COVER PAGE

EFFECTIVENESS OF INVENTORY MANAGEMENT IN A

MANUFACTURING COMPANY

(A CASE STUDY OF AMA GREENFIELD BREWERIES PLC,

ENUGU, NIGERIA)

BY

UGWU UCHECHI ESTHER

ACC/2008/479

DEPPARTMENT OF ACCOUNTANCY

FACULTY OF MANAGEMENT & SOCIAL SCIENCES

CARITAS UNIVERSITY, AMORJI-NIKE

ENUGU STATE

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This project has been supervised and approved as having satisfied the condition for the award of Bachelor of Science (B.SC) Degree in the department of Accountancy, Caritas University, Amorji-Nike, Enugu State.

_____   _____

Dr. Frank Ovute   Date

Project supervisor

_____   _____

Dr. Frank Ovute   Date

Head of Department

_____   _____

External examiner   Date

DEDICATION

This project work is dedicated to the Almighty God for His guidance, protection and provision in the course of writing this project.

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ABSTRACT

This study examines the essence of effective inventories control and management to manufacturing companies with particular emphasis on Ama Greenfield Breweries plc. The aim of this study is to investigate and ascertain areas of lapses by the company and offer effective ways and solutions in which the manufacturing company can explore the services of inventory management to effect its objectives. In carrying out this study, various research instruments such as questionnaires and oral interview were used to collect data from respondents and a research design was adopted with a sample size of 52. The statistical tool used for this work is Chi-square. Based on the analysis, it was discovered that inventory management plays a vital role in the manufacturing company. A well functional inventory management following the recommendations can bring about proper management thereby enhancing proper and effective production and it will equally ensure the effective, efficient and adequate use of materials and resources in the manufacturing company.

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CHAPTER ONE

INTRODUCTION

1.1   BACKGROUND OF THE STUDY

Inventory is one of the resources that are managed by business organizations and it was first recorded in 1601. The need for inventory control cannot be overemphasized as it is a means for improving the performance of manufacturing industries. Inventory can be defined as a record of a business current assets including property owned, merchandise on hand and the value of work in progress and work complete but not sold and it is classified as a current asset because it can be turned into liquid cash within a short period of time. Inventory has created a great impact on the profitability of the manufacturing firm which resulted to the deep research of this topic. Effectiveness of inventory management in a manufacturing company.

Inventory plays a major role in the operation of many businesses and manufacturing companies. In manufacturing, inventories of raw materials allow companies to operate independently of their sources of supplies. Day to day operation are not dependent on deliveries from supplies since stock of the necessary mateials are maintained and used s needed. Without inventory

control, millions of naira could be lost year because of non accountability of stocks and inaccurate checks and balances.

The process of control and management of inventory is a very important factor in the success or failure of any business for example, little stock will result in stock out which will disrupt the production distribution cycle that is crucial to the survival of all manufacturing companies while too much stock will tie down the resources of a company. Poor or inadequate inventory management can present a serious challenge to the productive capacity of a manufacturing organization. In addition to raw materials and finished goods, many companies also maintain items of assets, property, inventories of work in progress, office supplies, business firms and general operation supplies.

Inventories often constitutes the most significant part of current assets of large companies. In the public limited companies, inventories are approximately 60% of current assets on the average. The US Burean of the census stated that inventory and accounts receivable ate the two largest accounts of equal magnitude and together they comprise almost 80% of current assets and over 30% of total assets for all manufacturing companies in 1982.

Considering the large sum of money that are committed to the stocks of raw materials, work in progress and finished goods, it is therefore of paramount necessity that these stocks be managed efficiently and effectively in order to avoid the jeopardizing of the profit position of the firm.

In inventory, there is an optimum level therefore inadequate inventory causes loss of sale and disrupts the production process while excessive stock level leads to unnecessary carrying cost and obsolescence or spoilage risks. According to Charles T. Horngren (2007), the optimum inventory. Level lies between the inadequate inventories and the excessive inventories. Inventory management aims at maintaining an optimum inventory level that will be carried at the least cost.

A BRIEF HISTORY OF AMA GREENFIELD BREWERY IN ENUGU STATE, NIGERIA

Ama Greenfield Brewery is the jewell in the crown of Nigeria Breweries Plc and is reputed as one of the most modern Breweries. Precisely on Friday October 24, 2003, the much talked about Nigeria Breweries Plc's ultra modern Ama Greenfield Brewery located in Enugu state was officially commissioned. It is Nigeria breweries Plc company's sixth Brewery and the second to be located in Enugu state. The multi-billion naira Ama Brewery

boasts of the best cutting edge technology and world class standard processes. It is located in Umuezeani village in the Amaeke Ngwo community of Udi Local Government Area of Enugu state. Mr. Lassy Agose who was the public relations adviser to the Nigeria Breweries Plc at that time said that Ama Greenfield Brewery has an installed capacity of 3 million hectoliters per annum or 1 million carton units per week adding that it was also equipped with an ultra modern waste water treatment plant in l ine with safe manufacturing practices world-wide. Ama Brewery whose foundation was laid on April 9,2001 by the then Enugu state Governor, Dr Chimaroke Nnamani took 14 months to be completed after the actual construction work commenced on January 23, 2002. the first brew was made on march 22nd, 2003 while the first bottle of star larger rolled off the bottling line on April 24, 2003.

Ama Greenfield Brewery encapsulates the essential ingredients of the world class vision of the Nigeria Breweries plc and represents another milestone in the company's journey towards the realization of that vision. Beyond these, Ama Brewery holds enormous socio-economic benefits to the community, state and country at large.

In addition to opening up the communities to commerce and modernization, the state stands to benefit from increased revenue and the

building of international confidence for investment. This multibillion naira investment is also expected to translate into enhanced employment, as well as open the flood gates of business activities and opportunities in the economy, Mr. Agose stated during a pre-commissioning press briefing in Lagos. Constructed at a cost of N40 billion, it is an essential fulfillment of the pledge made by Heineken NV to invest N70 billion in Nigeria within five years building an ultra-modern civic centre, a borehole and market stalls for the area.

1.2   STATEMENT OF THE PROBLEM

The problems seen in the course of this study are as follows:-

i.   Ineffective management of inventory in the manufacturing company specifically Ama Greenfield Breweries.

ii.   Loss of sales or business of the company as a result of insufficient inventories of finished goods.

iii. Low productivity in the manufacturing company as a result of poor inventories model used by the company

iv.   Poor management and control of inventories in the manufacturing company.

