

Assessment of Warehouse Management Practices and Its Challenges:

The Case of Dashen Brewery SC

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A Thesis Submitted to Logistics and Supply Chain Management

Presented in Partial Fulfillment of the Requirements of Masters of Arts
Degree in Logistics and Supply Chain Management

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Addis Ababa University School of Commerce

Addis Ababa, Ethiopia

June, 2023

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Student's Declaration

The work has not been submitted for academic credit to any other college, company, or institute other than Addis Ababa University, I, the undersigned, hereby certify.

Sign: _____ Date: _____

Abenezer Liben

Statement of Certification

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

Advisor

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Date & Signature

Addis Ababa University

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This is to certify that the thesis carried out by Abenezer Liben, entitled ‘Assessment of warehouse management practices and its challenges: A case study of Dashen brewery S.C. and submitted in partial fulfillment of the requirements of the Degree of Master of Art in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Advisor _____ Signature _____ Date _____

Examiner (Internal) _____ Signature _____ Date _____

Examiner (External) _____ Signature _____ Date _____

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List of Acronyms

ERP	Enterprise Resource planning
GTAI	Germany Trade and Invest
ICT	Information Communication Technology
IM	Inventory Management
ISO	International Organization for Standardization
POS	Point-of-Sale
RFID	Radio-Frequency Identification
SKU	Keeping Unit
SC	Share Company
SCM	Supply Chain Management
TMS	Transportation Management System
WMS	Warehouse management system

Abstract

The study focused on assessing the warehouse management practices of Dashen Brewery Share Company. The study's goal was to assess Dashen brewery Share Company's warehouse management practices and difficulties. In addition to the general goal, the study also aimed to accomplish some specific goals, such as reviewing Dashen brewery Share Company's warehouse management practices, major obstacles or bottlenecks, the technology used to manage the daily activities of the warehouse, and the level of warehouse performance and capacity. To collect the relevant data, the researcher used both input and promotional warehouses in Addis Ababa and Debre Birhan sites. The researcher adopted descriptive research design. 71 employees from warehouse, finance, logistics, procurement and quality control departments were included in the study. The pertinent information acquired from primary as well as secondary sources. Generally, some findings indicate that Dashen Brewery SC's warehouse management practices are modest in terms of space utilization, warehouse standardization, technology use, and other safety measures. It has also discovered that the major challenges affecting the company's warehouse management practice, including a small labor force as compared to the work load, internal management problems, a lack of trainings, redundant processes and insufficient budget to standardize warehouse features.. Finally, based on the gaps identified, the company should streamline its warehousing operations by improving warehouse standardization, staff knowledge of warehousing operations, improving security and safety measures, and exploring the possibility of digitalizing warehousing operations.

Key Word: Warehouse, technology, material handling, standardization, safety measures.

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

According to Long (2003), logistics is the entire process of organizing, carrying out, and managing the effective flow and storage of goods, services, information, people, and other resources into and out of businesses in the public and private sectors to satisfy customer needs. The logistics process of warehousing involves carrying out tasks like handling, storing, packing, and inventory management between the point of receiving and distributing goods. Because these warehouse tasks are expensive, they present a significant logistical challenge for businesses, so they must be carefully managed (Urgessa, 2020).

Moving material flows in the supply chain is difficult without focusing on specific areas of important supplies, storage, and specialized storage. (Kondratjev, 2015). This may largely consist of warehousing products or more sorting operations in a demand-driven supply chain; both are required to feed external clients. In supply-driven supply chains, warehouses are referred to as shops, and they store inventory required to support internal activities such as production. Warehouses, as designated areas for storing and handling commodities and materials, is thus an essential component of the supply/demand chain/pipeline infrastructure (Emmett, 2005).

Typically, a warehouse is described as "a designed area to effectively hold and handle products and materials." In addition, the warehouse serves as a critical hub at the heart of the supply chain, with goods and materials flowing in and out of a company. On a broad level, logistics consists of three key components: transportation, storage, and distribution. For an overview of warehousing in current times, consider it one of several business operations that are combined to give firms with a distinct competitive advantage over others. Previously, this function was just another strategic function associated with storage of inventory. However, distribution and storage are now primary value-added services for many distributors, necessitating the need to reconsider warehouse operations as critical strategic drivers of competitive differentiation and market leadership (Karthikeyan, 2021).

A warehouse is an industrial space used for goods buffering and storage, or an intermediary storage area for initial supplies or raw materials until they are needed for production or consumption. (Huang, 2010). According to Frazelle (2002), Warehousing is the activity of storing products on a big scale in an organized and instructed manner and making them accessible when needed.

According to previous research, a warehouse management system plays a critical role in achieving customer happiness and efficiency. In addition, the design of a warehouse entails a broad spectrum of considerations concerning layout limitations and operational concerns, all of which have a significant impact on the overall performance and cost of logistics (Karthikeyan, 2021). Warehouses are a significant component of logistic activities, as well as a substantial contributor to supply chain speed and cost, and play a key part in achieving the overall objectives of an organizational supply chain system (Alemayehu, 2018). Warehousing is expensive in terms of both labor and the infrastructure that is required, and its performance has a direct impact on entire supply chain performance. Inadequate warehouse system design or management threatens meeting specified customer service levels and maintaining stock integrity, resulting in needlessly expensive costs (Rushton *et al.*, 2014).

The layout of a warehouse is one of the most critical considerations to make while running it. The physical layout of storage racks, loading and unloading areas, supplies, offices, rooms, and all other facilities is described here. The layout directly influences the operation's efficiency and efficacy.

Most logistics firms have encountered considerable warehouse costs due to a lack of warehouse management processes. Not only that, but the majority of firms, with the exception of a few leaders, had yet to see the benefit of having an effective and efficient warehouse. As a result, such businesses invest very little in improving warehouse operations. As a result, the vast majority of warehouses fail to fulfill international standards (Long, 2003).

The warehousing equipment used by the organization is of varying degrees. Storage equipment, material-handling equipment, and internal transit equipment are all examples of warehouse equipment that will be used in various warehousing procedures. The

equipment has a huge impact on warehouse efficiency since improved equipment can greatly minimize the need for human resources while also changing the warehousing process. There are completely automated warehouses with robot machines that can perform high-workload tasks such as shifting items to pallets in another standard in accordance with country standards (Han, 2015).

Most warehouses have warehouse management systems. Enterprise resource planning (ERP), warehouse management system (WMS), inventory management system (IM), and other information systems used in warehouses track all types of daily data to aid warehouse management (Han, 2015).

Dashen brewery is owned by TIRET corporate, which has 49% share. TIRET corporate was established as an endowment organization in 1995 in Bahir Dar, Ethiopia. The brewery has two production plant located in Gondar and Debre Birhan. Dashen brewery's primary goal is to meet customer demands for high-quality beer while also providing customers with more options in the market without negatively impacting the environment. The company has a different warehouse in each production plant and have distribution center in Addis Ababa. As the company has warehouses, it exercises the major warehouse practices. Thus, this study assessed the overall warehouse management practices and major challenges of Dashen Brewing Company.

1.2. Statement of the problem

Warehouses play an important role in logistical activities, influencing the speed and cost of supply chains, and are the one function in the process of logistics through which most products pass. It is the most important aspect of the company's present supply chain management. For production companies like Dashen Brewery Company, which engage in extensive acquisition of raw commodities from both domestic and global market place, warehousing is a capital-intensive investment that may an inevitable part of the business. This is especially true when the company is located in a developing nation with weak infrastructure, such as Ethiopia. One of the greatest barriers to the country's efficient freight transport and logistics system in rural areas, local to regional and international

freight movement and distribution is a lack of space for storage, suitable loading and unloading equipment, as well as effective system management.

Currently, the country has approximately 0.8 million metric ton capacity warehouses. The majority of these are held by government entities like as Coffee Marketing, Ethiopian Grain Trade Enterprise, World Food Program, and others. Most warehouses, especially private ones, are not built to accommodate huge truck trailers, adequate doors and turning areas are not provided (Melese, 2013).

According to Melese (2013), there is a severe shortage of cargo handling equipment throughout the country, which is typically used in warehouse operations. In short, there is no defined standard for commercial warehouse construction. In the case of Dashen Brewery, there are gaps in relation to warehouse features. Because of the high amount of operational warehouse movements, the company's warehouse management practices have ups and downs, particularly in terms of service, time, quality, and handling for each warehouse. In line with the above facts, the researcher assessed the overall warehouse management practices and challenges of Dashen Brewing Share Company and addresses some issue with suggesting optimal implementation of better Warehouse management practices.

1.3. Research questions

1. How is Dashen Brewery's warehouse management practice in terms of space utilization, technology implimentaion, materila handling practice and safety measure issues?
2. What are the main challenges or bottlenecks that affect the warehouse management practice of the company?
3. What kind of technology does the company implement to handle warehouse management activities?
4. What is the warehouse performance in terms of warehouse management practices implementation?

