

**KOFORIDUA TECHNICAL UNIVERSITY**  
**FACULTY OF BUSINESS AND MANAGEMENT STUDIES**  
**THE DEPARTMENT OF PROCUREMENT AND SUPPLY SCIENCE**



**ASSESSING THE INFLUENCE OF INVENTORY CONTROL MANAGEMENT ON  
PRODUCTION EFFICIENCY**

**PROJECT WORK SUBMITTED TO THE DEPARTMENT OF PROCUREMENT AND  
SUPPLY SCIENCE, KOFORIDUA TECHNICAL UNIVERSITY IN PARTIAL  
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF B.TECH IN  
PROCUREMENT AND SUPPLY SCIENCE**

**BY**

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**(INDEX NUMBER)**


**B103190005**

**November 2021**

## STUDENTS' DECLARATION

I hereby, declare that these submissions are my own work towards the attainment of the Bachelor of Technology (B. TEC0H) in Procurement and Supply Chain Management. To the best of my knowledge, no part has been presented for the award of any other degree in this University or elsewhere in except to where due acknowledgement has been made to other people's work duly cited.

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**SUPERVISORS' CERTIFICATION**

I, clarify that this project work has been supervised in accordance with the guidelines, for supervision of project work laid down by Koforidua Technical University and I recommend it for further assessment.

Supervisor's name: ..... Mr. Emmanuel Agyekum



19/12/2022

Signature: .....Date: .....

## **ACKNOWLEDGEMENT**

Glory to the Almighty God for his guidance, wisdom, knowledge and protection throughout the course and seeing me to a successful end.

My profound gratitude goes to Mr. Emmanuel Agyekum a lecturer and former H.O.D of the Department of Procurement and Supply Science Koforidua Technical University. He taught from the beginning to the end of the academic years and also, sacrificed his time and effort to supervise this work. My deepest appreciation goes to the respondents who helped in the administering of the questionnaires.

Finally, to friends and family who helped during difficult times. God bless you all.

## **DEDICATION.**

I dedicate this project work, to the Most High God and my Family for their support.

## **ABSTRACT**

This project investigated into the effects of inventory control management on production efficiency where Blow Plast was used as a case study. Inventory control management is the way one tracks and control his business inventory as it is bought manufactured, stored, and used and governs the entire flow of goods, from purchasing right to sales ensuring that you always have the right quantities of the right item in the right location at the right time. This paper examines warehouse management system (W.M.S) practices and their effects on operations. This study analyses the relationship between the adoption of a warehouse Management System and its impact on business performance and the competitive advantage of a regional distribution centre. In terms of business performance, the focus is placed on various competitive cores of the distribution centre. A quantitative study adopts a questionnaire for data collection. Warehouse Management System, was found to have a positive impact on companies performances on operations management measures. The use of Management Information Systems MIS, wireless barcode embedded WMS specific, it is necessary to have a corporate culture that supports complex operational activities. WMS implementation is crucial in bringing cost reduction at the operational level, effective management at the management level, as well as improvement of the company's competitiveness in the strategic level. Companies that manage the warehousing of their products are expected to implement WMS in order to improve inventory management to maintain a competitive market edge in the global marketplace.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND OF THE STUDY**

Inventory as a party of organization assets where by management become concerned with the inventory stock. Inventory referred as a stock of materials that used to facilitate in manufacturing of goods or to satisfy customer needs.

According to Chitale and Gupta (2014) says “inventory is defined as sum of the value of raw materials, fuel and lubricants, spare parts, maintenance consumable, semi materials and finished goods, stock at a give point of time”. So managing inventories is important to organization because it help in proper planning of the materials needed so as to identify the gap between the desired and the actual level of materials, allocation of resources, purchasing, sales and employment of staff and everything concerned to human resources management all of which reduces on the costs incurred by the organization in the production departments for improved performance of the organization.

Some of financial institutions put more efforts in cash forget about managing inventories. Institution should safe guards the firm’s inventory to clear procedure and regulations to be developed so as to prevent any felt inventories. Effective inventory control management system enables for organization to meet customer expectation of product, minimization of cost and maximization of profit.

An inventory control management system is the combination of hardware and software that is technology, processes and procedures that help to monitor and maintenance of stocked products like company assets, raw materials, finished productive to final consumers. A system in inventory includes barcodes, labels or assets tag .In other hand inventory control management system is also known as inventory control system.

According to Indira (2018) “Inventory control systems are technology solutions that integrate all aspects of organizations inventories tasks, including shipping, purchasing, receiving, warehouse storage turnover, tracking and reordering”.

Therefore inventory control management system has influence in financial organization performance.

## **1.2 STATEMENT OF THE PROBLEM**

It is important to control and manage inventories efficiently and effectively which can be done by involving different department in the organization such as purchasing, production, sales and finance. Most warehouse institutions facing a challenge in inventory control management system affects organizational efficiency and performance.

According to Gupta and Starr (2014) “Many problems related to inventory can be solved by using economic criteria in understanding cost structure that is inventory cost”. Inventory costs such as ordering costs, carrying, and shortage costs.

Dinesh (2017) defined Carrying cost as “cost associated with temporary storage of an item until it is sold”, so it involves transfer of ordered materials from the seller to the warehouse so insufficient carrying cost cause of shortage cost on performance of adequate inventory in the organization.

Ordering cost involves cost that associated with placing an order for an item and receiving it into the inventory control management system. The problem arises in organization on when and how often inventory to be ordered so as to maintain the right level of raw material and finished product in a minimum costs.

Inventory control management system on financial organization facing some challenges due to failure on balancing between excess inventory and under stocking which caused by poor issuing



of materials from store without purchase order from the a particular department. Excess inventory referred to excess of demand of materials, which can result into destruction of materials. Under stocking is way of maintain small number of inventory that has impacts towards organization performance. Therefore poor inventory control management system it will difficult in recording keeping for incoming and out coming on inventory in the organization.

However there is a little empirical research that clarifies inventory control management system and its influence towards financial performance as whole information are needs to understand it. Therefore the researcher chose this particular phenomenon with intention to investigate the influence of inventory control management system on financial organization performance.

### **1.3 RESEARCH OBJECTIVES**

The study has general and specific objectives

#### **1.3.1 General Objectives**

The main objective of the research is to investigate the influence of Inventory control management on production efficiency.

#### **1.3.2 Specific Objectives**

The following are specific objectives of the study,

- ❖ To find out the inventory control management system Blow Plast Industrial Limited use for production operational activities
- ❖ To assess how inventory control management practices helps out production effeciency in the Blow Plast Organization.
- ❖ To assess the challenges Blow Plast Industrial limited facing in undertaking inventory control management practices in achieving efficiency.
- ❖ To analyze the benefits,Blow Plast Industrial Limited plan to gain in undertaking inventory control to maintain an organizational production performance.

#### **1.4 Research Question**

- ❖ What are the inventory control management system Blow Plast Industrial Limited use for production operational activities
- ❖ What inventory control management practices helps in production efficiency at the Blow Plast Organization.
- ❖ What are the challenges Blow Plast Industrial limited facing in undertaking inventory control management practices in achieving efficiency.
- ❖ What are the benefits Blow Plast industrial limited plan to gain in undertaking inventory control to maintain an organizational production performance.

#### **1.5 Significances of the study**

This study is meant to improve inventory management practices by decreasing plenty inventory levels, improving order fulfillment and reducing order cycle time this study sees to it that management will be able to track every unit to the lowest level of details to improve order fulfillment and inventory management accuracy.

In addition the study sees to it that inventory management is much faster, easier and efficient. With real time information warehouse management system helps to provide quick accurate feedback so that management can respond faster to the demands of their customers, distributors and wholesalers. With enough data about what is in stock which our study seeks to achieve will help management know exactly what is in the warehouse, where it is located and when it should be replenished at all times.

This study is to also help management of Blow Plast find a modern way of managing inventory by the initiation of modern technology such as Radio Frequency Identification (RFID), Warehouse Management Systems(WMS), (EPOS) Electronic Point on Sale. This will help improve production and maximize profit.

Adding to this, the study is to help upcoming student of procurement and supply chain to have clear view on warehouse management on a practical bases and theoretically, for this reason the work will serve as a guide to proper finding and an upgrade to this document. This study will help improve the researchers skills and knowledge on efficient inventory management.

### **1.6 Scope of the study**

This research will be conducted based on inventory control management system, so to investigate the influence of inventory control management system on financial organizational performances. The research will be carry out specifically at Blow Plaste Industrial Limited, graphic road Accra. However the researcher may use information of some past inventory management method. Therefore the data use in the research will be concerned with data within that period. The study population targeted by the researcher is 25 respondents.

### **1.7 Limitation of the study**

All studies have limitations but in my case, will be restricted only to discussion pertaining limitations related to my research and below are some related problems. Cost involve in typing, printing, transportation during the project work .Natural circumstances like frequent rainfall, sickness on the part of the researchers, supervisor and management could delay the process.

