



The Effect of Warehouse operations on organizational Operations
Performance: In the case of Exhibition Center and Market Development
Enterprise.

By

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A thesis submitted to Addis Ababa University, School of Commerce in the
partial Fulfillment of Requirements for the degree of Masters of Arts in
Logistics and Supply Chain Management

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Addis Ababa University School of Commerce

Addis Ababa, Ethiopia

June, 2024

Thesis Approval

This is to certify that the thesis carried out by Abraham Tesfaye Manasbot entitled: “The effect of Warehouse Operations on Organizational Operations Performance: In the case of Exhibition Center and Market Development Enterprise,” 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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STUDENT'S DECLARATION

I, the under signed, declare that this thesis entitled “The effect of Warehouse Operations on Organizational Operations Performance: In the case of Exhibition Center and Market Development Enterprise”, is my original work and to the best of my knowledge it has not been presented for a degree by any other person, and that all the sources of material used for the thesis have been duly acknowledged.

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CONFIRMATION

This is to confirm that Abraham Tesfaye Manasbot has completed the research work titled "The effect of Warehouse Operations on organizational operations performance in the case of Exhibition center and Market Development Enterprise" for the partial fulfillment of Master of Arts in Logistics and Supply Chain Management at Addis Ababa University School of Commerce. This study is an original work and not submitted earlier for any degree either at this University or any other University and is suitable for submission of master's degree in Logistics and Supply Management.

Advisor: Kirubel Biruck (PhD)

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Acknowledgement

Many people have made substantial contributions and given priceless support, encouragement, and constructive criticism for the research to take its current form. Above all, I am thankful to God for his love, protection, wisdom, knowledge, inspiration, and perseverance, all of which were essential to finishing this thesis.

Without the assistance of a few individuals, to whom I am deeply grateful, this thesis could not have been completed. I would like to thank my adviser, Dr. Kirubel Biruck, for his helpful suggestions and thoughtful critiques regarding the preparation, organization, and content of the research. Thank you, Mr. Girma Dersso, for your assistance with SPSS. Additionally, I would like to thank Dr. Shiferaw Mitiku for his wise remarks.

Additionally, I would like to express my gratitude to the management and staff of Exhibition Center and Market Development Enterprise for their assistance in giving up their valuable time to complete the questionnaires and enable this research. I would like to thank Mrs. Tehay Asfaw, Mr. Zewdu Abera , and Mr. Akalu Wondimu for providing me with ideas for this research.

Lastly, my children, Selamawit and Yoseph Abraham, my sister Mekdes Tesfaye, Mrs. Wineshet, and my family members are named last only to emphasize how amazing their support has been during and after my education.

List of Acronyms

AAU: Addis Ababa University

ECMDE: Exhibition Center and Market Development Enterprise

WMS: Warehouse Management System

SPSS: Software package for social science

LSCM: Logistic and Supply Chain Management

PWC: Price Waterhouse Coopers

EMTI: Ethiopian Ministry of Trade and Industry

KPI: Key performance Indicator

IOT: Internet of Things

ECCSA: Ethiopian Chamber of Commerce and Sectorial Associations

RFID: Radio Frequency Identification

EIC: Ethiopian Investment Commission

EDRMC: Ethiopian Disaster Risk Management Commission

DRMC: Disaster Risk Management Commission

EIIDE: Ethiopian Industrial Inputs Development Enterprise

JIT: Just in Time

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Abstract

The purpose of this study was to determine how warehouse operations impact ECMDE's organizational operations performance. Examining how warehouse operations affect the ECMDE's operational performance was the study's main objective. A quantitative approach method was used by the researcher. An explanatory and descriptive research design was used by the researcher to achieve the study's goal. As a result, a purposive sampling was employed to create the population for the study under discussion because the target population was tiny. The information was gathered using a questionnaire, and regression modeling and descriptive statistics were used for analysis. A total of 85 permanent employees received the questionnaire; 84 of them responded, or 98.82% of the sample. Receiving, order picking, storage, and shipping activities in particular, as indicated by the correlations analysis's findings, had a positive and strong effect on the organizational operational performance conversely; put away had a positive but little effect on ECMDE's organizational operations performance. The results of a regression analysis showed that while putaway and order picking activity had insignificant impact on the organisational operations performance, receiving, storage, and shipping were independent variables that had a positive and significant influence on ECMDE's warehouse operations. These dimensions contribute significantly 59.5% to organizational operations performance. The enterprise can improve organizational performance, reduce needless order picking and shipping processes, build a modern warehouse at the exact location required for each warehouse operation, raise employee morale, increase property security, facilitate maintenance and control, and reduce material disposition and frequency in the institution's warehouse by implementing an automated warehouse management system. Meet the storage and shelf requirements. It is required of property officers to obtain training pertinent to their work.

Key Words: Warehouse, Warehouse Operations, Organizational Operations Performance

CHAPTER ONE

1. Introduction

The study's background, problem statement, research questions, objectives, significance, scope, keyword definition, and organizational structure are all included in this section that serves as an introduction.

1.1. Background of Study

An essential component of any supply chain is a warehouse. Their main duties include: combining goods from several suppliers for a single customer delivery; buffering the flow of materials along the supply chain to account for variations brought about by production and transportation batching and/or seasonality of the product; and carrying out value-added processing like product customization, labeling, kitting, and pricing (Gu, et al., 2007). Warehouses play a critical role in the supply chain. Warehouse efficiency is rising due to demand to deliver better customer service in the cutthroat industrial sector (Moussa, 2019).

The dynamic nature of the market demands constant enhancements in the layout and functionality of production-distribution networks, necessitating improved warehouse performance. New difficulties for warehouse systems include tighter inventory control, faster reaction times, and a wider range of products brought about by the adoption of new management philosophies like Just-In-Time (JIT) or lean production. Conversely, there are now more chances to enhance warehouse operations thanks to the broad adoption of modern information technologies (IT), like radio frequency communications (RF), bar coding, and warehouse management systems (WMS). These prospects encompass a range of benefits, such as easy connectivity with other supply chain components, high automation levels, and real-time control over warehouse operations (Gu, et al., 2007).

Over the past few decades, there has been a significant and swift change in the global corporate landscape. Due to the growing complexity of the market, businesses must become more and more competitive. The role of the warehouse, whose performance is dependent on how it is managed and how it is organised in relation to capacity, organisation, and the process procedures that warehouse operators follow, directly affects

the supply chain process as a whole and how it is improved. The main objective of a warehouse is to provide flexible resource management while simultaneously managing the flow and storage of items as efficiently as possible (Martins, et al., 2020).

Effective warehouse operations can lead to significant cost savings. By optimizing space utilization, minimizing handling costs, and reducing inventory carrying costs, businesses can improve their bottom line. For instance, implementing a WMS helps in accurate inventory tracking and reduces the chances of overstocking or stock outs. (Davis, 2023) highlights that companies with optimized warehouse operations report a 15% reduction in overall supply chain costs.

Warehouse operations directly influence customer satisfaction through timely and accurate order fulfillment. Efficient picking, packing, and shipping processes ensure that customers receive their orders on time and in good condition. A survey by (Lee, et al., 2023) found that 80% of customers are more likely to become repeat buyers if their orders are fulfilled accurately and promptly.

The mission of Exhibition Center and Market Development Enterprise was by organizing bazars, technological products and samples advertising exhibitions that can stimulate the city and the country's trade and investment on the principle of profitability, as well as serving as a tourism center, creating international and national business connections. www.aalexhibitioncenter.com.

This study, which focuses on the public sector, was carried out because, despite a substantial body of research on the subject, only a small portion of it has shed light on the particular conditions that public enterprises in Ethiopia face. Warehouse operations differ across private and public organizations due to variances in their work cultures. With this in mind, the researcher decided to conduct a case study on ECMDE's warehousing operations as a representative of the public sector. The research can help to draw some broad perspective on establishment and organizing on public sector warehousing practice in Addis Ababa, Ethiopia, and their impact on organizational performance.

1.2 Statement of the problem

As defined by (Mattsson, 2004), a warehouse is a physical storage facility that houses finished goods for distribution or future demand, as well as raw materials for manufacturing. The source of this definition is (Moussa, 2019). Efficient storage and transportation of goods is its primary goal (Martins, et al., 2020). An essential link in the supply chain is a warehouse. It represents 20–30% of all logistical costs, according to (Martins, et al., 2020), with the picking process requiring the greatest time and labor (Zhang, et al., 2019).

Storage can make up 2% to 5% of a business's sales expenses, according to (Sneha, 2016). Companies are giving return on assets more consideration in the current, intensely competitive global business climate. As a result, cutting storage expenses has emerged as a crucial corporate concern. For their warehouse operations to be cost-effective, many businesses are automating their fundamental warehousing tasks in order to boost throughput rates or inventory turns. For this reason, businesses must pay close attention to the warehouse as a whole as well as the accuracy and efficacy of each warehousing task. Since each activity depends on the others and is interrelated, failing one will negatively affect the others, especially the ones that come after.

In global Efficient warehouse operations can reduce logistics costs by up to 20% and improve order accuracy by 99.9% (de Koster, et al., 2023). Companies that implement smart warehousing solutions experience a 25-30% increase in productivity (Liu, et al., 2023).

In Zimbabwe, automated warehouse management systems have reduced operational costs by 15% and inventory holding costs by 20% (Gagliardi, et al., 2023). Sustainable warehousing practices in South Africa have led to a 10% improvement in energy efficiency and a 5% reduction in waste (Baig, et al., 2019).

In Ethiopia, efficient warehouse operations can explain about 58% of the variation in organizational performance (Fekade, 2022). Key warehouse operations such as shipping and order picking have a statistically significant positive impact on performance metrics..

Based on preliminary survey and observations, problems in the company's warehousing operations include insufficient space, failure to hang bin cards in place, lack of aisles to count items during inventory, manual work, lack of stock shelves, and other mixed-up warehouses. An unreleased internal audit document of the institution's internal audit department on November 26, 2023 highlighted the issues raised during the second quarter inventory, according to the internal memo for correction: property was difficult to count due to space constraints of storage.

The above mentioned problems are still being faced. Therefore, the study aimed to realize and investigate the impact of warehouse operations on organizational operations performance in ECMDE by analyzing five commonly used warehouse key performance indicators: receiving activity, put-away activity, storage activity, order picking activity, and shipping activity.

1.3. Research Questions

The purpose of the following questions is to gain a knowledge of how warehouse operations impact ECMDE's organizational operations performance.

- ❖ How receiving activity affects the operational performance of ECMDE?
- ❖ How put away activity affects the operational performance of ECMDE?
- ❖ How order picking activity affects the operational performance of ECMDE?
- ❖ How storage activity affects the operational performance of ECMDE?
- ❖ How shipping activity affects the operational performance of ECMDE?

1.4. Objective of the study

1.4.1. General Objective

The general objective of the study was to investigate the effect of warehouse operations on the operational performance of the Exhibition Center and Market Development Enterprise.

1.4.2. Specific Objectives

- ❖ To assess the effect of receiving activity on the operational performance of ECMDE.
- ❖ To evaluate the effect of put away activity on the operational performance of ECMDE.
- ❖ To analyze the effect of order picking activity on the operational performance of ECMDE.
- ❖ To examine the effect of storage activity on the operational performance of ECMDE.
- ❖ To assess the effect of shipping activity on the operational performance of ECMDE.

1.5 Significance of the study

This study is important because it examines the effects of warehouse operations on organizational performance, provides management with knowledge, and reviews and analyzes warehouse operations at a market development company and exposition center. It contributes to the efficiency and modernization of warehouse operations. Inadequate warehouse operations are also found and fixed by the Exhibition center's administration. It acts as a guide for warehouse operations for establishments that are comparable to one another. One could consider the work an addition to filling a vacuum in the literature on the subject. It will benefit not just the business but also other businesses who offer similar services. Lastly, the research study will be helpful to other researchers who wish to carry out more studies in the same topic.

1.6 . Scope of the study

The aim of the research was to investigate the relationship between the operation of the market development firm and the exhibition center and warehouse operations. This research focuses on warehouse operations that use performance metrics. The institution's offices are located in the Meskel Square neighborhood, which is physically central to Addis Ababa and a popular place for meetings, bazaars and events. The exhibition center does not have warehouses or branch offices outside Addis Ababa. As a result, this investigation was carried out entirely at headquarters. The performance of an organization's operations is measured in four dimensions: quality, speed, flexibility, and cost. Therefore, the researcher

took 85 samples. The researcher used a census method sampling method to study this research. A total of 85 employees employees of the exhibition center market development enterprise.

1.7 Definition of Key Terms

Warehouse:An organized area used for the handling and storage of materials and goods is called a warehouse (Anteneh, 2017)

Warehouse operation: The process of overseeing the tasks involved in receiving, storing, packing, and delivering items in a warehouse is known as warehouse operation (Report, 2023).

Organizational Performance: According to (Gutterman, 2023), organizational performance refers to the capacity of an organization to meet its financial objectives through the effective and efficient use of its resources.

Speed: Speed can be measured by the average processing time for each warehouse function, such as the time taken to receive goods, pick orders, or ship products to customers (Bolumole et al., 2007).

Quality: Quality can be assessed by the accuracy of inventory records, the rate of order accuracy, and the incidence of damaged or defective products during handling and storage (Rushton et al., 2020).

Flexibility: Flexibility can be measured by the ease and speed with which warehouse processes can be adjusted or reconfigured to accommodate changes in product mix, order volumes, or delivery schedules (Christopher & Peck, 2004).

Cost: Cost can be quantified by calculating the total expenditure incurred for each warehouse function, such as labor costs per order picked, storage costs per unit of inventory, or transportation costs per shipment (Waters, 2003).

1.8 The study's structure

There are five chapters in this research study. The study's background, problem statement, research questions, objectives, and hypothesis test questions are all covered in the first

chapter of the introduction. It also includes information on the study's significance, scope, limitations, definitions of key terms, and organizational structure. The conceptual framework, empirical literature review, and theoretical literature review are all covered in the second chapter on the associated literature review. The third chapter, on research technique, covers the study area description, research approach, research design, demographics and samples, data sources and types, data collection procedures, data analysis, and ethical issues. Data analysis, including data presentation, data interpretation, and data discussion, is covered in the fourth chapter. The study's summary, conclusion, and recommendations are covered in the fifth and final chapter.

