiving activity, and the dependent variable, organizational performance. The results of the correlation between these variables are shown in table 4.10. As it is indicated in the table there is a significant correlation

between receiving activity and organizational performance. Moreover, receiving activity and organizational performance have moderate relationship ($r = 0.401$ with $p<0.05$).

Correlation analysis between Put-way Activity and organizational performance

Pearson correlation test was conducted to know the degree of relationship between the independent variable, which is put-way activity, and the dependent variable, organizational performance. The results of the correlation between these variables are shown in table 4.10. As it is indicated in the table there is a significant correlation between put-way activity and organizational performance. Furthermore, put-way activity and organizational performance have moderate relationship ($r = 0.361^{**}$ with $p<0.05$).

Correlation analysis between Storage Activity and organizational performance

Pearson correlation test was conducted to know the degree of relationship between the independent variable, which is storage activity, and the dependent variable, organizational performance. The results of the correlation between these variables are shown in table 4.10. As it is indicated in the table there is a significant correlation between storage activity and organizational performance. In addition, storage activity and organizational performance have moderate relationship ($r = 0.325$ with $p<0.05$).

Correlation analysis between Order Picking Activity and organizational performance

Pearson correlation test was conducted to know the degree of relationship between the independent variable, which is order picking activity, and the dependent variable, organizational performance. The results of the correlation between these variables are shown in table 4.10. As it is indicated in the table there is a significant correlation between order picking activity and organizational performance. Likewise, order picking activity and organizational performance have moderate relationship ($r = 0.477^{**}$ with $p<0.05$).

Correlation analysis between Shipping Activity and organizational performance

Pearson correlation test was conducted to know the degree of relationship between the independent variable, which is shipping activity, and the dependent variable, organizational performance. The results of the correlation between these variables are shown in table 4.10. As it is indicated in the table there is a significant correlation between shipping activity and organizational performance. Compare to other warehousing activities, shipping activity and organizational performance have strong relationship ($r = 0.611^{**}$ with $p<0.05$).

4.4.3 Multiple Regression

This regression is conducted to know how much the independent variable explains the dependent variable. It is also used to understand by how much each independent variable (receiving activity, put away activity, storage activity, order activity, and shipping activity) explains the dependent variable, which is organizational performance.

4.4.3.1 Diagnosis Tests/Assumption test

Before applying regression analysis to test factors that affect the effective of warehousing practice on organizational performance in MWE, some tests were conducted in order to ensure the appropriateness of data to assumptions regression analysis as follows.

Multicollinearity is a statistical problem which occurs when the explanatory variables (independent variables) are much correlated with each other (Hair, 1998). It means when the strong correlation among predicators and the existence of r value greater than 0.80, tolerance value below 0.10, and Variance Inflation Factor (VIF) greater than 10 in the correlation matrix (Field, 2009) Tolerance in this case defined as a statistical tool which used to indicate the variability of the specified independent variables from other independent variables in the model (Pallant, 2007).

Table 4.11: Collinearity Statistics

Independent Variables	Collinearity Statistics	
	Tolerance	VIF
Receiving Activity	.719	1.392
Put away Activity	.639	1.564
Storage Activity	.733	1.365
Order Picking Activity	.585	1.709
Shipping Activity	.646	1.548

Source: own survey, 2019

Based on Table 4.11, the tolerance levels for all variables were greater than 0.10 and the Variance Inflation Factor (VIF) value for all variables were less than 10. Therefore, correlation value, tolerance level, and VIF value indicates that there was no multicollinearity problem in this study. In the relationship between dependent variable (organizational performance) and independent variables (receiving activity, put away activity, storage activity, order picking activity, shipping activity) all variables are significant.

4.4.3.2 Linearity Test

Linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the dependent variable organizational performance and the independent variables; receiving activity, put way activity, order activity, shipping activity and storage is linear.