### **1.8 Organization of the study**

This study looks at the performance of Blow Plast by way of its inventory management systems. It is divided into five chapters.

Chapter one covers background to the study, problem statement, the objectives, research questions, scope of study, significant of study, limitations of the study and organization of study.

The second chapter examines the literature review, and acknowledges what other authors have said pertaining inventory control management on production efficiency in organization. It also look at conceptual and theoretical aspect.

In Chapter Three the research methodology has been discussed, data presentation and analysis, researcher decided to use sampling of non-probability, sample size, sample techniques, population targeted

The fourth chapter presents the analysis of inventory control management on production efficiency using analysis and graphs.

Chapter Four also focuses on the discussion of findings. An examination of the performance of inventory management systems are also carried out in this chapter. The findings, conclusions and recommendations are then given in chapter five.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter discusses other researcher views on influence of inventory control management system. Literature review consists of two parties which are theoretical framework and empirical studies.

#### **2.1 Theoretical frame work**

Theoretical framework consist of conceptual definition of inventory, types of inventory, inventory management, objectives of inventory management, inventory management tools, inventory control, inventory control tools, factors affecting inventory management system, inventory control system and relationship between inventory control and monitory performance.

The second party of empirical studies reviews studies conducted by other researcher related to the topic.

##### **2.1.1 Conceptual definition**

Inventory is the collection of finished materials used in production that hold by organization. According to Reph and Milner (2015) “Inventory is the stock of any item held in an organization”.

Also according to Sharma (1999) it is defined as “systematic location, storage and recording of goods in such a way that desired degree of service can be made to the operating shops at a minimum ultimate cost”.

According to Chitale and Gupta (2014) Described inventory in financial parlance as “ inventory is the sum of the value of raw materials, fuels and lubricants, spare parts, maintenance

consumables, semi processed materials and finished goods stock at any given point of time”. Therefore he concluded by analyzing that inventory or stock facilitates customers’ demands. All business and institution requires inventories because they are substantial part of total assets. It is important to hold inventory because it is a major part of ongoing business operation, covers finished products awaiting dispatch to customers, goods awaiting point of sale display, scrap and other arising and packages held pending return to suppliers.

According to Reph and Milner (2015)the aim of hold organization is to have the right amount, in the right place, at the right time and the right cost. Inventory covers all goods and materials that an organization owns or holds which business intends to add value before selling. There is a need of inventory which is essential so as to get resources efficiently and effectively.

According to Sharma (1999) the needs of inventory are; to gain economies in purchasing beyond current requirement, to maintain service stock, whole replacement stock are in transit to protect against variations in demand, inventory management are very important modes in a supply chain network as they perform valuable functions that support the movement of materials, storing goods processing products, grouping vehicle loads, creating stock keeping unit collections, and assembling shipments (Langevin and Ripopel, 2005).

## **2.2. Inventory management**

This is the supervision of inventory and stock items or can be defined as process of efficiently overseeing the constant flow of units into and out of an existing inventory.

According to Reph and Milner (2015)inventory management as “process of directing and administering the holding, moving and converting of raw materials through value adding processes to deliver finished products to the customer”.

Inventory can be defined as the array of finished goods or goods used in production. These goods are either stored in-house or in a warehouse so that a business can meet demand and fulfill orders. For some manufacturers, inventory may look like raw materials and work-in-process. For others, it may be a supply of finished goods.

### **2.2.1 Types of inventory**

According to Dinesh (2017)“Items that are used in production includes raw materials and work in process”. It easy in managing control of inventory when classify inventory in to different type Raw materials These are primary ingredients used in making product and are purchased from supplier so as to be used in production process.

Working in process; these are stock of materials on production processes that have been started but not yet completed meaning that materials that are not ready for sale.

Finished goods; these are goods completely finished made it through the production process and ready for consumers to buy.

Supplies; these are inventory items consumed in the normal function of the company.

Lets’s explore eight different types of inventories that exist Emmino, (2019).

#### **Work-In-Process**

Work-in-Process (WIP) is a term used to describe partially finished goods that are waiting to be completed. This includes raw materials, labor, and overhead costs. WIP contributes to the inventory asset account and these costs are transferred to finished goods, and then to cost of sales. This form of inventory includes components, assemblies, and subassemblies.

#### **Cycle Stock**

Cycle stock inventory is the portion that seller rotates through to satisfy regular sales orders. It is related to the decision to manufacture a specific quantity (in terms of lot or batch size). This type of inventory is intended to reduce set-up costs and avoid loss of process capacity. This stock depletes gradually as orders come in from customers and is replenished in a cycle when supplier orders are received.

### **Pipeline Stock**

Pipeline stock refers to goods that haven't been sold, but aren't possessed by the company, either. This form of inventory can be best understood as "in transit" because it exists within the transportation network and distribution system.

### **Anticipation Inventory**

Anticipation inventory refers to the inventory companies keep on-hand to meet sales demand. There are times when manufacturers will intentionally hold large quantities of inventory because they anticipate certain events will take place. It's partially caused by the uncertainty that comes along with consumer demand. An example of this is stocking up on barbecue grills before Spring. It is simply a way to cover projected trends and consumer fluctuations based on seasons, vacations, and sales promotions.

### **Hedge Inventory**

Hedge inventory is inventory that is held to protect against a future event or disruption in supply. For example, a strike, vendor shutdown, government change, or any other predicted event. The purpose of this type of stock is to manage costs and create a competitive advantage if potential external circumstances go awry

### **Buffer/Safety Stock**



Buffer and safety stock are sometimes used interchangeably. Buffering protects supply chain nodes from variances in supply and demand. It protects against unforeseeable fluctuations in demand and/or supply. Safety stock describes the extra stock that is maintained to mitigate the risk of stockouts, or shortfalls in raw material or packaging, that are caused by uncertainties in supply and demand. When a business has an adequate level of safety stock they can continue operations according to their plan. Safety stock is held when uncertainty exists in demand, supply, or manufacturing yield, and acts as an insurance against stock outs.

One form of buffering is referred to as decoupling, which separates supply from demand to optimize processes. Decoupling uses buffer inventory between operations so that there are no severe fluctuations in production rate that will hold up the next operation.

### **Finished Goods**

A finished good is a completed part that is ready for a customer order. An inventory of finished goods is a stock of completed products that have been inspected and passed all other necessary requirements. They are transferred from work-in-process into this final stage and can now be sold to final users, which include retailers, distributors, or consumers.

### **MRO Inventory**

This form of stock refers to maintenance, repair, and operating supplies that are used to support and maintain production processes and infrastructure. Examples of MRO inventory include oils, lubricants, coolants, packing material, tools, nuts, bolts, and screws

### **2.2.2 Objectives of Inventory Management.**

According to Reph and Milner (2015)“Business systems are designed to help to manage inventory” so inventory management cover wide variety of activities in the management

According to Schreiber and Snawder(2017) “Inventory management is replenishing stock inventory with the right quantity, of the right item in the right location and at the right time. In other words inventory management minimize carrying cost of inventory and make arrangement for sale of slow moving items and minimize inventory ordering cost. Inventory ordering cost are costs of placing an order and receiving inventory by determining how much is needed, preparing invoices, transport costs and cost of inspecting goods.

According to Dinesh (2017) “Ordering cost is the cost associated with placing an order for an item and preparing a purchase order”. Ordering cost consist of cost of making analyzing materials, inspecting materials follows up orders and doing the processing necessary to complete the transaction.

The main aim of an inventory management system is to keep the stocks in such a way that it is neither overstock nor under stock. To ensure a continuous supply of materials and stock so that production should not suffer at the time of customers demand. That will avoid both overstocking and under-stocking of inventory.

The objectives of inventory management are operational and financial. In operational, materials and stock should be available in sufficient amount whereas, in functional, the minimum working capital should be locked in. Objectives of the inventory management practices.

The objectives of inventory management According to Brits & Bekker 2016.

- To ensure a continuous supply of materials and stock so that production should not suffer at the time of customers demand.
- To avoid both overstocking and under-stocking of inventory.
- To maintain the availability of materials whenever and wherever required in enough quantity.

- To maintain minimum working capital as required for operational and sales activities.
- To optimize various costs indulged with inventories like purchase cost, carrying a cost, storage cost, etc.
- To keep material cost under control as they contribute to reducing the cost of production.
- To eliminate duplication in ordering stocks.
- To minimize loss through deterioration, pilferage, wastages, and damages.
- To ensure everlasting inventory control so that materials shown in stock ledgers should be physically lying in the warehouse.
- To ensure the quality of goods at reasonable prices.
- To facilitate furnishing of data for short and long-term planning with a controlled inventory.
- To supply the required material continuously.
- To maintain a systematic record of inventory.
- To make stability in price

### **2.2.3 Inventory management tools**

Inventory management tools can be powerful which may enable to change actions in companies.

Inventory management tools may help to monitor performance in organization.

