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The Impact of Stores Management on the Operations of the Production Industries

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Abstract
Mostly a well-established organization needs a storehouse. It is within this storehouse that all the finished and semi-finished goods and work – in – progress are stored and attended to when the need arises. The stores are to provide a service to the user department of its organization. The standard of the stores service affects the entire efficiency of the organization. This is because it provides service to other user departments and the relationship between them is very important. To this end, it needs certain form of participation and information from the user departments so that the service it provides will be efficient so as to enable the organization to achieve its corporate and core objectives. Carter R.J and Price P.M (1993) opines that, stores can be can be defined in most organizations as an area in which all kinds of materials needed for production, distribution, maintenance, packaging, etc are stored, received and issued. The stores function is therefore basically concerned with holding stocks. They explained that stores operations contributes immensely towards manufacturing or production by holding issuing stocks as well as the control of all storehouses, stockyards and outside storage of items making it possible for quality control measures to be carried out by qualified and trained store personnel to avoid defective items when held in stock. The store management is invested with the responsibility of carrying out all the duties in the storehouse and stockyard by avoiding associated and unnecessary cost to ensure value for money and profitability of the company. When this function is managed and operated in a highly efficient way, it efficiently contributes to the success of the organizations productivity simply because stores holds about fifty – five (55%) to sixty (60%) percent of the organizations yearly budget.

Keywords: *Stores, Management, Strategic Function, Cost Saving and Profit Maximization.*

1.0 INTRODUCTION

The stores contributes effectively to manufacturing or production by holding of materials in stock in a medium sized productive operation such as raw materials, component parts, packaging, spare parts, tools, work in progress, finished stocks and maintenance materials. For example a production operation will have raw materials, component parts, work in progress, and packaging and associated materials. A distribution operation will have finished stock, component parts and part completed work. An engineering and maintenance operation will have spare parts, tools, equipment and clearing and servicing materials. Due to the nature and wide variations in the kind of items that can be found in any stores, most well established organizations set up other sub – stores to facilitate effective manufacturing such as central stores which is seen as the concentration of all stock at one point, subsidiary stores, which is designed to serve as supplementary to central stores, salvage stores which is established to cater for rejected scraps, surplus and redundant materials, etc. In view of this, the services of stores to every organization is very important and due to the importance attached to their operations, the store officers need to have a wide working knowledge of a great number of material types and their operations. When this is well managed, it avoids any hazardous breakdown and inefficiencies in manufacturing or production but rather contributes significantly to manufacturing.

On the other hand, manufacturing or production is a department in organizations that brings out total output. It is at manufacturing or production that we combine raw materials and capital (labour intensive and capital intensive) to produce output.The labour intensive method of manufacturing or production is the method by which a large quantity of labour (i.e. a large number of workers) and only a few simple machines (i.e. small quantity of capital) are employed in the production of a commodity. The capital intensive method of manufacturing or production is the method by which a large quantity of highly automated machines (i.e. a large quantity of capital) and only a very small number of workers (i.e. a small quantity of labour) is employed in the manufacturing or production of a commodity. KalpakjianSerope (2008) defines manufacturing as the process of converting raw materials into product, it encompasses the design and manufacturing of goods using various production methods and techniques. Manufacturing is to make something from raw materials, especially in large quantities using machine (Chambers 21st Century Dictionary, 2000). Ben DonkorBlege (2001) defines production as the process by which factor inputs such as labour, land and capital are combined to produce a unit output of goods and services which satisfy human wants. Bosompem S.K (2005) explains that production is the act of making goods and services. The term may be defined also as the creation or provision of goods and services. The term production could be used in a sense that refers to the total quantity or amount of a good or service produced or the total volume of goods and services produced at a particular period.

In reality, the study in this area has become necessary because there has been no proper research of stores on production. It is demonstrably clear that where materials or equipment are supplied in large quantities, the storehouse performs the activity of taking delivery of bulk consignment and issuing in smaller lots to the operations department to enhanced effective and continuous flow of production. Therefore stores activities when combine effectively with manufacturing or production enhances profitability of the organization.

1.1 Statement of the Problem

Developing a system for effective stores operation on manufacturing or production is a major problem confronting most organizations. The fact is that a significant measurs is not adopted in its operations and has resulted in an increased in inventory cost. Moreover, it has increased the rate of redundancy and as a result rendered most materials obsolete due to poor management of stores. It is worth mentioning that stores officials lack the necessary basic knowledge in the coding of material which has resulted in theft, pilferages and damages of materials in stores which then subsequently lead to the firm competitiveness, revenue, poor product etc. For Ghacem Company Limited to remain profitable in manufacturing or production and growth, conscious efforts would have to be made to eliminate these problems and adopt best store practices.

2.0 LITERATURE REVIEW

Literature review is about writing or investigating what others has done. The purpose of reviewing this is to review the thought or the ideas of various writers with respect to stores operation on production or manufacturing. This review will also discuss further how activities are carried out to ensure that the operation of stores is done properly in Ghacem Company Limited to ensure value for money and to enhance profitability. This provides a **theoretical frame work** and **empirical evidence** of the study. It includes information from textbooks, publication, internet and others to supplement the information on the topic and to compare the theory and how practical it is at Ghacem Company Limited. Topics discussed in this chapter include definition of stores and manufacturing or production, classification of stores, identification of materials in stores, receipt and inspection of materials in stores and many more.