Table: 4.12: Residuals Statistics

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.0317	4.8985	4.0733	.45787	60
Std. Predicted Value	-2.275	1.802	.000	1.000	60
Residual	-1.51740	.86928	.00000	.48061	60
Std. Residual	-3.020	1.730	.000	.957	60
DV: Organizational Performance					

Source: own survey, 2019

Test for linearity is necessary because of correlation, regression and other members of the general linear model (GLM) assumes linearity. In regression as a rule of thumb, an indicator of possible linearity is when the standard deviations of the residual exceed the standard deviations of the dependent. Therefore, as residual statistics in descriptive statistics Table showed that the standard deviation of the residual is exceeding the standard deviation of the dependent variable (organizational performance). Therefore, there is a liner relationship between warehousing practice variable and organizational performance.

4.4.3.3 Normality Test

To check that a distribution of scores is normal, we need to look at the values of kurtosis and Skewness. Both of which have an associated standard error. The values of Skewness and kurtosis should be zero in a normal distribution. Positive values of Skewness indicate a pile-up of scores on the left of the distribution, whereas negative value indicates a flat distribution. The further the value is from zero, the more likely it is that the data are not normally distributed. If either score divide by its standard error and the result is greater than ±1.96, it suggests that the data are not normal with respect to statistic. Thus, the five is Skewness and kurtosis is normally distributed.

Table: 4.13: Normality test

	Receiving A.	Put away A.	Storage A.	Order P.	Shipping A	Performance
Valid	60	60	60	60	60	60
Missing	52	52	52	52	52	52
Skewness	-.477	-.342	-.319	-.033	-.258	-.305
Std. Error of Skewness	.309	.309	.309	.309	.309	.309
Kurtosis	.495	.437	.293	.510	.482	.567
Std. Error of Kurtosis	.608	.608	.608	.608	.608	.608

Source: own survey, 2019

Thus, from an examination of the information presented in all the three tests the researcher concludes that there are no significant data problems that would lead to say the assumptions of classical linear regression have been seriously violated.

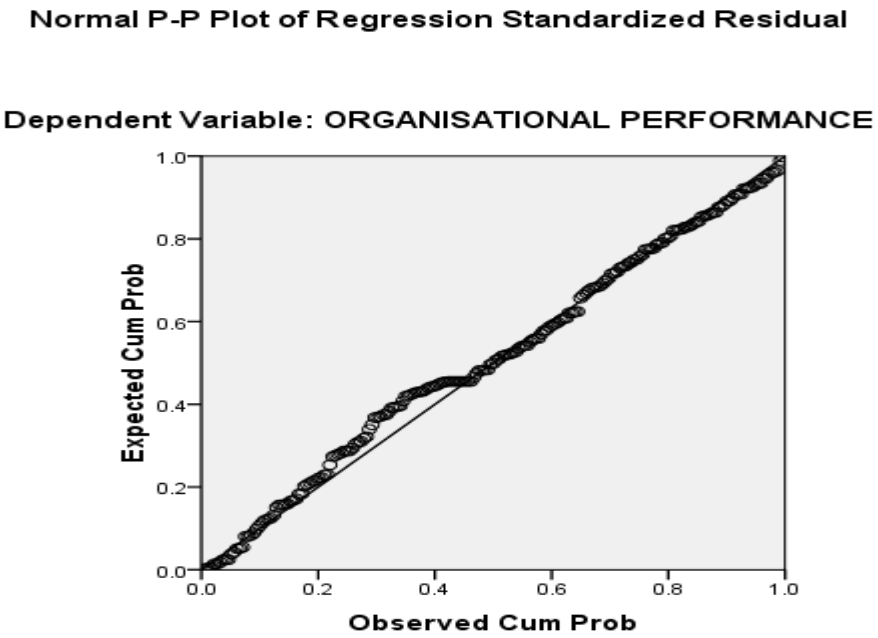

Fig 2: Normal P-P Plot

The above figure shows that normal P-plot with normal distribution from the SPSS software.