Chapter Two

Related Literature Review

Introduction

The theoretical framework, empirical data, conceptual framework, and gap in the relevant literature on receiving, put-away, order picking, storage, shipping, and organizational operations performance are all covered in this chapter.

2.1. Theoretical Literature Review

The daily operations of warehouse management are frequently perceived as being all that it is. But it ought to be included in the business's longer-term strategic initiatives as well. The strategic component of the business must integrate warehousing in order for it to fulfill its crucial role in supply chain management (Emmett, 2005). Operational coordination within the stores is facilitated by a well-executed warehouse management system. In order to benefit the company from economies of scale and enhanced customer service, it is essential to ensure seamless production. The specification, execution, and control of inventory procedures can be aided by well-implemented warehouse systems (Forger, 2004). In the past, warehouses were almost exclusively mentioned as cost centers and as sources of little value addition. A major shift in warehouse operations has occurred as a result of shifting production to the Far East, expanding e-commerce, and rising customer demands (Richards, 2014).

2.1.1 Warehouse operations

Receiving orders from customers, storing or holding onto commodities, retrieving necessary items, and then preparing and shipping those items are the fundamental tasks of warehousing. Although there are many different ways to set up these processes, most warehouses' general workflows consist of the following stages. Accordingly, receiving, sorting, and identifying, sending to storage, putting in storage, retrieving from storage, order accumulation, packing, shipping, and record keeping comprise the fundamental warehousing tasks (Tompkins, 1984).

Various authors' writings will be presented in a comprehensive, step-by-step way as follows to help readers understand the details: Getting, put-away, internal replenishment, order picking, accumulating and sorting, packing, cross-docking, dispatch, and shipping are among the fundamental warehouse operations, as covered by (Habazin, et al., 2017). While some processes are regarded as outbound, others are regarded as inbound, such as receipt and storage. Generally arriving in bigger units, items undergo reorganization and repackaging in several warehouses to produce smaller units. Large shipments of goods are divided into smaller quantities during order picking, packing, and distribution once they arrive in a warehouse as pallet quantities. Daily activities in these types of warehouses are closely linked to and heavily reliant on human performance. The handling cost increases with the size of the handling unit. Smaller pieces need to be delivered with a lot more processing and work. More specifically, picking time is directly impacted by pallet handling at a warehouse.

2.1.1.1 Receiving activity

Unloading, verifying quantity and quality, and disassembling or repackaging things for storage are all part of the receiving process. It serves as the setup process for all other storage tasks. It enables the warehouse to plan the times for receiving and unloading cargo inside the building. The product will be examined, and any exceptions damage, inaccurate counts, inaccurate description, etc. The key to efficient warehouse operations is receiving the merchandise correctly. Inaccurate or damaged deliveries must be shipped out of the warehouse as they will cause issues with picking, storing, putting away, and shipping. A few examples of top-notch receiving procedures include pre-receiving, receipt preparation, cross-docking, direct shipment, and receiving scheduling (Tompkins, 1984).

Receiving products is the first step in the warehouse process sequence. While this step is as relevant as any, it does not require the same amount of time as picking, which is demonstrated later. particularly if improper put-away results in mistakes during subsequent processing. The notification of the arrival of the items can start the receiving process. This enables the warehouse to plan and organize incoming operations in order to prevent unplanned events. After units are properly documented and unloaded upon arrival, they are stored (Habazin, et al., 2017). All other warehousing operations are put up after receiving.

Receiving merchandise in an improper manner makes it extremely difficult to manage it appropriately for picking, storing, putting away, or shipping. Shipments that are mishandled or damaged are likely to be sent out the door if we accept mishandled or damaged deliveries at the door (Frazelle, 2002b).

Receiving might start with being informed in advance when the products will arrive. This enables the warehouse to plan receipt and unloading times in order to effectively cooperate with other warehouse operations. When the goods arrives, it is unloaded and might be prepped for storage. It will probably be scanned upon arrival to confirm its availability for meeting client demands, transfer ownership, and process payments. Every product that has been marked as an exception damage, inaccurate counts, inaccurate descriptions, etc. will be examined. Typically, only 10% of a distribution center's operating expenses are related to receiving (Bartholdi & Hackman, 2011).

2.1.1.2 Put away activity

Also referred to as the reversal of order picking, the put-away process physically transports the things from the receiving point to the warehouse's storage area. When something is put away, it means that it is moved to a designated storage area in anticipation of demand. In order to document the product's placement, the storage site should be scanned as soon as the product is put away. After that, this data will be utilized to create effective pick lists that will direct order pickers in locating the merchandise for clients. Most of the ideas that improve or expedite the selection process also apply to put away (Tompkins, 1984).

The put-away process can be labor-intensive since SKUs have to be transferred over long distances to their storage location. Roughly 15% of warehouse operational expenses go into put-away (Karim, et al., 2018). Whether the placement is predetermined or random, each Stock Keeping Unit (SKU) in a warehouse has a certain location that is known in advance. There are, in fact, multiple storage policies. Whereas a random policy leaves the choice to the operator, a predetermined storage policy specifies a specific location for SKU to be saved. Certain warehouses are able to use both of these storage regimes. Additionally, a class-based storage system uses ABC zoning, which assigns zones to individual products depending on their turnover rate.

It is necessary to choose a suitable storage space before the product may be stored. The location of the product's storage greatly influences the speed and expense at which the warehouse operator may retrieve it for a customer, making it a crucial decision. Keeping track of storage sites instead of products is what this second inventory requires management for. The storage spaces that are available, their sizes, their weight capacities, and other details must always be known by the operator. The storage location should be scanned after the product is put away in order to keep track of its placement. After that, this data will be utilized to create effective pick lists that will direct order pickers while they retrieve the merchandise for clients. Because the goods may need to be transferred a significant distance to its storage site, put-away can involve a great amount of labor. Typically, 15% or less of warehouse operations go toward put-away (Bartholdi & Hackman, 2011).

Direct put-away is moving arriving products to a designated spot inside the storage facility, repackaging them if necessary (from pallets to cases, for example). An SKU is another name for a product that is kept in stock. For inventory management purposes, every product or SKU has an identifying code that enables tracking. It is possible for a product or SKU to have many replenishments of its full inventory over the year. Systems for storing goods can be very different, ranging from automated storage systems to shelf racks (Faber, 2015).

2.1.1.3 Order picking activity

The process of taking goods out of storage and moving them to a sorting facility or directly to the shipment area. Selecting the things that the customer or manufacturing activity has ordered from the storage area is a task for the warehouse staff. In the event of an automated warehouse, the order information is provided to the computer rather than the warehouse staff on a pick slip. When an order reaches the shipment preparation section, the products are either placed on pallets or in outer shipping packages by workers or an automated process that locates the materials and conducts the picking procedure. After that, the package is marked with a shipping label that has the address and ship-to person/firm on it. Finally, everything needed to load the customer's purchase into a transport vehicle is staged (Tompkins, 1984).

Order picking includes placing customer orders in groups and scheduling them, allocating stock to order lines, releasing orders to the floor, selecting the products from storage, and discarding the selected things. Order picking, as defined by (Shiau & Lee, 2010), is the process of choosing and compiling a certain number of appropriate SKUs in compliance with an order at a warehouse. It includes lifting, moving, picking, putting, packing, and other associated tasks.

Several pickers are typically assigned to multiple orders during the order picking procedure. Nonetheless, the whole pick area is frequently separated into picking zones to avoid control issues. Once this is done, the zoning policy usually assigns distinct pickers to each zone. In a prearranged order, orders are picked either individually or in groups. Order selection may also be done automatically or manually. Gathering units from their placements and moving them to a picking area are the two steps involved in manual order picking. When it comes to automated storage and retrieval systems, or automated picking, the systems retrieve one or more unit loads and arrange them at a picking station. Subsequently, the picker fills orders for products, and the things that are left on the unit loads are moved back into storage (Tommy, 2010).

Order picking (pallet/case) is the process of retrieving the goods from the storage area that a customer has requested. Order lines make up customer orders; each line represents a distinct SKU in a certain amount. When a customer requests full pallet quantities, pallet picking entails recovering full pallet loads. Picking is widely acknowledged as the most costly warehouse operation due to its high manpower or capital requirements. It can be done manually or (partially) automatically. Warehouses have a variety of order-picking system types. During the product picking process, the desired quantity of a product can be as many units on a pallet (pallet or bulk picking), equal to or greater than the quantity of units within a case (full case picking), or less than the quantity of units contained within a case (broken case picking). An order picker may choose to pick a single customer order at a time, several customer orders at once, or portions of many customer orders at once (zone-batch picking) while selecting the products (Faber, 2015).

2.1.1.4 Storage activity

.The act of physically containing goods as they wait for a demand is known as storage. The size, number, and handling qualities of the product or its container, as well as the inventory's items' quantity, all influence the storage strategy. In many situations, storage is necessary and, when done well, can offer value (Frazelle, 2002).

This is crucial since the location of the product's storage impacts a lot, including how soon and how much it will cost the operator to retrieve it for a consumer. This necessitates keeping track of storage places rather than products in a second inventory. The operator needs to be aware of the available storage spaces at all times, including their sizes, weight capacities, and other details. It is important to scan the storage location once the goods is put away in order to keep track of its placement. In order to help order pickers retrieve products for clients, this information will later be utilized to create effective pick lists. Product may need to be moved a significant distance to its storage site, therefore put-away can involve a good deal of labor. According to (Bartholdi & Hackman, 2011), put-away usually makes up 15% of warehouse operational costs.

The process of keeping goods in warehouses and logistics hubs is known as storage. Its function is to bridge the temporal gap between producers and consumers by supplying the market with commodities on a consistent basis. It is also crucial for preserving product value and quality in logistics hubs and warehouses. For instance, the introduction of freezers and refrigerated warehouses has significantly enhanced the ability to store fresh fish, vegetables, and fruits. Distribution centers (DC), transfer centers (TC), and process distribution centers (PDC) are three crucial logistics hubs in the storage industry (Hompel, et al., 2007).

2.1.1.5 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)

The last step in the warehousing process sequence is shipping. Loading into transportation vehicles is the initial stage after packing and preparing units for shipping (consolidation), assuming that the shipping methods have been prearranged. Although there may be some extra steps if the goods is being staged before being loaded, this method is not as labor-intensive and complicated as the previous one. Additionally, control might be a part of the outgoing zone; to offer the activity, at least one warehouse worker is typically needed. Control can be carried out manually or by a scanner, depending on the warehouse information system (Paul & Lestari, 2015).

Because packing has concentrated the materials into fewer containers (cases, pallets), shipping typically handles larger units than picking. Thus, the amount of labor here is still lower. If the merchandise is arranged before being placed onto freight vehicles, there can be some walking. When a product has to be loaded in the opposite order of delivery or is carried across large distances and requires a lot of labor to fill each trailer completely, it is likely to be staged. Due to the need for extra handling, staging freight results in increased work. Here, the trailer is probably going to be scanned to mark its exit from the warehouse (Bartholdi & Hackman, 2011).

When goods are shipped to customers, preparation work related to getting them ready for use is included, as is loading them onto trucks for delivery to clients. Shipping and other warehouse operations require a dispatching area for information processing and for staff to be sent to do different duties including item loading, packing, and labeling. In the receiving/shipping sector of the warehouse, the dispatching area is often positioned in an open space, however it can also be found in a walled office. A minimum area should be required for the dispatching section of the receiving/shipping area. If cross-docking is expected to be required, you might need to calculate how much space it will take and set up a specific place in the store for this use (USAID, 2016).

2.1.1.6 Warehouse Key Performance Indicators

The performance indicator or key performance indicator (KPI) is a measure of performance of the business in order to benchmark against the competition and explore the possibility to improve in order to gain competitive advantage. Warehousing function is a very critical within any supply chain. If the products do not move seamlessly within supply chain business would face serious service related challenges. Hence, it is necessary to drive the performance of the warehouse through key performance indicators. Further, in a continuous improvement environment, it is essential to benchmark against the industry standards in order to drive improvements (Jaipur, 2013).

The evolution of information technology has virtually completed alter the business landscape. Furthermore, IT has undoubtedly had a significant impact on performance evaluations. Today's processes are almost universally connected to IT, making measurement considerably simpler. Discussions have revealed that performance management has three main tendencies:

1.Real-time: In today's fiercely competitive markets, there is a need for businesses and products to be able to change quickly and dynamically. The company that can quickly adapt to changing customer needs wins. Managers must have access to pertinent performance data in order to stay flexible and develop winning strategies for the future (Axelsson & Frankel, 2014).

2. Mobility: Making judgements from any location is necessary if you are able to adapt quickly and flexibly. Thus, a major trend in performance management is mobility. The logistics manager wants to be able to oversee the warehouse as usual, even when he is not physically present. And this is getting more and more commonplace with the advancement of technology. 24/7 Compared to ten years ago, warehouses now have far more internet access, cloud solutions, and smartphone support (Axelsson & Frankel, 2014).

3. Visibility: The development of a system to enable the acquisition, analysis, and application of vital business information has surpassed performance measurement in importance. Many opportunities have been generated to help decision-making due to the

greater readiness to measure, the growing number of processes measured, and the expanded potential for automated measurement made possible by IT and ERPs. But there's also a big chance that the enormous volume of data that modern businesses gather may be destroyed. Consequently, one of the most important success factors is making vital indications more visible and, if possible, showing them in a dashboard along with the relevant metrics (Axelsson & Frankel, 2014). According to Edward (2002), firms compete in four areas: financial, productivity, quality, and cycle time performance. We suggest incorporating warehouse performance measurements in these four categories.

2.1.2 The Concept of Organizational Performance

Organizational performance is referred to by (Pitt & Tucker, 2008) as an important symbol of the organization that shows how successfully processes or their outputs accomplish a particular goal. According to Amaratunga and Baldry (2003), it is described as the process of assessing progress made in achieving predetermined goals. Meanwhile R (Rosenzweig.P, 2007), defined organizational performance as its actual outcomes when compared to its benchmark outputs. Accordingly, organizational performance refers to the organization's capacity to execute its stated objectives through strong corporate governance, efficient management, and a consistent commitment to achieving results (Pierre et al., 2009).