1.3   OBJECTIVE OF THE STUDY

The major objective of this study is to determine of the effectiveness of inventory management in a manufacturing company. The specific objectives of this study are as follows:-

i.   To determine to what extent the ineffective management of inventory in Ama Breweries plc has caused low productivity in the company.

ii.   To examine the extent to which insufficient inventory of finished goods cause loss of sales to the company.

iii.   To identify the degree to which poor inventory modern used by the company has resulted to low productivity in the company.

iv.   To ascertain whether the company has suffered from poor management and control of inventories.

1.4   TEST OF HYPOTHESES

Based on the problems and objectives of this study, the following hypotheses are formulated for this research.

Ho: There is no significant relationship between low productivity and poor inventories management.

H₁: There is a significant relationship between low productivity and poor inventories management.

Ho: There is no significant relationship between proper inventory policies and productivity in a manufacturing company.

H₂: There is a significant relationship between proper inventory policies and productivity in a manufacturing company.

1.5   RESEARCH QUESTIONS

For the purpose of this research study, the following research questions were formulated:

1.   Does effective inventory control ensure continuous production of goods in Ama Breweries?

2.   What is the state of inventory management in the Nigerian manufacturing company especially Ama Breweries plc?

3.   Has effective inventory control made a significant impact on the manufacturing company?

1.6   SIGNIFICANCE OF THE STUDY

The significance of this study lies on the fact that with improved inventory control and management in manufacturing companies, the following persons may benefit from it:

It will be significant to manufacturing companies, firms and businesses as it will enable them keep an adequate inventory control and ensure that they do not run out of stock or have excess stock which can endanger their liquidity position. It will also help to meet consumer's demands or quest. It is also important to the government as it will help to reduce waste of investment inventory. It will also help lecturers to really know the importance of inventory control so that they will be able to impact it on their students. This study will also reveal the relevant methods to be used in preventing mismanagement; it will also improve stock control which has led to the mismanagement and unproductively of materials.

1.7   SCOPE OF THE STUDY

This research work on the effectiveness of inventory management in a manufacturing company is focused on Ama Greenfield Breweries plc in Enugu state.

1.8   LIMITATIONS OF THE STUDY

Some limitations and factors in this research study are as follows:-

i.   The time required for the research and the submission of this work is very short and the researcher was unable to go through all manufacturing companies.

ii.   **Financial constraints:-**Finance which is the most important resource for this work was not readily available.

iii.   **Limited exeat:-**Due to the fact that exeat is very difficult to get in school, proper research was not carried out and this affected the integrity of the results achieved.

iv.   **Unco-operative attitudes of some of my respondents**:-   The management of Ama Breweries prohibited its employees from giving out information about the company to outsiders without adequate permission from the management and even when this permission was obtained at the long run, many vital information were not revealed because they were regarded as the privacy of the company.

1.9   DEFINITION OF TERMS

INVENTORY: This is a record of a business' current assets. It can also be described as the merchandise or supplies held or in transit at a particular point in time.

CHAPTER TWO

LITERATURE REVIEW

2.1   INTRODUCTION

A truly effective inventory management system will minimize the complexes involved in planning, executing and controlling a supply chain network which is critical to business success. The opportunities available by improving a company's inventory management can significantly improve bottom line business performance.

Oftentimes, inventory is the largest items in a manufacturer's or distributor's balance sheet. As a result, there is a lot of management emphasis on keeping inventories down so that they will not consume too much cash.

2.2   CONCEPT OF INVENTORY

Inventories are vital to the successful functioning of manufacturing and retailing organizations. This is because many companies hold inventories as part of their business operation. Inventories make up the most significant part of current assets of most companies especially the manufacturing companies. The need for management to ensure inventory

control if properly managed cannot be over emphasized. A firm neglecting inventory management will be jeopardizing its ling run profitability and it may end up failing in its business. The definition of inventory has been defined by many professional bodies and scholars in different ways.

The Microsoft Encarta premium defined it as the quantity of goods and mateials on hand. A manufacturer's inventory represents those items that are ready and available for sale.

According to Nwaorgu (2005:123), inventory can be defined as a tangible property held to resale in the ordinary course or business, in the production for sale, to be consumed in the production of goods and services

According to Jain (1999:472), inventory is the aggregate of these items of intangible property which are held for sale in the ordinary cause of the business, held in the process of production for such sales to be currently consumed in the production of goods and services to be made available for sale.

According to Morse (1997:454), inventory is a general term describing goods which are held in the store house and stock yards, the bulk of which is usually intended for the connection with production or operation activities and also finished products awaiting dispatch to customers.

However, according to Ama (2000:209), inventory is the stock of goods a firm is producing for sale and the components that make up the goods.

A key decision in manufacturing and retail is how much inventory to keep on hand. Once an inventory level is established, it becomes an important input to the budgeting system.

2.2.1 TYPES OF INVENTORY

Vohra (2008) classified inventories according to the purpose for which they are held. He stated that inventories may be held for a variety of purposes, but in general these are five types of inventories that an organization can use for serving these purposes and they include:

1.   MOVEMENT INVENTORIES

This is also called transit inventories. It is due to the fact that transportation time is involved in transferring substantial amount of resources for example, when goods are on transit they cannot provide any service to the customers.

2.   BUFFER INVENTORIES

This is also known as reserve stock. This is a stock of basic commodity accumulated by a government when supplies are plenty, and

prices low and held for use when supplies are short to establish the price. Buffer inventories are held so as to protect against the uncertainties of demand and supply. An organization generally knows the average and could well exceed it. To be able to handle this kind of situation, inventories may be held in excess of the average or expected demand. The lead time may be known but atimes unpredictable events could cause the lead time to vary.

3.   ANTICIPATION INVENTORIES

These inventories are held for the purpose of the future demand for a product. This situation occurs when a company embarks on the production of some specialized items before the season for them set in for example, the production of umbrellas and rain coat before the rainy season sets in.

4   DE-COUPLING INVENTORIES

This is to disengage different parts of the production system. Inventories in-between the various machines are held in order to disengage the processing on these machines. Different machines and people normally work at different rates so that when a machine breaks down the work will not stop. The de-coupling inventories act as a cushioning effect in the face of the varying work rates and machine failures.

5.   CYCLE INVENTORIES

These inventories are held for the purpose of purchases which are usually made in lots rather than for the exact amounts which may be needed at a point in time. If all purchases are made exactly as at when the item is required, these would be no cycle inventories.