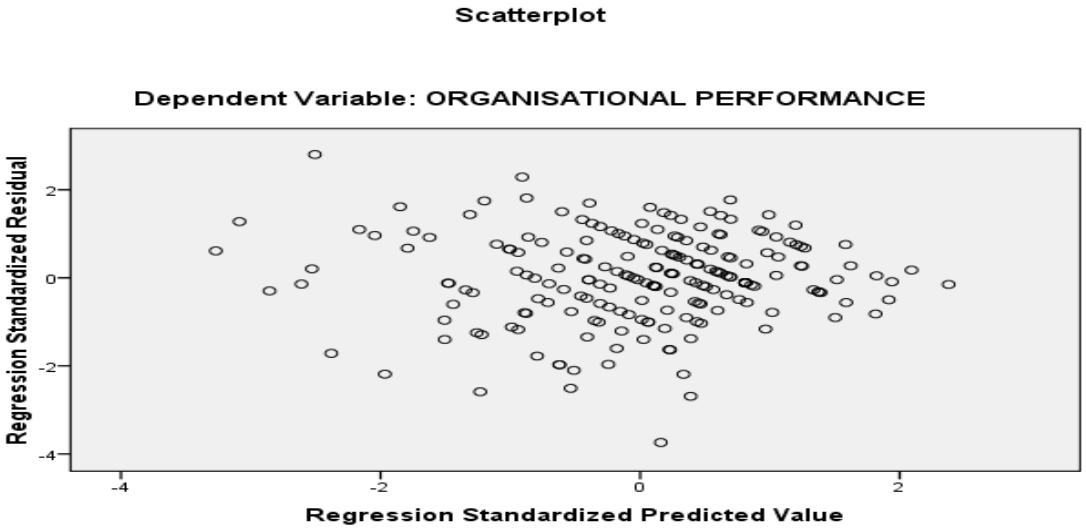

Fig 3: Scatterplot

The above scatterplot figure indicted that the dimension of warehousing practice and organizational performance have linear relationship.

4.4.3.4 Model summary

Table: 4.14: Model summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.690[a]	.476	.427	.50237	1.827
a. Predictors: (Constant), independent variables					
b. DV: Organizational Performance					

Source: own survey, 2019

Overall, table 4.14 revealed that all independent variables except the order picking activity accounted for 47.6% of the contribution for organizational performance (R^2 = 0.476). Thus, 47.6% of the variation in organizational performance can be explained by the four warehousing practice and other factors may limit contribution of warehousing practice to the organizational performance which accounts for about 52.4%. Furthermore, this result is supported by (Hackman, 2001) concluded that smaller, less capital-intensive warehouses are more efficient, and that unionization does not appear to impact efficiency.

4.4.3.5 Analysis of variance (ANOVA)

Table: 4.15: ANOVA table

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	12.369	5	2.474	9.802	.000[a]
Residual	13.628	54	0.252		
Total	25.997	59			
b. DV: Organizational Performance					

Source: own survey, 2019

According to table 4.15 the analysis of variance (ANOVA) for these data, if the F ratio is large and probability is less than 0.05 then it is termed statistically significant (Saunders, 2012). Thus, the F-statistic of each independent variables is 9.802, which is more than 5 this indicates that the model is overall good fit and significant at p<

0.05. Therefore, it can be concluded that the regression model overall predicts organizational performance significantly well.

ANOVA (Analysis of variance), was employed to compare whether the mean of one dependent variable differ significantly across the categories of another independent variables. The ANOVA table provided, the result of the test of significance for R and R^2 using an F-statistic. Since the result of the test is significant, with P-value below 0.01, that R^2 is significantly different from zero and there is a relationship between the independent variables (the activities) and dependent variable (organization performance) in the population (Field, 2009).