21. Definition of Stores

The following dictionary definitions are considered to aid in the proper and accurate understanding of the topic under study. According to Oxford dictionary (second edition) stores is the supply of something available for use. The Cambridge dictionary (2004) also describes stores as a place where a lot of things are kept in one place to be used in the future. The Business dictionary (new edition) defines stores as a confine area where items are kept and stored for future use. The Encarta dictionary also sees a store to be a place where several items are stored to be demanded. In the same light, the Longman dictionary defines store as "the place to put things away and keep them until they are needed. All the definitions points to the fact that the store is a place where items are kept and obtained when needed in the future. But all the definitions in the dictionaries fail to highlight how stores operations can be operated effectively and economically with regards to receipt, storage and issues of materials to user department in the near future. Considering the definition of the Business dictionary, it has mentioned the store to be a confined area, meaning that apart from any enclosed area items cannot be kept in any open places but this definition has failed to point out certain factors for example, there are instances where certain items need not to be stored in confined areas due to their temperature levels and must be stored in an open places to receive enough sunlight.On the other hand, the following author's definitions are considered to elaborate more on the topic under study.

Carter and Price (1993) defined stores in most organizations as an area in which all kinds of materials needed for production, distribution, maintenance, packaging and others are stored received and issued. According to him stores operation is basically concerned with holding stocks. According to Jessop and Morrison (1994) stores are considered as a temporary location for material, needed for operational purposes and should be planned, organized and operated in such a way that the period of residence of each item is as short as possible, consistent with economic operation. The only good reason for carrying operations stock in stores is that the materials are needed for production to continue. Fawcette P, McLeish R. Ogden (1992), defined stores as the systematic ways and means of receiving storing, protecting and issuing articles and commodities for future use. With regards to the authors' definitions of stores above, they are all stressing on how stores can be designed suitable to meet production capacity in order to ensure continuations of production without failures and deteriorations of materials. They also presumes that stores are areas where adequate warming is given to the store department about the need for materials, together with information about the typed and quality required, future demands and the performance of the materials that are to be stored and issued tom manufacturing or production department.

Both authors hold similar view about the definitions of stores by identifying certain key words in their definitions such as receiving, storing and issuing of items but Fawcette included a different idea in his definition by mentioning protection of articles and commodities in which all the authors as well as the dictionary definitions fails to highlight. To the lay man understanding, a store could be seen as an area whether open or closed where items of several nature are stored and attended to when needed to serve a purpose. It would be reasonable to argue that the most important aspect of stores operations are concerned with adequate supply of materials and parts consistent with economic inventory. In such circumstances, it would receive the right goods in the right condition, in the right quantity, at the right time and at the right place at the right orientation to serve a given task of the organization. However, the very simplicity of this statement believes that the complexity of stores operation is desirable to provide service to production department and other departments economically as possible. The value of stores in stock must be maintained at the lowest practical level at all times in order to economize the use of working capital and to minimize storage costs. It can be appreciated that there is some conflict between the need to give a good service and the need to economize in stockholding. The more stock held, the better the service, that is, demands are satisfied. On the other hand, the more stock held, the greater the cost incurred.

A satisfactory compromise must be bound between these two opposing factors in order that the stores function would operate effectively. The store is a cost center and it must strive to make savings in materials and other expenditure held in stock because any cost saved in the stores is a direct contribution to the profitability of the company. Nair (1999) notes that store keeping are the function of receiving, storing and issuing of materials. In almost all organizations, materials (raw materials, components, tools, and spares) represent a very large investment. It is therefore important that strict order line and methods are employed to ensure accuracy preservation and safety at all stages of materials movement and custody. The stores management carries a very wide range of duties and responsibilities that it performs. All these are important to the overall efficiency of the organization and its achievement of objectives. According to Carter, et al (2005), the stores function is therefore basically concerned with holding stock. However, stores management covers a great deal more than just these aspects and it includes the following activities;

- Holding, controlling and issuing stock
- Control of all storehouse, stockyards and outside visits.
- Materials holding functions both manually and mechanically.
- Quality control activities
- Training of store staff.
- Clerical administration.

In the perspective of Carter et al (2005), the modern store has a wide variety of functions that it has to perform as efficiently as possible. The way in which stores management carries out these tasks will be reflected in the overall efficiency of the organization. These functions include the following:

- To store and supply all the materials and related services to ensure continuation of the operation.
- To store, control and issue all work in progress and part-completed items;
- To store, control and issue all tools, equipment and spares parts needed by the operation of the organization.
- To receive, store, control and salvage all scrap and excess materials produced by the organization;
- To ensure that adequate and safety precautions are taken in relation to the whole stores operation, in conjunction with the safety officers;
- To control (in cooperation with the training department) all training and staff development within the stores area.