1.4. General objective

To assess the warehouse management practices and challenges of Dashen Brewery SC.

1.4.1. Specific objectives

1. To assess the warehouse management practice of Dashen Brewery SC in terms of space utilization, technology implementation, material handling practice and safety measure issues.
2. To assess the major challenges or bottlenecks that affect the warehouse management practice of the company.
3. To assess the technology implemented to handle the daily practices of the warehouse in Dashen Brewery SC.
4. To assess the warehouse performance in the implementation of warehouse management practices.

1.5. Significance of the study

This study has the following significances: The paper should be used as a reference material for further study in the same area in the future. The company knows the strengths and weaknesses of its warehouse management practice, and it can use the study to adopt the best warehouse management practice that facilitates its daily operation.

1.6. Scope and limitation of the study

Because of budget & time constraints geographically, this research has been limited to Dashen brewery, SC Debre Birhan, and Addis Ababa commercial/promotional and input warehouses. Even though there are so many dimensions to assess the warehouse management practice of Dashen Brewery SC, this study is conceptually restricted on the assessment of warehouse management practice in terms of warehouse standardization, technology, handling, safety measures and their challenges. The study was also methodologically delimited to descriptive research design. Moreover, the study was carried out in June, 2023.

1.7. Organization of the paper

The research contains five chapters. Chapter one concerned with introducing the basic concepts of this specific study, background of the organization, problem statement, the objective, scope, and its significance. Chapter two have a review of related literature and a discussion of the theoretical concept of warehouse operations. Chapter Three deals with

thesis methodology. The fourth chapter related with the research findings, discussion, and interpretation. Summary, conclusion, and recommendation are in Chapter five.

1.8. Definition of key terms

1. Logistics: is the entire process of organizing, executing, and overseeing the effective movement and storage of material and products, services, information, energy, people, and other resources within and outside of firms in the private as well as public sectors from their place of origin to point of consumption in order to meet customer requirements. (Long, 2003).
2. Warehouse: A warehouse is an industrial space used for goods buffering and preservation, or an intermediary storage area for raw materials or products until they are needed for production or consumption (Huang, 2010).
3. Warehouse equipment: Equipment for warehouses can be both those used to transport things (such forklift trucks and other mechanical handling tools) and those used to store products (such as racking and shelving) (Emmett, 2005).
4. Warehouse technology: It refers to information and communication technology equipment as well as material handling solutions. The primary goal of both is to oversee the movement and storage of the products, with the additional advantages of enhanced security and faster handling (Skerlic *et al.*, 2017).

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1. Introduction

In today's highly competitive global marketplace, the pressure on organizations to explore new ways to create value and deliver it to their customers is only increasing. Developing logistical systems that are more effective than those already in use is necessary as a result of the growing pressure on the sector to compete on a global market with its products in terms of price, quality, and service.

Logistics management is a coordinating and optimizing role that connects logistics activities with other areas like as marketing, sales, production, finance, and information technology. The following logistics subsystems can be derived from the functional criterion: Transportation, inventory generation, storage, procurement and customer assistance, and packing are all aspects of logistics (Szymonik, 2012).

Warehousing is an essential component of any logistics system. The warehouse is now more important than ever in the success (or failure) of enterprises (Frazelle, 2002).

Warehousing management entails the control and optimization of complicated warehousing and distribution operations, which vary depending on the activities to be accomplished and the market in which the warehouse operates (Hompele and Schmidt, 2006).

Warehouses are now more than just places for storage; some warehouses are beginning to assemble and box products in the warehouse (De Koster et al., 2017).

2.2. Theoretical Frame Work of warehouse management

2.2.1. Definition of warehouse

Storage management has evolved into an essential service and a tool for many firms seeking a competitive advantage. Warehousing is a collection of tasks that involve receiving, keeping, and preparing commodities for their next destination (Stephen, 2022). It can be defined as a functional and organizational unit designed for the storage of material goods (stocks) in a separate storage structure, in accordance with established

technology, and equipped with the necessary equipment and technical management and use by a team of human resources (Szymonik, 2012).

The warehouse can play an important role in the overall logistics strategy, as well as in the development and maintenance of positive relationships amongst supply chain partners. Warehouse management solutions improve customer satisfaction and lower expenses (Divyendu, 2019).

Warehouses must be developed and operated in accordance with the specific needs of the supply chain across all sectors. They are thus justifiable where they are part of the lowest-cost supply chain that can be built to satisfy the service levels that customers require. Warehouses are frequently one of the most expensive components of the supply chain, thus their effective management is crucial in terms of both cost and service (Rushton et al., 2014).

2.2.2. Warehouse management

Every organization or business has one or more warehouses. These warehouses are regarded as the most significant and complex component, responsible for reducing costs and improving customer service. As a result, in order to achieve the key goals, this section must be planned, managed, and regulated (Kadhm, 2014).

Warehouse management encompasses the planning and control techniques used to run the warehouse. Planning and control are involved with controlling the ongoing activities of the business in order to meet consumer demand. The primary goal of controlling and planning is to guarantee that operations function smoothly and generate the expected products and services (Slack et al., 2001).

Warehouse management plans, controls, and optimizes the material flows and resource use in a warehouse in an everyday context, with the goal of delivering goods in accordance with customer demands while reducing operational expenses that is, eliminating unnecessary work and unnecessary movement of people and equipment.

The administration of a warehouse can be divided into strategic/tactical and operational components. To begin, within the constraints of long-term judgments, tactical decisions

primarily concern how to effectively plan materials and resources for the short term. related to industrial operations management (Faber, 2015).

Second, actual demand is analyzed at the operational level on a thoroughly disaggregated basis (Ghiani et al., 2004). The warehouse working orders distribute resources such as space, machinery (such as storage systems, retrieval systems, and internal transport equipment), storage units (such as pallets or boxes), manpower, instructions, and processes. Operations decisions are taken in the short term and with a limited scope (a few hours to a few days) (Faber, 2015).

2.2.3. Warehouse practices

Managerial attention shifts to setting up the business once a warehouse mission is decided. A typical warehouse houses moving raw materials, spare parts, and finished commodities. Procedures for break-bulk, storage, and assembly are all part of warehouse operations. As a result, managers spend a lot of time thinking about how to execute storage to enable effective material handling. According to Bowersox *et al.* (2002) some of the warehouse function of warehouse are as follow:

Receiving: Receiving items in an appropriate manner is one of the warehouse's key functions. Usually, huge shipments of goods move through warehouses. Unloading and receiving comes first function of process.

Material Handling: Material handling is a vast field that includes all activities involving the transfer of raw materials, work in process, or finished goods inside a factory or warehouse. Movement continuity refers to the idea that it is preferable for a material handler to do larger moves while using a piece of handling equipment than it is to make numerous small movements that add up to one long movement.

In-storage handling: Specifically, it entails warehouse transportation. It is necessary to move the product inside the building for storage or order selection after reception and movement to a staging area.

Shipping: includes checking the order for accuracy and loading the transportation equipment. Similar to reception, products are transferred from the staging area into the

transportation vehicle utilizing conveyors or unit load materials handling equipment, such as lift trucks.

Storage It is crucial to assign products to specific locations, known as slots, based on their unique qualities while establishing the structure of a warehouse. Product velocity, weight, and specific storage needs should be considered as the most crucial product variables in the slotting design.

2.2.4. The need for warehouse

Warehouses are crucial in logistics. The supply chain for warehousing in the process is critical. Customers may be unaware of this aspect of the business because it is not a customer-driven operation, yet without it, their shopping experience would suffer. According to Lalitkumar *et al.* (2021) a fully functional and properly structured warehouse with appropriate resources can assist in achieving the following goals:

Sustainable inventory management

An inventory tracking system that is centrally located can be provided by a well-run warehouse. A creative storage strategy paired with good inventory management can provide a business the advantage it needs to deliver on time! As a result, with this system in place, businesses can regularly check the inventory, turn it off again if the supply is low, and always be aware of what they currently have in store.

On time shipping

A warehouse can help make shipping from one location to another more efficient. The location of the warehouse also has a significant impact on order deliveries. If the warehouse is near to the consumer planned delivery location, the product can be delivered much faster, lowering your shipping expenses and possibly avoiding a return order due to delayed delivery.

Price stabilization

Depending on the season and location, different items can be purchased and sold. The warehouse helps to maintain consistent stock levels and enhance income by storing goods for a longer length of time.

Efficient selection

Products must be kept orderly in storage at all times. As a result, it may simply identify and select them from the defined location. A well-kept warehouse with racks and bins and automated software for product detection can be very helpful in preventing such errors. Furthermore, warehouses are critical in the preservation of perishable items such as fruits, meat, and wine. According to Divyendu (2019), warehouses are critical to:

Seasonal production: Although agricultural products are harvested at specific times of the year, they are consumed or used all year. For these reasons, it is critical to adequately store these commodities so that they may be distributed as and when needed.