In its broadest sense, the concept of organizational performance is founded on the notion that an organization is the voluntarily collaboration of productive assets; including human, physical, and capital resources, to create the greatest value for the users and contributors of the assets (Alchian & Demsetz, 1972; (Carton, 2004) Value creation, specified by the resource provider, is therefore the fundamental overall organizational performance criterion for any organization. This value creation depends on how an organization is managed and, secondly, on the employees' correct and active participation in achieving the strategic goals of the companies (Doval, 2020).

In theory, the concept of organizational performance constitutes the foundation of strategic management and empirically, most strategy research findings make use of the construct of organizational performance in their attempt to examine various strategy content and process issues (Al-Matari *etal.*, 2014). In strategic management research all over the world,

organizational performance is an important construct, and it is frequently used as a dependent variable, and numerous recommendations made for its improvement. Despite its importance, there isn't much agreement on its definition or dimensionality (Selvam et al., 2016), leading to poor conceptualization, and use of indicators only for convenience.

2.1.2.1 Measuring Organizational Performance

In strategic management, organizational performance is critical, and its conceptualization and measurement are carefully considered (Venkatraman & Ramanujam, 1986). According to the organization's objective and aims, the measurement can be done in either financial or non-financial terms (Siepel & Dejardin, 2020; Coad et al., 2017; Baba, 2019). In the past, organizational performance measures have been based on financial metrics in order to achieve economic objectives (Conțu, 2020; Richter et al., 2017). However, due to the multidimensional nature of performance, a range of performance metrics are needed in order to measure organizational performance in terms of finances, operations, or behavior (Almujaini et al., 2021).

A company's financial performance serves as a gauge of its long-term financial stability and assesses how well it generates income using resources from its primary business. According to (Mishra & Mohanty, 2014), these financial metrics for assessing an organization's performance include revenue, return on equity, profitability in terms of return on assets, and return on sales. Organizational performance should, throughout the medium to long term, represent improved financial performance, as performance improvement is the cornerstone of strategic management (Venkatraman & Ramanujam, 1986).

Market performance, which includes the link between selling price and costs, volume produced, production efficiency, revenue growth, market domination, and innovation in goods and processes, is the result of organizational regulations (Arokodare & Asikhia, 2020). As marketers face greater pressure to show a return on investment from their efforts, marketing performance indicators are a useful tool for determining how much marketing spend contributes to profitability. The market-to-book ratio, excess value, cumulative abnormal returns, and a focus on the inclusion of risk concerns are among the market-based

economic measures that account for the shareholder's goal of creating wealth (Conțu, 2020).

Richter et al. (2017) claim that operational performance is the upper bound of organizational performance, but all of these metrics represent a very limited conception of organizational success. Almujaiani et al. (2021) state that operational performance, which is based on organizational efficiency, also aids in predicting an organization's final level of effectiveness. These indicators are related in this context, with operational indicators of organizational efficiency focusing on critical success variables that could lead to financial performance and market effectiveness (Venkatraman & Ramanujam, 1986; Richter et al., 2017).

The BSC framework by Kaplan & Norton (2004), the comparable performance model by Rothaermel (2017), and the three distinct dimensions of organizational performance—financial, market, and shareholder are taken into consideration. These measures of organizational performance balance financial and strategic objectives, tangible and intangible assets, and overall performance. The measures of financial performance for this study are profitability (financial performance), market share (market performance), and organization efficiency (operational performance). Furthermore, value creation is still another important factor to consider when evaluating the effectiveness of a business, according to Mihaila (2017).

Performance can be defined and assessed in terms of profitability, growth, market value, total return on shareholder, and economic value addition, depending on stakeholder expectations, claims Mihaila (2017). As a result, financial performance, market performance, and operational performance are the indicators of organizational performance that can be summed up as follows (Mihaela, 2017; Kaplan & Norton, 2004).

Yamin (1999) asserts that an organization's success is determined by how well it met its financial and commercial goals. The primary short-term objectives of warehouse management are more productivity, lower inventory, and faster cycle times. Expanding market share and earnings for each supply chain member are long-term objectives (Tan, 1998). (Yamin, 1999). The extent to which a business achieves its financial and market-

oriented goals is known as firm performance. Financial performance measurements include, for example, return on investment (ROI), market share percentage, inventory turnover rate, return on asset, and so forth that are based on accounting (Yamin, 1999). (Li, 2006) employed market share, sales growth, return on investment, market share expansion, and market share as metrics to assess an organization's performance.

2.1.2.1.1 Speed

An organisation can promptly supply the kind and quantity of goods that the client or customers demand, meeting their needs in terms of product kind, fast delivery of orders, dependability in delivery, resolution of customer complaints, and order processing time. In terms of time, order lead time, order picking time, and receiving operation time are the most commonly utilised measures. Order picking time is surprisingly in third place, despite the fact that prior study has heavily concentrated on this activity because it has a significant impact on warehouse performance, according to (Gu, 2007). One explanation might be that order selection time is given more particular attention in optimisation works in the literature. examining a product's time spent in the warehouse across all operations.

2.1.2.1.2 Quality

.A business can compete by offering superior items to customers that are dependable, long-lasting, and of high quality. It can also offer product performance and quality that adds value for customers. The "About the quality" section contains metrics pertaining to both internal and external customer satisfaction and operations quality. The inventor the physical area in the warehouse where products are kept until they are picked is also thought to be a critical management component for achieving high warehouse performance (Frazelle, 2002).

2.1.2.1.3 Flexibility

Planning also needs to be adaptable enough to change as circumstances do, according to Dobler, Lee, and Burt (1984). The business world can best be described as being in a chronic state of change, with constant variation in its external environment, due to factors such as fierce competition, shorter product cycles, faster technical advancements, and greater globalisation. A company's ability to swiftly alter course and reorganise

strategically is essential to its success in these constantly shifting environmental conditions. A procurement plan's flexibility is defined as its ability to adapt to changing circumstances and seize chances brought about by environmental change to maintain a sustainable competitive edge.

Furthermore, Koontz and Donnell (1968) assert that flexibility in control design is necessary for the system to continue working even in the face of failure or unanticipated changes in plans. A plan shouldn't be overly strict.

2.1.2.1.4 Cost

Cost-based metrics include inventory investment minimization, capacity utilisation, offering competitive prices, operating with lower merchandising costs, and cost minimization. Investigations were conducted into cost-related performance indicators such as picking accuracy, delivery accuracy, shipping accuracy, and on-time delivery (Rimiene, 2008). A comprehensive quantitative and/or qualitative descriptor is called a performance indicator. It outlines the actions taken by the organisation or its past. For any, there may be multiple indicators.

2.1.3 Supply chain Management Theories

The series of value-adding transactions that link a company's suppliers and customers is known as its supply chain. According to Chopra and Meindl (2007), these include operations, finance, marketing, distribution, new product development, and customer support, among other functions connected to meeting client needs.

A. Resource-Based View Resource-Oriented Observe how specific resources and abilities create a basis for enhanced performance and a competitive edge (Barney, 1991). According to this idea, firms may be able to achieve a lasting competitive advantage by the creative use and combination (referred to as "capabilities") of tangible and intangible resources (Grant, Review & Berkeley, 1991; Prahalad & Hamel, 1990; Priem & Swink, 2012). The RBV's basic tenet is that firms are collections of resources, and it asserts that there is resource heterogeneity among organizations. Over the past ten years, the implementation of the resource-based concept in organizational supply chain management has received increased attention.

The RBV can be applied to warehouse operations by emphasizing the strategic utilization of resources such as technology, infrastructure, and human capital to enhance efficiency and effectiveness in tasks like receiving, put away, order picking, storing, and shipping (Kraaijenbrink , 2010).

B. Resource Dependency Theory (DRT): The publications authored by Ireland, Webb, Crook, and Combs examine the consequences of RDT on significant facets of supply chain management. Ketchen and Hult (2007) emphasized how dependency differs in classic and contemporary value supply networks. Modern value supply chains use dependency to build trust and commitment to meet supply chain requirements, whereas traditional supply chains tend to act opportunistically in relation to their power-dependence advantage along the chain (Crook & Combs, 2007; & Webb, 2007). **Resource Dependence Theory (RDT):** RDT emphasizes the need of managing connections with distributors, suppliers, and other stakeholders in order to guarantee access to the necessary resources for efficient warehouse operations (Pfeffer & Salancik, 1978). This theory is applicable to warehouse operations.

C. Transaction Cost Theory (TCT): The internal workings of the organization received little consideration in the early research on transaction cost theory, as documented in the writings of Coase (1937) and others (Pitelis and Wahl 1998, as referenced in Foss 1999). By emphasizing the function of transaction cost theory in fostering vertical integration and trust in businesses, Williamson (1975, 1981) further broadened the application of transaction cost theory. These features of transaction cost theory provide evidence in favor of supply chain management's function in businesses. Because it focuses on minimizing transaction costs related to receiving, storing, and shipping, Transaction Cost Theory is pertinent to warehouse operations. This is because it can lower total costs and enhance operational efficiency (Williamson, 1985).

D. Knowledge-Based View: The Knowledge-Based View focuses on how knowledge assets within an organization contribute to performance. In the context of organizational operational performance, this theory suggests that effectively managing and leveraging knowledge resources can enhance speed, quality, flexibility, dependability, and cost-effectiveness (Grant, 1996)

E. **Stakeholder Theory (ST)**: ST emphasizes the importance of considering the interests and expectations of various stakeholders, including customers, employees, suppliers, and the community. In enhancing organizational operational performance, considering stakeholders' needs can lead to improvements in quality, dependability, and overall satisfaction (Freeman, 1984).

F. **Systems Theory**: Organizations are seen by systems theory as linked systems where changes to one component have an impact on the entire system. In the context of organizational operational performance, systems theory suggests that optimizing processes such as speed, quality, flexibility, and dependability requires a holistic approach that considers the interdependencies between different organizational functions (Meadows, 2008).

Therefore, these above mentioned theories are more closely associated with organizational operational performance.

2.2 Empirical Literature Review

2.2.1. The effect of receiving activities on operational performance

Receiving activities in warehouse operations play a critical role in influencing organizational operations performance. Research by (Smith, J. et al., 2020) investigated the impact of receiving process efficiency on overall operational performance in a manufacturing facility. The study found that streamlined receiving activities, characterized by accurate documentation, timely inspections, and efficient material handling, positively correlated with improved production efficiency, reduced lead times, and enhanced customer satisfaction.

A meta-analysis of data from multiple countries revealed that optimal warehouse operations, encompassing order picking, receiving, putting away, storing, and shipping, had a noteworthy effect on organizational performance metrics such as speed, quality, flexibility, dependability, and cost (Smith et al., 2021). In order to improve overall organisational performance, our research demonstrated the universal significance of effective warehouse operations.

According to (Freddie, 2021) an assessment of the impact of warehouse management practices on the organizational performance of logistical firms in Mombasa found that order processing, physical storage facilities, tracking of goods, and the receiving process of goods all had a statistically significant and favorable impact on these firms' organizational performance.

(Komarova, 2016) conducted a case study on enhancing warehouse operations and found that, even in cases where manufacturing is the main emphasis of a business, warehousing is an essential part of operations and shouldn't be ignored. More effective storage practices and reduced facility operating costs are the outcome of improved personnel, equipment, and smart area utilisation.

In Ethiopia, research on receiving activities' impact on organizational operations performance is limited. However, the Ethiopian government's efforts to improve infrastructure and logistics capabilities are expected to positively influence receiving processes, thereby enhancing overall operational efficiency (EIC, 2021).

A study by (Tesfaluel, 2020) titled Assess the Warehouse Management Practices at Ethiopian Industrial Inputs Development Enterprise (EIIDE) found that most employees perform warehouse management functions like receiving, put away, and storing to a modest degree. Nonetheless, the computerized system for inventory and stock control of commodities and products was not completely implemented by the warehouses. There are incredibly few appropriate devices and machinery on the market. Perceptions of respondents on the continuous availability of enough supply and the absence of a regulating mechanism. The respondents gave the warehouse area's order accuracy and prompt order delivery to clients a neutral rating. Pallets and shelves that are adequate for moving and storing were deemed by employees to be negatively appraised. The respondents of the quantitative investigation rate as neutral the receipt and movement of a sufficient amount of products at capacity. The report, however, doesn't address how warehouse operations affect the speed, quality, flexibility, and cost of organizational operations.

According to a study conducted by (Lidiya, 2020) on the challenges and performance of pharmaceutical warehousing in hospitals under the jurisdiction of the Addis Ababa

Regional Health Bureau, the pharmacy warehouses of these hospitals exhibit moderate levels of pharmaceutical warehouse performance. The inconvenient design and layout of the pharmaceutical warehouse for carrying out warehousing activities, the lack of space for loading and unloading pharmaceuticals, the absence of sophisticated technology for warehouse inventory control, the absence of a process for getting rid of damaged and expired inventory, and the shortage of labour for pharmaceutical loading and unloading are also identified as major challenges in warehousing. Furthermore, there is insufficient focus on staff training provision. However, the study doesn't reveal the relationship between warehouse operations on organizational operations Performance in terms of Speed, quality, flexibility, and cost.

2.2.2. The effect of put away activities on operational performance

Put away activities are crucial for optimizing warehouse space utilization and facilitating efficient order fulfillment. Recent research by (Garcia, M et al, 2021) examined the impact of put away process optimization on organizational operations performance in a distribution center. The study found that implementing advanced storage optimization techniques, such as dynamic slotting algorithms and real-time inventory tracking systems, resulted in improved order picking accuracy, reduced travel times, and increased throughput rates, ultimately enhancing overall operational efficiency.

Research on the effect of warehouse operations on organizational performance was carried out in 2020 by the Ethiopian Disaster Risk Management Commission at Adama Branch (EDRMC). The researcher was (Fikadu, 2020), it was discovered that DRMC Adama efficiently handled all of the primary warehouse duties, such as receiving and storing goods, and that shipping, order selecting and packaging, and put away came first. Pearson's correlation analysis revealed a statistically significant (at the 0.01 levels) positive link between organizational performance and each of the warehousing processes receiving, put away, storage, order picking/packing, and shipping. There is a larger correlation between organizational success and shipping. The results of the regression analysis showed that, with the exception of put away, every important warehouse operation used by DRMC Adama significantly and favorably affects organizational performance. Approximately 58% of the difference in organizational effectiveness may be explained by the five essential warehouse

operations taken together. According to the study's findings, DRMC Adama can enhance organizational performance and accomplish its objectives possibly saving millions of lives by increasing operational efficiency in warehouse operations. But unlike modern warehouses and warehousing operations, it was discovered that the absence of IT support had a detrimental effect on DRMC Adama's warehouse operational efficiency. The report, however, doesn't address how warehouse operations affect the speed, quality, flexibility, and cost of organizational operations.