According to Indira P (2018) “Inventory management often involves tools- barcode scanner and printers, mobile, laptop, computers and specialized software to keep track and make sense of numbers”.

Inventory management software systems such as Activate provide a wide range of features and tools to help with inventory control. Here are five powerful inventory tools in inventory management software, along with a description of what they are, and the benefits of each.

according to NRF chief executive Matthew shay, here are five powerful inventory tools.

### **1. Reorder alerts**

What it is? Inventory Tools - Reordering Reorder alerts, or low inventory alerts, will appear in your inventory management system to alert the user(s) of when it's time to reorder a certain item. The alert will appear when the product level reaches the predetermined reorder level. The inventory management system is able to do this because it is able to see the amount of each product (even if they are in multiple locations, warehouses, etc.), and see when the overall product level has become "low".

How to use it

By considering certain inventory information, such as previous sales history and expected demand, you can determine the necessary amount of buffer or safety stock for each specific item. Then, you can set the reorder alert based on this amount.

### **Benefit**

Benefits of reorder alerts are:

- Reduction in time spent looking up inventory levels and purchasing
- Reduction in manual efforts to look up inventory levels
- Increased accuracy of inventory levels through automation.

Additionally, inventory management software may be able to make the purchasing component of reordering products even easier and quicker.

For instance, with Activate for QuickBooks inventory software you are able to generate a purchase order straight from the reorder alert. This makes it easy to know when a product level

is getting low and easy to reorder that item right away. Therefore, inventory levels are quickly restored and your business is able to have a better inventory control measure in place.

## **2. Reports**

What it is? Inventory Tools – Reporting Reports can be created using the report function in an inventory management system. The data and information is pulled from the system’s database to create a report with all of the pertinent information necessary. Examples of categories of the types of reports and documents available include:

- inventory reports
- sales reports
- purchasing reports

Reports can be standard, meaning they are already available in the inventory management system. Alternatively, reports can be customized, meaning they are a modified or altered version of a standard report or personalized for a business in order to display specific information desired.

### ***How to use it***

There are many reports and documents available that can all be used in a variety of ways. Depending on the exact inventory management software system, both standard and custom reports may be available. Activates includes over 70 standard reports and has the ability to create custom reports using its integration (we’ll cover system integration later) with Crystal Reports.

The reports can be used to determine optimum inventory amounts down to the product level by displaying information such as:

- Inventory analysis by product
- Sales history by a specific customer
- Inventory information by lot or serial number

- Inventory reorder reports that display all products needing to be reordered

## **Benefit**

The benefit of reporting is that you are able to see a comprehensive and detailed amount of information at once. This is a time and effort-saving alternative to manually looking up all the data and/or information separately. Additionally, because reports are an automated way of collecting information, potential for error is greatly reduced.

You can check out a gallery of custom reports and documents in our previous blog article that explains how to track inventory with inventory management software

## **3. Dashboards**

What it is? Inventory Tools – Dashboard In an inventory management software system, a dashboard is an on-screen graphical display of information. Different information and data, which have been pulled from the system's database, can be viewed from the dashboard. For instance, Activate allows users to customize the information that is shown on their dashboard screen.

Activates dashboard feature displays graphical information, which can be customized to each user's preferences. This dashboard example displays an inventory value summary broken down by category, as well as by warehouse.

How to use it

Depending on the user(s) and their roles in the business, the dashboard can be used in a variety of ways to display a wide range of information. For instance, a small business owner could use their dashboard to display information such as monthly sales information, inventory levels per location, etc. On the other hand, a warehouse manager might use their dashboard to display current inventory levels in their warehouse, orders that are scheduled to be received and shipped out, etc.

## Benefit

Again, such as with reports, a dashboard is a great tool for compiling assorted data and information. Because the inventory management system collects and displays this multitude of information, both time and effort are saved, while accuracy is increased.

## **4. Barcoding and mobile system**

### What it is

Inventory Tools – Barcoding: Barcoding and mobile systems are a combination of hardware and software that allow your business to assign, scan, and manage barcodes.

Barcode hardware includes items such as barcode scanners and label printers. Barcode software is the system that manages the barcoding and inventory information. To learn more about barcoding hardware and software, visit our page on barcoding inventory management.

### How to use it

For an effective inventory management system, barcoding and mobile solutions can be utilized to:

- Conduct inventory counts
- Verify inventory
- Adjust inventory

### Benefit

The benefits of using barcoding and mobile systems are ease, speed, and accuracy. For instance, conducting an inventory count by using a barcode scanner is easier, quicker, and more accurate than conducting an inventory count manually.

To learn all the benefits of barcoding and mobile, check out our informational page here.

## **5. System integrations**

### What it is

Inventory Tools – Integration An inventory management software system is able to integrate with other business management systems, such as accounting software, web store platforms, and EDI, just to name a few

How to use it

Depending on the services your business uses, the system integrations necessary will differ.

Examples of systems that can integrate with your inventory management software include:

- Accounting software integration
- Web store integration
- 3PL and/or EDI integration
- Reporting software integration

Benefit

With inventory management software system integration, inventory levels can be seen from a bird's-eye view from across channels (brick-and-mortar stores, web stores, phone orders, etc.) and locations. Then, inventory can be examined with precision by location, warehouse, product, etc. This gives businesses better insight and information in which to carry out purchasing, sales, and inventory decisions.

Finding the solution with the right inventory tools

inventory tools in Activate inventory management software to summarize, five powerful inventory tools to utilize in inventory management software include: reorder alerts, reports, dashboards, barcoding and mobile, and system integration. Inventory management software also has many other dynamic features and tools to help with inventory control and management. The best part is, inventory management software is affordable and cost-effective, meaning small to mid-size businesses are able harness the power of inventory management software. Now small and mid-size businesses can reap the benefits of a powerful and robust system.



## **2.2.4 INVENTORY MANAGEMENT TOOLS AND TECHNIQUES**

According to Myob(2021)When you consider that some businesses might need to keep tabs on hundreds of thousands of stock items, there's little wonder inventory management tools are so integral.

Managing inventory is a big deal for many businesses, particularly in manufacturing and wholesale. Inventory records are the most likely area of the business to be computerised and every ERP system and CRM system is built around an inventory management function.

Basic inventory management maintains what's called a 'perpetual inventory record'. Put simply, the system accepts inventory movement reports (transactions) and maintains a continuous record of the quantity on-hand.

Of course, inventory management software does a lot more than that. Here are some of the tools that can and should be integrated with inventory management to give you the control and visibility you need to support efficient operations.

### **1. Barcode data collection**

The perpetual inventory system is highly dependent on timely and accurate reporting.

Manual reporting can be plagued by delays, errors, missing transactions, and undue burden on the workforce to collect and enter the data.

Automated data collection, most often through barcode scans, removes much of the reporting burden, while greatly improving accuracy and timeliness of transactions.

### **2. Cycle counting to improve accuracy**

Inventory accuracy is very important to the effective planning and control of inventory. Sadly, most inventory tracking systems are woefully inaccurate without an active and disciplined cycle counting system in place.

Cycle counting replaces the cumbersome and error-prone periodic (usually annual) physical inventory count with a regular program of counting selected items so that more important items are counted more often than less important ones.

The magic of cycle counting is that it provides a structure for identifying and eliminating the source of errors to improve accuracy in a sustainable way.

### **3. ABC analysis for prioritization**

Cycle counting is usually set up using ABC analysis to identify the more important and less important items mentioned above.

The most common ABC analysis (also called Pareto analysis) method is to rank all inventory items according to the total value of each on an annual basis (annual “usage” or movement times unit cost).

Typically, the top 20 percent of items represent 80 percent of the annual value through the warehouse (80/20 rule). The next 30 percent (B items) account for 15 percent of the value and the remaining 50 percent, the C items, total five percent of annual value.

In addition to setting cycle counting frequency, ABC classifications should drive item location in the warehouse, lot sizing and safety stock rules, and other management parameters to put your focus on the items that matter, where you can get the most return for your investment.

### **4. Integrated planning and execution**

The primary focus of ERP is to improve customer service (meeting demand) while optimising resources including inventory (and reducing costs).

While the inventory system provides critical information for the planning and execution systems within ERP, these functions return the favour by managing the use and replenishment of inventory to minimize shortages and lowering the overall inventory investment.

## **5. Lot tracking and traceability**

Not every company needs serial number or lot tracking traceability, but more and more are collecting this information in recognition of the increasing risk of product recalls.

In addition, life-cycle information, genealogy, configuration history and product performance data can be of great value to engineering, development, product servicing, spare part provisioning, and other areas of the business.

Inventory tracking is a requirement for financial control and basic business management processes. But inventory management and inventory data can be a valuable resource in the quest for performance improvement, higher levels of customer service, cost control, product development, and overall business success.

Integrated inventory management systems, a critical part of any ERP, provide the basic tools and significant additional capabilities to make ERP of increasing utility, catered to a bigger business's needs.