Table: 4.16: Regression coefficients

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.165	.626		-.264	.793		
	Receiving Activity	.267	.123	.253	2.173	.034	.719	1.392
	Put away Activity	.017	.134	.015	.126	.005	.639	1.564
	Storage Activity	.170	.099	.198	1.719	.014	.733	1.365
	Order Picking Activity	.171	.152	.146	1.130	.264	.585	1.709
	Shipping Activity	.457	.146	.385	3.142	.003	.646	1.548

Source: own survey, 2019

Regression analysis of Receiving Activity and organizational performance.

The Results of regression analysis against organizational performance can be seen in Table 4.16. Therefore, from the un standardized B column it can be seen that receiving activity is found to be statistically positive with a significant effect on organizational performance (with **β** = 0.267). Hence, it is pointed out that 26.7 percent of receiving

activity can positively explain the dependent variable which is organizational performance and reported a positive level of significance which is $p < 0.05$. This outcome supported by Tompkins (1998), the primary functions of a warehouse are receiving goods from a source, storing them until they are required, when they are required, and shipping them to the appropriate user.

Regression analysis of Put away Activity and organizational performance.

The Results of regression analysis towards organizational performance can be seen in Table 4.16. Therefore, from the un standardized B column it can be seen that Put away activity is found to be statistically positive with a significant effect on organizational performance (with **β**=0.017). Hence, it is pointed out that 1.7 percent of Put away activity can positively explain the dependent variable which is organizational performance and reported a positive level of significance which is $p < 0.05$.

Regression analysis of Storage Activity and organizational performance.

The Results of regression analysis towards organizational performance can be seen in Table 4.16. Therefore, from the un standardized B column it can be seen that storage activity is found to be statistically positive and significant effect on organizational performance (with **β**=0.170). Hence, it is pointed out that 17 percent of storage activity can positively explain the dependent variable which is organizational performance and reported a positive level of significance which is $p < 0.05$. This result is in agreement with Collins et al. (2006), which described the collection of warehouse metrics; i.e., storage speed, and order cycle time, that are used in a multi-attribute utility theory analysis to determine the best-performing warehouses. The authors concluded that performance across countries and operating parties is very similar.

Regression analysis of Order Picking Activity and organizational performance.

The Results of regression analysis towards organizational performance can be seen in Table 4.16. Therefore, from the un standardized B column it can be seen that order picking activity is found to be statistically positive but with insignificant effect on organizational performance (with **β**=0.171, $p>0.05$). Hence, it is pointed out that 17.1

percent of order picking activity can affect statistically positively but insignificant. This result is inconsistent/disagreement with Collins et al. (2006), which described the collection of warehouse metrics; i.e., picking and inventory accuracy that are used in a multi-attribute utility theory analysis to determine the best-performing warehouses.

Regression analysis of Shipping Activity and organizational performance.

The Results of regression analysis in direction of organizational performance can be seen in Table 4.16. Therefore, from the un standardized B column it can be seen that shipping activity is found to be statistically positive and with significant effect on organizational performance (with **β**=0.457, p<0.05). Hence, it is pointed out that 45.7 percent of shipping activity can affect statistically positive and significantly affect the dependent variable which is organizational performance and reported a significance which is $p < 0.05$.

The Hypothesis Analyzed

H0: Receiving Activity has no significant contribution on organizational performance.
H1: Receiving Activity has a positive and significant contribution on organizational performance.

The result of regression coefficient analysis, in Table 4.16 shows that receiving activity has a significant and positive contribution to organizational performance (**β** =.267, p< 0.05). Thus, the researcher may reject the null hypothesis and accepted that, receiving activity has a positive and significant contribution on organizational performance because the present value is less than the significance level (0.01-0.05).

H0: Put-way Activity has no significant contribution to organizational performance.
H1: Put-way Activity has a positive and significant contribution to organizational performance.