Seasonal demand: Some products, such as woolen clothes in the winter or umbrellas during the rainy season, have a seasonal demand. These items are made all year to meet seasonal demand. As a result, these products must be kept in a warehouse and made available as needed.

Large-scale production: Another reason why manufacturers make products in such big quantities is that large-scale production is more cost-effective. As a result, the finished goods, which are produced in large quantities, must be properly preserved until cleared by sales.

2..2.5. Types of warehouse

As iThink logistics (2021) indicates Warehouses come in a variety of sizes and shapes, such as:

Private Warehouses – Manufacturers or suppliers who require a sizable or complete facility to keep their goods possess own warehouses. Private warehouses are only for companies with the financial means to maintain them with professional assistance. The cost of owning a private warehouse is high, but it has benefits. For instance, goods may remain at the warehouse until they are prepared for shipping.

Public Warehouses: The public can rent the storage units. Although the majority are held by big businesses, an individual could own this kind of warehouse. All public

warehouses must abide by the guidelines and have a current operating license in order to operate.

Contract Warehouses: These enable typical business growth and contraction in an economical way. The cost of these warehouses is based on the volume held and the number of transactions. Contract warehousing is used by businesses to reduce risk and liability when they need discrete cost centres, cost savings, or skilled and dependable business backup (Stephen, 2022).

Bonded warehouses: Government owns or holds a license for these. Imported products are kept in a secure facility in these warehouses before import or customs tax is paid. In some cases, the government gives a license to a third party so they can own and maintain bonded warehouses in accordance with legal requirements (Stephen, 2022).

Smart Warehouse: This sort of warehouse uses artificial intelligence to fully automate the management, fulfilment, and storage processes. When we discuss automation, the software that controls the task from packing to shipment is also referred to. Smart warehouses are used by large companies like Amazon and Alibaba to reduce the likelihood of error in order fulfilment. There is no need to stress about management when using clever warehouses (iThink Logistics, 2021).

Government Warehouses: The government operates, and regulates these warehouses, as the name would imply. Due to government management, the commodities in this warehouse are safer and more secure (iThink Logistics, 2021).

According to Martin (2018) as cited Olofsson & Rylander (2021) from a value-added standpoint, there are three types of warehouses. A procurement warehouse delivers the material to the production, a production warehouse acts as a buffer throughout the production stages, and a distribution warehouse stores the finished items.

2.2.6. Warehouse technology

The industrial sector has gotten more advanced and complex. Warehouses were completely manual in the early days of warehouse management, but as the industrial breakthroughs progressed, they became increasingly automated. The warehouse must be in sync with the overall technology growth of the firm in order to produce a sustainable, flexible, and adaptable supply chain that runs well from a holistic standpoint.

Bringing warehouse technology into an organization's procedures has drastically impacted how jobs are performed in warehouses around the world. The majority of the work that was formerly done manually is now totally automated (Olofsson & Rylander, 2021).

Warehouse automation refers to information and communication technologies as well as material handling systems. The major purpose of both is to supervise product movement and storage, with the added benefit of increased security and speedier handling (kerli et al., 2017).

Management of huge facilities is impossible without the application of computer-aided information technology, which currently standard in majority of warehouse. A competent warehouse management system can provide considerable benefits in terms of output, speed, and precision even in traditional warehouses. In order to retrieve information like as purchase orders and download customer orders, The WMS often communicates with the core transaction system of the company (such as an ERP or legacy system). In exchange, information such as products received and sent will be returned to the WMS (Rushton, 2014).

Warehouse ICT systems are classified as Warehousing Management Systems, barcodes, and Radio-Frequency Identification (RFID).

Warehousing Management Systems

One of the key functions of IT in SCM is an IT-based transaction support system for logistical functional areas. In this context, typical IT includes bar-coding technology in a point of sale (POS) system, order processing, inventory management, a warehouse management system (WMS), a transportation management system (TMS), and so on (Waters, 2007).

A warehousing management system is made up of several interconnected systems, including information, quality assurance, and storage and handling. The transactions that involve receiving, storing, retrieving, and shipping goods from the warehouse are managed and frequently started by the WMS. The WMS may control complex automated systems or manual transactions.

In general, a WMS system offers the following functionalities: First, shipment receipt; Second, product storage or put-away; Third, product retrieval from the storage site; Fourth, product staging for shipment; and Fifth initiation of value-added activities like packaging, labeling, or other sorts of customization.

Barcode

According to Skerlic *et al.* (2017) Barcode technology, which has been in use for more than 40 years in warehouse systems, is the one that is most usually used. It is safe to utilize the system, and it has shown to have a low mistake rate. Transponders and interrogators (readers or scanners) are included in the barcode, which uses conventional identifying methods (item code).

Radio-Frequency Identification Radio-frequency identification (RFID)

Identification of Radiation Frequency Radio-frequency identification (RFID) is an easy-to-understand alternative to the barcode. It is seen as the next stage in supply chain management because it has the potential to improve operational efficiency through the tracking and tracing of goods, the sharing of real-time information, and the ability to provide whole chain visibility. Tags include interrogators and transponders. Once the tags have been connected to the item, radio signals can be used to communicate. RFID has advantages over barcodes in the ability to read many tags at once, scan tags without a line in close proximity, and change and save information on the tag (kerli *et al.*, 2017).

2.2.7. Storage Space Utilization

In every form of warehouse in the world, space is the most important component. Everyone should take the responsibility of seeking to maximize the space that warehouses require seriously. A company's prosperity is dependent on how well its warehouses are utilized. They come in a variety of shapes and sizes and can be found all over the world.

According to Kusrini *et al.* (2018) storage space utilization is one of the key performance indicators (% location and cube occupied). Storage space utilization is the percentage of total storage space that is actually utilised compared to the entire storage space available.

Each warehouse needs to have a unique mix of merchandise that will be held there, as well as a degree of activity that can be anticipated, to increase its storage capacity. Managers can maximize storage space utilization by analyzing storage space consumption. They can also request that the layout, material flow, shelving placement, and so on be re-evaluated to see if there are any opportunities to enhance the storage space (e.g., discard outdated goods, de-junk, reorganize) (Alemayehu, 2018).

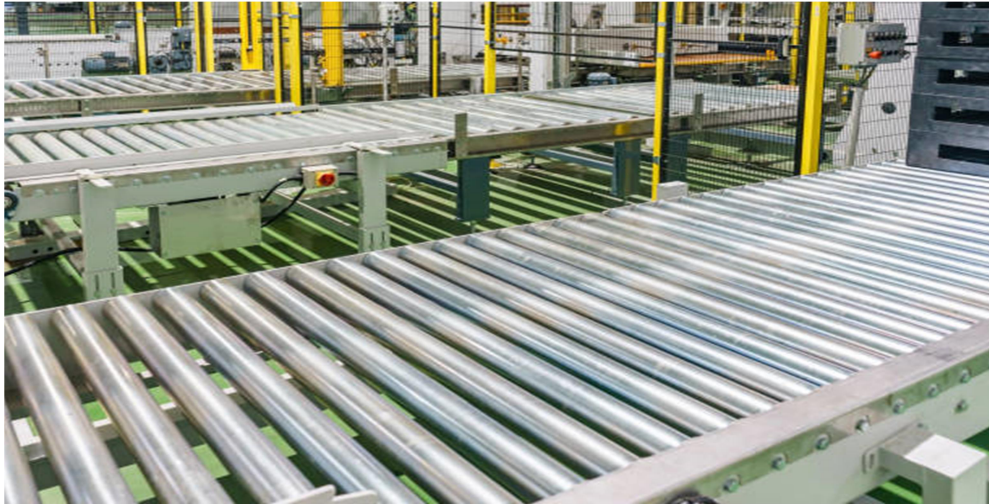
Utilizing the best tools and exercising creativity will help minimize the effects and increase the usable space. Therefore, businesses need to understand what products they are holding and identify those that are moving more quickly than others. Companies can then adjust where and how their goods are kept in the warehouse. Pallet jacks and forklifts are just a couple of the instruments available to move goods in all the active warehouses. These products help maximize available space. Materials kept in warehouses must meet the various racking and shelf configurations that can accommodate the majority of pallets (Engeler, 2021).

2.2.8. Handling Equipment

Equipment for warehouses can be both those used to transport things (such forklift trucks and other mechanical handling tools) and those used to store products (such as racking and shelving) (Emmett, 2005).