## **2.3 Conceptual frame work**

Conceptual frame work used in illustrate what expected to find through research includes how variables relate to each other, that indicates variables of causes and effects.

Inventory control management consists of planning on inventory and inventory control. Inventory planning involves determining when to order items, how much to order, forecasting demand and stock replenishment, inventory information. Inventory control consists managing the inventories that are in store, knowing that products are in stock, quantities, cost and location.

The study review that when having good inventory control management will increase organizational performance.

On dependent variable, the study assumed that the influence of inventory management system, information management system, and improved inventory and stores management practices will influence financial performance in the organization.

Control management variables such as inventory monitoring and inventory information system were included in the conceptual framework. Inventory control management includes day to day follow up and evaluation of the key performance in inventory costs and service level which can ensure good inventory planning. The influence of inventory control management system empowers management the right information to reduce inventory in time hence improving organizational financial performance.

You can think about independent and dependent variables in terms of cause and effects: independent variable is the variable you think is the actual cause, while a dependent variable is the effect. In an experiment, you manipulate the independent variable and measure the outcome in the dependent variable.

## VARIABLES

DEPENDANT

INDEPENDENT

Inventory control management	Performance
<ul style="list-style-type: none"> <li>•Barcoding</li> <li>•Radio frequency identification(RFID)</li> <li>•Warehouse space</li> <li>•ABC inventory analysis</li> <li>•FIFO(Last in First Out)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Eliminate the manual data entry mistakes and accurate records of the inventory this helps speedy return on investment.</li> <li>➤ Records movement of materials in the warehouse. This will help reduce theft and increase profit.</li> <li>➤ more space is expected to be associated with higher warehouse staffing.</li> <li>➤ this approach aims to identify the inventory that gives or earn you more profit by classifying items into different tiers.</li> <li>➤ The oldest inventory is used first to fulfil customer orders.</li> </ul>

**Source (UMMBC) 2015**

### **Warehouse survey by Scott Madden**

#### **2.3.1 Inventory control**

Inventory control is a broad topic used to show how much inventory you have at any one time and how to keep track of it.

According to Reph and Milner (2015)“Inventory control is about managing the integrity of the stock” also he concluded by saying “inventors is also obviously about management of the physical inventory. According to Chitale and Gupta(2014) “inventory control is the operation of continuously arranging receipts and issues in such a way that stock balances are adequate to support the current rate of consumption with due regard to the economy. Inventories are control so as to be available when needed so as to help in archiving economic price, at proper time form a proper source in proper quantity.

According to Indira (2018) Defined “inventory controls refers to all aspects of managing a company’s inventories purchasing, shipping, receiving, tracking, warehousing and storage, turnover and reordering”. Inventory control in organization is important that’s why other companies invest in inventory control system. Inventory control involves activities such as determination of limits of inventories to be held, determination of inventory policies, setting out of investments pattern, its regulation as per individual and collective requirements and follow up to examine the working of the inventory policy and affecting changes as when needs. From above analysis show that inventory control involves management process of materials control. Without material control the entire functioning of storekeeping may either be ineffective therefore inventory control gives birth of material control. The materials control inhales in itself the entire materials and allied functions.

### **2.3.2. Inventory control methods**

There are several methods of controlling stock designed to provide in efficient to deciding what, when and how much to order which are inventory review, minimum inventory level, maximum inventory level, re order level, re order quantity, re orders lead time, economic order quantity, just in time, batch control, first in first out and last in first out.

According to Indira (2018) “Inventory review Involves reviewing inventory at every review you place an order to return stocks to a certain lever” This review system evaluate inventory at specific time like counting inventory at the end of each month. Minimum inventory level Minimum level of inventory is a precautionary level that indicates delivery of raw materials takes more than the normal lead time.

According Indira, (2018) “Minimum stock level required to be maintained for uninterrupted production line/ customer demand” Maximum inventory level Refers to the maximum

capacity of business to stock inventory in the store. Maximum stock level identified as a maximum stock level based on the following factors;

- Shelf life of item
- Space available
- Consumption pattern
- Market availability
- Price inflation Re order level It is the inventory level that a company would place a new order. The order needed to be recouped and re order when inventory reaches that level

12 Re order quantity Re order quantity of the order placed on a new purchase order for the particular item. Here the quantity for re order is initiated Re order lead time It is the time gap between raising an indent and receiving it, involves delay time applicable for inventory control purpose. Economic order quantity (EOQ) It is a formula which is used to balance between holding too much or too little inventory, it is a complex calculations that made other companies to use inventory control software. Just In Time (JIT) The main objective is to reduce costs by cutting stock to a minimum by being confident that supplier deliver on demand so as to prevent the risk of running out of stock Batch control Is the way of managing the production of inventory in batches by make sure that the right quantity of components covers needs until the next batch. First in first out (FIFO) Method is based on assumption that ensure efficiently so that stock don't deteriorate, should be computed out in the order which incurred. Last in first out (LIFO) Method that ensure certain inventory would be more valuable and more effective in terms of its quality improvement and end use effect

### **2.3.3 Inventory control system**

According to Shah and Mandeep (2016)“inventory control system can be defined as the combination of hardware and software based tools for tracking and managing inventory”,

There are two types of inventory systems that control inventory in stock which are perpetual system and periodic inventory system.

A) Perpetual system; Perpetual system is the system used to records the purchase of each item of inventory. Organization that uses perpetual system must have physical count in a year or to confirm the balance in the inventory account.

According to Indira(2018)“Perpetual system updates inventory records and accounts for additions and subtractions when inventory items are received, sold from stock, moved from one location to another, picked from Inventory and scrapped”. Perpetual inventory system preferred in organization due to the fact that it deliver inventory information that are not outdated thus handle minimal physical inventory counts.

B) Periodic inventory system is the system that takes physical counts periodically which does not maintain continues record of the physical quantities of inventory on hand. According to Indira (2018) Periodic inventory system do not track inventory on a daily basis rather they allow organizations to know the beginning and ending inventory levels during a certain period of time. One disadvantage of using periodic inventory system is when physical inventory counts are being completed normal business activities nearly become suspended.

C) Barcode Inventory systems Other inventory control system is Barcodes inventory system involves the use of hardware like barcode printers, software which runs on computers.

According to Indira (2018) “Inventory management systems using Barcode technology are more accurate and efficient than those using manual processes”. Barcode control system has more benefits includes eliminating time consuming data errors that occur frequently with manual or paper systems, ease and speed of scanning and have accurate records of all inventory transactions.



D) Ordering cycle system In the ordering cycle system periodic reviews are mad of each item of inventory and orders are placed to restore stock to a described level. The frequency of review depends on the criticality of the item.

E) Ordering system Sufficient inventory needs to be maintained so in to manage efficiently and effectively should consider how much should be ordered and when should it be ordered. Ordering system should be determined by sub system which are economic order quantity and re order point sub system.

### **2.3.4 Factors affecting inventory management system**

In managing inventories some of variety factors needed to be considered. According to Indira (2018). Identifies factors that affecting inventory management system are financial factors, supplies and lead time.

Financial factor; Financial factor affecting inventory management which includes tax costs associated with stocking inventory during preparation of the end year in tax returns and expenses associated with warehouse operation, transport costs. Supplier Unreliable supplier can affect inventory control otherwise there will be a good idea to ensure reliable back up supplier to prevent product shortages. Lead time It is a gap rising between requirements till the physical receipt of inventories. Lead time can be of administrative lead time and suppliers lead time. Lead time depends on product type and the various manufacturing processes involved.

### **2.3.5 Inventory control management system**

Some of scholars described inventory control and inventory management being the same but some explains that there is a little bit difference. According to Schreiber and Snawder (2017)“Inventory control protecting the inventory stored in your facility and minimizing the cost of filling orders” while “inventory management replenishing stock inventory with the right quantity of the right item, in the right location at the right time. So inventory

control, controlling already owned while inventory management, managing inventory to maximize profits and maintain customer satisfaction. Inventory control management system is a system that includes all aspects of managing company's inventories, purchasing, and shipping, receiving tracking, warehousing and storage, turnover and reordering. Computerize inventory control management system help to integrate various subsystem compare to manual inventory control managing system.

According to Shah and Mandeep (2016). "Manual inventory management control system should be a big no and automated inventory controls system should be encouraged"

### **2.3.6 Relationship between inventory control system and Monetary performance of the organization**

Monitory performance refers to measuring organizational policies and operations in monetary terms (Business dictionary 2012).

Monitory erformance measured by how organization uses its assets efficiently. The literature view on inventory control management system has influence financial performance in the organization therefore organization can be performed efficiently if there will be improved on inventory control management system. Financial performance of organization can be practiced in different department such as accounting, finance, marketing and others. Through those departments can be easily in minimizing and maximizing inventories during ordering.

Sanghal (2005) reviewed on effect on excess inventory on long term stock price performance, also the study review inventory situations in the organization. The study suggested that stock market anticipates excess of inventory situations and those organizations recover from negative effects of excess inventory.