There is little research on how put away tasks affect the effectiveness of organizational operations in Ethiopia. Optimizing put away procedures is essential for boosting warehouse productivity and promoting economic development, nonetheless, considering the nation's attempts to update its logistics infrastructure (EIC, 2021).

The five primary warehouse practices order picking, receiving, putting away, storing, and shipping were used to assess Omedad plc's warehouse operations in a study by (Hiwot, 2020). The study's conclusions demonstrate that, although order picking and storage are done to a moderate and higher degree, receiving and shipping are done to a modest degree. The level of put away actions in the warehouse is below moderate, meaning that greater attention is needed. The automated warehouse management system, material handling machinery, and storage space utilisation are absent from the company's warehouse procedures. The report, however, doesn't address how warehouse operations affect the speed, quality, flexibility, and cost of organizational operations.

2.2.3. The effect of order picking activities on operational performance

Order picking activities are central to warehouse operations and significantly impact organizational performance. Research by (Chen et al., 2022) explored the relationship between order picking process optimization and operational performance in an e-commerce fulfillment center. Order picking activities play a critical role in driving overall operational excellence. The study found that implementing effective order picking strategies, like batch picking and zone picking, led to reduced order processing times, increased order accuracy, and enhanced customer satisfaction.

There is little research on how order picking procedures affect organizational performance in Ethiopian organizations. However, order picking process optimization is crucial for enhancing warehouse efficiency and promoting economic growth, given the nation's expanding retail sector and rising demand for effective logistics services (EIC, 2021) .

According to a study by (Kibrom, 2019) on the effect of warehousing practices on organisational Performance a Case Study of My Wish Enterprise Plc, warehousing dimensions like receiving activity, storage activity, picking activity, shipping activity, and order picking also have a positive and significant relationship with organisational performance. Additionally, his research shows that workers understood the significance of warehousing operations for overall organisational effectiveness. The data also show that the four warehouse dimensions picking, shipping, storing, and receiving activity have a significantly and comparatively more favourable impact on organisational performance than order picking does. 47.6% of organisational performance is influenced by these characteristics. However, the study doesn't reveal the relationship between warehouse operations on organizational operations Performance in terms of Speed, quality, flexibility, and cost.

2.2.4. The effect of storage activities on operational performance

Storing activities influence warehouse efficiency, inventory accuracy, and order fulfillment capabilities. Recent research by Lee *et al.* (2021) investigated the impact of storing process optimization on organizational operations performance in a retail distribution center. The study found that implementing effective storage layout designs, inventory classification systems, and replenishment strategies resulted in reduced stock outs, improved inventory turnover rates, and enhanced overall operational performance, underscoring the importance of efficient storing activities in driving warehouse excellence.

There isn't any research on how organizational operations performance in Ethiopia is affected by storing activities. However, given the country's efforts to modernize its logistics infrastructure, optimizing storing processes is crucial for improving warehouse efficiency and supporting economic development (EIC, 2021).

According to a (Behailu, 2020) study titled "The Effect of Warehouse Operation Management on Organisation Performance of Sugar Corporation," the company's warehouse operation management significantly lacked inventory control, storage, and put away operations. The mean scores for the receiving, order picking, and shipping operations were 3.13, 2.83, and 2.66, respectively. This indicates that nearly all of the respondents had a moderate opinion regarding these difficulties. Nearly every warehouse operation of Sugar Corporation expressed dissatisfaction with the survey results. However, the study doesn't reveal the relationship between warehouse operations on organizational operations Performance in terms of Speed, quality, flexibility, and cost.

This thesis is structured as a case study based on the assessment of warehouse management difficulties carried out by (Eshete, 2020).The warehouse management of Habesha Breweries Share firm encompasses four difficult tasks, according to the firm. One concern was inefficient use of warehouse space. The investigation also discovered that handling reverse logistics was inhibiting the warehouse's speed and cost-effectiveness in terms of inventory management, product surplus and SKUs, and the usage of an open yard to store various goods. However, the study does not indicate a link between warehouse operations and organizational performance in terms of speed, quality, flexibility, and cost.

(Endaykiros, 2019) investigated the implications of Ethio Telecom in Addis Abeba when evaluating the challenges involved with warehousing operations. Learn about the challenges that the organization experiences when it comes to warehousing, and point out any gaps or potential concerns that should be addressed. According to the research findings, there is insufficient room for unloading and loading, as well as the necessary equipment and gear for material transportation and unloading. Additional difficulties include insufficient product storage space and a lack of proper packing supplies.The study does not disclose the link between warehouse operations and organizational operations. Performance in terms of speed, flexibility, and cost

According to Alene (2018) at Addis Abeba University, her paper "Assessment of Pharmaceuticals Warehousing Practice: The Case of Pharmaceuticals Fund and Supply Agency, Central Level, Ethiopia" shows that PFSA put in less effort in its warehousing procedures.The main challenges in PFSA's warehousing operation are a paucity of material

handling equipment, insufficient storage space, the lack of a designated welcome room, and a lengthy order search time. In order to cut down on time spent searching for customer orders, the researcher came to the conclusion that the corporation should zone its storage space.

According to (Tibebu, 2018), a different researcher who investigated the evaluation of warehouse management in the context of pharmaceutical funds and supply agencies, the most important inputs for the effectiveness and efficiency of the warehousing system are the availability of materials and personnel. Storage areas, non-categorical and chaotic arrangements of goods, spaces for internal movement, and records of the whereabouts of items in their regions have all been identified as major barriers to the system's effectiveness and speed of retrieval when goods are issued from the warehouse. Furthermore, warehouse space limits, a dearth of tools and supplies, a lack of on-the-job training for employees, and a lack of personal protective equipment were identified as hurdles to effectiveness and efficiency.

2.2.5. The Effect of Shipping Activities on Operational Performance

Shipping activities play a critical role in ensuring timely and accurate delivery of goods to customers. Research by (Wang et al, 2020) examined the impact of shipping process optimization on organizational operations performance in a global logistics firm. The study found that implementing advanced transportation management systems, route optimization algorithms, and carrier collaboration initiatives led to reduced transit times, lower shipping costs, and improved service levels, highlighting the significant impact of shipping activities on overall operational excellence.

There has been little research into the impact of shipping activities on organizational effectiveness in Ethiopia. However, given the country's growing exports and imports and increasing demand for efficient logistics services, optimizing shipping processes is essential for improving logistics efficiency and supporting economic growth (EIC, 2021).

2.3 Research study Gaps

Numerous studies have examined how warehouse procedures are analysed in the manufacturing and service sectors. This study aims to bridge the knowledge gap by

analysing warehouse operations from the perspective of the five core warehouse operations of one of these public service organisations, ECMDE: receiving, put away, storage, order picking, and shipping. Nonetheless, there hasn't been much research done on how warehouse operations affect the effectiveness of organisational operations in public sector businesses. Furthermore, most studies on warehouses focus on examining the practice rather than the performance of organizational activities in terms of speed, quality, flexibility, and cost. As a result, the research contributes filling the gaps in the subject matter.

2.4 Research Hypothesis

The following hypotheses will be formulated and tested to answers to the research questions mentioned in the above. Therefore, the following alternative hypotheses will be formulated:

Ha1: Receiving activity has positive significant effect on the operational performance of ECMDE.

Ho1: Receiving activity has not positive significant effect on the operational performance of ECMDE.

Ha2: Put away activity has positive significant effect on the operational performance of ECMDE.

Ho2: Put away activity has not positive significant effect on the operational performance of ECMDE.

Ha3: Order picking activity has positive significant effect on the operational performance of ECMDE.

Ho3: Order picking activity has not positive significant effect on the operational performance of ECMDE.

Ha4: Storage activity has positive significant effect on the operational performance of ECMDE.

Ho4: Storage activity has not positive significant effect on the operational performance of ECMDE.

Ha5: Shipping activity has positive significant effect on the operational performance of ECMDE.

Ho5: Shipping activity has not positive significant effect on the operational performance of ECMDE.

2.5 Conceptual Frame Work

The concept framework for warehouse operations illustrates the potential interactions between the following essential players to affect the overall efficacy of organisational activities: receiving, put away, order picking, storage, and shipping. The aim of the research was to examine the possible impact and correlation between these warehouse operations elements and the efficiency of organisational operations.

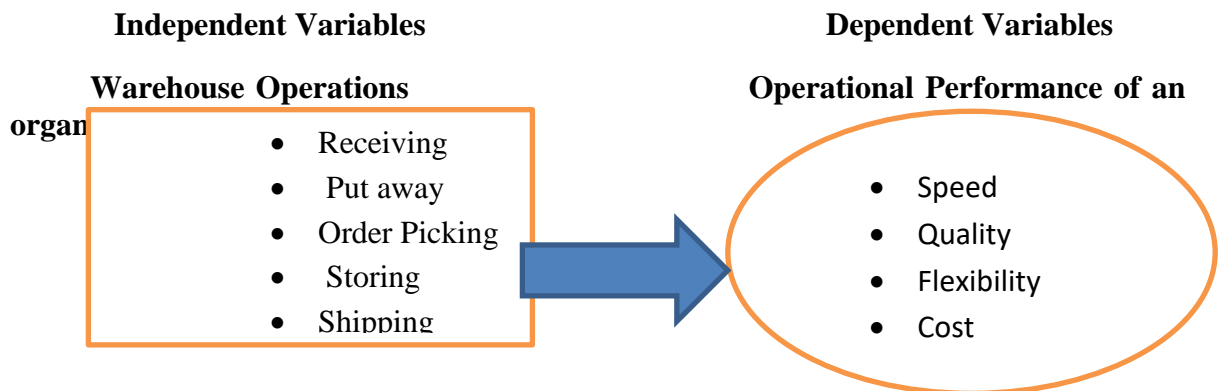


Figure 2.1: Conceptual framework Adopted from (Kibrom ,2019)

Chapter Three

Methodology of the study

Introduction

The study area, research methodology, research design, target population and sample, data source and type, data collection techniques, data analysis techniques, validity and reliability tests, and ethical issues are all described in this chapter.

3.1 Description of the study area

Exhibition Center and Market Development Enterprise has a grand vision of becoming " the most desired and admired exhibition and convention facility and service provider in Africa, renowned for providing its customers with more than just a 'conventional' venue for their events; and ultimately become a competitive venue in Africa ".

The missions of the enterprise are: To act and be a key industry player that fully supports Ethiopia's Developmental strategies ,To improve the productivity, process and performance to enable customers to experience values and services beyond their expectation ,To develop the creativity, professionalism and services to help customers achieve outstanding and impressive events at ECMDE's venues ,To invest in constant improvements of facilities and technologies in the most efficient way so as to provide a world class facility that offers the ultimate choice for our customers, To promote "Public-Private-Partnership" for sustainable developmental change (partnership for success),To demonstrate corporate responsibility towards society and environment that the ECMDE operates in. In general, to generate significant economic benefits for Ethiopian by hosting international and national conventions and trade shows.

Values: the ECMDE generally embraces the following values. Accountability, Balance, Commitment, Empowerment, Innovation, Integrity, Ownership, Safety, Honesty, Excellence, Respect, and Teamwork. (ECMDE, 2021).

The effect of warehouse operations on organisational operations performance is the title of this thesis. Regarding Meskel facility management and ECMDE, Addis Ababa. Over the past 40 years, ECMDE has typically hosted 32 events annually, the majority of which have a local focus. Three categories comprise the events: the General Trade Fair, the Special Trade Fair, and the Grand Bazaar and Festivals, which happen on the eve of Christmas, Ester, and Ethiopian New Year. The three large bazaars and festivals drew a sizable crowd of attendees and exhibitors. (Report, 2017); (Yohannes, 2020). The activities of the five warehouse operations that ECMDE now manages are the main subject of this study. Exhibition Center has five warehouses, namely: a rental item warehouse, an electrical warehouse, stationery and sanitary warehouse, a partition warehouse, and a used item return warehouse.

3.2 Research approach

The quantitative methods consist in the systematic empirical studies which include quantifying with the help of statistics and mathematics (Bryman and Bell, 2007). To make inferences from the findings obtained, data is gathered, converted into numbers, and then empirically evaluated to determine if a relationship can be discovered. Stated differently, numerical interpretations are associated with quantitative approaches. Comparatively speaking, qualitative research does not rely on data or statistics.

The impacts of warehouse operations on organisational performance at ECMDE were described and explained by the researcher using a quantitative technique. Upon distributing the questionnaire to all permanent employees of the organisation based at the main office, the researcher can get reliable data with this strategy.

3.3 Research design

A research design comprises deliberate choices on the use of data collection techniques and the choice of data sources, which helps to obtain legitimate and trustworthy solutions to the research question at hand (Kumar, 2011).

To investigate the impact of warehouse operations on the organisational operational performance of the Exhibition Centre and Market Development Enterprise, the researcher employed an explanatory and descriptive research approach. In light of this, warehouse

operations and their connections to the performance of organisational activities are described.

3.4. Population and Sampling

According to Schutt (2011), the population is the entire group of people or other objects to which study findings are meant to be applied. Employees of the market development firm and the exhibition center took part in the study. All of these assisted the researcher in producing crucial data for the investigation. There were about 142 employees at the Exhibition Centre and Meskel Square overall, with 85 people making up the sample. 22 samples were taken from the meskel facility management that the centre is involved in, and 63 samples were taken from the Exhibition centre.

3.4.1 Sample Frame and sample size

Key participants of the study comprised of respondents from the ECMDE staff, Accounting and finance, procurement and property department, Technic department, safety and security departments, planning directorate, Ethics departments, Change management directorate, GM Advisors, Marketing and sales department, HRM Departments, Internal audit, and IT Directorate. Using purposive sampling methods, this was chosen. The researcher chose 85 key informants including Meskel Square employees, managers, and staff who had direct knowledge of the ECMDE through the use of the purposive sample technique.