2.3   CLASSIFICATION OF INVENTORIES

According to Lucy (2004), inventories are classified in manufacturing companies as follows:-

1.   RAW MATERIALS:-

This is defined as an unprocessed natural product used in manufacturing processes. Horngren (2007:37) defined raw materials as direct materials in stock awaiting use in the manufacturing process. Finished goods of one industry might be the raw materials of another. Pandey (2007) defines raw materials as these basic inputs that are converted into finished products through the manufacturing process. This usually consists of the essential item needed to create or make a finished product.

2.   WORK IN PROGRESS:

This can be defined as an incomplete ongoing piece of work. It also refers to items that are partially completed but are not yet finished products. It also refers to the stock of all materials in which processing has commenced but it is not yet completed. Such materials are usually found

between raw materials and finished goods. Malomo (1999:307) defined work-in-progress as partly finished goods and material subassemblies between manufacturing stages.

3.   FINISHED GOODS:-

These are the products that are completed and that are ready to be purchased by consumers. Pandey (2002) defined finished goods as those products that are completed and are ready for sale.

Stock of raw materials and work-in-progress facilitates production while stock of finished goods is required for the smooth marketing operations.

2.4   INVENTORY POLICY

The type of decision to be taken about inventory management is similar regardless of the size and complexity of the business. However, all decisions may be made by one man in a simpler or smaller business, while a bigger or separate level of top management will usually be concerned with inventory decision in complex businesses.

Inventory policies are used as guides in the process of establishing programs and controls in business organizations so that a suitable rate of

return will be earned on the inventory investment. In most cases the decisions or policies will cover:

i.   How much to order i.e the optimal quantity of an item that could be ordered whenever an order is placed.

ii.   When should an order be placed?

iii.   How much safety stock should be kept.

2.4.1 REASONS FOR INVENTORY

There are many reasons why organizations maintain inventory of goods. The fundamental reasons for doing so is that it is either physically impossible or economically unsound to have goods manufactured whenever they are demanded for, without inventory of goods, customers would have to wait until the goods they ordered for are manufactured.

There are some other reasons for keeping inventory, they are; the fluctuating nature of price of raw materials may make an organization stock up inventory of raw materials when price is low, it is good and profitable for an organization to buy in large quantity and keep it in inventory so it can last through high price seasons.

According to Morgan (1960), the reasons for inventory are as follows:

i.   To give customers assurance of availability

ii.   To handle production variations.

iii. To provide customer service in the face of sales fluctuation and other problems.

iv.   To await shipment to fill unexpected orders.

v.   To allow for batch production.

vi.   To provide raw materials storage.

vii. To keep storage equipment operational

viii. To protect against strike and work stoppages

ix.   To be ready when unforeseen circumstances occur.

According to Pandey (2002:885), a company should maintain adequate stock of material for an interrupted production for customer's supply.

The following are reasons for inventory:

i.   To take advantage of seasonal fluctuations in price and price will be minimized by having inventories of raw materials.

ii.   To take advantage of price discounts when orders are placed in large quantities.

iii. To allow firms to meet orders that arte placed in spite of temporary unexpected fluctuations in the rate of output.

2.5   INVENTORY CONTROL

Control in management is the activity of determining whether resources have been provided and production carried out in accordance with plan and where this is not the case, taking corrective action is needed. Control is the process of instituting procedures and obtaining feedback as needed to ensure that all parts of the organization are functioning effectively and moving towards the overall company's goals.

Inventory control can be defined as an inventory p0licy designed to obtain right quantity and right quality of raw materials at the right places. It can also be defined as the system used in the firm to control a firm's investment in stock. It includes the recording and monitoring of stock levels, forecasting future demand and deciding when and how many to order.

Nweze (2004:423), defined inventory control as the means of ensuring that actual flow of inventory in an organization conform to plan.

Ezeani (2008:25), defined inventory control as the techniques used by store managers to ensure that materials are made available when they are needed in the quantity, quality and price that they are needed without the risk of stock out and over stocking.

However, for inventory control to be effective there must be a plan which is the development of objectives in an organization and preparation of

various budgets to achieve these objectives. Planning of inventory is very essential in an organization. A firm should be able to determine its optimum level of investment in inventories. This situation can only be possible when the company ensures that stocks are sufficient to meet the requirements of production and sales, and the company must avoid holding surplus inventories that are unnecessary because it increases the risk of obsolescence. Against this, a company cannot afford loss of sales because of insufficient inventories and at the same time, it is expensive to have more inventories on hand than necessary.

Various departments within the same company adopt different views and attitudes towards inventories. For instance, the sales department of a company might desire large inventory in reserve to meet virtually every demand that comes. The production department within the same company would similarly ask for large inventories of materials so that the production system will not be interrupted. On the other hand, the finance department would always request for a minimum investment in inventories so that the fund can be used some where else for other purposes. Therefore, inventory control involves the recording and monitoring of stock levels, determining the optimal levels and forecasting future demands and decision. The main aim of inventory control is to minimize cost associated with stock.

2.5.1 **Purposes of inventory control**

The following are the purposes of inventory control:

i.   To minimize cost

ii.   To maximize profit

iii.   To maximize the return on investment.

iv.   To avoid running out of stock.

v.   To prevent surplus stock that are unnecessary

vi.   To keep inventory with an available storage capacity.

vii.   To control capital investment in order to avoid mismanagement and misappropriation of funds.

viii.   To maximize sales.

2.6   COST ASSOCIATED WITH INVENTORY

In order to determine an optimal inventory level or policy, the method often used is the cost function. The classical inventory analysis identifies four manor cost components and it all depends on the structure of an inventory situation.

The four major components of the cost are:

1.   **PURCHASE COST:**

This is described as the purchase price for the items that are bought from external sources and the production cost if the items are produced within the organization. It also refers to the nominal cost of inventory. This may be constant per unit or it may vary as quantity purchased increases or decreases. The quantity of discounts are considered because they are available for bulk purchases and savings in production cost which would be possible with longer batch run which affect the decision.

2. ORDERING COST:

This can be defined as the cost incurred in sending inquiries, writing purchased order. It is also when goods are purchased from outside. According to Okeke (1997), ordering cost refers to the cost associated with replenishing the inventory for purchased goods. According to Adeniji (2008), ordering cost is a cost incurred in placing the order up to the point of receiving the goods into the warehouse. Inventory ordering cost include:

i.   Cost of processing the papers.

ii.   Cost of communications –telephone, e-mail, fax.

iii.   Carriage in costs.

iv.   Transport and travel.