## **2.4 Empirical studies**

Researcher reviewed works done by other researcher related to the same topic with reasons of relate theoretical literature reviews of other researcher.

The study of 2003 by Yusuf on inventory control and economic order quantity in National Electric Power Authority that review problems for stores control system was death of qualified stores personnel, overstocking and under stocking. The study revealed problem of stores control not unconnected with failure of management in the organization.

Watts Hahn and Sohn (1999) show that in order to minimize performance caused by stem fitness problem management should implement inventory management system. The system must be characterized by environmental variable like demand, cost, re order point and lead time and can include performance measures such as turnover rate.

According to Langevin and Ripopel (2005) Warehouse management systems are very important nodes in a supply chain network as they perform valuable functions that support the movement of materials, storing goods processing products, grouping vehicle loads, creating stock keeping unit collections, and assembling shipments.

The main objective of the supply chain is to provide products to the end customer continuously and in cost-effective way possible. At the same time, a supply chain can add value to the end costumer by delivering products in the least amount of time, which means that it could result cutting costs and increasing revenue and customer satisfaction. Warehouse are very important nodes in a supply chain network as they perform valuable functions that support the movement of materials, storing goods processing products, grouping vehicle loads, creating stock keeping unit collections, and assembling shipments (Langevin and Ripopel, 2005). In another word, Warehouse is where the industries store their product and raw materials before delivering them

to the customer for production and consumption purpose. The role of warehouse is important as the place to keep products in a safe condition to make sure the environmental element will not affect the product. Warehousing has also been recognized as one of the main operations where companies can provide tailored services for their customers and gain competitive advantage. Frazelle said that warehousing is a component of logistics to bring the key aspect of modern supply chains and plays a critical role in the success or failure of businesses today (Frazelle, 2002).

According to Kearney in his study, warehousing contributes to about 20% of logistics costs while the inventory within them adds a further 19%. Therefore, the operations of warehouse are critical to the provision of high customer levels (Kearney, 2004).

Basic warehouse activities by Frazelle, 2002. He said that there are several activities in warehouse flows. These activities are receiving, transfer and put away, order picking/selection, accumulation /sortation, cross docking, and shipping (Frazelle, 2002).

- Receiving operation - This operation means receiving goods and products from the transport network into the warehouse, the inbound carrier is scheduled to deliver the good at a specific time so as to improve warehouse labor productivity and unloading efficiency.
- Put-away operation - This process involving identifying the product, typically scanning the product's barcode, identify location for the items and moving the products and goods to the appropriate location.
- Order-picking process - It requires warehouse personnel to select the items ordered by the customer from the storage place or area.
- Accumulation - The accumulation/sortation of picked orders into customer orders is a necessary activity if the orders have been picked in batches. In such a case the picked units have

to be grouped by customer order, upon completion of the pick process. After picking, orders often have to be packed and stacked on the right unit load (e.g. a pallet).

- Cross-docking - is performed when the received products are transferred directly to the shipping docks.
- Shipping process - The process concerns with loading goods for shipping to the customer or to the production line. The final movement process occurs at the shipping operation. After outbound carrier arrives at the loading dock, the goods and products are moved to the loading dock from the staging area and into the carrier's vehicle.

Lastly the warehouse information system will update the information reflecting the removal of the goods and products from warehouse inventory and the shipment of products to the customer.

## **2.5 Theoretical Inventories**

Are materials waiting for processing. Raw material inventories provide a stable source of input required for production. A large inventory requires less replenishment and may reduce ordering costs because of economies of scale. In-process inventories reduce the impacts of the variability of the production rates in a plant and protect against failures in the processes. Final goods inventories provide for better customer service.

Observation in different companies reveals that most managers don't make attention on inventories because they are like money placed in a drawer. Assets tied up in investments are not produce return but they incurring a borrowing cost. They incur costs for the care of stored material and are subject to spoilage and obsolescence.

## **CHAPTER THREE**

### **Research Methodology**

#### **3.0 Introduction**

This chapter, discusses the methods that will be used in the collection and gathering of data to answer the primary and secondary research questions of the study. It explains the research design, sampling techniques and data collection methods to be used; and describes how data that will be collected from the research will be analyzed. Both qualitative and quantitative research methods will be used in carrying out this research.

However the approach will be qualitative because qualitative methods focus on the experiences of the people involved, and attempts to understand the reasons behind certain behavior description. The evaluation will be carried out using three systems of data collection techniques, literature review, interviews and questionnaires. The literature review and interviews are used to collect qualitative data while questionnaires are used to collect both qualitative and quantitative data; thus the two will complement each other. Creswell (2014) defined “research methods to involve the forms of data collection, analysis, and interpretation that researchers propose for their studies.

#### **3.1 Research design**

Aning (2012) put it that research Design is an arrangement of conditions for collecting and analyzing data which will be relevant to the researcher in the most economical manner. It is the program that guides the researcher in the process of collecting, analyzing and interpreting an observation. It also defines the domain of generalization; that is, it indicates whether the obtained interpretation can be generalized to different situation or not (Amoani, 2005). The research design used in the study is descriptive survey. According to Avoke (2005), stated in

Aning 2012, descriptive surveys are designed to depict accurately the characteristics of particular individuals, situations, or groups.

### **3.2 Population**

The population is the description of the specific study from which the study sample will be selected to examine the research. The research will be conducted at the Blow Plast industrial limited Accra Ghana. The staff of the organization will be the target.

### **3.3 Sample size**

A total of twenty five (25) respondent participated in the research. These are members of staff from the institutions and it included management staff 3, Procurement 7, Stores 10, Users 5  
Total 25 Source: Researcher construct, 2021

### **3.4 Sampling Technique**

According to Aning 2012, Sampling techniques are the approaches that researchers use to select respondents or organization of interest from a population for a study (Fink, 1995). Various ways of sampling include systematic, simple random, purposeful, convenient and snowballing among others. Purposive selection is the techniques of carefully selecting the sample to reflect the purpose of investigation. The objective of the investigation decides the sample members and the stratification of the sample is arbitrary as it selects only those variables that relates to the objective of the study (Creswell, 2005). The researcher uses probability sampling in this research undertaking in which simple random sampling was mainly used. This was because simple random sampling gives every unit of the targeted population an equal chance of being picked. In other words, in simple random sampling, all possible samples of fixed size have the same possibility of being selected. Under this research study, twenty five (25) questionnaires will be administered to the staff of Blow Plast limited

### **3.5 Data Collection tools**

The researcher will use questionnaire, personal visit, and observation references related to literature review in collecting data for the research. The data collection tools are explained below:

#### **3.5.1 Questionnaires**

To enable researcher obtain data on the topic, questionnaires will be distributed to some selected staffs at Blow Plast Limited. A mixed method was used which include; Close ended / Yes or No questions and open ended.

The close-ended questions, which included the Yes or No, multiple choice which has the advantage of being easier to administer to a large group of respondents and therefore saves time. It is easier to score, tabulate and analyze and it is more objectively and reliably scored. A major disadvantage is that it does not provide detail information about the problem and fails to yield information of sufficient depth.

The researcher will use close-ended and open ended questions to collect the required data. In this technique the respondents were to tick the correct option to the question according to their opinions and also write their opinions where necessary.

#### **3.5.2 Mode Of Administration**

The questionnaire was sent personally to the management and others who are concerned to ensure safe delivery and promote a good understanding between the researcher and the targeted respondent. The procedure will also help most of the respondents to understand what the researcher wants from them.

#### **3.5.3 Personal Visits**

The researcher will undertake visit to the various departments or sections of Blow Plast, to ask for the consent of the authorities about the intended research in their organisation.



### **3.5.4 Observations**

The researcher will use this technique to obtain information about certain facilities and activities at Blow Plast limited. Information will be gathered on staff attitude to work, the various activities in the warehouse, how well they are performed, and if the warehouse management systems and methods are helping the organization achieve its main objectives.

### **3.6 Data Collection Procedure**

The researcher will employ structured questionnaires and semi-structured interviews to solicit information from the employees and management respectively. Questionnaires will be administered through the managers by the researcher to the respondents who will complete them during normal working hours. The management and employees will constitute the study population. A sample size of twenty five (25) respondents was be chosen from the employees in the organizations.

### **3.7 Sources of Data**

There are many sources of collecting data but in order to arrive at objective solutions to the research problem, the researcher adopted the two principal sources of obtaining data; these are primary and secondary data.

Primary data these are data collected first and thus happen to be the original in character. It is also known as field investigation which refers to the information that the researchers gathered themselves .It also gives detailed information about the study to be undertaken. The data collection involves the use of questionnaires and personal interviews as well as field survey. For the purpose of this research the researchers will use the primary data than any other form to investigate the problem.

Secondary data on the other hand is mainly concerned with reviewing of already published work, report or article, thus they are collected for some enquiry other than the one of immediate

interest. The means by which the researcher uses to collect his data is referred to as data techniques. They include questionnaires, personal interviews and field observations.