Table 3.1: Sample Size

Category	Population	Sample Size	Remark
Deputy GM	1	1	
Department Manager	11	11	
Directorates/Advisor	4	4	
Division Manager	17	17	
Senior officers	22	22	
Officers	30	30	
Casher, security and cleaning service	57	0	No having direct relation to the study

Total	142	85	
-------	-----	----	--

Source : HR Source January, (2024).

3.4.2 Sampling Technique

Due to the nature of the research, which involved identifying the respondents before the researcher went for data collection, the study participants were selected using a purposive sample technique.

3.5 Data Sources and type

Both primary and secondary data sources were employed in the investigation. Based on the study's objectives, 85 employees of the institution's headquarters were selected and distributed a closed-ended questionnaire, which yielded quantitative data for the study.

The secondary data source was prepared, gathered, and analyzed using a range of easily accessible and relevant sources, including publications, articles, books, previous research, and manual.

3.6 Methods of Data Collection

In order to obtain the needed data, the questionnaire-based data collecting method appropriately addressed the information that was obtained. In order for the respondents to understand the questionnaires, they are designed in accordance with the necessary methodology before data collection begins. Surveys are sent to participants based on the questions posed by the interviewer, observations made using an observation checklist, and a careful review of the available documentation. Data collection was followed by the researcher's analysis. Researchers employed the technologies to gather data during the study phase. Responses to the closed-ended questions are given on a five-point Likert scale: Agree (A) = 4, Strongly Agree (SA) = 5, Neutral (N) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The survey was composed in the English language.

3.7 Data analysis methods

In addition to inferential and descriptive statistical techniques, the Statistical Package for Social Sciences (SPSS Version 27) was also employed to facilitate the computation. Data was collected and submitted to correlation and regression analysis because it helps examine

the link between the independent and dependent variables warehouse operations and their impact on the dependent variable, organizational operations performance. In order to examine the link between variables, the researcher used correlation and linear regression analysis to quantify the effect of warehouse operations on organizational operations performance.

3.8 Validity and Reliability

3.8.1 Validity

As stated by Kothari (2004). Validity is a crucial quality that pertains to the degree of precision. An instrument's measurement depends on how it will be used. Authenticity can sometimes be conceived of as beneficial. Stated differently, accuracy is the degree to which variations detected by a measurement tool accurately represent actual variations among the subjects being examined. To make sure the trial period data collecting questionnaire was valid and the appropriate data collection tool for respondents to distribute, a pilot research was carried out.

3.8.2 Reliability

In this study, a measurement reliability test is conducted to ensure that the measurement is applied consistently reflects the measured subset. To conduct a reliable analysis, Cronbach's Alpha (α) was it has been used. When the alpha value is greater than 0.9, it can be considered excellent, good, acceptable, doubtful, poor, or less than 0.5 (Namdeo & Rout, 2016). Cronbach's α at an acceptable limit is 0.70. As a result, the pilot study's Cronbach's α was 0.70. This suggests that the scales are appropriate for more examination.

Reliability is the degree to which a research instrument yields consistent results or data after several trials. The questionnaire was pre-tested on fifteen respondents at ECMDE in order to guarantee dependability. Reliability co-efficient (Alpha value) of greater than 0.7 in this study is thought to indicate acceptable reliability. Pre-testing serves the purpose of enabling changes to be made to different questions in order to improve, reword, and address any issues with the questionnaire. The 32 items' internal consistency is therefore relatively good, as seen by their alpha coefficient of .866. As a result, information gathered with these scales is suitable for further research.

Tables 3.2 Reliability test

Construct	Cronbach's Alpha based on standardized items	No of items
Receiving Activity	.719	5
Put-way Activity	.806	4
Order Picking	.840	3
Storage Activity	.820	4
Shipping Activity	.754	4
Organizational operations performance	.929	12
Total Reliability	.866	32

Source: own survey result, (2024)

3.9 Research Ethics considerations

Maintaining the respondent's ethical beliefs' rights is the goal of ethical consideration. Respondents should be informed by the researcher of the intended use of their response, that it is confidential, and that it will only be used for academic research. Respondents would feel more at ease and liberated when answering questions as a result. By saying this, the study's researcher made it clear to respondents who worked for Exhibition Centers that their responses would only be used for academic research.

Chapter Four

Data analysis and result and interpretation

Introduction

This chapter presents and analyzes the data gathered for the study on how warehouse operations affect the performance of organizational operations in ECMDE. Both descriptive and inferential analysis lead to this conclusion. The statistical analysis is performed using SPSS version 27.0.

4.1 Response Rate

About 98.82% of the surveys that were issued had responses. A significant number of the respondents 84 returned the 85 questionnaires that were provided, demonstrating a high degree of involvement and participation. The large percentage of respondents that responded to the survey showed that they were interested in the topic or were willing to offer input, as seen by their high response rate.

4.2 Respondents' Demographic Information

The researcher mentioned the demographic profile of the respondents, and the data gleaned from their answers is displayed in the table below.

Table 4.1 Demographic Variable

Variable	Category	Frequency	Percent
Gender	Male	51	60.7
	Female	33	39.3
	Total	84	100.0
Age	21-30years	8	9.5
	31-40years	36	42.9
	41-50years	30	35.7
	above50years	10	11.9
	Total	84	100.0
Education qualification	below college diploma	9	10.7
	college diploma	15	17.9

	First degree(BA,BSC)	38	45.2
	Second degree and above	22	26.2
	Total	84	100.0
Job position	Officer	30	35.7
	Senior Officer	22	26.2
	Division Manager	17	20.2
	Department Manager	11	13.1
	Directorate/Advisor	3	3.6
	Deputy GM	1	1.2
	Total	84	100.0
Service year	below 1 year	5	6.0
	1-5 year	35	41.7
	6-10 year	16	19.0
	10-20 year	23	27.4
	above 20 year	5	6.0
	Total	84	100.0

Source: own survey result, (2024)

Table 4.1 displays the gender distribution of the sample, with 33 (39.3%) and 51 (60.7%) of the total responses being female. This suggests that the percentage of men employed at ECMDE is only somewhat higher than the percentage of women.

Table 4.1 above displays the respondents' age distribution. Based on the data, 42.9.0% of participants are between the ages of 31 and 40, with the next largest age groups being those under 41 and 50 (35.7%) and those above 50 (11.9%). In their 20s and 30s make up the remaining 9.5%. This implies that the majority of the population surveyed consists of people who are in their prime working years.

Table 4.1 displays the respondents' degree of education qualification. The data indicates that 38 respondents, or 45.2%, hold a first degree. Of them, 22 (26.2%) have at least one second degree, 9 (10.7%) have less than a college degree, and 15 (17.9%) have a college degree. This implies a somewhat well-educated sample.

Table 4.1 displays the job positions that the respondents occupied. In terms of organizational management, the chart indicates that of the respondents, 35.7% are officers, 26.2% are senior officers, 20.2% are division managers, 13.1% are department managers, 3.6% are directorate/advisor, and 1.2% are deputy general managers. This implies that the poll may have been intended for professionals in lower-level positions within companies.

According to Table 4.1, 35 respondents, or 41.7% of the total, indicated that they had one to five years of job experience, which was the largest category. At twenty-three, or 27.4% of the total, responders with ten to twenty years of experience make up the next largest category. Those with fewer than a year's experience and those with more than 20 years' experience, each with five respondents, made up the smallest group. This suggests that a combination of professionals in their early and mid-career stages make up the studied group, which is reasonably seasoned.

4.3 Descriptive Analysis

To explain the fundamental characteristics of the data in a study, descriptive statistics were used. Easy summaries of the measures and sample are provided. A lot of data is condensed into a reasonable summary by each descriptive statistic, which the researcher used to offer quantitative descriptions (Gelman & Hill, 2006).

Table 4.2 Guideline for Interpreting Quantitative Data

Range	Interpretation1	Interpretation2
1-1.8	Strongly Disagree	Very Disagree
1.81-2.6	Disagree	Dissatisfied
2.61-3.40	Neutral	Moderately satisfied
3.41-4.20	Agree	Satisfied
4.21-5	Strongly Agree	Very satisfied

Source: (Best 1977, **Invalid source specified.**)

The performance parameters of warehouse operations and organizational operations were asked to be scored by respondents on a five-point Likert scale, with 1 denoting strongly disagree and 5 strongly agree. The mean and standard deviation of each variable calculated using descriptive statistics are shown in the table below.

4.3.1 Receiving Activity

Receiving, also referred to as goods-in or in-handling, is an essential process in the warehouse. Ensuring that the appropriate product is received in the right quantity and quality at the right time is a fundamental aspect of warehouse operations, as noted by (Richards, 2018).

Table 4.3 Descriptive Statistics of receiving activity (N=84)

Items of Receiving Activity	Mean	Std. Deviation
In ECMDE warehouse there are guidelines or standard operating procedures (SOP) in place that provide instructions to receive items properly.	3.29	1.247
Most of the time, ECMDE warehouse has enough spaces for receptions of goods arrived.	2.74	1.204
Most of the time, ECMDE warehouse workers perform appropriate inspections of goods at receiving stage.	3.26	.946
Receiving areas at ECMDE are well-organized and efficient.	2.87	1.106
There is clearly defined separated receiving area in the enterprise warehouses.	2.89	1.087
Grand Mean	3.01	

Source: own survey result, (2024)

As previously mentioned, table 4.3 on receiving activities indicates that the average value (mean) is 3.01, placing it in the moderately satisfied level of category. The ECMDE warehouse has policies in place, known as standard operating procedures (SOP), that outline the correct way to accept things. With mean values of 3.29, 2.74, and 3.26, respectively, most of the time, the warehouse has enough room to receive goods that come; warehouse employees make reasonable use of these spaces; and warehouse employees appropriately inspect the goods at the reception stage.

This result indicates, the respondents are moderately satisfied on these three statements mentioned. The enterprise warehouses, which received mean scores of 2.87 and 2.89,

respectively, have a distinct and well-defined receiving area. The receiving areas at ECMDE are efficient and well-organized.

Therefore, based on the responses of the participants, the lack of sufficient space for the reception of goods arrived at the warehouse, the lack of well-organized reception areas in the ECMDE, and the lack of a clearly defined separate reception area in the organization's warehouses are the issues that the institution should pay attention to in the future.

Receiving might start with being informed in advance when the products will arrive. According to Bartholdi and Hackman (2014), this enables the warehouse to plan the reception and unloading of materials in order to effectively coordinate with other warehouse operations. Thus, the previously low score needs to be raised. When asked if the ECMDE warehouse has enough space to receive goods, the best response is typically that there are guidelines or standard operating procedures (SOP) that provide instructions for doing so. This is an issue that the institution needs to address going forward. Consistent with this, low standards deviation variance was discovered. It suggests that the receiving action that the business has implemented is positive.

4.3.2 Put-way Activity

Put away is the process of putting goods into storage. Material processing, site confirmation, and product placement are all included (Frazelle, 2002).

Table 4.4: Descriptive Statistics of Put-way Activity (N=84)

Items of Puta-way activity	Mean	Std. Deviation
Most of the times, in ECMDE Warehouses are easily accessible.	3.14	1.132
Most of the time, ECMDE warehouse has enough space to move goods /workers/ machineries during put away activities.	2.64	1.158
In ECMDE warehouse, goods are placed in the correct location. Goods and products are stored in safe, secured place and appropriate space.	2.81	1.047
The ECMDE warehouse design/layout is convenient to perform put-away activities.	2.74	1.031
Grand Mean	2.83	

Source: own survey result , 2024

All research variables lie between 2.74 and 3.19, as shown in table 4.4 above, which indicates that respondents are only moderately satisfied that the warehouse operations variables have an impact on the performance of organizational operations. The ECMDE warehouse often has ample room to receive arriving goods. When receiving goods, warehouse workers at ECMDE make use of appropriate warehouse areas and conduct the necessary checks of the goods during the receiving stage. Goods are arranged correctly in the ECMDE warehouse. Products and goods are kept in suitable spaces that are safe and secure, and the ECMDE warehouse design makes it easy to carry out put-away tasks that had mean values of 3.14, 2.64, 2.81 and 2.74 respectively. This result shows that respondents' opinions on the four statements are average. In contrast, the ECMDE warehouse's design and layout make it easy to carry out put-away activities, with a mean value of 2.64 moderately satisfied and 2.57 dissatisfied, respectively. The warehouses lack sufficient space to move goods, workers, or machinery during put-away activities.

Therefore, the overall respondents mean values of 2.83 indicated that there were moderately satisfied of put-way activity. Moreover, the put-way activity's standard deviation shows that neither the positive nor negative scoring extremes are extreme. The building's dimensions and shape, accessibility, the kind of machinery used, and the intended function will all have a significant impact on the warehouse plan (Richards, 2018). Low scores require the organisation to focus on improving.

4.3.3 Order picking activity

Tables 4.5 Descriptive Statistics of order picking activity (N=84)

Items of order picking activity	Mean	Std. Deviation
In ECMDE warehouse has adequate equipment to facilitate order picking process on the reasonable time. ECMDE has adequate shelves for the goods in the warehouse to facilitate order picking process.	2.80	1.062
ECMDE warehouse design/layout is convenient for an easy order picking process	2.83	1.039

In ECMDE warehouse management systems facilitate the order picking process.	3.00	1.053
Grand Mean	2.876	

Source: own survey result, (2024)

Table 4.5 shows a grand mean of (2.876), which indicates a fairly satisfied order selection activity for the company. There is a modest level of satisfaction among respondents regarding the impact of warehouse operations factors on organizational operations performance, as all research variables lie within the range of 2.80 to 3.00. Order picking is made easy and quick in the ECMDE warehouse thanks to its well-equipped workspace and well-designed layout. The warehouse management system also makes order picking easier and faster. The mean values of 2.80, 2.83, and 3.00 indicate how well operations are going to be performed based on the accuracy and timeliness of order picking activities.

As a result, ECMDE Warehouse lacks the necessary shelves and equipment to make order picking easier, and its warehouse management system performs poorly in comparison to other statements. The benchmark for this variable condition was verified by the research. Furthermore, the standard deviation of order choosing was noted. Neither the positive nor negative scoring has any extremes.