Analyzing the above definitions and function, the stores functions according to Jessop et al (1994) has the responsibility for the receipts custody and distribution of every large sum of money in the form of goods and for the determination of appropriate quantities of materials to be held in order to meet operational needs and the stores function must be managed and operated in a highly effective way. The contribution that a good store function can make to the success of an organization today is almost universally recognized. The stores function needs qualified personnel to operate the stores. And will also be responsible for the store operations. The store officers must be skilled in stores administration and therefore supervise his subordinate well in stores operations. The stores function could be generally justified on the following activities;

- To make available a balance flow of materials, tools, equipment and stationary necessary to meet operational requirement.
- To provide maintenance materials, spare parts and general stores that is required.
- To receive and issue work in progress and finished products.
- To accept and store scrap and other discarded materials as it arises.

- To account for all receipts;
- To issue goods in bulk.

2.2 Purpose Of Stores

In the perspective of Emmett et al, (2005) the primary objective of the stores function is to provide service to the user departments. The service given can be analyzed into five parts as follows;

- To make available a balance flow of raw materials, components, tools, equipment and any other commodities necessary to meet operational requirement.
- To provide maintenance materials, spare parts and general stores are required.
- To receive and issue work in progress and finished products.
- To accept and store scrap and others discarded materials as it arises.
- To account for all receipts, issues and goods in stock.

2.2.1 Stores Responsibility of Identification

In the perspective of Emmett et al, (2005) Identification is the process of systematically defining and describing all items of stocks it includes the preparation of stores code or vocabulary, the adoption of materials specifications and the introduction of a degree of standardization. This could be done by design, planning or standards departments and as well as the purchasing department.

2.2.2 Coding of Materials

Jessop et al (1994) define coding as using letters or figures or combination of both in the form of stores code. This then is employed to identify all items exactly. Price et al (2005) define coding as a system developed to identify and classify the wide range of items held in stock, quickly and efficiently without the use of long descriptive and complex definitions. According to Lyson's (2003) coding is a system of symbols designed to be applied to a classified set of items, to give a brief accurate reference facilitating entry, collection and analysis.

2.2.3 Types of Coding

Coding by the end use: This is the engagement of the code to correspond with the purpose for which the various items are eventually employed. For instance, in a motor – car factory, the first division of materials would be into production items and non – production items. Further subdivision might be arranged as production items –engines, body, and steering, etc. engine – ignition, valve gear fuel system. Valve gear –intel valves, push rods and so on. All these are stored in designated areas for use only in connection with the production line.

Coding by the nature of the item: This is where each type of item held in stock is classified and coded according to the items basic nature and make – up. There are four main advantages associated with this type of coding system.

- It can be used to cover every stock regardless of the type of complexity.
- Because of its logical step by step formula, it can be easily translated into the items full name by the storekeeper and the other departments who use and work with the code.

2.3 An Overview of Stock

Lyson (1996) define stocks as "the term for the value or quantity of raw materials, components, assemblies, consumables, work-in-progress and finished stocks that are kept or stores for use as the need arises. It is also applied to a detailed list of goods or articles in a given place. Jessop and Morrison (1994) described stock as "a general term describing gods that are held by organizations". The bulk of these goods is usually intended for use in connection with production or operating activity, but the expression "stock" also covers finished products awaiting dispatch to customers, goods awaiting point of sale display, scrap and packages held pending return to suppliers.

2.4 Categories of Stock

According to Morrison and Jessop (1994) Stock can be classified into several kinds namely;

1. ***Raw Materials:*** They are the basic materials, which undergo changes through manufacturing process in the course of being incorporated into the finished product. Examples are gold, timber, steel, limestone, rubber and lead.

2. ***Work-In-Progress:*** They are materials, which are undergoing process and are yet to be finished. That is partly assembled or manufactured parts moving through the assembly chain.

3. ***Finished Goods:*** This group will include all the end products of the manufacturing processes to be stored pending sales and dispatch or delivery to customers. That is products in their marketing outers or cases ready for sale.

4. ***Stock In Trade:*** They are materials held by a wholesale, retail or other trading concern, usually bought at a low price to be sold as units at a higher price to make profit.

5. ***Jigs and Fixtures:*** They are pieces of equipment especially designed for holding materials or parts undergoing machining, fitting, assembly or other processes.

6. ***Scrap and residues:*** They are waste used or surplus materials or part arising out of manufacturing process or other activities. Example, steel and non-ferrous.

7. ***Packaging materials:*** They are materials used for packaging and wrapping materials such as paper, straw, rope and metal blinding and also protective coatings such as grease, wax and plastics. They are returnable packaging cases and their associated wrapping materials are for distribution.

8. ***Consumers:*** In this group would be found a possibly wide and diverse fanged of items which although not "direct" production materials are used up in the production process are needed of general clearing and maintenance purpose. This may include oils, greases, dissolvent, cloths, detergents and similar items required for the efficient day to day running of the production or operational department.

9. ***Tool, Equipment and Spare Parts:*** This may include all hand tool, such as hammers, screwdrivers, and so on and piece of equipment such as drills and gauges requires during the production process, as well as spanners required for the maintenance of plant and equipment and spare parts.

General Stores and Administration*:* These are non-production stock, cleaning materials, small hand tools, paper stationery and office equipment.