### **3.8 Analysis Of Data**

The method which will be used in analyzing the data is descriptive approach. Statistical table will be drawn using percentages corresponding to absolute figures. The tables will be prepared after the answered questionnaires have been edited and tallied. Percentages will be used to come out with the research solution.

### **3.9 Tools For Data Analysis**

In order to draw meaningful, valuable and reliable conclusions and make relevant recommendations, qualitative method of analysis will be employed; the researchers will also employ the use of Microsoft Excel to ensure that a complete and statistically set of results are obtained using frequency tables, pie charts, bar charts, and percentages (%).

### **3.10 Company's Profile**

Blow Plast started in 1993. Since then It has pursued an unstinted path of growth despite nation and international competition. Growth with social conscience has been their motto. Their long term goal is to build a multi- product, multi brand and this has now becomes a reality.

Blow blast has provided full services to virtually every industry customized in flexible packaging is used; food pharmaceutical, chemical, textile, airline railroad and construction companies in addition to agricultural, retail.

Blow Plast has a manufacturing site with a total of over 70,000 square meters, having over 1,200 workers, modernized workshop advance facilities.

### **3.11 Location**

Blow Plast is located at south industrial area graphic road Accra, Ghana.

Postal address; An 6988, telephone 0302223391, mobile; 0244315535.

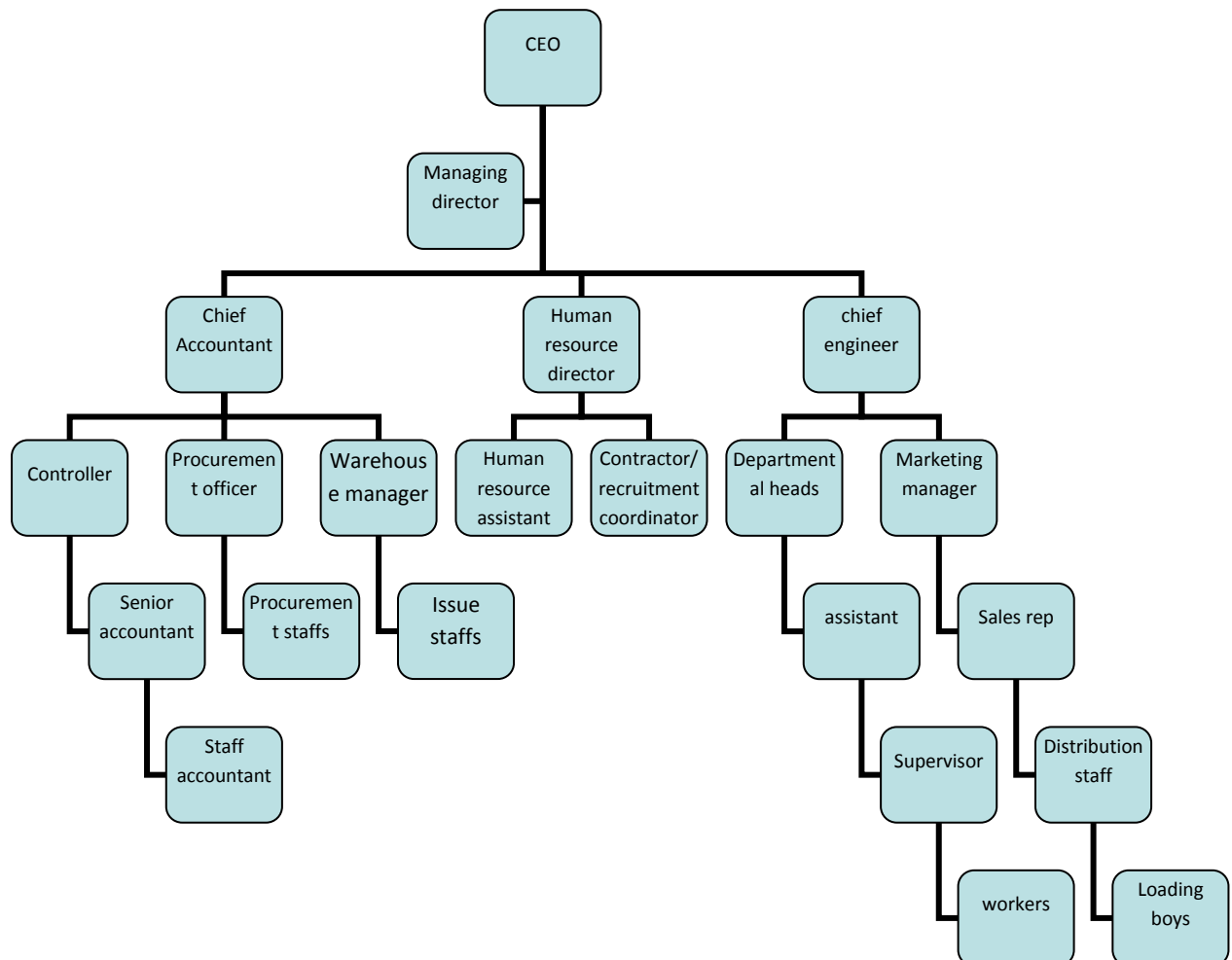
### 3.12 Vision

To be thier customers first choice when selecting a world class manufacturer of plastic parts, assemblies and products, and the provider of selected technical service.

### 3.13 Mission

To embrace a propensity for satisfying the needs and expectations of our customers by supplying on time, high quality products and services, with competitive pricing and long term consistent value.

### 3.14 Organizational Structure



## CHAPTER FOUR

### Data Presentation And Data Analysis

#### 4.0 Introduction

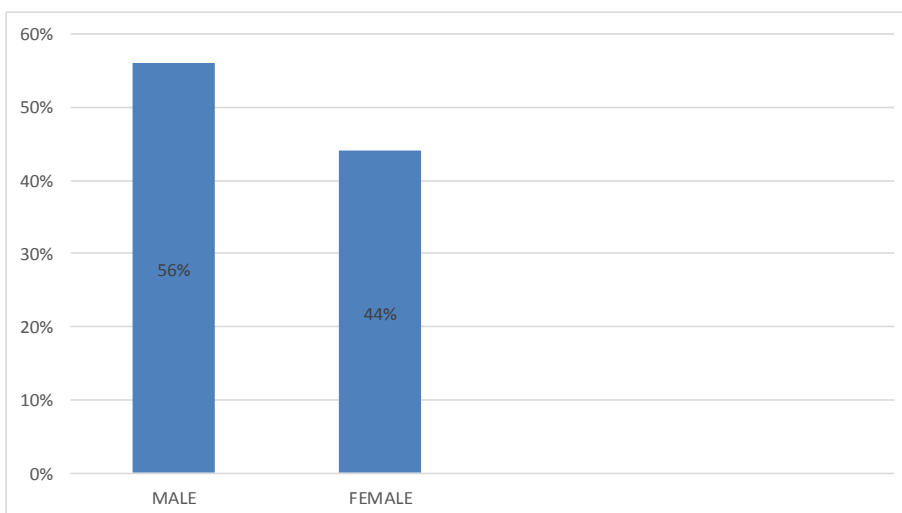
This chapter represents the analysis of data collected from respondents through the use of questionnaires. The responses of the respondents are analyzed using statistical tools including frequency tables, pie charts, bar charts, percentages (%). The chapter also shows how the researcher presented the analysis collected from the respondents in order to make meaning to the information retrieved from the questionnaire. However, every question was mounted in the form of tables/charts which shows clear meaning to the data.

#### 4.1 Demographics of Respondents

The researchers sent twenty-five (25) questionnaires to the respondent in the organization. From the twenty-five (25) respondents, all the questionnaires were answered and returned which shows 100% response rate.

#### Gender Respondents

**Figure 4:1 Gender analysis of respondents**



Field Survey 2021

Figure 4.1 above indicate that fourteen (14) out of the twenty-five (25) respondents were males which represents 56% and the remaining eleven (11) were females which represents 44%. This result is a reflection that most of the employees in the organization are males.

### **Age Distribution of staff**

**Table 4:1 Responses on the age distribution**

<b>Age</b>	<b>Number of Respondents</b>	<b>Percentages (%)</b>
18-30	22	88
31-40	3	12
41-50	0	0
Above 50	0	0
Total	25	100

2021 Field Survey

Table 4.1 indicates the age distribution of staff in the organization. Responded in the age group of 18-30 years were twenty-two (22) in number which represents 88%, respondents in the age group of 31-40 were three (3) which represents 12%. No respondents in the age groups of 41-50 years and above 50. It can be concluded that the organization has energetic workforce because it contains more age group of 18-30years and 31-40years.