Most warehouse operations revolve around order picking, which is finding the right amount of inventory for a set of customer orders. The period of time between when an order is sent to the warehouse and when it arrives at its destination is full of opportunities for errors in terms of completeness and accuracy, as well as lost time (De Koster, et al., 2007). For the company to receive the higher than average low score points, it must improve.

4.3.4 Storage Activity

Tables 4.6 Descriptive Statistics of Storage Activity (N=84)

Items of storage activity	Mean	Std. Deviation
Most of the time, in ECMDE warehouse, there is enough space between goods storage and walking way.	2.82	1.077
Most of the time, ECMDE warehouse team are effective in minimizing total goods damage that are stored in the warehouse.	3.24	.989
Most of the time, ECMDE incoming goods are stored in their identified storage locations.	3.29	1.036
The shelves and pallets in the warehouse are adequate for handling and moving goods and products.	2.90	1.115
Grand Mean	3.06	

Source: own survey result, (2024)

Table 4.6 shows that the overall score for storage activity is 3.06, which is fairly agreeable. This means that ECMDE's present storage activity involves handling materials and items. Respondents' level of satisfaction with the impact of warehouse operations factors on organizational operations performance is moderate, as all research variables lie within the range of 2.82 to 3.29. Consequently, the centers for the exchange of commodities and information between suppliers and recipients are storage operations. According to the aforementioned comments, ECMDE warehouse employees are not properly using the storage space to store goods; additionally, there is not enough space between the goods storage area and the walking way; and finally, there are not enough shelves or pallets in the warehouse to handle and move goods and products.

The over all of storage activity is fully moderately satisfied. Research has validated a benchmark for this variable state. Additionally, the task of storing involved standard deviations. Neither the positive nor negative scoring has any extremes.

During the storage process, items are placed in storage places. Items are stored in the reserve area, which is also referred to as the bulk storage area, in the most economical way possible, and in the forward area, items are held for easy retrieval by order pickers.

Products in smaller amounts are often stored in the forward area in easily accessible storage modules (Gu & McGinnis, 2006).

Storage is the arrangement of goods maintained in a warehouse to maximize space use and facilitate efficient material handling. You can group storage objects into different sections. Drivers of department organization could be physical attributes of the goods, such as pallet storage versus case storage, or material handling considerations, such as a forward area for quick picking, management considerations, such as a dedicated storage area for a specific customer (Gu & McGinnis, 2006). As a result, the company must improve by taking the required actions in light of the previously indicated low score.

4.3.5 Shipping Activity

Tables 4.7 Descriptive Statistics of shipping activity (N=84)

Items of shipping activity	Std.	
	Mean	Deviation
The ECMDE warehouse teams have enough awareness about how the motions of them have impact on the enterprise profitability.	3.32	.920
ECMDE warehouse personnel serve departments 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 unit).	3.31	.969
Most of the time, warehouse personnel goods are delivered to the enterprise departments as per the orders specification.	3.50	.988
Most of the time ECMDE warehouse personnel perform perfect order delivery lead time to the enterprise units / departments.	3.11	1.151
Grand Mean	3.31	

Source: own survey result, (2024)

. As can be seen, the shipping activity is somewhat satisfied with 3.31 mean values, according to the grand mean of (3.31). The range of all the research variables is 3.11 to 3.50, indicating that respondents are somewhat happy with the impact of warehouse operations variables on organizational operations performance. This alludes to ECMDE's shipping activities, which signifies that it's critical to have useable goods ready for distribution to the users department or shipment. Warehouse employees at ECMDE do not

provide departments with realistic turnaround times (i.e., from the time an order is accepted at the storage facility until it is sent to the unit). Even if it indicates a modest level of satisfaction, it is lower than the other statements. It is entirely average level accordance with the interpretation law. Additionally, the shipping activity standard deviation was no extremes in the positive or negative scoring.

According to (Frazelle, 2002), shipments consist of the following. Checking that orders are complete, packing items in appropriate shipping containers, preparing shipping documents such as the bill of lading, packing list, and address label, weighing shipments to determine shipping costs, organizing orders by outbound carrier, and loading trucks are all frequently included in the carrier's jurisdiction. As such, the previously mentioned low score must increase.

4.3.6 Organizational Operations Performance

Tables 4.8 Descriptive Statistics of organizational operations performance (N=84)

Items of Speed	Mean	Std. Deviation
Department Orders are processed quickly at ECMDE warehouse.	3.24	1.115
The time it takes to fulfill units of department orders is satisfactory at ECMDE warehouse.	3.24	1.060
The speed of operations meets the expectations of units of department at ECMDE warehouse. The enterprise provides fast service delivery performance for departments.	3.13	1.084
Grand Mean of Speed	3.20	
Items of Quality		
The products/services provided by ECMDE warehouse to user department meet high-quality standards.	3.00	1.041
There is a strong emphasis on quality control at ECMDE warehouse.	3.04	1.227

ECMDE warehouse offer consistence and reliable products / services quality to dep't .ECMDE warehouse provides accurate and reliable services and products to users department.	3.14	1.008
ECMDE warehouse consistently delivers on its promises to units of department.	3.15	.988
Grand Mean of Quality	3.08	
Item of Flexibility		
ECMDE warehouse can quickly adapt to changes in the needs of departments.	3.19	1.124
ECMDE warehouse demonstrates agility in responding to unexpected challenges.	3.07	1.106
User departments find it easy to customize to their needs with ECMDE warehouse.	3.24	1.025
Grand Mean of Quality	3.167	
Item of Cost		
The facility stores specific product in large quantity	2.99	1.140
We do warehouse activities in large quantity	2.90	1.088
Grand Mean of Cost	2.945	
Grand Mean of Mean OOP	3.098	

Source: own survey result, (2024)

Table 4.8 presents the current organizational operations performance of ECMDE. It shows that the performance of organizational operations is average/moderate with respect to goals and objectives in the Speed, quality, flexibility, and cost categories. Organizational operations performance is average /moderate grand mean of mean (3.098). It is moderately satisfied level in accordance with the interpretation law.

A score analysis of each indicator based on 3.20, 3.08, 3.167 and 2.945 for speed indicator, quality, flexibility and cost respectively is presented. From the speed indicator statement the time it takes to fulfill units of department orders is not satisfactory at ECMDE is less than the others presented. From the quality indicator showed that the products/services provided to the user department by ECMDE warehouse meet high quality standards and the result of high emphasis on quality control in ECMDE warehouse scores less responded rate than other quality measures. From the flexibility indicator revealed that the result of ECMDE warehousing's ability to respond to unexpected challenges lower responded rate than that of other flexibility measures. From the cost indicator the result showed that the fact that we do a lot of warehousing activities is less than other cost measures. The data are narrowly distributed, as evidenced by the relatively low standard deviation scales for each variable. This implies that respondents' opinions closely align with each study variable.

Cost-based metrics include inventory investment minimization, capacity utilisation, offering competitive prices, operating with lower merchandising costs, and cost minimization. Investigations were conducted into cost-related performance metrics, including on-time delivery, shipping accuracy, delivery accuracy, and picking accuracy (Rimiene, 2008).

So, the institutions must work on low score by implementing appropriate resource. In additions, the enterprise warehouse activities work in large quantity to get quantity discount.

4.4 Inferential Analysis

4.4.1 Multiple Linear Regression assumption

I. Multicollinearity Test

According to Gujarati (2003), the multicollinearity test keeps the independent variable from having a twofold influence in the model and helps determine the correlation between explanatory components. In the case of multicollinear independent variables, predictive power overlaps or is shared. This could lead to the paradoxical effect, in which the

regression model fits the data well, but none of the explanatory factors independently significantly alters the prediction of the dependent variable. The tolerance test and variance inflation factor (VIF) were employed in this study to assess the presence of multicollinearity in the explanatory variables. If the VIF value is less than 10, there is no multicollinearity between the explanatory variables; if the VIF value is greater than or equal to 10, there is a major multicollinearity problem. Moreover, tolerance is the degree to which the other independent variables in the model fail to explain the variability of the specified independent. Tolerance is calculated for each variable using the formula $1 - R^2$. Less than .10 is a very small value, indicating a high multiple correlation with other variables that could result in multicollinearity (Keith, 2006; Shieh, 2010).

Table 4.9: Multi Collinearity Statistics

Independent Variables	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Receiving Activity	.403	2.481
Put-away activity	.367	2.726
Order picking activity	.372	2.688
Store activity	.322	3.110
Shipping activity	.552	1.811
a. Dependent Variable: OOP		

Source: own survey result, (2024)

Table 9 below illustrates that the tolerance value spans from 0.322 to 0.552, and the collinearity statistical analysis of variance inflation factors (VIF) value ranges from 1.811 to 3.110. Consequently, the results indicated that multicollinearity was not present in this study.

II. Normality Test

The normality assumption is based on the zero mean of the residuals. Furthermore, normality tests are employed to determine whether a data collection is well-modeled by a normal distribution or to determine the probability that an underlying random variable would be regularly distributed (Gujarati, 2009). Thus, the researcher used histogram techniques to test for normalcy in the data. According to Fidell (2001), regression standardised residuals should be displayed between 3 and -3 , and if the residuals are normally distributed around their mean of zero, the histogram should have a bell shape. Figure 4.1 below so clearly shows that the data satisfies the normality condition (Stevens, 2009).

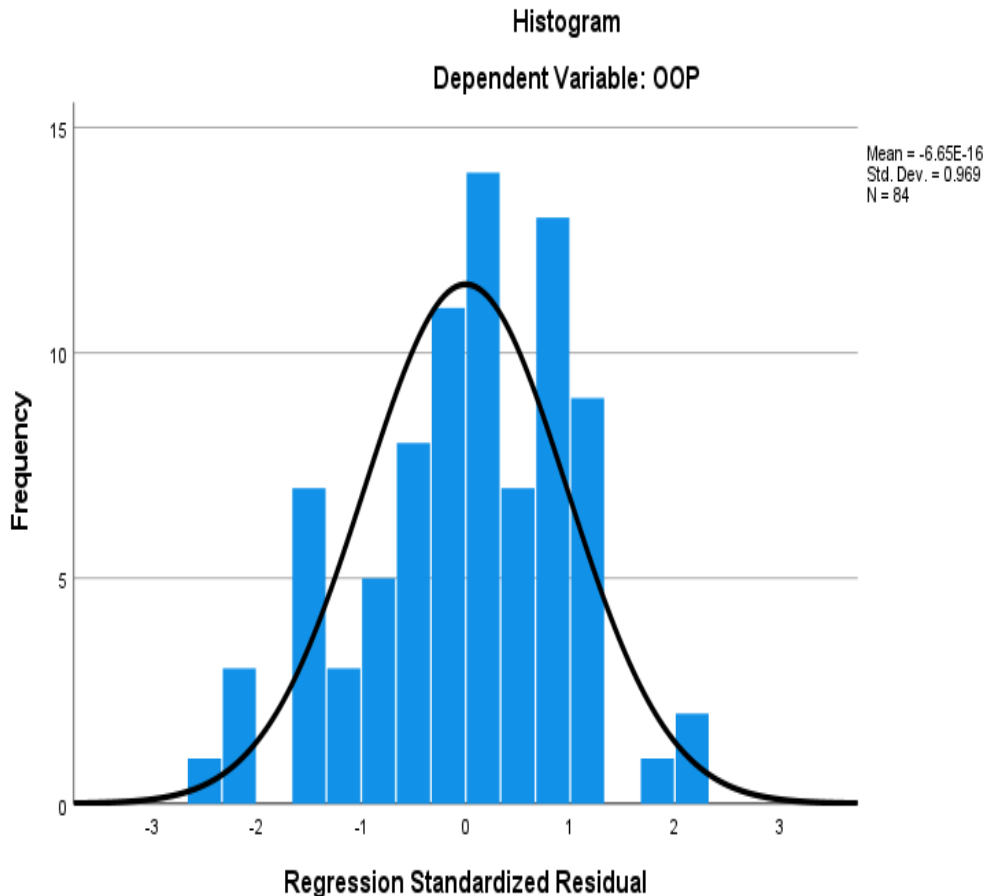


Fig 4: 1Normal distribution histogram results

Table: 4.10: Descriptive Statistics of Normality test

Descriptive Statistics							
	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
RA	84	15.0476	4.14178	.048	.263	-.903	.520
PUT	84	11.3333	3.47568	.143	.263	-.685	.520
OPA	84	8.6310	2.74533	.122	.263	-.544	.520
STO	84	12.2500	3.40402	.083	.263	-.165	.520
SHP	84	13.2381	3.06798	-.200	.263	-.564	.520
OOP	84	37.3333	9.77375	-.032	.263	-.270	.520
Valid N (listwise)	84						

Source: own survey result, 2024

For this reason, statistics like as skewness and kurtosis are employed to ascertain the normal distribution. George and Mallery (2010) state that for both statistics, a normalcy range of -2 to +2 is appropriate. Table 10 above displays the results of the normality test. As a result, the skewness and kurtosis values are -.903 to -.165 and -.200 to -0.048, respectively. As a result, the study's data were dispersed on a regular basis.

III. Heteroscedasticity Test

Homoscedasticity requires a constant variance in the errors, according to Brooks (2014). According to White, (1980), cited by Shiau & Lee (2010), a heteroscedastic problem is recognized if the errors do not have a constant variance. According to Shiau and Lee (2010), this basically means that the residuals at each predictor level should have the same variance, or homoscedasticity; extremely dissimilar variances are called heteroscedasticity. The standardised residuals in the statistics plotted against the projected Y' values can show whether or not points are distributed evenly across all values of the independent variables, as per the statistical solution (2017), which can be used to validate the linear relationship assumption. Biased standard errors can lead to biased inference, which can lead to

inaccurate conclusions from hypothesis tests. In order to determine whether homoscedasticity and random error requirements have been met, the first step in a basic analysis is to plot *ZRESID (Y-axis) versus *ZPRED (X-axis) on SPSS (Shiau & Lee, 2010).