3.   CARRYING OR HOLDING COST

This refers to cost which consist of all cost relating to carrying inventories. According to Okeke (1997), carrying cost refers to cost associated with maintaining the items in inventory. According to Adeniji (2008), carrying cost is the cost incurred whenever a material is stored. They are incurred because the firm has decided to maintain inventories. Carrying costs are costs that are associated with storing an item in inventory and they are proportional to the amount of the inventory and the time in which the inventory is held. Carrying cost includes:

i.   Cost of funds tied down

ii.   Insurance premium costs.

iii.   Inventory handling costs.

iv.   Heat light power and depreciation costs associated with the inventory storage facilities.

v.   Cost of spoilage, obsolescence (machines). Deterioration (for perishable goods) and evaporation (for volatile products).

vi.   General insurance and security costs.

Carrying cost is considered to be variable cost because the larger the stock, the more the cost associated with maintaining the inventory of the item. The cost of carrying an inventory of item is sometimes expressed as a percentage of the value of the item and it is usually expressed in terms of the amount of money per unit time period.

4. STOCK-OUT COST:

This cost is incurred when customer's demands cannot be fulfilled because the inventory is completely depleted. It refers to the disrupted production when materials are unavailable. According to Okeke (1997), stock is as a result of an item that is needed but its inventory level is completely depleted in a manufacturing system. a stock-out might cause production delays idle labour, equipment and sometimes emergency supply order in the warehouse or retail production and this may lead to loss of sales. According to Adeniji (2008), stock-out cost is the cost that involves a situation where customers' demands cannot be met because the stock is exhausted. They are the opportunity cost of not having a stock item when there is effective demand. Stock-out cost simply implies shortage of inventories of items. When an organization runs out of supplies for its needs, it implies that its inventory level is too low and this situation leads to loss of profit through cost sales, loss of future sales because it drives away

customers, wages being paid for idle time, loss of customers goodwill and customers canceling their orders because of delay in the delivery.

2.7 INVENTORY MODEL

Attempts were made to employ analytical techniques in studying inventory problems. The real need for the analysis was recognized by industries by which items were produced in lots and the stored at a factory warehouse.

Formulas were obtained which was known as the simple lot size formula and it was further developed by dependent authors, but the most widely accepted formula is the fixed order quantity system referred to as the Wilson formula since it was derived as an integrated part of the inventory control scheme which was sold by him to many organizations. In this system, the re-order quantity is fixed and the re-order is placed for quantity whenever the inventory is hand drops to the re-order point. Another model was later introduced and it is known as the "replenishment system". In this system, the re-order date is fixed and the re-order quantity varies depending on the inventory on hand.

2.8   ECONOMIC ORDER QUANTITY

The optimum order may be determined by the costs that are affected by either the quantity of inventories held or the number of orders placed. There is a problem of minimizing the cost of holding inventories and the cost of ordering inventories at the same time because if more units are ordered at one time, then few orders will be required within the same period of time and this will mean a reduction in the ordering costs. However, when few orders are placed, large average inventories must be maintained and this will mean an increase in the holding cost.

The aim of inventory planning is to ascertain the most efficient way to minimize the total cost of ordering and the h holding cost and the model that minimizes the combined cost is the economic order quantity which was originally formulated in 1915 by F.W.Harris.

Economic order quantity can be described as the ideal order size that is the size of an order for goods that minimizes the sum of shipping, handling and carrying costs.

Ezeani (2008) defined economic order quantity as the amount of materials to be ordered at one time. It is defined as the quantity of inventory item to order so that inventory costs are minimized over the firm's planning

period. Olowe (2008), defined economic order quantity as the optimal ordering quantity for an item that will minimize cost.

However, Horngren (2007), wrote that economic order quantity model is a decision model that calculates the optimal quantity of inventory of items ordered under a given set of assumptions:

ASSUMPTIONS OF ECONOMIC ORDER QUANTITY

ACCORDING TO THE HORVGREN (2007)

i.   The demand for the item is certain, continuous and constant overtime.

ii.   The same quantity is being ordered at each re-order point.

iii. The lead time is known and fixed and the delivery time is instantaneous.

iv.   The purchase price of the item is constant, that is no discounts is available for bulk purchases.

v.   The inventory is replenished immediately as the stock level gets to zero.

vi.   No stock-out occurs

vii. The per unit holding cost and the ordering cost are constant within the range of the quantities to be ordered.

2.8.1 REPLENISHMENT MODEL

In this model, inventory costs are not considered explicitly and there is no fixed re-order quantity rather inventory is reviewed at periodic intervals and if there has been any sales since the last review, an order is placed. The replenishment level is aimed at keeping inventory at a minimum level consistent with maintaining some particular protection against stock-out and a particular schedule of the periodic review of re-orders.

2.9 INVENTORY LEVEL

I RE – ORDER LEVEL:

Re-order level is the level where an item in stock reaches and these will be an order for replenishment. There will be a certain level in which the items in stock will fall and it will necessitate a new order to be placed.

Pandey defined re-order level as the level at which an order should be placed in order to replenish the inventory. He enumerated some of the points that should be taken into consideration before determining the re-order point and they include: lead time, the economic quantity and the average time. Lead time is the time taken in receiving the delivery of inventory after the order has been placed.

II   MAXIMUM STOCK

The maximum stock level is set after considering the storage capital available and its cost, the supply of capital, risk of deterioration and obsolescence and economic purchasing quantities.

III.   Minimum stock level:

Due to the fact that each item in stock has a minimum level, the actual stock held should not fall below this level if operations are not to be disrupted. Joseph Baggot saw minimum stock level as the buffer stock. He stated that the minimum stock level is a precaution taken against delays in delivery period and that it depends on the rate of consumption during an emergency period.

The minimum stock level is the lowest quantity to which a particular product should be allowed to drop if deliveries are to be maintained and in arriving at this, the factors to be considered are; the length of time required for the delivery on the part of the suppliers and the possibility of late delivery or abnormal usage. It is often difficult to predict the usage and the lead time or delivery time accurately. The demand for goods may fluctuate from day to day or from week to week. Also, the actual delivery time may be different from the estimated lead time. In a case where the actual usage increases or delivery of inventory is delayed, the firm can have a problem of

stock-out which will be very costly to the firm. The firm or company a safety stock in order to guard it against stock-out.

IV   OPTIMAL STOCK LEVELS

The optimal stock level is the stock level that is either too large or too small that is to say it is between the maximum stock level and the minimum stock level. The stock level of a company depends on the nature and the volume of the operation therefore, it sit he level that makes use of the capacity of the storeroom.