Optimization Of Stock*:* Optimization of stock as defined in Professional College Training Manual (1994) refers to the level at which stock should not be above the maximum level of stock but at the optimum level to meet production or operational needs or demand at any particular point in time that is, whether through increase in demand of customer or late delivery of materials and other components.

Variety Reduction: The range of variety of most commodities is very wide. The problems are of course to balance the fulfillment of variety without over loading stores and stock cost. One of the most effective ways of managing the range of stock in relation to variety availability is to operate a planned stock management system. This should involve several department and users in addition to stores staffs, production staffs and marketing staffs, purchasing and finance staffs and stock controllers. Jessop and Morrison (1994) in their book titled "Storage and Supply of materials explained variety reduction in stores and the process of managing or reducing the number of varieties stocked to a controlled and workable minimum. This involves a total regular review of the range of stock with an organization, if it is to be effective.

Procedure for Stock Management
(Carter and Price 1993)

1. List all the range of stock
2. Determine how many are bought out and how many are made in house.
3. Establish what finished product they support
4. Run a pricing list and an "ABC" analysis
5. Note any special supply problems
6. List the anticipated life of the stock items

7. The use of or for which each item is intended
8. Which item can be eliminated?
9. What range of sizes is essential?
10. What specifications are necessary for retained items?

This information forms the basic data and subjects it to various tests or questions like;

1. Does the items need to be in stock at all?
2. Can the items be discontinued?
3. Can the volume and buying power improve by concentrating on a narrower range of more universal stock items?

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At this point the range can be down loaded into a stock catalogue or stores vocabulary. Variety reduction and review of a stock range held in a very useful and proactive element in stores and stock management within the supply chain.

2.3 Advantages Of Stock Management

1. It will result in reduction of stock holding cost because, there will be fewer stock locations, and reduce complexity, overall inventory and lower investment in material handling and reduction in storage space required.
2. The simplification in the range of items will reduce buying effect and will help the introduction of transparency in the ordering process.
3. It will reduce the risk faced by the organization as there will be few stock lines and so a reduced potential for stock outs.
4. Easier stock control
5. Stock taking will be easy to conduct since few ranges of items will be counted
6. Reduction in typing down of capital in a wide range of stock items.
7. Wider choice of supplier and increased scope for negotiation.

2.4 Standardization and Rationalization

Carter and price (1993), explained standardization as “a means of reducing the numbers of very similar items held in stock, thereby reducing the overall stock holding of the organization, but defined it as a specification intended for recurrent use”. Stock management can be achieved through the line of variety reduction and up to standardization. The principle of standardization can be linked to the process of variety and cost reduction to reduce the number of items held in stock and reduces stock holding costs. This will led to better purchasing and quality standards and clearly embraces with the design and production process right through to finished goods.

2.5 Advantages of Stock Standardization

The process of standardization has several major advantages for both stores and the organization as a whole.

a. ***Reduction of overall stock level:*** Standardization may mean that several medium sized stocks can be replaced by a proportionally smaller large stock.

b. ***Reduction of Stores Administration:*** Because of the reduction in the range of items fewer stock and record cards will need to be updated, there will be fewer bin cards, issue notes, less computer time will be needed and there will be less stock control and reduction in the other administrative function and documents associated with holding stock.

c. ***Improvement in quality control:*** This is because, the established levels of acceptability will be simple to administer where a reduced range of items in stock is produced by standardization.

d. ***Increased competition for contract among the suppliers:*** This will happen because of the reduction of types of items purchased and the increased value of the contract to be won. This should lead to better prices and better service from suppliers.

e. ***Increased Control:*** There will be increases in the overall stores management control of the whole stock situation, including the operation of stock control and stock obsolescence.

2.6 Coding

Carter and Price (1993), in their book entitled "Integrated Materials management" defined coding as "a system of symbols applied to a set of items of items to give a brief accurate reference to facilitate entry, collection and analysis. It is also a system of identifying items by using numeric and alphabet to code them.

2.6.1 Types and Forms of Coding

a. End –use Coding: This is where the item is coded by virtue of its end-use in terms of the operation or product.
b. Colour Coding: This is a system based on the use of colour to code and identify items held in stock.
c. Supplier's Code: This is where the stores employ the coding system of the supplier of the goods.

The application of stores coding to standardization: It is because of the logic of nature of the items coding, items that are very similar in nature, and thus function, will have very similar codes can be investigated to establish whether or not the items involved are basically the same and if so, whether standardization can effectively take place. In many stores and range of items held is so wide and they are kept in so many locations that without the stores code to highlight similar products, duplication of stock would be much greater.

2.7 Stock Levels - Dependent Demand

This occurs when demand is related to some predicted activity such as production or planned maintenance. In other words, demand is defined as "dependent when it is directly related, or drives from, the demand for another inventory item or product. For example, the demand for finished automobile is independent, the demand for tyres is dependent on the desired quantity of finished automobile is independent, and the demand for tyres is dependent on the desired quantity of finished automobiles. Dependent demand inventory is item that is used in the manufacture of a finished product. To this extend, however, materials required for planning and just-in-time are the methods or technique to use for dependent demand.