The result of regression coefficient analysis, in Table 4.16 shows that put-way activity has a significant and positive contribution to organizational performance (**β** =.017, p< 0.05). Accordingly, the researcher may reject the null hypothesis and accepted that,

Put-way Activity has a positive and significant contribution on organizational performance because the present value is less than the significance level (0.01-0.05)

H0: Storage Activity has no a significant contribution on organizational performance.
H1: Storage Activity has a positive and significant contribution on organizational performance.

The result of regression coefficient analysis, in Table 4.16 shows that storage activity has a significant and positive contribution in direction of organizational performance (**β** =.170, p< 0.05). Thus, the researcher may reject the null hypothesis and accepted that, storage activity has a positive and significant contribution on organizational performance. Because the present value is less than the significance level (0.01-0.05).

H0: Order Picking has no significant contribution to organizational performance.
H1: Order Picking has a positive and significant contribution to organizational performance.

The result of regression coefficient analysis, in Table 4.16 shows that order picking activity has an insignificant but positive contribution in direction of organizational performance (**β** =.171, p>0.05). Thus, the researcher fails to reject the directional hypothesis and order picking activity has no significant contribution to organizational performance, because the present value is greater than the significance level (0.01-0.05)

H0: Shipping Activity has no significant contribution to organizational performance.
H1: Shipping Activity has a positive and significant contribution to organizational performance.

The result of regression coefficient analysis, in Table 4.16 shows that shipping activity has a significant and positive contribution in direction of organizational performance (**β** =.457, p< 0.05). Thus, the researcher may reject the null hypothesis and accepted that, storage activity has significant contribution on organizational performance, because the present value is less than the significance level (0.01-0.05).

4.4.3.6 Hypothesis Testing

Table 4.17: Hypothesis Testing Results

Hypothesis	Method	Remark
Receiving Activity has statistically positive and significant effect on organizational performance.	Regression	Accepted
Put-way Activity has statistically positive and significant effect on organizational performance.	Regression	Accepted
Storage Activity has statistically positive and significant effect on organizational performance	Regression	Accepted
Order Picking has statistically positive and significant effect on organizational performance	Regression	Rejected
Shipping Activity has statistically positive and significant effect on organizational performance	Regression	Accepted

Source: own survey, 2019

CHAPTER FIVE

Discussions, Conclusions and Recommendations

Introduction

This thesis set out to map and explain the effect of warehousing on the organizational performance of MWE. The objective of the researcher in this study is to examine the effect of warehousing on organizational performance based on five basic warehousing indicators at the MWE. The study also set out to identify how effective warehousing could be improved for an enhanced organizational performance.

5.1 Discussions

It is important to draw some interpretations between the underlying demographic, educational level and work experience of MWE staff on warehousing practices, as this will have influence on organizational performance. Most of the staff were aged below 31 years and had an average of 5 years' experience. Though this may not necessarily have a negative effect on the warehousing practices it does draw a question mark as to whether their youth and 'low' experience has an effect on the performance of a company that deals with a stock line of more than 3,000 items, and an average annual turnover of more than 350 million Birr. The appropriateness of this staff caliber can also be questioned when we look at the educational qualifications that they have attained. Though half of all staff have a degree, their qualifications did not necessarily meet the requirement of their work, for example, a marketing graduate is employed as a warehouse officer. In general, there are shortcomings in staff quality that MWE should seek to address, either through additional training or hiring of the right personnel for the job.

The link between the different warehousing activities and organizational performance were clear, where in general each of the five indicators showed a positive and significant relationship with organizational performance. However, the differences in the significance levels across the different indicators signpost where shortcomings may exist and where improvements can therefore be made. The first activity is the

receiving of goods into the warehouse, here its relationship to organization performance was considered to be moderate. This could be explained partly due to the fact that it's the earliest activity in a warehousing system and may therefore not be perceived as being directly linked to organizational performance. However, the reception of goods cannot be underestimated, as it is at this point where items are verified as being as stated on the package and what the warehouse stock ultimately reflects. For instance, a respondent reported that on one occasion an item worth approximately 1.2 million Birr was imported, however the content of the package was not verified at reception. It was only one year later, when a customer ordered the item, that it was realized that the item in the package did not reflect what was written on it.