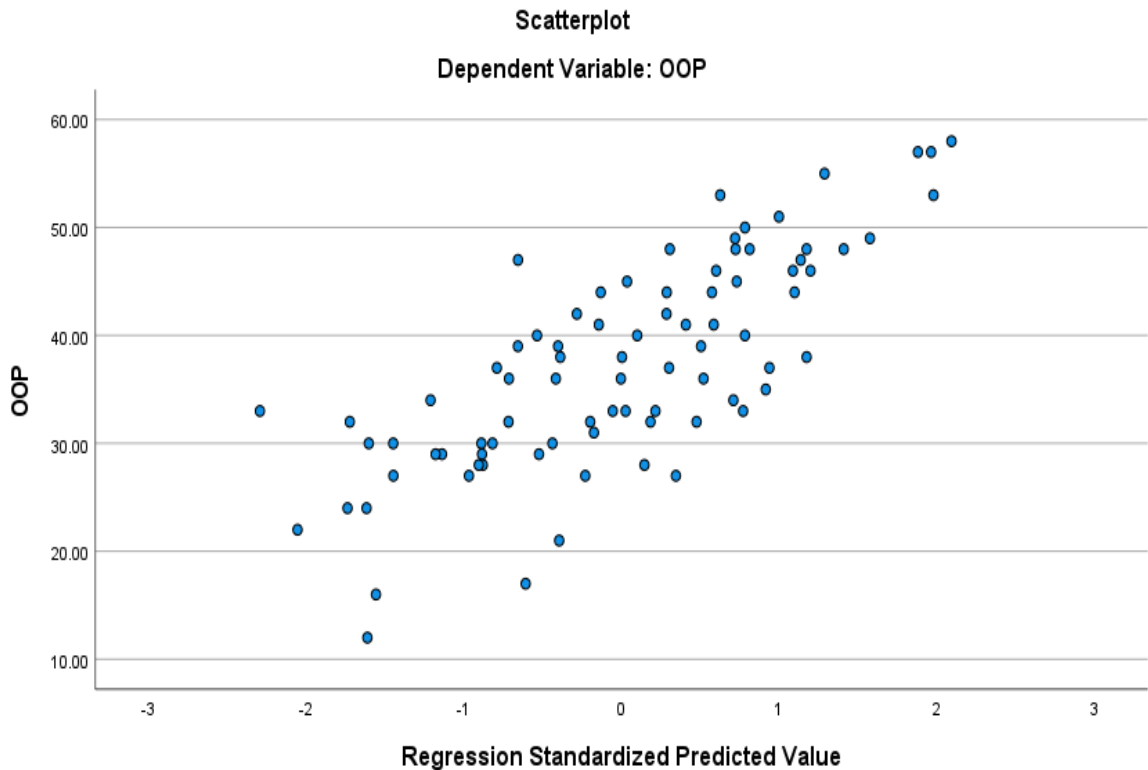


Figure 4.2: Heteroscedasticity test result

*ZRESID and *ZPRED should appear as a random collection of dots uniformly spaced around zero on the graph. It is likely that there is heteroscedasticity in the data if this graph funnels out. The likelihood is that the data have violated the assumption of linearity if this graph exhibits any kind of curve (Shiau & Lee, 2010). The scatter plot presented in Figure 4.2 above illustrates how the residuals at every explanatory variable level appear to be uniformly distributed, without any discernible structure. It is safe to conclude that there is no heteroscedasticity issue with this study. The scatterplot graphic above showed a linear link between the organizational operations performance and warehouse operations dimensions.

IV. Multi Linearity Test

.When the connection between the dependent and independent variables is linear, multiple regressions can be used to estimate it with accuracy (Shiau & Lee, 2010). According to Shiau and Lee (2010), all regression estimates, including regression coefficients, standard errors, and tests of statistical significance, may be distorted if linearity is broken. As seen in figure 4.3 below, the simplest way to check this is using a pp plot residual. The dependent and independent variables have a linear connection when the p-p residual shows a straight line. Consequently, there is no linearity issue with the study's data.

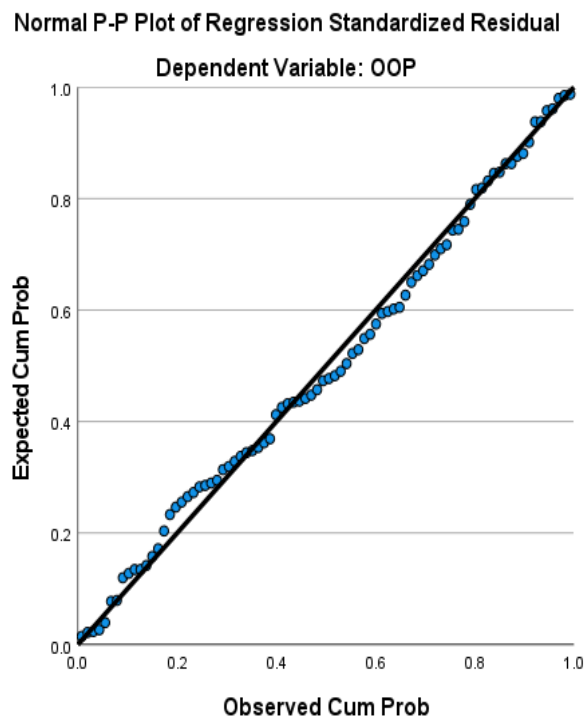


Figure 4.3: P-P plot; linearity test results

As seen in picture 4.3 above, the normal P-plot with normal distribution is produced using the SPSS program. The term "linearity" refers to the degree of proportionality between changes in the independent and dependent variables. order, put way, shipping, and receiving activity the independent variables and the dependent variable, organizational operations performance to see if there is a linear relationship.

4.4.2 Correlation analysis

Correlation is the term used to describe a quantitative relationship between two variables. The statistical measure that provides an indicator of the relationship between two interval or ratio variables is the correlation coefficient. According to (Field, 2005) suggests that reducing the relationship between two variables to a single number between -1 and +1 is a very useful technique. Field (2005) defined a strong association as one where the correlation coefficient is greater than 0.5, and a moderate relationship as one where the correlation coefficient is between 0.3-0.49. The present study utilised correlation analysis to examine the relationships between warehouse operations and organisational operations performance. The table that follows as a result shows how the variables are correlated.

Table 4.11 Correlations analysis

		Correlations					
		RSV	PUT	OPA	STO	SHP	OOP
RSV	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	84					
PUT	Pearson Correlation	.723**	1				
	Sig. (2-tailed)	.000					
	N	84	84	84			
OPA	Pearson Correlation	.684**	.705**	1			
	Sig. (2-tailed)	.000	.000				
	N	84	84	84			
STO	Pearson Correlation	.622**	.672**	.705**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	84	84	84	84		
SHP	Pearson Correlation	.466**	.443**	.441**	.661**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	84	84	84	84	84	
OOP	Pearson Correlation	.568**	.517**	.467**	.662**	.701**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	84	84	84	84	84	84

Source: own survey result, (2024)

The study used the Pearson's correlation test at an alpha level of significance of .01 to ascertain the nature and significance of the relationship between the organizational

operations performance of ECMDE and warehouse activities, such as order picking, receiving, put-away, storing, and shipping. The findings indicate that there was a positive and significant correlation between organizational operations performance and the following activities: receiving ($r = .568, p < .01$), put-away ($r = .629, p < .01$), storage ($r = .662, p < .01$), and shipping ($r = .701, p < .01$). Order choosing activity had a favorable and moderate connection ($r = .467, p < .01$) with organizational success, according to the data. According to these findings, there was a substantial, positive correlation ($p < 0.01$) between all the independent variables and the organizational operations performance.

4.4.3 Regression analysis

.According to Shiau and Lee (2010), regression analysis is a technique for forecasting an outcome variable based on one or more predictor factors. Finding out how warehouse operations affect organizational operations performance is the goal of this analysis.

4.4.3.1 Model summary

Table: 4.12 Model summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.771 ^a	.595	.569	6.41910	1.833

a. Predictors: (Constant), SHP, OPA, RSV, PUT, STO

b. Dependent Variable: OOP

Source: own survey result, (2024)

The regression model shown in table 4.12 is statistically significant at the $p < 0.05$ level. The multiple correlation coefficient value of .771 indicates that there is a positive relationship between the independent and dependent variables. The model summary indicates that all independent variables ($R^2 = 0.595$) had an impact on how well organizational processes performed. Receiving, put-away, order picking, and shipping activity are the five warehouse operations that, therefore, account for 59.5% of the variance in organizational operations performance. The performance of organizational operations, which explains around 39.5% of the variation, may be limited by other factors than warehouse operations.

This assumption can be tested with the Durbin-Watson test, which accepts values closer to 2 and searches for serial correlation between errors (Field, 2009). If the Durbin-Watson is much less than 2, it exhibits positive serial correlation. The error terms show a high amount of autocorrelation, as indicated by the Durbin-Watson statistics score of 1.833.

4.4.3.2 Analysis of variance (ANOVA)

Table 4.13 ANOVA^a

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4714.690	5	942.938	22.884	.000 ^b
	Residual	3213.976	78	41.205		
	Total	7928.667	83			
a. Dependent Variable: OOP						
b. Predictors: (Constant), SHP, OPA, RSV, PUT, STO						

Source: own survey result, (2024)

The ANOVA is displayed in Table 4.13 above. The F-test was used to assess the regression model's significance. The findings show that the five predictor variables in the regression model—receiving, put-away, order picking, storage, and shipping activity—were significant ($F [5, 78] = 22.884, p < .01$) in predicting the variability in organizational operations performance of ECMDE at a significance level of $\alpha = .05$.

4.4.3.4 Regression Coefficients

Table 4.14 Regression Coefficients ^a

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.771	3.393		.817	.417
	RCV	0.561	.268	.238	2.093	.040
	PUT	0.140	.335	.050	.418	.677
	OPA	-0.413	.421	-.116	-.982	.329
	STO	0.781	.365	.272	2.138	.036
	SHP	0.86	.309	.440	4.532	.000
a. Dependent Variable: OOP						

Source: own survey result, (2024)

According to Table 4.14's findings, the organisational operations performance of ECMDE was significantly and favourably impacted by the receiving activity ($\beta = .561$, $p < .01$), put-away activity ($\beta = .140$, $p < .01$), storage activity ($\beta = .781$, $p < .01$), and shipping activity ($\beta = 0.86$, $p < .01$). Order picking activity had a considerable negative affect on organisational operations performance ($\beta = -.413$, $p < .01$). The findings indicate that the organisational operations performance of ECMDE would rise by 0.560 units, 0.140 units, 0.781 units, and 0.86 units, respectively, for every unit increase in receiving, put away, storing, and

shipping activity. Order picking, however, would result in a similar -0.413 unit drop in ECMDE's organisational operations performance.

Regression analysis between receiving activity and organizational operations performance.

The findings of the regression analysis are shown against the performance of organizational operations in Table 4.14. Therefore, it is clear from the unstandardized B column ($\beta = 0.561$) that receiving activity improves organizational process performance in a way that is statistically significant. Consequently, it is demonstrated that, with a declared positive level of significance of $p < 0.05$, 56.1% of receiving activity has a positive explanatory power over the dependent variable, organizational operations performance. The main duties of a warehouse are to receive items from a source, store them until needed, and then ship them to the right user. This conclusion is supported by (Tompkins, 1998).

Put away activity and organizational operations performance through regression analysis.

The results of the regression analysis of how well organizational processes perform are shown in Table 4.14. The unstandardized B column indicates that put away action is shown to have a statistically significant and positive impact on the effectiveness of organizational processes ($\beta=0.14$). Put away action may account for 14 % of the dependent variable, organizational operations performance, as demonstrated. This has a positive level of significance ($p < 0.05$).

Performance metrics for organizational operations and order picking activity are analyzed using regression.

The results of the regression analysis of the effectiveness of organizational procedures are shown in Table 4.14. As can be seen from the unstandardized B column, order picking activity is therefore determined to be statistically positive but has little effect on the performance of organizational processes ($\beta=-0.413$, $p>0.05$). Thus, 43.1% of order picking

activity has statistically significant negative impacts, as can be seen. This conclusion conflicts with the description of the picking and inventory accuracy steps in the warehouse metrics gathering procedure provided by Collins et al. (2006). The best-performing warehouses are determined by applying a multi-attribute utility theory analysis with these metrics.

Storage activity and organizational operations performance are analyzed using regression

Table 4.14 displays the findings of the regression analysis for organizational operations performance. As indicated by the unstandardized B column ($\beta=0.781$), storage activity has a statistically significant and favorable impact on the efficiency of organizational activities. With a reported p-value of less than 0.05, this indicates that 78.1% of storage activity has a highly significant and positive explanatory power over the dependent variable, organizational operations performance. Collins et al. (2006) talked about how to collect warehouse metrics, like order cycle time and storage speed, and utilize those metrics in a multi-attribute utility theory analysis to find the best-performing warehouses. This outcome aligns with their approach. The authors concluded that there are significant similarities between the performances of nations and operating parties.

Shipping activity and organizational operations performance are analyzed using regression.

The results of the regression analysis of the effectiveness of organizational operations are shown in Table 4.14 As a result, the unstandardized B column clearly shows that shipping activity has a positive and statistically significant effect on how well organizational operations operate ($\beta = 0.86, p < 0.05$). With a reported significance threshold of $p < 0.05$, it has been determined that 86 percent of shipping activity has a positive and statistically significant effect on the dependent variable, organizational operations performance.

To make them more comparable, the Standardized Beta values for all the variables have been transformed to the same scale (Pallant and Julie, 2005). In order to compare or rank the effects of independent variables (receiving, put away, order picking, storage, and

shipping) on the dependent variable (organizational operations performance) in ECMDE, the researcher employed the standardized Beta coefficients. According to table 4.14 above, order picking is at β value of (-0.116), shipping is at β value of 0.440, storage is at β value of 0.272, receiving is at β value of 0.238, and put away is at β value of 0.050.

4.5.1 Hypothesis Testing

Table 4.15: Hypothesis Testing Results

Hypothesis	Unstandardized B coefficient	P value	Decision
Receiving activity does not positive significant effect on the operational performance of ECMDE.	0.561	P=0.40 <0.05	H1: Accepted Ho: Rejected
Put-away has positive significant effect on the operational performance of ECMDE.	0.140	P=0.677 >0.05	H1: Rejected Ho: Accepted
Order picking activity has positive significant effect on the operational performance of ECMDE.	-0.413	P=.329 >0.05	H1: Rejected Ho: Accepted
Storage activity has positive significant effect on the operational performance of ECMDE.	0.781	P=.036 <0.05	H1: Accepted Ho: Rejected
Shipping activity has positive significant effect on the operational performance of ECMDE.	0.86	P=.00 <0.05	H1: Accepted Ho: Rejected

Source: own survey result , 2024

Based on the above table receiving ,storage and shipping activities are significant effect on organizational performance where as put away and order picking are insignificant effect on the organizational performance of the enterprise. Therefore, the null hypothesis of putaway and

order picking were rejected. This means there is little impact on organizational operations performance of ECMDE.