According to Joseph Orlicky, materials requirement planning consist of a set of logically related procedures, decision rules and records designed to translate a master production schedule, into time phased not requirement. It involves calculating the required quantities of dependent demand items and determining the timing of order for them. This is done by working back from planned production of end products forecasting to arrive at the planned acquisition of materials and parts. This method is an approach to stocks and scheduling that is widely employed in situations where demand is dependent that is where demand can be planned or predicted on the basis of a known programme of future activity. It begins with knowledge of how many end products required, and when it is needed. This information is broken into timing and quality details for each component, part or sub-assembly.

Basically, (MRP) is most suited for large manufacturing organizations which produce some components in house, buy other components from suppliers and ultimately assembles them all into a complicated finished products. The concept here is that production control and stock management are integrated. This is done to ensure that raw materials and components are only made available when they are actually required, and not before. Consequently, if this is well down the amount of capital required finance stocks of materials and work in progress will be minimize. True (MRP) system generally depends on the use of computers in view of the large amounts of data that must be stored, retrieved and manipulated.

Furthermore, the objectives of (MRP) are to ensure the availability of materials, components, and products for planned production and for customer delivery. To maintain the lowest possible stock level, plan manufacturing activities, delivery schedules and purchasing activities need to provide adequate supply of dependent stock when required for production.

2.7.1 Benefits of MRP

1. Reduction in stock levels because the timing of materials minimizes the need for safety and buffer stock.
2. It improves production scheduling because the system sets deadlines on materials arrivals and production activities.
3. Quicker response to changes in demand

The other technique for dependent demand is just-in-time. White defined just –in-time as "and inventory control philosophy whose goals is to maintain just enough materials in just the right place a just the time to make just the amount of product. Just-in-time is a pull system which place orders for more inventories only when the amount on hand reaches a certain level, thus pulling inventory through the system as needed.

For just-in-time to work, two things must happen:

1. All parts must arrive where they are needed, when they are needed and in the exact quantity needed.
2. All parts that arrive must be usable parts.

Conditions Necessary for the Successful Implementation of Just-In-Time Philosophy:

1. There should be improved specification
2. Movement from acceptable quality level (AQL) to zero detects.
3. There should be efficient management of supply chain and devolving total quality management (TQM)
4. There should be batch size reduction
5. Movement from inspection to building quality in.
6. There should be supplier base reduction
7. There should be supplier quality assurance
8. There should be constant review of the supplier.

2.7.2 Benefits of Just-In-Time

i. There is low inventory carrying costs
ii. Materials are delivered right first time and correction of fault inputs materials are not made after deliveries.
iii. Suppliers responses to engineering or production changes requirements are very fast
iv. The supplier base is reduced, fewer suppliers' means minimal expediting, simplified communication and reduced ordering costing.
v. There is reduced reward in production and reduced parts related delays.

Just-In-Time Requires

a. Quality: Quality must be almost perfect because any disruptions due to poor quality will slow down the production process and cause delays to deliveries.
b. Speed: Fast production speeds are required if customer orders are to be met directly production rather than a stock of finished products.
c. Reliability: There must be no delays in the system because they will have an immediate impact and will stop production.
d. Flexibility: Small order or batch sizes will be required and so all suppliers in the supply chain need to be capable of producing small quantities of production.

2.8 Independent Demand

This is the present when requirements arise or a demand occurs in a way unconnected with any other organizational activity. Are the final demand goods, the goods that will be consumed or used up by the customer as finished goods? For example, a tyre company is an independent demand inventory item for good year Tyres Company, but a dependent demand inventory items for general motors car manufacturing company. However, the main objective of independent demand inventory system is to maximize the level of customer service by providing a manufactured or service product when and where required. The second point is to minimize the cost of inventory or stock. Inventory costs are interacted and directly affect the objective of maximizing customer service. The technique or method use for independent demand is fixed order quantity system (that is condition for certainty and uncertainty) and periodic review.

Advantages of using the fixed order system are:

1. Replenishment orders are automatically generated at the appropriate time by comparison of actual stock levels against reorder levels
2. Appropriate for widely differing inventory categories.
3. Economic order quantity is applicable with this system.

To that of periodic review, it advantages are:

1. Greater chance of elimination of obsolete items due to periodic review of stock
2. The purchasing load may be spread more evenly with possible economies in placing of orders

3. Large quantities discount may be negotiated when ranges of stock items are ordered from the same supplier at the same time.
4. Production economies due to more efficient production planning and lower set-up cost may result from orders always being in the same sequence.

2.8.1 Maximum Stock Level

Carter and Price (1993), in their books entitled integrated materials management explained that "maximum stock level is the upper limit of stock holding is designed to prevent over investment in stocks of any particular stores item, usually for financial reason". A limited amount of liquid capital may be available for stock investment. If this amount is exceeded, the stock must be financial in some other way, possible by borrowing money. it cost interest to borrow money. Even where liquid capital for financial stock is not strictly limited, the accounting function of a firm will wish to limit stock investment to some optimum figure. Money not invested in stock can be invested elsewhere, either in or outside the business and will earn interest. If a firm invests in stock above the optimum amount, the money invested will not only fail to earn interest, but other cost will be increased above the optimum, mainly store costs. Maximum stock level is now regarded as a rather old fashioned working limit, at least in the sense in which it has been used in the past because it can only be fixed as an arbitrary figure. They also argued that, when establishing the maximum level of stock that can be held, the actual physical capacity of store house would obviously affect the final stock figure. Having established the levels of stocks required running the operation effectively and efficiently, stock control is also responsible for ensuring that the level of stock are maintained throughout the whole stores system.