The functioning of the **put-away activity** was perceived as being moderate. Employees felt that in general items were not being optimally placed. The normal planning for item placement could not be followed owing to several reasons. The volume of items to be received and placed in store was difficult to predict. According to the Deputy Managing Director, a shortage of foreign currency reserves in the country, and the banking system with which currency is requested for, leads to a high degree of uncertainty as to whether the letter of credit request will be secured, therefore making it difficult to determine the optimal shelf space for any one item. Warehouse employees therefore often shelf items on an ad-hoc basis.

There is a direct relationship between put-away activities and storage activities. As has been mentioned above, employees often put items away without much prior knowledge as to what will be received. This means that they are also unable to determine what space requirements are necessary for future storage. Employees perceived the functioning of **storage activities** as moderate. They highlighted the difficulties of this activity as being primarily due to the layout of the warehouse design, which they felt was congested and therefore difficult to navigate. The researcher observed many items being stored inappropriately, for example, in walkways, making it even more difficult to access items easily.

With the difficulties identified in both put-away and storage activities, **order picking** cannot be considered as being optimally functional. Employees rated it as only moderately satisfactory. Some of the reasons for this are already mentioned above, such as with regards to the warehouse layout. Employees highlighted that there are shortcomings in the inventory management system, where several people have access. These staff do not use a uniform identification code for the different items. Overall, this leads to a misbalance in what is recorded in the system and what exists on the shelf. With the result that more time than necessary is being spent on looking for items, and a resulting decrease in organizational performance. The researcher was informed that this poor stock taking further impacts upon the work of the parts ordering department, as they are sometimes incorrectly informed of what needs to be purchased.

The **shipping indicator**, where items are packed and delivered to the customer, were perceived as being performed to a relatively higher standard than other warehousing activities. This was despite the fact the other pre-consecutive and interrelated activities were not rated as highly. Such an observation highlights a need for a better understanding between the relationship between the different activities. Nevertheless, one can suggest that the reason for the high standard in shipping activity could be because staff work hard to ensure that this critical activity, where customer satisfaction is paramount, is met. One can also suggest that, because of the relatively poor performance of the other warehousing indicators, staff are therefore working inefficiently to meet this target.

MWE employees perceived their overall warehousing practice as being more than satisfactory in meeting organizational performance. However, the researcher questions these results, as his observations indicate that their remains much to improve in their warehousing practices. It may be possible that employees do not wish to highlight problems as this may reflect on their personal capacity and therefore their position within the company. It may also be that employees do not have the necessary knowledge base and/or experience to make informed observations – for which some

evidence can be found in the results showing their educational attainments and work experience.

5.2 Conclusion

Warehousing practices are important for the overall organizational performance of a company. Each warehousing practices does not stand alone, as they are part of an integrated system, whereby each practice has to be conducted at the highest standard in order for each preceding one to be optimised for an overall improvement in organizational performance. Not only does good practice reduce the running costs of a company, both in terms of the value of its stock and in terms of the time taking in managing that stock, but also in terms of customer satisfaction.

Employees subjectively rated warehousing as satisfactory to good, indicating a potential for improvement. However, based on the strength of the researcher's observation, knowledge and experience in logistics management, the researcher questions the rationality of the employee's perceptions. Though all practices are important, priority should be given to improving order picking, particularly because this practice is at the closest interface with the customer -and customer satisfaction is key.

If MWE seeks to achieve its mission to 'be better than the best in creating an outstanding after sales service and customer support system for our partners', then changes should start from the fundamentals of improving staff capacity and extended to the strict adoption of a routinised and systematic implementation of all warehouse practice activities.