Conveyers

Conveyors must be used only when the number of components or material to be conveyed is high and the material to be moved is somewhat homogeneous in size and shape (Heragu & Banu, 2009)

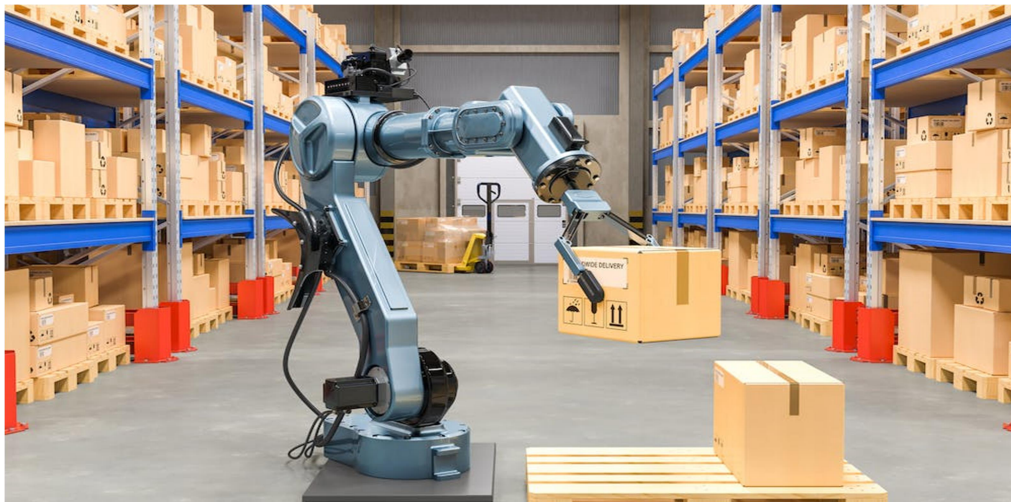


Source: (Bledowski, 2020)

Figure 2.1: Conveyers

Robots

Robots are computerized devices that resemble human arms. They can also move like a human arm and execute operations like welding, picking and placing, loading and unloading. Some benefits of utilizing a robot include the ability to conduct complex repetitive tasks automatically and to work in hazardous and uncomfortable conditions where a human operator cannot. The problem is that robots are not cheap (Heragu & Banu, 2009).



Source: (Matthews, 2019)

Figure 2.2: Robots

Forklift vehicle

The forklift truck is the 'workhorse' of most retailers and warehouses. Beyond their lift capability and lift heights, they are available in an enormous diversity. The equipment selection may be simpler in larger warehouses with larger operations since specialized equipment, such as Vehicles with motorized pallets, counterbalance, reach, and small aisles, is more easily accessible. However, in smaller businesses, versatile pieces of equipment such as hand pallet trucks or counterbalance trucks may be the only options (Emmett, 2005).



Figure 2.3: Forklift

Racking/shelving

This device is used to keep merchandise and goods safe. The most prevalent type of racking is adjustable pallet racking (APR). The horizontal beams between the vertical uprights are movable, and the uprights are securely fastened to the floor. Powered mobile racking (PMR) is racking that is mounted on floor rails. The rails are then propelled along, allowing access along the newly opened aisle into the effectively regular pallet-racked regions (Emmett, 2005).



Source: (Mattakulphon, 2019)

Figure 2.4: Rack and shelf

2.2.9. Labor/manpower Management

The following should be ensured for good labor management: keeping track of the number of people working at the warehouse.

Making sure all applicable labor rules and regulations are followed. educating employees on their duties and obligations in to preserve the products quality. Implementing training and ongoing skill development programs for the employees to improve their knowledge and expertise about acceptable warehousing practices ensuring regular evaluation of employee performance, which includes evaluating the success of skill- and training-development initiatives. putting in place worker safety management systems and giving employees the resources and training they need to foster a culture of safety (warehousing association of India, 2022).

2.2.10. standardized warehouse

Qualitative characteristics of products storage, such as temperature, humidity, or other preservation control qualities that can affect the product's life cycle, are stipulated with certain certifications that a warehouse must fulfill. According to Stragas and Zeimpekis

(2011), many certifications are in place to ensure the quality requirements of commodities throughout warehouse operations:

ISO 9001:2000.

According to (Zeimpekis *et al.*, 2007) as cited Stragas & Zeimpekis (2011) ISO 9001:2000 traceability is defined as the ability to monitor history and assign all necessary information to a traced product using recorded data.

ISO 22000.

The Food Management System standard, ISO 22000, is implemented by all participants in the food supply chain, from primary production to shop shelves. It specifies rules for identifying dangers, defining permissible hazards level, implementing handling low-quality products, traceability systems enhancing the foods quality continuously, keeping track of things, and evaluating records. This solution is adaptable to enterprises of various sizes and food categories.

Hazard Assessment and Critical Control Points (HACCP)

The Hazard Assessment and Critical Control Point, or HACCP, qualification is a preventive method to manage food safety since it focuses on preventing potential dangers rather than having the right instruments to assess the state of the finished product. The HACCP system provides the business with a complete hazard analysis on food safety and determines the critical control points and constraints for a set of 17 quantitative factors (for example, temperature). HACCP also defines the corrective actions that must be taken to correct significant deviation in control points or limit violations.

ISO 14001

To create a system aimed at controlling and improving a company's environmental impact, businesses should embrace a number of requirements for senior management provided by the ISO 14001 standard. It guarantees financial savings, lower waste creation and disposal expenses, lower energy use, increased resource productivity, and better public perception and liability.

2.3. Empirical Review of Literature

Warehousing is still an important part of modern supply networks (Baker, 2007). Warehousing is crucial in terms of service to customers as well as cost, as it is essential to the achievement or failure of numerous supply networks (Frazelle, 2002).

According to Lehrer *et al*, (2010) as cited in Tufa (2020) Proper storage, layout, warehouse operations, and material handling systems determine a warehouse's success. Warehouse management could help businesses optimize their logistics. Warehouses are seen as a tool to improve operational efficiency and information flows, reduce inventory levels, and enable more agile distribution.

Organizations can get a cost advantage by utilizing their logistics department. The most effective warehouse performance measuring procedures that lead to performance gains, as well as answers questions about warehouse performance indicators and how to use them to improve warehouse performance (Tufa, 2020).

Present a software tool for picking public warehouses based on the following criteria: storage surface and volume; dangerous items; temperature control; storage area separation; geographical area to highway, train, waterways; certification; opening hours; customs assistance; use of technology; handling equipment; number and characteristics of docks, etc. and so on (Colson and Dorigo, 2004).

The warehouse is quite disorganized in terms of inventory level management, handling effective communication within warehouse staff members, material handling in the warehouse, and record retrievals; additionally, the study discovered a lack of study and concludes that labor training, the use of IT in the warehouse, and management assistance were required to improve warehouse productivity (Berhanu, 2017).