2.8.2 Re-Order Level

Taking into account two factors set this, namely usage rate and lead time. Lead time is that Time which elapses between making once mind to order and receiving goods into stock. The time will usually be somewhat longer than the suppliers delivery time from receipts of order, it will include the time taking for the stock controller to requisition further suppliers from the purchasing department and the buyer obtaining quotations comparing them and issuing the order. For example, it is known that a supplier will deliver a particular material in three weeks from the date of receipts of order, and it will take one week for the stock controller to do the necessary checks and buyer to check the suppliers current price and issue an order, and the usage rate is 250 per week, the reorder level for the materials must be set at least to 1000, since the lead time is 4 weeks in this case. They also explain that, this level of stock is the trigger for the purchasing department to go ahead and purchase a new supplier of goods. The shelf life of the item is also considered at this point. If it is less than the recorder level, it has to be reduced accordingly.

2.8.3 Minimum Stock Level

Minimum stock level is the upper limit buffer stock, a safeguard against an increased usage Rate after an order is placed, or against a supplier delivery rate. It is not a very scientifically calculated action level because it is usually based upon somebody's estimate of the importance or cost of a stock run out. Where possible, the effect of a stock run out should be measured as far as possible, so that the effect of being without stock, taking into account the usage rate can be calculated, if the cost of a stock run out cannot be measured, there may be a tendency for the stock controller to play over a safeguard in holding buffer stock, and all his minimum stock level may in practice be too high. And this may represent over investment in stock (Price and Morrison, 1993).

2.8.4 Stock Valuation

Lucey (1989), explained stock valuation as "the bases for computing the amount to be carried on the stock on hand or work-in-progress at the end of the financial period". In other words, it is the pricing of the materials at the close of the period for incorporation in the balance sheet.

Categories of Stock Valuation

Stock can be classified into various items namely:

a. Raw material
b. Finished goods
c. Work-in-Progress
d. Packaging materials
e. Component materials

Method of Stock Valuation: There are three main methods of valuing stock for incorporation in the balance sheet. These are First In First Out (FIFO), Last In First Out (LIFO) and weighted average.

First In First Out (Fifo): This method assumes that the oldest goods purchased are first to be issued so that the inventories are assumed to be the ruminant of more raising purchases. In fact, it is the stock that comes first that is issued out first before any in the next batch can be issues.

Advantages

a. It is very easy to operate
b. The closing stock values are more accurately stated and more closely representative of current price.
c. Unrealized profit does not arise with this method.
d. The FIFO system is a good representative of sound store, keeping practice whereby oldest items are issued first.

Last In First Out (Lifo): The LIFO method assumes that the most recently purchased inventory are issued first so that The remaining inventory at the end of het year are assumed to be the remaining of earlier Purchases. In practice It is just that, stocks are issued at the price of the last stock that comes before anyone.

Advantages

a. Stocks are valued at the oldest price
b. The change to production is closely related to the current price level as possible
c. It is simple to operate
d. The profits disclose seems to be more stable and to make accounting information a better guides to management.

Weighted Average: Under this method, issues of stock are price by dividing the total cost of eth materials in stock by the quantity of the materials anytime fresh purchases are made. The quantity bought is added to stock in hand and a revised balance is then divided into the new cash value of the stock.

Advantages

a. The methods smooth out the effects of the widely varying price of different stock. The method for calculating for new issue price is made only when new materials are purchased.
b. The method is more scientific because it takes into consideration the quantity of materials purchased beside their prices.

2.8.4 Stock Control

Carter and Price (1993), defined stock control as "the process of ensuring that the stock held by the organization is supplied to those part of the operation that require items bearing in mind the factors in time, location, quantity, quality and cost". Jessop and Morrison (1994) also explained stock control as "the operation of continuously arranging flows of materials that stock balance are adequate to support the current rate of consumption with due regard to economy". It includes the related process of provisioning, which is the means whereby instructions are given for the placing of orders. In some concern, the production control department may take a large share in provisioning; at least as far as production materials are concerned.

2.8.4.1 Aims of Stock Control

Obviously every organization has its own needs and requirements, which have to be met by its stock control system.

a. Supply of constant flow of materials for operation. The basic aim of stock control is to ensure that there is continuous flow of materials to the user department at the right time and in the right quantity.
b. Ensuring correct quality of stock required; stock control is responsible for ensuring that the correct type of quality of stock need is always available for use in the production. In this case, the date of the goods or the materials should be checked to ensure smooth running of the organization to enhance profit.
c. Distribution of Stock: This refers to pre-production and part production. It is the aim of stock control to ensure that the goods needed for the operation are at the point of consumption. This can involve transportation of stock from site to site, all of which must be controlled and organized by the stock control.
d. Management of time: This is when the required materials needed by the various departments are provided at the right time without delay.

e. Control of stock rotation: It is the aim of stock control to make sure that goods that are socked are used in the correct order, and in accordance with their shelf life or "sell-by" date. This ensures that all stocks issued is in the correct condition.
f. Control of obsolescence of stock: stock control is responsible for making sure that gods which are obsolescence do not go damage at all and he stock left which cannot be used in the operation is at a minimum.