### **Position of Staff**

**Table 4:2 Responses on staff position**

<b>Staff Position</b>	<b>Number of Respondents</b>	<b>Percentages (%)</b>
Management	1	4%
Senior staff	11	44%
Junior staff	13	52%
Total	25	100

2021 Field Survey

Table 4.2 above indicates the position of staff in the organization. Management staff was (1) which represents 4%, senior staff where eleven (11) which represents 44% and junior staff where thirteen (13) which represents 52%.

## What are the warehouse management factors in the organization?

The research questionnaire which was presented to the respondents in the study was meant to investigate the warehouse management factors in the organization. The reasons they chose such factors and whether it has helped to manage stock to enhance production efficiency.

### 4.2 Factors to consider in warehouse management.

In the study, it was discovered that the organization considers some factors in their warehouse management. The factors considered were a total of twenty-five responses from the respondents which represents 100%. Six(6) responses suggested that location is a factor which the organization considers in managing the warehouse which represents 24%, seven (7) responses indicated that storage space is a factor that the organization considers in warehouse management which represents 28%, three (3) responses indicated that the organization considers technology in warehouse management which represents 12%, four(4) responses suggested that the organization considers accessibility as a factor in warehouse management, which represents 16% and five(5) responses suggested that the organization considers experience as a factor in warehouse management which represent 20%.

This analysis indicates that the organization considers location and storage space as the main factor in warehouse management.

**Table 4:3 Warehouse management**

<b>Factors in warehouse management</b>	<b>Number of responses</b>	<b>Total responses</b>	<b>Percentage (%)</b>
Location	6	25	24
Storage space	7	25	28
Technology	3	25	12
Accessibility	4	25	16
Experience	5	25	20
Total	25	25	100%

Source: Field survey (2021)

### 4.3 Reasons the organization consider such factors.

In this section, the researchers analyses the opinions of respondents on the reasons why the organization considers the factors in managing its warehouse.

The following outcomes were discovered.

Majority of the respondents suggested that it has helped in easy identification of items in the warehouse and has also enhanced proper arrangement of items to prevent damage, and for better layout of the warehouse. Other respondents also suggested that it has helped to speed up activities and also ensure quality services and monitor stock levels in the warehouse.

### 4.4 Does the factors help to manage stock effectively?

**Table 4:4 Management of stocks**

<b>Have the factors helped in managing stock</b>	<b>Responses</b>	<b>Percentage (%)</b>
Yes	25	100%
No	0	0%
Total	25	100

2021 Field Survey

Table 4.4 above shows the analysis on whether the factors have helped the organization manage their stock effectively. The responses were: twenty-five (25) respondents accepted that the factors has helped the organization to effectively manage its stock, this represents 100% response with no respondent opposing to the subject. This analysis indicates that the main effects of warehouse management on the organization are improvement of customer services, quick picking of items and clear location of items and easy track of inventory.

### 4.5 What are the effects of warehouse management in the organization?

Research question was centered on the opinions of the respondents on the effects of warehouse management in the organization.

**Table 4:5 below shows a presentation of the analysis**

<b>Effects of warehouse management</b>	<b>Responses</b>	<b>Total response</b>	<b>Percentage (%)</b>
Improved customer service	6	25	24%
High quality	5	25	20%
Quick picking of items	5	25	20%
Clear location of items	5	25	20%
Accurate storage location	4	25	16%
Total	25		100%

2021 Field Survey

The following responses were received from the respondents. A total of 25 responses were received from the respondents which represents 100%. six (6) responses suggested that warehouse management has improved customer service which represents 24%, five (5) responses suggested that warehouse management has helped enhance high accuracy in the organization which represents 20%. Five (5) responses showed that warehouse management has helped in quick picking of items in the organization, this represents 20%. Five (5) responses suggested that warehouse management has helped in clear location of items and this represents 20%. Four (4) responses showed that warehouse management has helped in accurate storage location which represents 16%. This analysis indicates that the main effects of warehouse management on the organization are improvement of customer services, quick picking of items and clear location of items and easy track of inventory.

#### **4.6 How does the effect influence the organization's production efficiency?**

**Table 4:5. How the effects influences the organization's production efficiency.**

<b>Influence on the organization</b>	<b>Responses</b>	<b>Total Responses</b>	<b>Percentages (%)</b>
Increase efficiency	17	25	76
Efficiency remains the same	4	25	12
Efficiency reduces	4	25	12
Total	25		100%

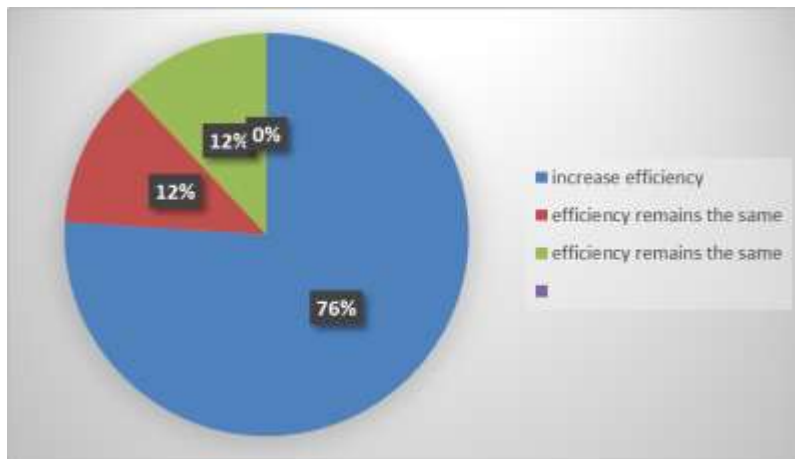
Source: Field Survey (2021)



The analysis in table 4.6 above shows how the effects of warehouse management helps improve production efficiency. From the data received, there were a total of 25 responses which represents 100%.seventeen respondents showed that there is increase efficiency in production efficiency which represents 76%, four (4) responses suggested that efficiency remains the same which represents 12%, and four (4) responses also suggested has reduced which also represent 12%.These responses confirms that there is increase in production efficiency on production.

**Figure explains the analysis below:**

**Figure 4:2 How the effects influence organizational production efficiency.**



**Source: Field Survey (2021)**

**4.7 what are the techniques used to ensure a consistent supply of stock?**

**Table 4:6 how the techniques is used to show consistent supply.**

Technique	Response	Total	Percentage %
Abc analyses	25	0	0
Just in time	25	20	80
Economic order	25	0	0
FIFO	25	5	20
Buffer	25	0	0
<b>Total</b>			<b>100%</b>

**Source: Field Survey (2021)**

The analysis in table 4.7 above shows the technique used to improve production efficiency. From the data received, there were a total of 25 responses which represents 100%. twenty

respondents showed that there is increase efficiency in production efficiency due to the use of just in time technique which represents 80%, five(4) responses suggested that efficiency remains the same which represents 20%. These responses confirm that there is increase in production efficiency and profitability since goods are not kept for a longer period in the warehouse, making holding cost less expensive.

What tracking methods are used to accept and store goods in the warehouse

**Table 4.8 How tracking method help to improve efficiency**

<b>Tracking method</b>	<b>Response</b>	<b>Total</b>	<b>Percentage%</b>
Label with serial no	15	25	60
Phone tracker	0	25	0
Warehouse manager	10	25	40
RFID	0	25	0
Bar coding	0	25	0
Total	25		100%

2021 Field Survey

The data above shows the responses from the respondents in regards to how goods are identified and tracked. The table shows a total response from the respondents which is 25 in total representing 100% response. Fifteen(15) responses from the respondent showed that the labeling with serial numbers are method used in tracking and identifying goods which represent 60%. Ten (10) responses showed that warehouse manager is responsible for identifying and tracking movement of stocks in the warehouse which represent 40%. This analysis implies that the labeling with serial and the close supervision and monitoring of the warehouse manager helps to improve warehouse management in order to increase production efficiency and effective inventory management, to help achieve the organizational goals.

#### **4.9 What are the importance of warehouse management in increasing production efficiency?**

Research question was meant to seek the views of the respondents on the importance of warehouse management in increasing production efficiency. A total of twenty-five(25) responses were received which represents 100%.Six (6) responses indicated that the main importance of warehouse management is effective inventory management which represents 24%, five(5) responses shows that effective planning was the main importance of warehouse management which represents 20%. four(4) responses shows that effective customer services is the main importance which represents 16%, six(6) responses shows that effective stock taking is the main importance which represents 24%. Four (4) responses shows that reduction in lead time is the main importance of warehouse management which represents 16%. This analysis shows that the main importance of warehouse management is increasing production efficiency are effective inventory management, effective planning, and effective stock tracking. **Below shows a presentation of the data.**

**Table 4:7 Importance of warehouse management**

<b>Importance of warehouse management</b>	<b>Responses</b>	<b>Total Responses</b>	<b>Percentages</b>
Effective inventory management	6	25	24
Effective planning	5	25	20
Effective customer service	4	25	16
Effective stock tracking	6	25	24
Reduction in lead time	4	25	16
Total	25		100%

2021 Field Survey

#### **4.10 Challenges of managing the warehouse.**

This section of the question was posed to the respondents to state the problems or challenges they face in managing the warehouse. Some of the challenges are: lack of experienced personnel, lack of material handling equipment, inefficient storage space and software management

problem. This analysis therefore implies that the main importance of warehouse management is increasing production efficiency are effective inventory management, effective planning, and effective stock tracking.