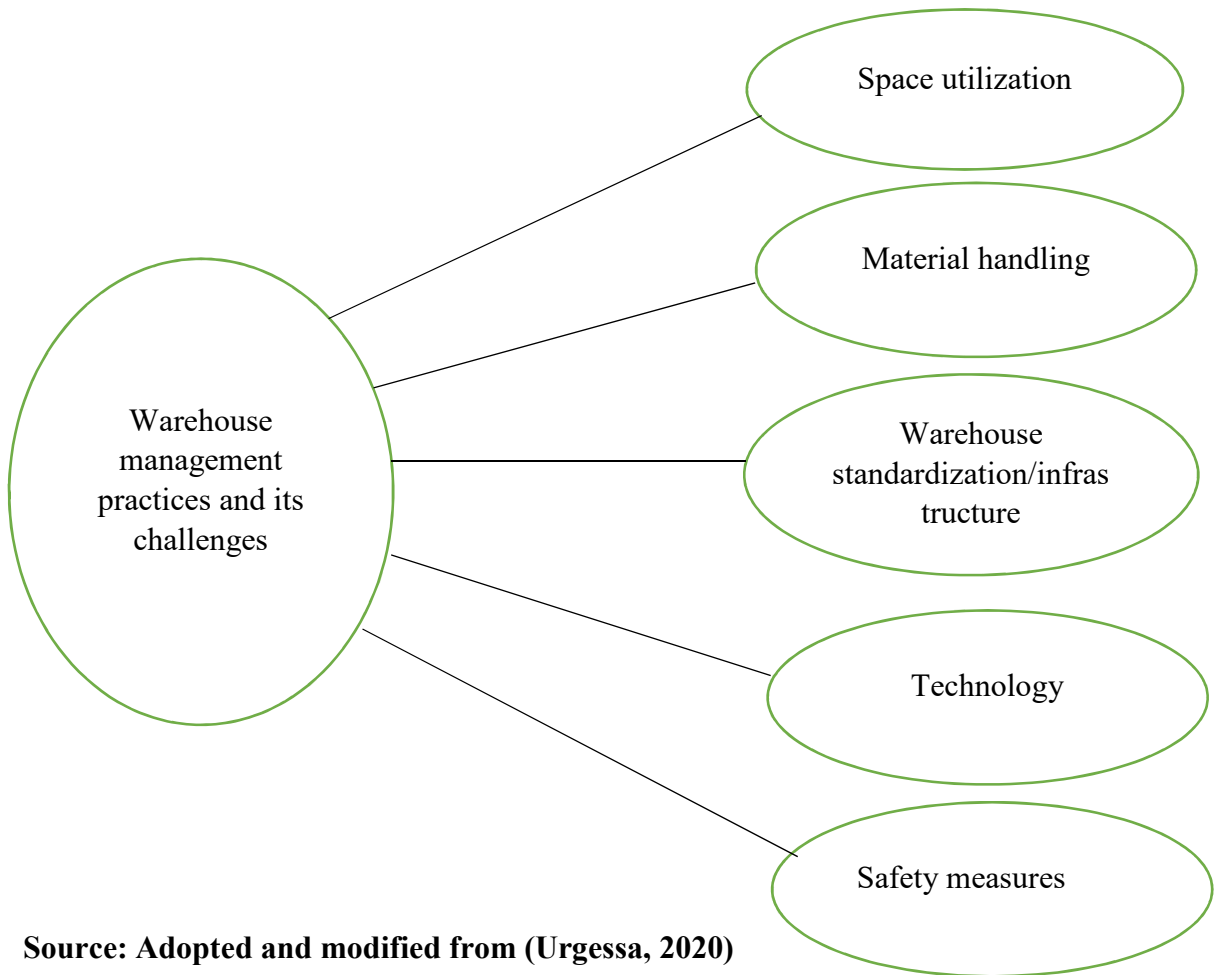
2.4. Research Gap

Because of the high volume of operational warehouse movements, there are gaps in warehouse standardization at Dashen Brewery, particularly during peak season. In light of the foregoing facts, the researcher assessed the overall warehouse management practices and main problems of Dashen Brewing Share Company. Finally, based on the

findings, the researcher addressed some issues by recommending the optimal adoption of better warehouse management methods.

2.5. Conceptual Framework

A conceptual framework describes the study's essential concepts to help the reader understand. In this study, five important aspects of warehouse management practices are covered. The key warehouse practices include space utilization, handling methods, warehouse standardization or infrastructure, warehouse technology, and safety precautions. In addition to the practices, the challenges of each mentioned warehouse management approach were discussed.



Source: Adopted and modified from (Urgessa, 2020)

Figure 2.5: Conceptual framework

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

Research methodology presents a method to be applied in the research paper. It helps a researcher achieve the intended objective. This section emphasizes the research method employed to carry out the study. This chapter contains study setting, research approach, research design, sampling technique, data presentation and analysis, and ethical considerations.

3.1. Research Area

According to GTAI (2019) as cited in Urgessa (2020) With a fast-expanding output, Ethiopia is the fourth-largest producer of beer in Africa, and it needs 235,000 tons of malt annually. A 60,000-ton factory of Belgian malt maker Boor Malt was slated to open in Debre Birhan in the middle of 2019, according to a statement made in August 2018 by the participating business, Piet Brouwer Power Solutions. This suggests that the Ethiopian brewing business is generating attention abroad. Dashen Breweries Share Company has been chosen as the case organization for this study. The Dashen brewery is owned by TIRET corporation. The company has established a production firm and a production warehouse in the two locations Gondar and Debre Birhan, as well as a distribution center in Addis Ababa, and its headquarter is in Addis Ababa.

3.2. Research Approach

The study employed both quantitative and qualitative approaches to assess the present warehouse management practices and challenges in Dashen Brewery SC, According to Canessa and Baker (2009), combining both quantitative and qualitative methods has the ability to compensate for the limitations of each method with the strengths of the other.

3.4. Research Design

The research design is a plan for achieving research objectives and addressing research questions. In other terms, it is a comprehensive strategy outlining the techniques and steps to be taken to gather and analyze the required data. (Adams *et al.*, 2007). The primary purpose of the research is to assess Dashen Brewery SC's warehouse

management practice and challenges; as a result, the study adopted descriptive research design. The descriptive research aims to provide a comprehensive description of a subject within its overall setting.

3.5. Sampling Techniques

The study focus has been on the warehouse management practices and challenges of Dashen Brewery SC. The company has both input and output warehouse. The structure of the warehouse is as follow:

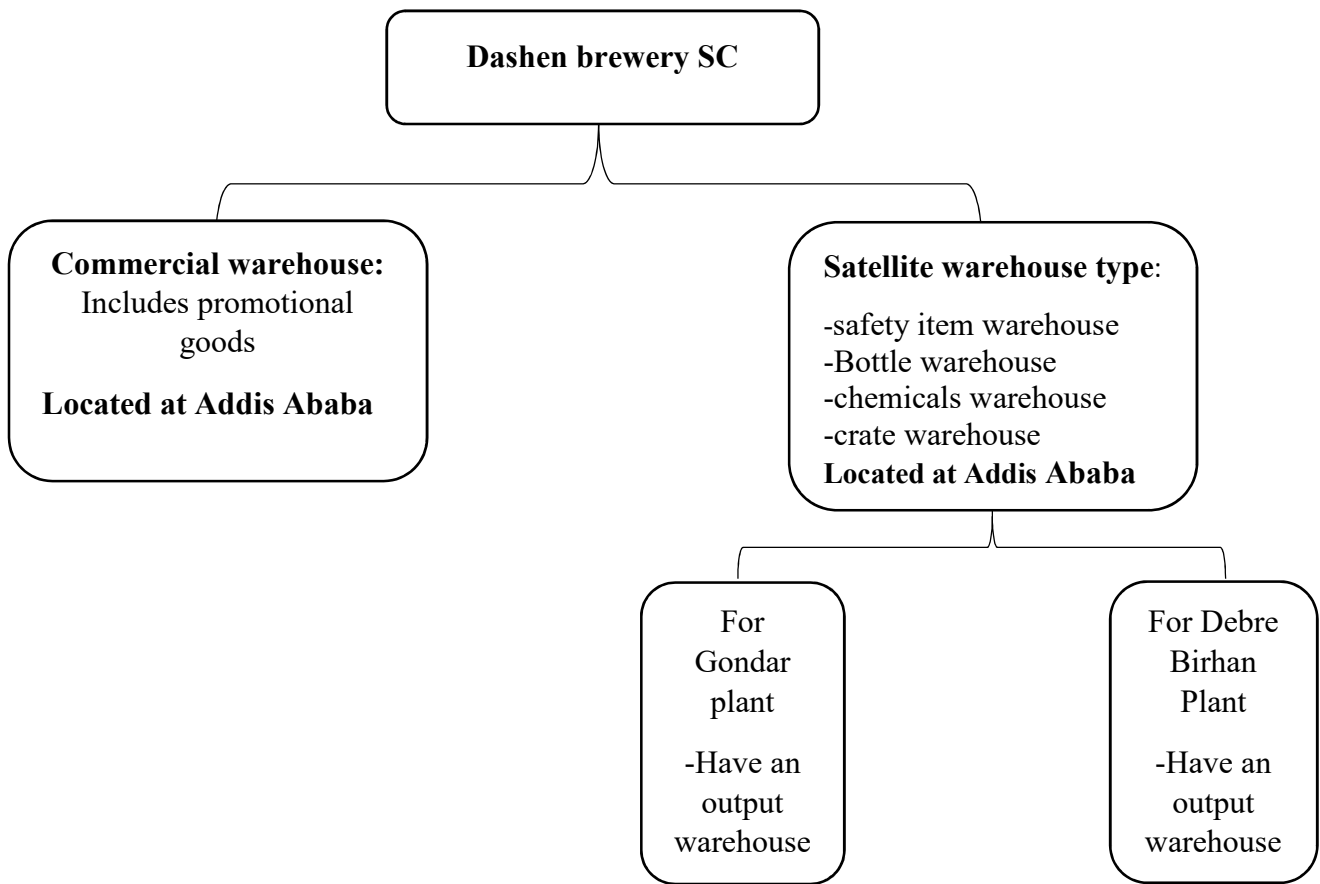


Figure 3.1: company warehouse structure

To collect the relevant data, the researcher used both satellite/input and commercial/promotional warehouses in Addis Ababa and Debre Birhan sites. Such warehouses have twenty people, and all of them were taken in the sample. In addition, all

employees of finance, logistics, quality control and procurement departments were taken as a sample. Such departments have 51 employees and all of them included in the sample. Totally, the study comprised 71 employees. since the study includes all employees in the specified department census population model is chosen. The survey is particularly appropriate and effective in the census because nearly every population would have to be sampled in tiny populations to attain a desirable degree of precision (Israel, 2013). The researcher chose those departments because they are closely related to warehouse management practice, they may have an impact on the operation, and they are the initial point of contact for running warehouse activity.

3.6. Data source and type

Both primary and secondary data were used to obtain the essential information. Primary data is information that is generated and obtained expressly for a research project and is used to generate a clear picture the situation. Specific to this thesis work, questionnaire and interview were the primary data tools. A pilot questionnaire was conducted before the final phase to improve the technique and test instrument.