In order to cut costs and improve profits MWE should invest more time and money to streamline this sector of their business. Several recommendations are forwarded below.

5.3 Recommendations

This study has demonstrated the influence of warehousing practice on organizational performance in MWE. In light of the conclusions made above, the following possible

recommendations are suggested as being valuable to the MWE for improving warehousing activities to ensure organizational performance. MWE should give special emphasis to the improvement of warehousing in line with its corporate and functional strategies and objectives. It should seek to operate according to best practices and to be consistent in its offers to its customer. In line with this, the following recommendations are made:

1. As a first and most direct measure, MWE needs to establish a standard operating procedure to guide all the activities within its warehouse. Staff would need training on its implementation, and it should be strictly enforced.
2. MWE needs to provide training on warehousing practice for its staff. They also need to employ the right staff for the right job. Focus should be given to employing a focal person to manage the inventory management system.
3. The speedy completion of the new warehouse will make good warehousing practices much more achievable – as storage space utilization and material handling can then be optimized.
4. With such a large stock, MWE need to improve their security measures by installing further CCTV cameras.
5. Not least, health and safety measures need to be enhanced through the installation of fire alarms and extinguishers, training of staff on proper material handling and the use of equipment. Each warehouse should be fully equipped with its own material handling equipment.

5.4 Suggestion for Further Research

This study focuses on the effect of warehousing practice on organizational performance of MWE. But other researchers can go beyond the scope of this research to enhance its relevance. The following suggestions are made:

1. The study was based on a Likert-scale analysis of employee's perceptions of the organizational performance of their warehouse. As such, closed ended questions were used. A more open-ended based questionnaire (mixed method approach) would have provided more context as to the reasons "why?" different warehouse practices were perceived the way they were.
2. A survey of customer perceptions on the service delivery of MWE would provide an interesting and important comparison with which to make a more confident conclusion on operational performance.
3. Thought should be given on how to weigh/value the different warehousing indicators in relation to each other, as each activity does not necessarily have an equal influence on organizational performance.
4. At a general level, it would be interesting to make a comparison between private and government institutions in Ethiopia so as to enhance our understanding of warehousing and to make nationwide recommendations for its improvement.

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Annex

ADDIS ABABA UNIVERSITY SCHOOL OFCOMMERCE DEPARTMENT OFLOGISTICS ANDSUPPLY CHAIN MANAGEMENT POSTGRADUATEPROGRAM

QUESTIONNAIRE

Dear respondents:

I'm a graduate student at Addis Ababa University School of Commerce in the Department of Logistics and Supply Chain Management. Currently, I'm conducting a research entitled ***'Effect of Warehousing Practices on organizational performance: A Case of My Wish Enterprise (MWE)*** as a partial requirement for the award of Master of Art Degree in Logistics and Supply Chain 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. I confirm you that the information you share will stay confidential and only used for the academic purpose and the administered questionnaire may take about 15-20 minutes. Hence, 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.

Note:

- No need of writing your name;
- Indicate your answer with a check mark (□) on the appropriate box
- If you need further explanation, I can be reached at 0911 60 76 25 or via kibrom91@gamil.com

Thanks, and best regard,

Kibrom Hailu Tesfay

PART I: Demographic and Knowledge Information

1. **Sex:** Male ☐ Female ☐

2. Age:

Between 18-27 years ☐ between 28-37years ☐

Between 38-47 years ☐ between 48-57 years ☐

Above 58years ☐

3.Working Experience:

Below 1 year ☐ Between 2-4 years ☐ Between 5-7 years ☐

Between 8-10 years ☐ Above 10 years ☐

4.Education level:

Below Diploma ☐ Diploma ☐ Degree ☐

Masters ☐ PhD and above ☐

PART II: Please state your level of agreement for each given statement using the following scales:

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

	Variables	SD(1)	D(2)	N(3)	A(4)	SA(5)
	Receiving Activity					
1	MWE has Standard Operating Procedure (SOP) for receiving of goods.					
2	Most of the time, our warehouse workers perform appropriate inspections of goods at receiving stage.					
3	Most of the time, our warehouse workers utilize a reasonable warehouse spaces during receptions of goods.					
4	Most of the time, our warehouse workers confirm all the goods arrived are perfectly matched with what originally ordered.					
5	MWE warehouse personnel inspect received materials on the reasonable time.					