2.10   INVENTORY VALUATION METHOD

The main objective of inventory value is to produce accurate and meaningful value for purchases of product cost and income determination and this is because the different valuation methods have different effect on a firm's order.

I. FIRST IN-FIRST OUT (FIFO):

This method implies that the oldest goods are issued out first that is, materials are issued. Out in the order in which they were received. Most times, materials or goods may not be issued out in this order but it will be a good and effective store keeping practice if this order is maintained because it checks material obsolescence, deterioration and depreciation and it ensures

that these materials are issued out at the actual cost thereby avoiding unrealized profits or losses which may result from random issue of the materials

FIFO method poses problem in times of prices being changed because the cost of goods sold is likely to be understated or underestimated during inflation as old prices are adopted to value the material used.

2. LAST IN FIRST –OUT:

This method is an opposite o f the FIFO method because it implies that the latest materials received are issued out first thereby leaving oldest ones in stock and this means that the materials which are issued for production are charged on the recent process while the stock on hand I s valued at the oldest prices.

The current production cost are simultaneous with the current sales revenue in order to obtain a realistic profit for the current period and this is because the most important advantage of this method is that it has the ability to give the most current cost of a product since the materials used are charged at the current prices. The disadvantage of this method is that the oldest materials are left in stock thereby exposing them to risk of loss through obsolescence, deterioration or depreciation.

3.   BASE STOCK METHODS:

This method is not an independent method because it makes use of both the FIFO and the LIFO method. The base stock method according to Osisioma (1990) implies a fixed minimum stock carried at the original cost. He said it should be set aside and should be issued out when an emergency situation arises. Except the minimum of buffer stock, the subsequent materials received may be issued and charged on the basis of any stock valuation method.

4.   STANDARD PRICE MEHTOD

This method uses a predetermined price for pricing all the materials that are issued out. The standard prices may be set over a given period of time after all factors which affect prices of materials may have been taken into consideration. The use of standard prices may result in profit if the actual materials price is low and it may also result in loss if the reverse is the case. The main objective of the standard price is to ensure the efficiency in the purchase of materials. Most times it is difficult to establish an acceptable standard price of all materials.

5.   AVERAGE PRICE METHOD:

This method is the weighted average which determines the unit price by dividing the total cost by the quantity of materials because all materials issued are charged on the average price and this price makes the cost of materials uniform rather than the actual cost.

2.11   INVENTORY ACCOUNTING SYSTEM

Store accounts facilitates materials cost in two ways. They provide prices by which any particular items can be calculated. Secondly, a comparison of the total value of materials charges to various activities provides a check that all the materials have been properly costed.

An effective inventory accounting system facilitates the provision of relevant inventory data to the management in determining the amount of inventories at the end of each accounting period and it minimized efforts used in data processing. Accountants are needed in inventory management because of the important role of the inventory accounting system in inventory management. The accounting system provides useful and accurate figures to managers for adequate inventory management. It also gives useful advice on the actual quantity of stock valued. The accounting system gathers

and transmits data to the inventory manages to enable him carry out his duties effectively and efficiently.

The major problem in maintain accurate accounting record for inventory management is the constant fluctuation in prices of materials used in inventories.

2.12   STOCK TAKING METHODS

Stock taking is very necessary for an efficient day to day operation in business because of errors which may occur. There are two major approaches, they are:

1.   PERPETUAL STOCK TAKING:

This approach involves keeping a running balance on the store records after each materials is received and issued. It is also known as the continuous stock taking which involves the regular taking of the samples of stock and the comparison of the actual quantity on hand with the stock records. Differences may occur between the physical stock and the balance on the store records as a result of errors which is why the control element is the comparison of these differences.

2.   PERIODIC STOCK TAKING:

This is done when store are closed. Every item is counted and valued at a fixed date under the supervision of the firm's internal auditors.

REFERENCES

Nweze, A. U. (2010). Quantitative Approach to Management

     Accounting. Computer Edges publishers, Enugu

Williams, H. J. (1984). Manufacturing, Planning and control.

     Homewood: Richard Liwon Publishers.

Rein, P. and Edward, S.A. (1979). Decision System for

     Inventory Management and Production Planning. New York: John

     Wiley and sons Publishers.

James, M. I. (1963). Questions For Solving Inventory

     Problems. Harvard Business review. July August.

John, M. F (1956). Guide to Inventory Policy. Harvard

     Business review, January –February vol No. 56.

CHAPTER THREE

RESEARCH METHODOLOGY

3.O INTRODUCTION

This chapter covers the research design, the area of the study, the population of the study, the determination of the sample size, and the sources of data method of data analysis, validity of the test and the reliability of the test.

3.1 RESEARCH DESIGN

The research design adopted in this work is the survey design method which comprises of the use of questionnaires and oral interviews.

3.2 AREA OF THE STUDY

The area of the study is limited to Ama Greenfield Breweries plc located in Umuezeani village in the Amaeke Ngwo community of Udi Local Government Area of Enugu state in Nigeria.

3.4 POPULATION OF THE STUDY

The population of the study for Ama Greenfield Breweries plc has a total number of 500 employees but because of the nature of this work, the population will be reduced to a total number of 60 which consists of the production department, sales department and the marketing department.

3.4 DETERMINATION OF THE SAMPLE SIZE AND TECHNIQUE

The sampling technique used in this research work is the systematic random sampling with a total number of 60 top management staff comprising of the production departments, sales department and the marketing department in Ama Greenfield Breweries plc and the sampling size is determined using the Taro Yamani formula:

n = $\underline{N}$

1+N(e)^2

Where   n   =   sample

n   =   population size

e   =   error limit

I   =   constant

Therefore, n =   ?

$$N = 60$$

$$2 = 0.05$$

$$\therefore \quad n = \frac{60}{1+60 \, (0.05)^2}$$

$$= \frac{60}{1+60 \, (0.0025)}$$

$$= \frac{60}{1+0.15}$$

$$= \frac{60}{1.15}$$

$$= \underline{\underline{52}}$$

Therefore a sample size of 52 is used.

Determination of sample size for each department

$$nh = \frac{nNh}{N}$$

Where   n   =   sample size

           Nh   =   population of the unit

           N   =   total population of the study

           nh   =   sample size per unit

PRODUCTION DEPARTMENT

$$nh = \frac{52 \times 21}{60} = 18$$

SALES DEPARTMENT

$$Nh = \frac{52 \times 20}{60} = 17$$

MARKETING DEPARTMENT

$$Nh = \frac{52 \times 20}{60} = 17$$

3.5   SOURCES OF DATA

There are two sources of data collected and used in this work and they are: the primary sources of data and the secondary of data. The primary data was generated through the distribution of questionnaires and oral interviews.