Secondary source is the main sources of information, easily available and had previously been gathered by someone other than the researchers. So that it conducts in articles, books and documents.

3.7. Data collection method

In order to get data for the thesis, questionnaires and interviews were used. The questionnaire have open and close ended items. The questionnaire information gathered from the warehouse department, production department, finance department, and procurement department are considered in the sample. The justification for using a questionnaire as a data collection method is that they are easy to respond.

The interview instruments were administered by the logistics department, specifically the warehouse unit team. The interview instrument has been a structured personal interview. The primary reason for using interviews in the study is to acquire a thorough grasp of the

topic from highly relevant and authorized employees in the company's warehouse management.

3.8. Data Presentation, analysis, and interpretation method

Once the necessary information has been acquired via a questionnaire and interview, it can be presented and evaluated in a meaningful manner. The data were given in a tabular format. The data was also evaluated using simple descriptive statistics technique like frequency, mean, and percentage. The interpretation was expressed in quantitative and qualitative ways using SPSS 20 software. The data analysis presentation technique was utilized to assess the qualitative data obtained from interviews.

3.9. Ethical Consideration

Study typically involve human participants, thus if proper protection is not taken in how information is collected from these people and while sharing such information, the study participants may suffer some harm. As a result, when completing the questionnaire, the respondent was not required to provide any personal information, specifically their names. Furthermore, the participants were informed that the study's apparent goal (which is academic in nature) and the confidentiality of their identity and any information they submitted to carry out this study provide them with the confidence that their involvement will not cause them any appreciable harm.

To uphold the firms' ethical values, the information gathered from them was kept private. The analysis does not require institutionally secured data like financial statements, this, in turn, allowed company representatives to respond openly to the study's issues.

3.10. Validity and Reliability

3.10.1. Validity

The amount to which a test measures what we actually want to measure is referred to as its validity. In other words, validity is the degree to which differences discovered with a measuring instrument represent genuine differences between people being evaluated (Kothari, 2004). A review of the literature and adaptation of tools used in previous

research were utilized to assess the study's validity. A pilot questionnaire was conducted before the final phase to improve the technique and test instrument, such as a questionnaire. Questionnaires were tested on possible respondents to ensure that they were objective, relevant, topical, and reliable data gathering methods. The complaints of respondents were gathered, and the surveys were altered as a result.

3.10.2. Reliability

According to Bryman and Bell (2007), as stated in Abrham (2017), reliability is related with the internal consistency of the study instrument. Cronbach's alpha analysis was used to assess the internal consistency and dependability of warehouse management processes. The dimensions' Cronbach's alpha values are shown in the table below.

Table 3.1 Cronbach Alpha

Description	Unit	Cronbach alpha
Storage space utilization	4	0.81
Material handling method	3	0.74
Warehouse standardization	5	0.73
Warehouse technology	4	0.74
warehouse safety measures	3	0.74

Source: 2023 Survey Results

A cursory examination of the above table reveals that each of the alpha values for the the corresponding elements were significantly higher than their recommended cut-off value of 0.7, implying the reliability of the instrument used to measure the study constructs, i.e. the items on the respective scales could correctly measure the dimension of concern.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

This chapter emphasizes and analyzes data acquired on the assessment of warehouse management methods and issues in Dashen Brewery SC. The questionnaire and interview were used to collect the primary data needed to answer the study questions. SPSS version 20 is used for statistical analysis.

Accordingly, the chapter have three sections. The first section deals with assessing the current warehouse practices in relation to standardization, handling methods, and technology applied and warehouse structure. The second section identifies the difficulties encountered while carrying out warehouse activities. The final portion contains interview data about the organization's warehousing activities.

4.1. Response rate

Dashen Brewery SC employees comprised the sample. The researcher distributed 71 questionnaires, 67 of which were successfully completed and returned. Finally, a total of 67 respondents were included in this investigation, yielding a response rate of 94.3%.

Table 4.1 Response rate of respondents

Description	Respondents
Sample	71
Distributed questionnaire	71
Returned questionnaire	67
Response Rate (%)	94.3%
Valid response	67

Source: 2023 Survey Results

4.2. Demographic Information of Respondents

To illustrate the data collected about the demographic components, a description analysis was done. It is critical to make some remarks on the information gleaned from demographic inquiries. The demographics components addressed in this study were age, gender, level of education and length of experience, and they are listed below.

Table 4.2 Demographic respondents' information

	Category	Frequency	Percent
Gender	Male	45	67.2
	Female	22	32.8
	Total	67	100
Age	18-30	6	9
	31-40	34	50.7
	41-50	23	34.3
	Above 50	4	6
	Total	67	100
Educational Level	Diploma	5	7.5
	Degree	40	59.7
	Masters	22	32.8
	Total	67	100
Work Experience	6 month – 5 years	10	14.9
	6-15 years	35	52.2
	Above 15 years	22	32.8
	Total	67	100

Source: 2023 Survey Results

As indicated in table 4.2, the respondents gender distribution, 45 (67.2%) of the sample are males, while 22 (32.8%) are females. This indicates the proportion of male employees is higher than the females. The respondents age is shown in the above table. Chart 4.2 indicates 55.7% of participants are within the ages of 31 and 40, 34.3% are between the ages of 41 and 50, and 9% are between the ages of 18 and 30. The other 6% are over the age of 50.

In addition, table 4.2 shows the educational level of respondents. As seen in the table, 59.7% of respondents had a first degree. 32.8% have Masters Degrees, whereas 7.5% have diplomas. This suggests that personnel with a bachelor's degree are more prevalent, followed by those with a master's degree. Table 4.2 displays statistics regarding the respondents' employment experience. As a result, 52.2% of respondents had between 5

and 15 years of work experience. While 32.8% of respondents have worked for more than 15 years, 14.9% of employees have worked for 6 months to 5 years.

4.3. Descriptive Analysis

Descriptive statistical analysis was used in order to analyze the mean scores and associated standard deviations of each dimension measurement item across the various scales. As a result, the purpose of this attempt is to answer some of the study questions based on respondents' assessments of their organization's level of warehouse management practice, as well as to determine which practices the company does better. The mean and standard deviation were utilized in the descriptive analysis. The least standard deviation indicates that the data is centered around the mean. When the standard deviation is greater than the mean value, the data are spread out. According to Best (1997), as cited by Hailu (2019) to interpret, facilitate and clarify comprehension of the mean and standard deviation figures, the scales were reassigned as follows:

Table 4.3 Guideline for interpreting quantitative data

Range	Interpretation
1 - 1.8	Strongly disagree or very dissatisfied
1.81 - 2.6	Disagree or dissatisfied
2.61 - 3.4	Neutral or moderately satisfied
3.41 - 4.2	Agree or satisfied
4.21 – 5	Strongly agree or very satisfied

Source: Best (1997) as cited by Hailu (2019)

4.3.1. Storage space utilization

Table 4.4 Storage space utilization practices

Storage space utilization	Mean	Std. Deviation
There is an adequate warehouse to store material.	4.2239	.41999
The warehouse has enough space for items.	4.1045	.46496
For loading and unloading activities the warehouse has enough stations.	3.0448	.56227
The warehouse space is used effectively.	3.1343	.67185

Source: 2023 Survey Results

Based on the intrview data the organizational have the following essential warehousing operations: Receiving, In the receiving section, the warehouse personnel check and receive all goods in accordance with the purchase order documents and then make good receiving notes. This activity involves the unloading of goods from the vehicle and sorting them properly in the store.

Dispatching, next to receiving and sorting of goods the user department requests goods with a request voucher, and the warehouse man issues those items based on the approved request voucher, which is called dispatching. This activity may involve the loading of goods into vehicles. In all activities, there may be material handling activities using handling equipment like forklifts, pallets, and trolleys. Each area has its own expert in charge of overseeing day-to-day activities.

The value of the mean each scale of warehouse storage space utilization were calculated between 3.13 and 4.22, with standard deviations ranging from 0.41 to 0.67. The loading and unloading stations have the lowest mean value, followed by the mean score for space utilization with the rate of 3.04 and 3.13, respectively. Adequacy and size of the warehouse come last in ascending order. This shows that respondents rate their particular enterprise warehousing practices as moderate or slightly above average, as measured by response time.

The mean scores of the warehouse storage utilization measurement imply that respondents in the enterprise believe their firm has made less effort in the preparation of

loading and unloading stations and space consumption. This shows that the enterprise's efforts to have enough loading and unloading stations and applying best space utilization are moderate. In terms of warehouse adequacy and warehouse space or size, respondents agreed that Dashen Brewery has adequate warehouse capacity to store items.

Moreover, on the open-ended question, some respondents expressed their ideas on the issue of warehouse space utilization. They have an issue with racking and shelving. All warehouses space and sizes are enough to store goods, but they have some shortage of racking and shelving to store goods properly. In order to utilize the warehouse space there should have warehouse equipment's to put materials on their designed places. Without sufficient warehouse equipment its difficult to accomplish best storage space utilization. Regarding this handling equipment the company have moderate practices.