2.8.4.2 Cost of Holding Stock

There are several basic costs incurred by any organization that holds stocks. Some of these costs are:

a. Interest on capital tied up: This is the alternative forgone to acquire a particular item. For example, the company uses it capital to purchase equipment which cost ten million and at a point in time the equipment is not being used, he alternative of using that sum of invest at the bank to generate interest is forgone because of the equipment bought.
b. Materials Handling Stock: This is all the equipment and storage facilities used to handle materials in good condition from one place to another.
c. Stock Maintenance: Stocks have to be stored in certain conditions, depending on the items involved in order to maintain its value from deterioration. This can result in the building of special storehouse or the introduction of heating, ventilation and lighting system, all of which are very expensive.
d. Administration of stores: When goods are held in stock, there is a great deal of administration work involved, including control of stock receipt, issue, stock record cards, bin cards and so on. All these duties takes up resources in the form of space, labour, skills and time.
e. Insurance of stock: That is the copy involved in ensuring the stock out goods against the danger of fire, flood or accident. The cost of insurance is very expensive.
f. Obsolescence costs: Materials held in stock may become absolute and thus will add to the total cost of storage.

2.8.4.3 Stock Control System

There are three basic stock control systems. These are as follows:

a. The Two-Bin system: this is based upon a re-ordering system that reacts to predetermined level of stock

Periodic Review: this is based upon the system of stock being re-ordered at regular set interests of time.

b. Programmed ordering system: which Ems Gillespie stats, "Different kinds of inventories required different stock management approaches.

2.8.4.4 Factors That Affect Levels of Stock Held

The stock control system is responsible for the correct establishment of stock levels for every item held in the store. When these levels are being established, certain basic operational factors have to be considered and then reflected in the final stock figure. These factors are:

a. Operational needs: This relates to the amount of stock needed by the department. Example, production, sales and marketing over a certain period of time.
b. Shelf-life of the stock: If an item has a very restricted shelf – life, example, fruit then, the amount of stock that can be held will be controlled by its actual shelf –life period, unless special storage facilities can be arranged or provided.
c. Delivery Period: This relates to the time taken for the supplier to produce, dispatch and transport the goods needed to the store. The period of the time will affect the local stock needed to be held. Sufficient stock has to be purchased to last between one delivery period and the next delivery period.
d. Buffer stock: This refers to the extra stock a store holds to cover any unforeseen hold-ups in delivery of change in demand. The buffer stock will vary in size depending on two reliable deliveries and on the operational risk involved. In many organizations twenty five percent (25%) of the minimum stock level is put aside as an adequate buffer to take care of unforeseen circumstances.
e. Capital Available: This is always a very important factor when establishing the level of storage to be held. If funds are not available to finance the first stock level established, then it has to be reduced.
f. Storage Capacity: The amount of stock that can be held will be restricted by the actual physical capacity of the stock.

2.9 Stock Taking

Morrison and Jessop (1994) defined stock taking as "the process of physical verification of the quantities and condition of goods, usually on a periodic basis for the purpose of ensuring that an appropriate figure appears in the organization account"

2.9.1 Purpose of Stock Taking

Stock taking must be carried out for the following reasons:

1. To verify the accuracy of the stock records, whether maintained manually or by computer.
2. To support the value of stock shown in the balance sheet by physical verification
3. To disclose the possibility of fraud, theft or loss.
4. To reveal any weaknesses in the system for the custody and control of stock

2.9.2 Benefits of Stock Taking

Stock taking involves many valuable and expensive man-hours to arrange and carry out, plus a great deal of management time needed to investigate the almost inevitable list of stock discrepancies. However, the cost and efforts are more than justified by the following benefits.

1. Stock record and stock control system will be tested. Verification by physical count acts as a form of performance check on these systems, and adjustments needed can be made.
2. Financial reports (including the balance sheets) produced by the organizations auditors will demand some form of physical stock verification to lack up the value of stock shown within the balance sheet stock valuations which are not backed up by a physical count have little relevance to the critical auditors and the organization accountants.
3. The security aspect of stores management demands that regular and physical checks be made to ensure that any possible theft or fraud is quickly detected and investigations carried out.
4. Stock taking is an indication of overall stores efficiency and management control. The number and size of stock taking discrepancies is a good indication of efficiency.
5. A high incidence of stock discrepancies usually warrants a close look at the personnel systems involved.
6. Accurate stock levels show within the stock records system, backed up a regular physical count, will ensure that all requirements of the user department are covered by existing stock levels and will be issued promptly and efficiently. This avoids the common situation of stock shown the records system not being physically present.

2.9.3 Types of Stock Taking

There are several methods of carrying out stock taking, advantages and applications of eh main recognized methods are:

i. **Periodic stock taking:** This is where a complete stock taking is performed at regular intervals, usually at the end of each financial year or in some cases at quarterly intervals. It is the most common method of checking and accounting for stock. The system has several advantages.