The secondary data was obtained from the relevant textbooks, journals and news papers. The researcher made use of the Caritas University Library and the Enugu state library.

3.6   METHOD OF DATA ANALYSIS

The researcher used simple percentages to analyze the data collected. The results of the questionnaires were analyzed by the use of tables. The simple percentages used were computed and findings were presented, discussed and interpreted. The chi-square (x^2) is used in testing the hypothesis.

The chi-square (x^2)

The chi-square (x^2) is one of the standardized statistical distribution used in hypothesis testing. It was developed in 1930 by Karl Person. It enables one to know whether the discrepancy between the actual outcomes and the expected out-comes could be observed reasonably. This is to

determine if the observed outcome can be attributed to chance. The formula for chi-square is represented as:

$$X^2 = \frac{\sum (0\text{-E})}{E}$$

Where x^2 = Chi-square

E = Expected value

O = Observed value

The degree of freedom is gotten from the rows and columns of a contingency table. It is given by the number of rows minus one, multiplied by the number of columns minus one.

DF = (R-1)(C-1) or n–1 as the case maybe. The hypothesis will be at the 95% level of confidence that is 5% error limit which is 0.05.

DECISION RULE

If the calculated chi-square value (x^2) is greater than the value gotten from the chi-square distribution table (x^2e), then reject Ho which is the null hypothesis and accept Hi which is the alternative hypothesis. But if the chi-square distribution table value is greater than the calculated value, then

reject Hi which is the alternative hypothesis and accept Ho which is the null hypothesis.

3.7 VALIDITY OF THE TEST

This work has been read over and over again by the supervisor, corrections have been made where lapses occurred and necessary data has been added in places where they were needed hence the validity of the test.

3.8 RELIABILITY OF THE TEST

The data from the primary sources are very reliable because it has been tested over and over again and the same result was obtained.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0   INTRODUCTION

This chapter deals with the presentation and the analysis of the data collected from Ama Breweries plc. A total number of 52 questionnaires were distributed of which 40 were completed and returned. Relevant mathematical and statistical tool will be used in the presentation and analysis of data derived form the questionnaire.

4.1   PRESENTATION OF DATA

TABLE   4.1   DISTRIBUTIONS   AND   RETURN   OF QUESTIONNAIRES

DEPARTMENT	NO ISSUED	NO RETURNED	PERCENTAGE
Production department	18	14	28%
Sales department	17	13	26%
Marketing department	17	13	26%
Total	52	40	80%

Table 4.1 shows that out of the 52 questionnaires distributed to the respondents, 40 of them were completed and returned which shows a response of 80%.

4.2 ANALYSIS OF DATA

In an attempt to satisfy the objectives of this study which were stated in chapter one, the re-searcher now proceeds to present and analyze the relevant information collected through the questionnaires that were distributed. The statistical tool used in testing the hypothesis is the chi-square and simple percentages are also used in testing the data.

QUESTION 1

What is your work experience?

TABLE 4.2

OPTIONS	RESPONDENTS	PERCENTAGE%
1-5 years	11	27.5%
6-10 years	18	45%
11-15 years	9	22.5%
16 years and above	2	5%
Total	40	100%

Table 4.2 indicates that 18 (45%) of respondents have work experience of 6-10 years, 11 (27.5%) have an experience of 1-5 years, 9(22.5%) have experience of 11-15 years while 2(5%) have experience of 16 years and above.

QUESTION 2

Which of the following types of inventories does your company maintain?

TABLE 4.3

OPTIONS	RESPONDENTS	PERCENTAGE%
Finished goods	-	-
Work in progress	-	-
Raw materials	-	-
All of the above	40	100%
Total	40	100%

Table 4.3 shows that there are three types of inventories maintained by the company. This is because all the respondents agreed to this.

QUESTION 3

Which of the following determines the size of inventory in your company?

TABLE 4.4

OPTIONS	RESPONDENTS	PERCENTAGE%
Level of sales	-	-
Production process	-	-
Durability versus perish ability	-	-
All of the above	40	100%
Total	40	100%

Table 4.4   shows that the size of inventory of the company is determined by level of sales, production process and durability. This is because all the respondents agreed to this.

QUESTION 4

Does your company make formal inventory policies?

TABLE 4.5

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	40	100%
No	-	-
Total	40	100%

Table 4.5 shows that the company makes formal inventory policies and this

because all 40 (100%) respondents unanimously agreed to this.

QUESTION 5

Is there any committee assigned with the function of making policy

decisions about management?

TABLE 4.6

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	-	-
No	40	100%
Total	40	100%

Table 4.6 shows that there is no committee assigned with the function of making policy decisions about inventory management. This is as a result of the fact that these policies are made by the management themselves.

QUESTION 6

Does your company adhere strictly to her inventory management policies?

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	15	37.5%
No	25	62.5%
Total	40	100%

Table 4.7 shows that 15 (37.5%) are of the opinion that the company adheres strictly to her inventory management policies while 25 (62.5%) disagree.

QUESTION 7

Does the inventory policies made in your company affect productivity?

Table 4.8

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	35	87.5%
No	5	12.5%
Total	40	100%

Table 4.8 shows that 35 (87.5%) agree that inventory policies made in the company affect productivity while 5(12.5%) disagrees.

QUESTION 8

Does your company maintain minimum stock?

TABLE 4.9

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	30	75%
No	10	25%
Total	40	100%

Table 4.9 shows that 30 (75%) of the respondents agree that the company maintains minimum stock while 10 (25%) disagrees with this fact.

QUESTION 9

Does your company maintain perpetual stock records?

TABLE 4.10

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	40	100%
No	-	-
Total	40	100%

Table 4.10 shows that the company maintains perpetual stock records because all the 40 (100%) respondents agreed to this fact.

QUESTION 10

Does your company experience low productivity?

TABLE 4.11

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	40	100%
No	-	-
Total	40	100%

From table 4.11, it can be seen that the company experiences low productivity because all the respondents agree to this fact.

QUESTION 11

If yes, do you think that low productivity is caused by poor inventory management?

TABLE 4.12

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	30	75%
No	10	25%
Total	40	100%

From table 4.12, it can be seen that 30(75%) of the respondents agree that low productivity are caused by poor inventory management while 10(25%) disagree.

QUESTION 12

How does your company know when to re-order?

Answer

It was made known to the researcher that the company knows when to re-order by monitoring the stock levels through the perpetual stock taking methods.