4.3.2. Material handling method

Table 4.5 Material handling practices

Material handling method	Mean	Std. Deviation
Materials are placed correctly in their designated locations for later traceability.	3.9254	.68121
Materials are moved in the store using warehousing/material handling equipment.	3.7910	.74949
Materials are sorted carefully to reduce the chance of spoiling or damage.	3.2687	.72993

Source: 2023 Survey Results

The mean values of each scale of material handling methods were calculated between 3.26 and 3.92, with standard deviations ranging from 0.68 to 0.74. The spoilage protection has the lowest mean value, with a rate of 3.26. The use of handling equipment for goods and their traceability have higher mean. This indicates that respondents rate their company's warehousing practices in relation to material handling as moderate or slightly above average.

The mean scores of the material handling measurement imply that respondents in the enterprise believe their firm makes less effort to avoid unnecessary spoilage in storage

activities. This implies that the company needs to make some efforts to have mechanized processes to avoid this type of spoilage in the warehouse. On the other hand, to move goods in the storage area, Dashen Brewery SC uses some handling equipment, and the handling of goods is well practiced.

Handling equipment is commonly used in warehouses to transfer products as well as to place or sort commodities. Respondents identified forklifts, pallets, and trolleys as examples of material handling equipment used to convey items. Racking and shelving, on the other hand, are pieces of handling equipment used to place materials and commodities in the store. However, as previously stated, the current racking and shelving are insufficient for the warehouse's size and quantity, which has a negative effect on storage space utilization.

4.3.3. Warehouse standardization/infrastructure

Table 4.6 warehouse standardization/infrastructure practices

Warehouse standardization/infrastructure	Mean	Std. Deviation
Suitable lighting and ventilation are provided in the warehouse.	2.8806	.68584
The warehouse has been equipped with full fire prevention equipment in case of unexpected fire mishaps.	2.5970	.60452
Perishable commodities are handled in a separate location	2.4925	.53295
The warehouse has favorable floor infrastructure for moving materials	3.5224	.50327
There is enough man power in the warehouse.	3.0149	.59013

Source: 2023 Survey Results

The mean values of each warehouse standardization/infrastructure scale ranged from 2.49 to 3.52, with standard deviations ranging from 0.50 to 0.68. The perishable goods handling and warehouse safety measures have the lowest mean value, followed by warehouse lighting and ventilation systems, and finally the mean score of manpower capacity.

Warehouses are structures that provide an appropriate environment for the storage of commodities and materials that require weather protection. Warehouses must be built to accommodate the loads of the stored products, the associated handling equipment, the receiving and shipping procedures, and the associated trucking, as well as the needs of the operational workers. The case company warehouse infrastructure has the lowest mean value. This indicates the company's performance in warehouse standardization in relation to handling perishable goods that need special preservation is poor. The lighting and ventilation systems are not well constructed. In addition, safety measures like fire prevention and emergency escape areas are not properly implemented. This indicates that respondents in the enterprise are dissatisfied, and their firm has made very little effort to improve the standardization/ infrastructure of the warehouse.

Individuals that work for a warehouse and handle numerous responsibilities linked to receiving, storing, and dispatching items are warehouse people. The company should to have sufficient manpower that serves the company warehouse. Aside from that, the warehouse floor infrastructure is good and should be maintained.

4.3.4. Warehouse technology

Table 4.7 Warehouse technology practices

Warehouse technology	Mean	Std. Deviation
Modern WMS technology supports the management of the warehouse.	3.5075	.78573
Barcode technology supports the management of the warehouse.	1.6866	.46739
Radio Frequency Identification Radio-frequency identification (RFID) supports the management of the warehouse.	1.7313	.47933
The warehouse staff is knowledgeable about the technology applied in the warehouse	3.2090	.64049

Source: 2023 Survey Results

The mean values of each warehouse technology scale ranged from 1.68 to 3.50, with standard deviations ranging from 0.46 to 0.78. Barcode technology has the lowest mean value, followed by RFID technology and warehouse personnel's technological understanding. Aside from that, the WMS technology score had a higher mean value of 3.50. Except for WMS technology, the warehouse technology of the company has the lowest mean value. This shows that the company lacks warehousing technologies like as barcodes or RFID.

The mean scores for barcode and RFID technology indicate that respondents are dissatisfied or disagree, and this indicates the company does not implement this kind of technology. This means that the company should use various warehouse technologies to carry out its day-to-day warehouse operations, and it must train its personnel on the necessity of warehouse technologies and how to use them. According to the responses, one of the problems that the organization had in implementing warehouse technology is that the money set aside for automated warehouses is small. As a result, the company only handles incoming and departing transactions. According to the investigation acquired from the interviews, the company adopted Syspro ERP software technology to handle its everyday business transactions. This program is mostly used in the manufacturing and distribution industries. Using this program, the corporation may receive, issue, and control the movement of commodities, as well as readily and quickly know what goods are on hand. This technology aids the organization's warehouse activity in terms of receiving and dispatching. Furthermore, it allows the business to know how much inventory it has on hand.

4.3.5. Warehouse safety measures

Table 4.8 Warehouse safety measure practices

Warehouse safety measures	Mean	Std. Deviation
There is an escape for emergencies while the incident.	2.8507	.63374
To prevent damages the company provide personal damage protection equipment and full protective clothing for Workers.	2.5075	.61233
There are sufficient security mechanisms in the warehouse to prevent theft.	3.3433	.59167

Source: 2023 Survey Results

The mean values of each warehouse safety scale ranged between 2.50 and 3.34, with standard deviations ranging from 0.59 to 0.63. Question for workers protective clothing has the lowest mean value with a rate of 2.50, warehouse security mechanisms and emergency escape out come in ascending order. This shows that respondents' rate, except for workers' protective clothing, their particular enterprise warehousing practices as moderate.

Warehouse safety refers to procedures that help warehousing employees ensure a safe work environment and reinforce safe behavior while working in warehouses. But the mean scores of the case company warehouse imply that the enterprise has paid less attention to warehouse safety measures. In addition, in the open-ended question some ideas are reflected. According to the data gained, lack of safety cover equipment for warehouse personnel is one of the warehouse personnel's issues.

This results that the company to have low performance in fulfilling staff's safety issue. Furthermore, the warehouse must be designed with fire protection capacity to allow storage of items with a higher fire hazard, as well as emergency exit routes. However, the instance company safety issues practice is moderate. This suggests that emergency escape stations, fire extinguishers, and other relevant items are not being utilized properly. The warehouse safety precaution also has security concerns. The warehouse security issue is moderately good but might be improved. Some people express their thoughts on

warehouse security. As they indicated, the security practice is fine, but it is not supported by technology. In addition, in the open ended question respondents reflect some obstacles that affect the company's warehouse management practice including a small labor force in comparison to the work load, internal management issues, a lack of training to improve employee knowledge, redundant processes, an insufficient budget to standardize warehouse features, and a sole focus on profit maximization.

CHAPTER FIVE: SUMMARY OF KEY FINDINGS, CONCLUSION AND RECOMMENDATION

5.1. Summary of key Findings

This Chapter offers a summary of the study's findings, conclusions, and recommendations to improve Dasher brewery S.C.'s warehouse management processes.

The warehouse numbers and sizes provided by the company are enough for goods storage and handling. However, there are an issue with racking and shelving. There are a few racks and shelves in the warehouses to put materials in the right place and section. This has the unintended consequence of making effective utilization of warehouse spaces difficult. Furthermore, the loading and unloading yards are not conducive to day-to-day activities.

Material handling equipment is used by the company to transport commodities within the warehouse. Dasher brewery SC employs forklifts, pallets, and trolley among other types of handling equipment. Aside from that, storing items without avoiding unnecessary deterioration has various drawbacks.

According to the data received from the respondents, the company's warehouse standardization performs poorly. To handle perishable commodities, warehouses must be equipped with proper air conditioning, lighting, and other safety elements. Due to the handling of perishable items, the company has a low performance in this area. In terms of warehouse infrastructure like warehouse floor, it is adequate for handling warehouse activities. Furthermore, one of the company's issues is a lack of staff. When compared to the company's workload, the current warehouse staff are insufficient to perform tasks.

Technology is critical to the seamless operation of commercial operations on a daily basis. The instance company's warehouse technology practices are mostly concerned with WMS technology. They deployed Syspro ERP software technology to manage the entire business's operations. They link the finance, procurement, warehouse, and associated divisions in this system. This method allows the company to receive and issue items. It also makes it simple to know the quantity on hand and track overall warehouse activities. However, the corporation does not use barcode or RFID technologies. Furthermore, the

staff's knowledge of technologies is confined to Syspro ERP software, and the company does not provide or plan training for other comparable warehouse technologies. As a result, the personnel have a limited understanding of the technology.