According to (Kibrom,2019), based on the findings of regression analysis, the researcher found that the warehousing practice (receiving, put away, storage, order picking , and shipping) had positive and significant effects on performance of the organization .But the researcher rejected the hypothesis alternative of order picking activity.

Similarly (Ararsa ,2021), based on the findings of regression analysis, the researcher found that the warehousing management activity (receiving, storage, put away, and shipping) had positive and significant effects on warehouse performance of the organization. In addition to that the order picking has a negative and significant effect on warehouse performance of the organization. So that, the null hypothesis was rejected; Also, a beta value of (-0.300) indicates order picking has a negative effect on warehouse performance of the organization.

CHAPTER FIVE

Summary, Conclusions and Recommendations

The main conclusions, suggestions, and areas for additional research were summarized in this chapter, which was based on the analysis done in the preceding chapter. As a result, the chapter was divided into three sections: recommendations, conclusions, and summary sections.

5.1 Summary of major Findings

The output conducted on demographic information showed that majority Exhibition Center and Market Development Enterprise male (60.7%) and (39.3%) were female. Most of the respondents who were works in Exhibition Center and Market Development Enterprise were age lied between 31-40 years that means 42.9 % of from the total employees. Majority of the respondents are degree holder. Also the finding indicates that 35.7% of the respondents are officers.

The mean values of the independent variables with descriptive statistics are 3.01, 2.83, 2.876, 3.06, and 3.31 for receiving activity, put-away, order picking, storing, and shipping activities, respectively. Descriptive statistics dependent variables speed, quality, flexibility, and cost the mean value of descriptive statistics, 3.20, 3.08, 3.167, and 2.945 respectively. Generally conclude from the above the respondents moderately agree on their response.

Finding regarding to warehouse operations

Insufficient space to receive goods upon arrival at the warehouse; disorganized reception areas; unclear demarcation between reception and work areas; insufficient room to move goods, workers, and machinery during put-away activities; an inconvenient warehouse design and layout; insufficient equipment and shelves for the goods to facilitate the order picking process; an inadequate warehouse management system; insufficient space between the goods storage and the walking way; insufficient shelves and pallets in the warehouse to handle and move goods and products; and a shortage of warehouse personnel to serve departments on a timely manner. Products and goods are not stored in a proper, safe

location, and the architecture and design of the ECMDE warehouse makes it challenging to carry out.

Finding regarding to organizational operations performance

The enterprise's warehouses lack a separate reception area that is evidently used temporarily until goods are purchased and shipped, the departments are not meeting the expected service delivery of the departments, the warehouse workers do not perform sufficient or satisfactory order delivery times for the company's parts/units, the facility does not store special products in large quantities, and we do a lot of warehouse work, so the efficiency of the ECMDE warehouse to respond to unexpected challenges is low or unsatisfactory rate.

The correlation study results showed that there was a positive and strong association between organizational operations performance and receiving activity ($r = .568$, $p < .01$), put-away activity ($r = .629$, $p < .01$), storage activity ($r = .662$, $p < .01$), and shipping activity ($r = .701$, $p < .01$). Order choosing activity had a favorable and moderate connection ($r = .467$, $p < .01$) with organizational success, according to the data. The performance of organizational tasks and all independent components have a significant, positive association ($p < 0.01$), according to these data.

The findings of the regression analysis demonstrated that the operations related to receiving, put-away, storing, and shipping are independent variables that positive and significantly affect the organizational operational performance of ECMDE. Conversely, order picking had a negative but noteworthy effect on the organizational operational performance of ECMDE.

The research shows that the five factors account 59.1% influence on organizational operations performance. This shows that factors not studied on this research influences organizational operations performance 39.9%.

5.2 Conclusion

The purpose of this study was to assess how warehouse operations affected organizational activity performance: The focus of this case study is on the Exhibition Centre and Market Development Enterprise in Addis Ababa, Ethiopia, with a particular emphasis on the five main warehouse operations: receiving, put away, order picking, storage, and shipping. Quantitative research methodologies were used in this investigation. The following deductions are the result of the main findings of the data analysis effort.

With a grand mean of 3.01, the majority of respondents express a modest level of satisfaction with the practice of receiving activity.

With respect to put-away activities, the majority of respondents express a moderate level of satisfaction, with a grand mean of 2.83. Order selecting within the company is either satisfied or falls within the range of the grand mean of (2.876).

Regarding the storage activity, the majority of respondents expressed a moderate level of satisfaction with the value of 3.06, suggesting that there is room for improvement in ECMDE's current practice of handling materials and items during storage. Lastly, the shipping activity practice exhibits a moderate level of satisfaction with the grand mean values of 3.31.

The majority of respondents expressed moderate satisfaction with the speed, quality, cost, and flexibility of organizational operations, scoring 3.20, 3.08, 3.167, and 3.098 respectively. With grand mean values of 3.098; the grand mean of organizational operations performance is somewhat pleased.

Correlative analysis revealed that the independent variables in this study receiving, order picking, shipping, and storage have a positive, strong correlation with the performance of organizational operations; in contrast, put-away activities had a positive, but weak, relationship with the same.

The results of this study's regression analysis show that the performance of organizational operations is generally positively and strongly impacted by the independent variables

(shipping, storage, and receiving activities). Put away activity has positive but insignificant impacts on organizational operations performance order picking activities, on the other hand, order picking activity has been shown to have a negatively strong impact on the effectiveness of organizational operations. Based on the regression analysis result the enterprise must work on strongly impact of organizational operations namely receiving activities, storage activity, and shipping activities.

As a result, the organisation must put a lot of effort into meeting its goals and improving its poor performance. The organization focuses on resolving the unpromised issues in order to ensure that the warehouse operations run smoothly and effectively by finishing the required resources.

5.3 Recommendation

Based on the findings of this research, the researcher gave the following recommendation that helps the Exhibition Center and Market Development Enterprise to improve their organizational operations performance.

- ❖ The researcher recommended to the institution builds sufficient warehouse which considers the organization current and future stock capability/performance since the problem of the existing warehouse space, inconvenient warehouse layout, integrated system, stacking of goods, difficult to put in and out of goods, which is not convenient for asset control. In addition, if it has a spacious and convenient warehouse it allows you to take advantage of discounts by buying in bulk, and it also makes it convenient to keep inventory.
- ❖ The researcher recommended to the institution to has an automated or computerized system of warehouse operations, it will increase the speed of operations and user satisfaction, it will help to easily control the property, and it will make it easier to prepare reports. Adequate training should also be given to property administration professionals.
- ❖ The researcher recommended the institution to use enough shelves and pallets for warehouse work, it will help to store goods properly and get enough space.
- ❖ The study institution should pay attention to the work of receiving goods in storage and distribution. From the current situation, goods are expected to be distributed

quickly. Due to the space of the goods that are bought by auction and passing by, the institution should move the goods that are kept in each office to be kept in their place

5.4. Suggestion for Future Researcher

The primary focus of this study is how warehouse operations affect ECMDE's organisational performance. However, the significance of this discovery may expand if further researchers examine other important factors. Consequently, the following observations are made.

- ❖ The study was carried out using a Likert-scale inquiry to find out what employees thought about organisational performance in warehouse operations. A survey utilising closed-ended inquiries was utilised. A quantitative study design was utilised by the investigator. In the future, the researcher suggests that the study should be conducted with a mixed research design and a larger sample of the general population, especially in the manufacturing, banking and construction industries.
- ❖ The researcher believes that warehousing functions differ from institution to institution and what is important to one institution may not be so important to another.
- ❖ To improve our knowledge of the government development agency Exhibition Center's warehouse operations and to offer suggestions for improvements to the facility.

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Appendix: Questioner

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

Department of Logistic and Supply Chain Management Graduate Program.

Dear Respondents:

My name is Abraham Tesfaye. I am a graduate student in the field of Logistics and Supply Chain Marketing Management at Addis Ababa University School of Commerce. I would like to seek your assistance in completing the attached questionnaire which forms a basic part of my MA thesis. The purpose of this research is to study “**The Effect of Warehouse Operations on Organizational Operations Performance in the Case of Exhibition Center and Market Development Enterprise**”. Therefore, your genuine and honest response is very important for the success of the research and the researcher would like to thank you for your cooperation in advance. Kindly be assured that all information that you provide will be kept strictly confidential and used for academic purpose only. If you require any further information, want feedback on the study or unclear situation please contact me by the following address;

❖ Email: abrahamtesfaye038@gmail.com

❖ Cell phone:+251 902 47 12 18

Thank you in advance for your Space Time and Cooperation!

General Instruction:

- ❖ No need to write your name.
- ❖ Instruction is given at the beginning of each part of the questionnaire.

Part I: Demographic and General Information Question.

Please put the tick “√” mark under the choice; write your opinion on the blank space.

1. Gender:

Male

Female

2. Age:

Below 21

21 -30years

31- 40years

41- 50years

above 50years

3. Educational qualification:

Below college diploma

College diploma

First degree (BA, BSC)

Second degree and above

4. What is your job position?

Officer

Senior Officer

Division manager

Department Manager

GM Advisor/Directorate

Deputy GM

5. Year of service in the organization with the current position

below one year

1 to 5 year's

6 to 10 years

10 to 20 years

above 20 years

Part II: Warehouse Operations Related Questions.

Please indicate your choice by **circling** the number that best represents your opinion on the appropriate box. **Where; 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.**

6. Please indicate the degree to which you agree with the following statements regarding the warehouse operations of your enterprise. (Please take your key warehouse operations in mind while rating the statements).

SN	Warehouse Operations	Scores				
		Strongly Disagree (SDA)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)
Receiving Activities						
6.1	In ECMDE warehouse there are guidelines or standard operating procedures (SOP) in place that provide instructions to receive items properly.	1	2	3	4	5
6.2	Most of the time, ECMDE warehouse has enough spaces for receptions of goods arrived.	1	2	3	4	5
6.3	Most of the time, ECMDE warehouse workers perform appropriate inspections of goods at receiving stage.	1	2	3	4	5
6.4	Receiving areas at ECMDE are well-organized and efficient.	1	2	3	4	5
6.5	There is clearly defined separated receiving area in the enterprise warehouses.	1	2	3	4	5
Put away Activities						
6.6	Most of the times, in ECMDE Warehouses are easily accessible.	1	2	3	4	5

6.7	Most of the time, ECMDE warehouse has enough space to move goods /workers/ machineries during put away activities.	1	2	3	4	5
6.8	In ECMDE warehouse, goods are placed in the correct location and products are stored in safe place..	1	2	3	4	5
6.9	The ECMDE warehouse design/layout is convenient to perform put-away activities.	1	2	3	4	5
Order picking Activities						
6.10	In ECMDE warehouse has adequate equipment to facilitate order picking process on the reseanable time. ECMDE has adequate shelves for the goods in the warehouse to facilitate orderpicking process.	1	2	3	4	5
6.11	ECMDE warehouse design/layout is convient for an easy order picking process	1	2	3	4	5
6.12	In ECMDEwarehouse management systemsfacilitatee the order picking process.	1	2	3	4	5
Storing Activities						
6.13	In ECMDE warehouse, there is enough space between goods storage and walking way.	1	2	3	4	5

6.14	Most of the time, ECMDE warehouse team are effective in minimizing total goods damage that are stored in the warehouse.	1	2	3	4	5
6.15	Most of the time, ECMDE incoming goods are stored in their identified storage locations.	1	2	3	4	5
6.16	The shelves and pallets in the warehouse are adequate for handling and moving goods and products.	1	2	3	4	5
Shipping Activities						
6.17	The ECMDE warehouse teams have enough awareness about how the motions of them have impact on the enterprise performance.	1	2	3	4	5
6.18	ECMDE warehouse personnel serve departments 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 unit).	1	2	3	4	5
6.19	Most of the time, warehouse personnel goods are delivered to the enterprise departments as per the orders specification.	1	2	3	4	5
6.20	Most of the time ECMDE warehouse personnel perform perfect order delivery lead time to the departments.	1	2	3	4	5

Part III: Organizational Operations Performance Related Questions.

Please indicate your choice by **circling** the number that best represents your opinion on the appropriate box. **Where; 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.**

7. Please indicate the degree to which you agree with the following statements regarding the operational performance of your enterprise. (Please take key operational performance in mind while rating the statements).

SN	Organizational Operations Performance	Scores				
		Strongly Disagree (SDA)	Disagree (D)	Neutral (N)	(A) Agree	Strongly Agree
	Speed Indicator					
7.1	Department Orders are processed quickly at ECMDE warehouse.	1	2	3	4	5
7.2	The time it takes to fulfill units of department orders is satisfactory at ECMDE warehouse.	1	2	3	4	5
7.3	The speed of operations meets the expectations of units of department at ECMDE warehouse. The enterprise provides fast service delivery performance for departments.	1	2	3	4	5

	Quality Indicator					
7.4	The products/services provided by ECMDE warehouse to user department meet high-quality standards.	1	2	3	4	5
7.5	There is a strong emphasis on quality control at ECMDE warehouse.	1	2	3	4	5
7.6	ECMDE warehouse offer consistence and reliable products / services quality to users department.	1	2	3	4	5
7.7	ECMDE warehouse consistently delivers on its promises to units of department.	1	2	3	4	5
	Flexibility Indicator					
7.8	ECMDE warehouse can quickly adapt to changes in the needs of departments.	1	2	3	4	5
7.9	ECMDE warehouse demonstrates agility in responding to unexpected challenges.	1	2	3	4	5
7.10	User departments find it easy to customize to their needs with ECMDE warehouse.	1	2	3	4	5

	Cost Indicator					
7.11	The facility stores specific product in large quantity	1	2	3	4	5
7.12	We do warehouse activities in large quantity	1	2	3	4	5

Thank you for your cooperation in Advance!