Question 13

Does your company run out of stock from time to time?

TABLE 4.13

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	35	87.5%
No	5	12.5%
Total	40	100%

From table 4.13, it can be observed that 35(87.5%) of the respondents agreed that the company runs out of stock from time to time while 5(12.5%) disagrees with this fact.

QUESTION 14

Does your company have loss of sales as a result of stock out?

TABLE 4.14

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	40	100%
No	-	-
Total	40	100%

Table 4.14 shows that the company has loss of sales as a result of stock-out

because all the respondents agreed to this.

Question 15

What is your opinion of the company's storage cost?

TABLE 4.15

OPTIONS	RESPONDENTS	PERCENTAGE%
Very low	-	-
Moderate	25	62.5%
Low	-	-
High	15	37.5%
Total	40	100%

From table 4.15, it can be seen that 25(62.5%) of the respondents were of the opinion that the company's storage cost is moderate while 15(37%) of the respondents were of the opinion that the company's storage cost is high. It should be noted that storage cost is a function of the level of average inventory held while on the other hand, the level of average inventory held affects the frequency of ordering.

QUESTION 16

Is there any control access to inventories?

TABLE 4.16

OPTIONS	RESPONDENTS	PERCENTAGE%
Yes	30	75%
No	10	25%
Total	40	100%

From table 4.16, it can be seen that 30(75%) of the respondents are of the opinion that there are control access to inventories while 10(25%) disagree.

QUESTION 17

From your work experience, what factors constrain effective management of inventories?

ANSWER: It was pointed out that the factors that militate against effective management of inventories are:

    i.   Lack of free flow of information within the company.

    ii.   Inflation pressures.

    iii.   Scarcity of materials.

4.3   TEST OF HYPOTHESES

Based on the problems and objectives of this study, the hypothesis stated will be tested below.

HYPOTHESIS ONE

Ho: There is no significant relationship between low productivity and poor inventories management.

H₁: There is a significant relationship between low productivity and poor inventories management.

TABLE 4.3.1

Contingency table

OPTIONS	Frequency	PERCENTAGE%
Yes	30	75%
No	10	25%
Total	40	100%

TABLE 4.3.2

Computation of x^2 for hypothesis one

RESPONSE	OBSERVED	EXPECTED	(O-E)	$(O-E)^2$	$(O-E)^2/E$
Yes	30	20	10	100	5
No	10 40	20	-100	100	5

D.F   = $(R – 1)(C – 1)$

　　 = $(2 – 1)(2 – 1)$

　　 =   1X1   =   1

D.F   =   1, calculated x^2 = $\Sigma(O-E)^2$ =   10

　　　　　　　　　　　　　　　E

Critical x^2 =   3.841 at 0.05 error limit less than the calculated value of

10 therefore, we reject the null hypothesis and accept the alternative (H_I)

hypothesis which state that there is a significant relationship between low productivity and poor inventories management.

HYPOTHESIS TWO

Ho: There is no significant relationship between proper inventory policies and productivity in a manufacturing company.

H$_2$: There is a significant relationship between proper inventory policies and productivity in a manufacturing company.

Table 4.3.3

Contingency table

OPTIONS	Frequency	PERCENTAGE%
Yes	35	87.5%
No	5	12.5%
Total	40	100%

Table 4.3.4

Computations of x^2 for hypothesis two

RESPONSE	OBSERVED	EXPECTED	(O-E)	(O-E)^2	(O-E)^2/E
Yes	35	20	15	225	11.25
No	5	20	-15	225	11.25
	40				22.50

D.F   = $(R - 1)(C - 1)$

       = $(2 - 1)(2 - 1)$

       = $1 \times 1 = 1$

D.F   =   1, calculated x^2 = $\dfrac{(O - E)^2}{E}$

Critical x^2 =   3.841 at 0.05 error limit less than the calculated value of 22.50   therefore, we reject the null hypothesis (Ho) and accept the alternative hypothesis (H_2) which states that there is a significant relationship between proper inventory policies and productivity in a manufacturing company.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1   SUMMARY OF FINDINGS

The main objective of this research work is to highlight the effectiveness of inventory management in a manufacturing company specifically Ama Greenfield Breweries plc. Relevant related literature on inventory management was received to find out the extent of work already done. The instrument used for data collection was questionnaires which were subjected to reliability and validity before it was being administered to the respondents.

The sample size used for this study was 52 out of 500, using a systematic random sampling. However, having analyzed the data the following are the findings which were deduced from this study:

i.   Ama Breweries, the company used as the case study makes formal inventory policies. This is supported by table 4.5 in chapter 4 which shows that all the respondents agreed that the company makes formal inventory policies. This is a clear indication that the company attached some degree of importance to the management of inventories.

ii.   It was discovered that the company makes use of replenishment model and the re-order date is not fixed rather, minimum and maximum levels are set. When stock is depleted to the minimum level, an order for replenishment is placed to bring the stock to the maximum level. It was also discovered that the company monitors the stock levels through the perpetual stock taking methods so that they can know when to re-order for stocks.

iii.   There is a divergence between policies and the practices of those policies made in the company under this study because it was observed that the company does not adhere strictly to her inventory policies. This was confirmed by the responses in table4.7 of the questionnaire where 25 of the respondents agreed that the company does not adhere strictly to her inventory policies. In order words, policy decisions are made by the company, but sometimes it fails to follow such procedures or policies made.

iv.   A number of reasons were given by the respondents that constrain effective management of inventories in the company, they are as follows:

(a)   Inadequate flow of information:

This was the reasons given as result of the occasional depletion of materials below the re-order point before a replenishment procedure is initiated. Sometimes information as to the issue of materials by the sales department are not given promptly, thereby leading to inadequate update of inventory records as a result of inadequate flow of information.

(b)   Inflationary pressures:

This is a general problem as was stated by the various respondents in the various departments. This according to them destabilizes their plans and causes them to invest more than planned on inventory since prices of materials are increasing rapidly. This means that sometimes the company exceeds her stipulated maximum stock level because it expects increases in prices in the future.

(c)   Scarcity of materials:

These like inflationary pressures causes the company   to exceed her stipulated maximum stock level, the respondents when interviewed explained that since some of the materials which are being used are scarce, they are bought in large quantities so that

they can be used for future purposes thereby exceeding re-order level.

v. It was also discovered that the company runs out of stock from time to time and when asked why, the researcher was made to understand that although minimum stock is maintained, the reasons for stock out was attributed to unexpected delay in delivery or exceptionally high consumption during the lead time.