Warehouse safety measures are related to warehouse security and safety considerations. In this Dashen brewery procedures for safety precautions such as the availability of fire extinguishers, emergency exit station, and overall covers or safety cloths for personnel are few. Specifically, the corporation fails to provide proper employee safety coverage. The warehouse's security is adequate, but it might be better.

Respondents identified several major challenges or bottlenecks affecting the company's warehouse management practice, including a small labor force as compared to the work load, internal management problems, a lack of trainings, redundant processes, insufficient budget to standardize warehouse features, and a sole focus on profit maximization.

5.2. Conclusions

The purpose of this thesis study is to assess Dashen Brewery SC's warehouse management practices and challenges. The essential elements of warehouse management techniques such as storage space utilization, warehouse standardization, warehouse technology, and warehouse safety measures were incorporated in the conclusion of each data idea. The structure that a researcher placed in the framework of the thesis regarding warehouse management practice leads to the following conclusion. Based on the research findings and respondents' replies, the conclusions of this study indicate some of the strengths and weaknesses of the warehouse management techniques observed.

Dashen brewery is owned by TIRET corporate, which owns 49% of the company. The brewery has two manufacturing plants in Gondar and Debre Birhan. Dashen brewery's primary goal is to meet customer demands for high-quality beer while also providing customers with more options in the market without negatively impacting the environment. The corporation has a warehouse in each of its manufacturing plants, as well as a distribution hub in Addis Ababa.

The corporate warehouses are sufficient in quantity and size for storing and handling items, but the loading and unloading stations are insufficient and uncomfortable for the operation to function properly. Furthermore, the warehouse inputs are not well arranged, and there is a lack of racking and shelving, resulting in inefficient storage space usage. Some safety precautions, such as accident prevention devices and an emergency escape location, are not well established in terms of warehouse features. Furthermore, the organization has a gap to fill in order to provide staff safety covers.

The corporation employs handling equipment such as forklifts, pallets, and trolleys to transport goods inside the warehouse yards. And the position of the products for next step is well-chosen. The process of storing commodities without causing additional spoiling is inadequate and needs to be improved. To manage its daily operations, the company implemented Syspro ERP software technology. This program also tracks warehouse operations.

Finally, warehouse performance and capability in the execution of warehouse management techniques in terms of space utilization, handling equipment, warehouse infrastructure, and some safety measures are modest or below. This means that the organization should concentrate on the problems in order to enhance warehouse processes.

5.3. Recommendations

Based on the findings and conclusions, the following suggestions are forwarded.

The study's findings indicate that the industry's levels of warehouse management practice in terms of space utilization, warehouse standardization, technology adoption, and other safety measures are moderate or lower. As a result, the business should prioritize warehouse performance in accordance with its corporate and functional goals and objectives.

Inadequate warehouse system design or management jeopardizes meeting needed customer service levels and maintaining stock integrity, resulting in excessively high costs (Rushton et al., 2010). Because warehouse activities are directly related to

organizational success, Dashen brewery S.C should properly develop and operate the warehouse system.

Because most warehouses do many operations in multiple workflows at the same time, it is becoming increasingly likely that some procedures, such as sorting, would be repeated unnecessarily, increasing labor costs. By eliminating duplicate or outmoded procedures, automation can make the process more agile and faster, improving the customer experience and decreasing costs.

The corporation should improve warehouses that are damage-free, easy to load and unload goods, and have enough emergency exit stations.

Dashen Brewing Company must provide its employees with warehouse training. They must also hire enough people for the work.

Safety measures must be strengthened by installing fire alarms and extinguishers, as well as instructing employees on correct material handling and equipment use. Each warehouse should be completely self-contained in terms of material handling equipment.

5.4. Suggestions for Future Researches

Since the warehouse concept is so wide, more research in both breadth and depth is required. As a result, future studies should include doing an in-depth examination of warehouse management techniques and challenges. Another essential point to note is that this study only looked at input warehouse standards, technology, and handling procedures, despite the fact that warehouse practices span all business processes. As a result, future studies should consider the effects, problems, and opportunities of additional business operations.

5.5. Limitations of the Study

The study's disadvantage is that, despite the fact that the unit of analysis was only the organization's warehouses; the study was entirely based on responses obtained from enterprise staff because it assumed the enterprise perspective. It must have more identical corporate viewpoints to be considered an industry.

This study focuses on warehouse management practices and difficulties related to warehouse standardization, material handling, warehouse technology, and safety measures in the case of Dashen Brewery Share Company input and promotional warehouses. However, other researchers can go beyond the boundaries of this study to explore warehouse management practices.

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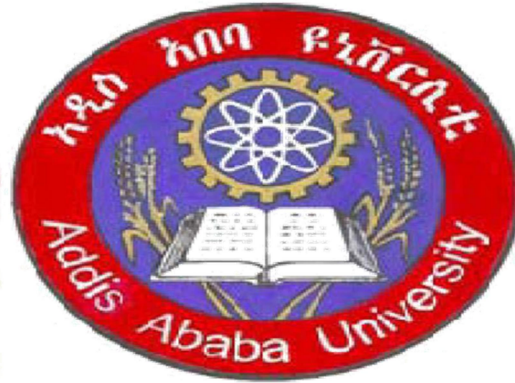
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Appendix One
Addis Ababa University



College of Business and Economics

Department of Logistics and Supply Chain Management

Questionnaire

Objectives of the Questionnaire

Dear respondents First of all I would like to give you a heartily thanks to give your precious time and kindest cooperative to fill this questionnaire. This questionnaire will field by production, purchasing, Warehouse and related departments employees who considered in the sample.

The purpose of the data which is mainly collected from you is to undertake a successful partial fulfillment senior essay project for the master's degree in logistics and supply chain management. The research under investigation is entitled assessing warehouse management practices and its challenges. Therefore, the data provided in this questionnaire is vital to the success and fruitfulness of the research results. If you get some unclear ideas or any problem related to the questionnaire you can contact me by

0927431792/ abeniliben@gmail.com. Finally, I would like to express my gratitude and appreciation for your supportive activity for the research data collection task.

Instruction

Please put your (√) mark on the box provided for the statement you agreed with.

Section 1; Demographic Information

1. Sex. Male Female

2. Age. 18 -30 31-40 41-50 above 50

3. Educational level.

Complete grade/1-12 Certificate Diploma
Degree
Masters PhD

4. Working experience

< 6-month 6-month -5-year 6-15 year

>15 year

Section 2. Question Items

Please indicate the degree to which you agree with the following statements regarding how your warehouse has applied warehouse management practice by putting the check mark (√) on the appropriate place.

1	2	3	4	5
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Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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No	Storage space utilization	1	2	3	4	5
1	There is an adequate warehouse to store material.					
2	The warehouse has enough space for items.					
3	For loading and unloading activities the warehouse has enough stations.					
4	There warehouse space is used effectively.					
	Material handling method	1	2	3	4	5
1	Materials are placed correctly in their designated locations for later traceability.					
2	Materials are moved in the store using warehousing/material handling equipment.					
3	Materials are sorted carefully to reduce the chance of spoiling or damage.					
	Warehouse standardization/infrastructure	1	2	3	4	5
1	Suitable lighting and ventilation are provided in the warehouse.					
2	The warehouse has been equipped with full fire prevention equipment in case of unexpected fire mishaps.					

3	Perishable commodities are handled in a separate location.					
4	The warehouse has favorable floor infrastructure for moving materials.					
5	There is enough man power in the warehouse.					
	Warehouse technology	1	2	3	4	5
1	Modern WMS technology supports the management of the warehouse.					
2	barcode technology supports the management of the warehouse.					
3	Radio-Frequency Identification Radio-frequency identification (RFID) supports the management of the warehouse.					
4	The warehouse staff is knowledgeable about the technology applied in the warehouse.					
	warehouse safety measures	1	2	3	4	5
1	There is an escape for emergencies while the incident.					
2	To prevent damages the company provide personal damage protection equipment and full protective clothing for Workers.					
3	There are sufficient security mechanisms in the warehouse to prevent theft.					

1) Is there warehousing/material handling equipment in the warehouse to move goods within the store?

Yes

No

If yes, what kind of material handling and warehousing equipment is there in the warehouse?

2) Do you believe that the warehouse management faces significant difficulties/challenges that have an impact on its day to day practice?

Yes

No

3) If yes what are the problems or obstacles to implement the warehouse management practices?

Appendix Two

Interview question

- 1) What are the major tasks carried out in the warehouse?
- 2) Does the organization assess the implementation of warehouse management practice?
- 3) What are the benefits of implementing warehouse management practices?
- 4) What type of technology applied to support the day to day activities of warehouses?
- 5) What advantages do you gain from implementing warehouse technology?
- 6) What steps have you done to enhance the standardization of warehouses?
- 7) What are the factors that affect the warehouse management practice?