## **CHAPTER FIVE**

### **5.0 Introduction**

The research investigated the effects of warehouse management (whether there was an overall negative outcome or positive outcome), the warehouse management factors, effects and importance based on respondents from both employees and management staff. Management and senior staff made available information on reason for choosing those warehouse management factors, the general outcome of warehouse management on production efficiency.

The study employed the use of questionnaires and interview as the main instrument for the research. The data gathered was analyzed using percentages and frequency including bar charts and pie charts.

### **5.1 Findings**

The following findings emerged from the study. The findings are presented according to the research questions.

#### **5.1.2 To Identify The Warehouse Management Factors In The Organization.**

The research indicated that the organization considers location and storage space as the main factors in warehouse management, which resulted into a positive outcome to the organization. This for that matter has helped in the easy identification of items in the warehouse and also enhanced proper management of items in the warehouse to help prevent damages and for better improvement of layout in the warehouse. The organization has professionals who are managers and senior staffs, for this reason they are able to identify the right factors in managing the warehouse.

### **5.1.3 To identify the effects of warehouse management on production efficiency in the organization.**

There are several effects on managing the warehouse in the organization, these effects include ; improve customer service, high accuracy, quick picking of items, easy identification of items and accurate storage location of items.

Warehouse management practices implemented by blowplast Stores has helped improved the identification of items, quick picking of items, the time or speed used to discharge work for that reason customer service is improved.

### **5.1.4 To identify the importance of warehouse management in increasing production efficiency in the organization.**

The research showed that the main importance of warehouse management in increasing production efficiency is; to enhance effective inventory management, effective planning and effective stock tracking.

### **5.1.5 Other findings from the study.**

Before adopting a factor to manage the warehouse in the organization, the organization considers the outcome of the factor to be adopted, the cost involved and the impacts it will have on the staff. Thus, the organization considers a factor that is easy to be implemented which doesn't with high operational cost and also contributes to production efficiency.

## **5.2 Conclusions**

Warehouse management has become one of the strategic approaches in our current competitive business environment.

Organizations involved in the practise need to stick to their strategic management factors in the warehouse to reduce damage and stock out in order to improve customer service, easy identification of item, quick picking of items, effective stock tracking and reduction of lead time. Generally, organizations manage their warehouse to be able to achieve reduction of stock

out to be able to produce continuously to reduce production costs and timely delivery in order to meet customer satisfaction (Eisenhardt,1989).

As the trend of warehouse management is increasing in the business environment, it is realised that the importance of managing a warehouse far outweigh its demerits. Some of the importance include, effective inventory management, effective planning, improve customer service, quick effective stock tracking, lead time is reduced or minimized.

### **5.2.1 To Identify The Rational For Existing Factors Adopted By The Organization.**

Basically it was concluded in the study that there are several factors that influence the organization in managing its warehouse activities, the factors included, location accessibility, storage space, technology and experience.

### **5.2.2 To assess the major effects of warehouse management to the organization.**

It was also noted from the research that the main effects of warehouse management on the organization are improvement of customer service, quick picking of items and clear location of items.

These effects increase production efficiency across all organizations that involve in production because these effects to the organization are major contributors to the growing of every production firm.

The research also confirmed that firms that manage its factors and effects on warehouse management well achieve higher level of performance and increase production efficiency.

### **5.2.3 Investigate The Importance Of Warehouse Management To The Organization.**

The research indicate that the organization has benefited from managing the warehouse even thus they do not have some modern tools such as RFI (radio frequency identification) for managing warehouse activities the still benefit from the available tools and management factors they had taking into consideration. We discovered the following benefit; improved inventory management, customer service, stock tracking and reduction in lead time.

### **5.3 Recommendations**

The following are therefore recommended in respect of the study done in the organization;

1. Based on the study conducted it showed clearly that there are several factors the organization considers in managing its warehouse activities the factors includes location, accessibility, storage space, technology an experience.

For this reason it is therefore recommended that all organizations should consider the above listed factors in managing their warehouse in order for them to achieve higher production efficiency.

2. It was also discovered that the organization experiences some effects in managing its warehouse such as improved customer services, high accuracy, quick picking of items, clear location of items, and accurate storage location. It's therefore recommended that the organization maintain and also try to improve upon its activities in the warehouse like the introduction of RFID(Radio Frequency Identification) to double up the positive effects achieved and not to relax and rely on the few positive effects to attracts negative effects into the organization.

3. It was also established in the research that the main importance of warehouse management to increase production efficiency are effective inventory management, effective planning and effective stock tacking. This will help cut down cost and increase profitability in firms and production efficiency of firms that are into production of goods because these are seen to be highly beneficial to every firm that effectively manage its warehouse activities.

It is therefore recommended that organization and companies that are into the production of goods should consider these benefits and manage its warehouse activities well. Doing so it will help them gain competitive advantage over their competitors and also advice high production efficiency.



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APPENDIX

**INFLUENCE OF INVENTORY CONTROL MANGEMENT ON PRODUCTION  
EFFICIENCY AND  
FINANCIAL PERFORMANCE IN ORGANISATION A CASE STUDY OF BLOW  
PLAST INDUSTRIAL LIMITED ACCRA GHANA.**

**BY**

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The researcher is a student of koforidua technical university, faculty of business and management studies, Department of Purchasing and Supply Science,as part of completion requirement for the award of B.tech in procurement. This research has been designed purely for academic purpose. The information given will be accorded with the greatest degree of confidentiality. You are kindly required to give your opinion by answering the below question

**LOSS PREVENTION QUESTIONNAIRE FOR WAREHOUSE AND INVENTORY  
CONTROL**

**PART A: PERSONAL DATA**

1. APPLICANT NAME: .....
2. DATE: .....
3. AGE;A.(18-30)  
B.(31-40)  
C.(41-50)  
D. above 50

4.POSITION: A. Management

B. Senior staff

C. Junior staff

5. GENDER; A. Male

B. female

<b>B. WAREHOUSE INFORMATION ON OPERATION</b>
--

6. Do you operate your own warehouse? Yes

7. Do you operate a warehouse for others?

A. Yes

B. No

If you answered No to both questions, you do not need to proceed any further.

If you answered yes, to either of the questions above, please respond to all of the following:

7. Please provide a listing of factors to consider in warehouse management:

8. What are the reason why the organisation accepts those factors?

A. easy identification of items

B. proper arrangement

C. better layout for monitoring stock

D. speed up issues

<b>C. INVENTORY CONTROLS</b>
------------------------------

9. has the factors helped to manage stocks effectively?

A. Yes

B.No

10. What are the effects of warehouse management in the organisation

A. Improve customer service

- B.High quality
- C. quick picking of items
- D.clear location of item
- E. Accurate storage location

11. How does this effects influence the organizations production effeciency

- A. increase efficiency
- B. efficiency remains the same
- C. efficiency reduces

12. What techniques do you use to ensure a consistent supply of stock

- A. Abc analysis'
- B. Just in time inventory control
- C. Economic order quantity
- D. Fifo and lifo
- E. Safety /buffer stock.

D. RECEIVING
--------------

13. What procedure is used for checking incoming items to verify that correct materials and quantities have been received.

- A. physical count and confirm inventory
- B. RFID electronic count
- C. ERP system

14. What tracking methods are used once items are accepted for storage at the warehouse?

- A. printing of label with unique serial number
- B. WTS (Warehouse Tracking System) on a mobile phone
- C. warehouse manager
- D. barcode inventory system
- D. RFID (radio frequency identification) inventory system

E. STORAGE FOR CUSTOMERS

15. Does the company provide storage for others?

A. Yes

B. No

if Yes, answer 15 to 19 if No skip

16. How long do customers periodically inventory their goods?

A. one to two months

B. three to five months

C. a year or more

17. If Yes, how is the process controlled so that only authorized customers are able to store items in the warehouse?


18. What process is in place to prevent creation of a fraudulent transaction where an unauthorized customer is able to store items in the warehouse without the knowledge of the Applicant?


19. What type of accounting is provided to customers as to items that have been accepted into and sent out of storage on their behalf?

A. cash basis

B. accrual method

F. PHYSICAL CONTROLS

20. Please indicate the physical controls in place to prevent a loss:

A. Cameras Guards Alarms

B. Watchdogs

C. Fences Barred Windows Secured Areas within the warehouse for high-value items order  
(please specify)

G. IMPORTANCE / CHALLENGES
----------------------------

21. Importance of warehouse management system in increase production efficiency

A. Effective inventory management

B. Effective planning

C. Effective customer service

D. Effective stock tracking

E. Reducing in lead time

Completed by.....

Signature.....

Title.....

Date.....