5.2 CONCLUSION

During the course of the study on the effectiveness of inventory management in a manufacturing company, it was discovered that inventory is the bedrock in the existence of any manufacturing firm and effective management of inventory will lead to effective control of the organization. However, whatever system or technique of inventory management, it much be channeled towards the reduction of stock to the barest minimum. These inventory techniques should be monitored to ensure its effectiveness.

Therefore, from the results of the data analysis it is right to conclude that inventory management has not been very effective in Ama Breweries and this is as a result of the fact that inventory policies are not strictly

adhered to. Therefore, efforts are needed to be made in order to improve on these present situations.

Therefore, the researcher highlighted some recommendations which if implemented, Ama Breweries will have its profitability improved as a result of reduction in cost which will enable it to reduce price and increase its turnover thereby spreading its overhead costs over increased output which will in turn result in reduced cost of reduction.

5.3   RECOMMENDATION

Having carried out a study of inventory management in a manufacturing company with a specific focus on Ama Greenfield Breweries plc, the following are some recommendations given by the researcher which if implemented, will have its profitability improved as a result of reduction in cost to enable wider gross margin of the company:

i.   The company should try by all means to adhere to inventory polices made. A situation is a case whereby materials or items are allowed to leave the stores without proper requisition, this shows that the internal control is weak. In order to ensure that the company adheres to inventory policies, under no circumstance should items of inventory be allowed to leave stores without proper requisition.

ii.   The company should employ the economic order quantity method when placing orders. The economic order quantity model puts into account the relevant costs associated with ordering and carrying inventory. Every business organization aims at reducing cost to the barest minimum and one of the avenues by which this could be achieved is adopting the economic order quantity method of placing order.

iii.   Sufficient stock should be held in order to avoid stock-out so that when the ordering level is high; there will be enough stock to be delivered.

iv.   The flow of information should be increased and should be circulated adequately in order to enhance adequate updates of inventory records.

BIBLIOGRAPHY

Agu, A. O (2008). *Research Methodology, 2ⁿᵈ Edition,*

Anambra: Najutel Nigerian Publishers.

Buchan, S., & Keansburg. (1966). *Scientific Inventory*

Management. New Delhi: Prentice – Hall Inc.

Charles, T. H. (1982). *Cost Accounting: A Managerial*

Emphasis. New Delhi: Prentice Hall International Publishers.

Donald W. K., & Edward A.S. (1980*). The Manager's Guide*

to statistic and quantitative Methods. London: McGraw

Hill Publishing.

Fred, W. J., & Thomas, C. (1985). *Essentials of Management*

Finance. London: Dryden Press.

Hadley, G. & Whitin, T. M. (1963). *Analysis of Inventory*

System. London: prentice Hall.

James, M. I. (1963). *Questions for Solving Inventory*

    Problems. "Harvard Business Review July, August.

John, M. F. (1965). *Guide to Inventory Policy.* Harvard

    Business Review, January-February, vol No56.

Joseph, B. (1981). *Cost and Management Accounting Made*

    Simple. London: William Hinnan Ltd.

Kobles, L. (1975*). A Dictionary for Accountant (4th eds)*

    London: Cliff.

Lester, H. E & Serge, M. (1985). *Management Accounting.*

    London: McGraw Hall Book company

Lipsey, R. (1979). *An Introduction to Positive Economics (5th*

    Eds); London: Buffer and Transfer Ltd.

Nweze, A.U. (2010). *Quantitative Approach to Management*

    Accounting. Enugu: Computer Edge Publishers.

Pandey, I. M. (1978*). Financial Management.* London Vocals

    Publishing House PVT Limited.

Rain, P., & Edward, S.A. (1978). *Decision system for*

    Inventory Management and Production Planning. New

    York: John Wiley and sons Publisher.

Richard, V.F. (1970). *Financial Executive Handbook.*

    Homewood Illinois: Don Jones – Limon Inc.

Ugwu, C.C. (2010). *Management Accounting: A simplified*

    Approach. Enugu: Dikasinma Publishers Ltd.

Williams, H. J. (1984). *Manufacturing, Planning and Control.*

    Homewood: Richard Liwon Publishers.

APPENDIX A

Department of Accountancy,

Caritas University,

Amorji – Nike,

Enugu State.

P.M.B 01784

Dear Respondent,

The questionnaires attached here are based on inventory management in a manufacturing company using Ama Greenfield Breweries plc as a case study. It is aimed at obtaining information for a research project as part of the necessary requirements for the award of B. Sc Degree.

Honest, clear and objective responses to the questions will be highly appreciated. All information provided shall be treated as highly confidential and will only be used for this academic exercise.

Thanks for your anticipated co-operation.

Yours faithfully,

Uchechi Ugwu.

APPENDIX B

Please give your answer to the questions by ticking (   ) in   the   box

corresponding to the option chosen

1. What is your work experience?

(a)   1-5 years

(b)   6-10 years

(c)   11-15 years

(d)   16 years and above

2.   Which of the following type of inventories does your company

maintain?

(a)   Finished goods

(b)   Work in progress

(c)   Raw materials

(d)   Supplies

(e)   All of the above

3.   Which of the following determines the size of inventory in your

company?

(a)   Level of sales

(b)   Production process

(c)   Durability versus perishability

(d)   All of the above

4.   Does your company make formal inventory policies?

(a)   Yes

(b)   No

5.   Is there any committee assigned with the function of making policy decisions about management?

(a)   Yes

(b)   No

6.   Does your company adhere strictly to her inventory management policies?

(a)   Yes

(b)   No

7. Does the inventory policies made in your company affect productivity?

(a)   Yes

(b)   No

8.   Does your company maintain minimum stock?

(a)   Yes

(b)   No

9.   Does your company maintain perpetual stock records?

(a) Yes ☐

(b) No ☐

10. Does your company experience low productivity?

(a) Yes ☐

(b) No ☐

11. If yes, do you think that low productivity are caused by poor inventory management?

(a) Yes ☐

(b) No ☐

12. Hoe does your company know when to re-order?

_____

_____

13. Does your company run out of stock fro time to time?

(a) Yes ☐

(B) No ☐

14. Does your company have loss of sales as a result of stock-out?

(a) Yes

(b) No ☐

15 What is your opinion of the company's storage cost?

(a) Very low ☐

(b) Moderate ☐

©   Low   ☐

(d)   High   ☐

16.   Is there any control access to inventories?

(a)   Yes   ☐

(b)   No   ☐

17.   From your work experience, what factors constrain effective

management of inventories?

_____

_____