6	Most of the time, our warehouse has enough spaces for receptions of goods arrived.					
Comment:						
	Put-way Activity					
1	MWE warehouse personnel are skilled to perform put away activities.					
2	Most of the time, our warehouse has enough space to move goods/workers/machineries during put-away activities.					
3	In MWE warehouse, goods are placed in the correct location.					
4	MWE warehouse personnel perform put away activity manually via labor force.					
5	The MWE warehouse design/layout is convenient to perform put-away activities.					
Comment:						
	Variables	SD(1)	D(2)	N(3)	A(4)	SA(5)
	Storage Activity					
1	Most of the time, our warehouse team are appropriately using available storage area for storing goods.					
2	Most of the time, our warehouse team are effective in minimizing total goods damage that are stored in the warehouse.					
3	In our warehouse, there is enough space between goods storage and walking way.					
4	Most of the time, in coming goods are stored in their identified storage locations.					
5	MWE warehouse personnel utilizes a reasonable warehouse spaces for goods handling.					

Comment:						
	Order Picking					
1	MWE warehouse personnel are skillful in performing order picking process.					
2	Most of the time, our warehouse workers are performing order picking process errors free.					
3	Our warehouse design/layout is convenient for an easy order picking process.					
4	MWE inventory management system facilitates the order picking process.					
5	MWE has adequate shelves for the goods in the warehouse to facilitate order picking process.					
Comment:						
	Shipping Activity					
1	The warehouse team have enough awareness about how the motions of them have impact on satisfaction of customers.					
2	MWE personnel serve customer on the reasonable time (i.e**.** from the moment an order is received at the storage facility until the time the order is shipped to the client).					
3	Most of the time, goods are delivered to the company customers as per the orders specification.					
4	Most of the time our warehouse personnel perform perfect order delivery lead time to the company customers.					
Comment:						

	Organizational performance	SD(1)	D(2)	N(3)	A(4)	SA(5)
1	Receiving Activity has a significant positive effect on performance of MWE.					
2	Put-way Activity has a significant positive effect on performance of MWE.					
3	Storage Activity has a significant positive effect on performance of MWE					
4	Order Picking has a significant positive effect on performance of MWE.					
5	Shipping Activity has a significant positive effect on performance of MWE.					
Comment:						

Notice:

By reason of the increasing complexity of company's activity, the student researcher delimited to measure the organisational performance in terms non-financial performance with respect to the cost, productivity, time, quality, and customer satisfaction and these indicators of nonfinancial perspectives that are well tested in measuring the non-financial measurement based organisational performance. For clarification of the use of the terms presented as follows;

- **Cost:** Measures based on cost include cost minimization, able to offer prices as low, capacity utilization, operation with less merchandising cost, offer competitive prices, and inventory investment minimization.

- **Quality:** An organization is capable of offering product quality and performance in terms of offer products that are highly reliable, and that are very durable.

- **Productivity:** the level of asset utilization or how well resources are combined and used to accomplish specific, desirable results.

- **Time:** An organization is capable of providing the product required by customer(s), in terms of deliver the kind of products needed, deliver order on time, solve customer complaints, and order processing time.

- **Customer satisfaction:** performance measures of customer satisfaction in terms of service elements prior to product purchase, service elements during physical distribution of products, and support provided for products while in use.

Any comment:

_____
_____
_____
_____
_____