Advantages

a. The stocktaking is usually carried on a non-working day, since the store must be closed during a count, and therefore the stock checkers have time to count carefully and check discrepancies.
b. A complete stock taking enables discrepancies that are brought to light to be investigated.
c. Accurate stock evaluation figures can be provided for the annual balance sheet and accounts.

ii. Continuous stock taking: In this system a selection or section of items are checked, every week throughout the twelve months period every item in stock would therefore be physically counted and checked, without having to close the stores.

This is used in connection with the security and anti-theft aspects of stores management – Spot –check are designed to verify the stock held, without a prior warning which could provide time for stock to be replaced illegally. The system also acts as a deterrent against these who may contemplate theft, knowing that a hidden check could bring about an investigation. It has the advantages of acting as a deterrent to theft and fraud.

2.9.4 Stock Taking Procedures

Ensures that stock taking is an accurate and meaningful exercise, stores management must patronize and control all stock activities. Stock taking demands care and attention to detail, if the physical count is to be effective, one of

the biggest problems facing stock takers is that, if eth count is due at a certain date, then any stock not counted on that day will have to be counted late and complex calculations regarding stock received and issued after that date will have to be made. Store managers therefore need a stock taking procedures to cover the following vital aspects of as complete stock taking.

A controller of stock taking should be appointed. Usually it is a senior member of the supply management can take on this temporary role. This appointment means that one individual has full authority over all those involved in the stock taking, producing clear lines of authority over all those involved in the stock taking, producing clear lines of authority and responsibility for those involved.

Stock areas should be allocated to individual members of the stock taking team. Each pair of stock checkers will be given specific areas of stock to check and count. It is good in practice, to have someone who normally works in the stock areas as one of her pairs so as to have a degree of local knowledge, but the other member of the team should not be familiar with the area allocated to avoid possible fraud and to provide an outside view.

Adequate materials and equipment must be available for the stock takers, before the counting sheet begins. Stock takers will need pen, pencils erasers and stock counting sheets, calculators, measuring equipment and office space to calculate total stocks and make comparisons.

A comprehensive stock taking meeting should be held several days before the stock taking is done to commerce. This gives the controller of the stock taking the opportunity to explain slowly and carefully to all those involved that is to be

Counted, how quantities are to be recorded, the assignment of stock location, he names of the pairs of stock taking part and also the actual time tables of events for the operation itself.

The stock to be actually counted should include all normally stocks, materials under inspection, scraps, packaging and items on loan. Stock taking sheet will include damaged stock, deterioration and so on.

There should be a complete closure of all stores installations and the stopping of all stores activities until the stock taking has been complete. A stock taking cannot take place while the materials being checked are being constantly issued and received.

All equipment and stock, which do not belong to the organization, must be counted and recorded separately from the other stock classifications.

All items of stock which are in transit or stock held in deports or warehouses must be counted for at the same as the main stock take, thus ensuring a complete picture of the organization's current stock.

All previously active store documentation should all have to be documented and filled before the actual stock take begins. This will ensure that calculated records are up to date.

Documentation: A complete and comprehensive stocktaking involving large number of stock lies on several locations will demand a variety of stock taking control documentation. Example of stock documentation is the stock counting sheets. Stock counting sheets are sheets produced, especially for stock taking purposes. They are designed to be used by each individual stock taker for each type of item to be counted and therefore every item in stock will have its own stock counting sheet.

Classification of Stores: Generally, the stores function affects the entire efficiency of an organization. Before any organization operates a particular stores system a lot of considerations are taken into account. Jessop D. and Morrison A. likewise Carter J.R. and Price M. are of the view that stores can be classified under two main categories namely, central or centralized stores and decentralized stores.

Central Stores: Carter and Price (1993) said, it is the concentration of all stocks at one point to the user department. It is a situation where all the needs of an organization is stored in perimeter or a situation where the needs of a group of industries which geographically separated are also in one store. Goods are distributed from such places to either sub stores or direct to customers. But Jessop and Morrison (1994) in their book holds the view that central stores is generally recognized as one which acts as a whole sale supplier to other units, department, or sub-operating on a retail basis issuing goods directly to users. There is a conflicting ideas by the authors as to the performance of the central stores but Kalmani Perlman argues that the central stores can may be required to perform a function in addition to replenishment of items to other subsidiary stores. To the lay man understanding, central stores are areas within the organization where all items needed by the organization and individuals are kept. With this kind of store, it feeds or provides maximum support to the other sub stores in the organization by making sure that certain items are reserved at the central store to avoid and shortages. With this central store it serves as a mother store to all the departments in the organization which receives bulk supplies from external suppliers and distributes such items to other stores.

General Stores: According to Kalmani and carter, these include the diverse range of materials required in the running of an organization, example manufacturing plant. Such stores carry consumable goods needed throughout the whole company or organization. Almost all departments within the company or institution are served from there. The determination of its location will depend on the proximity of the various departments. But David and Jessop further

explained that, when there exist central stores there is no need for General stores since they may all perform the same function. To the lay man understanding when we say something is general it means involving all or most parts, things or people. Therefore general store is the acceptance of all kinds of items in store such as consumable items, toiletries, detergents and stationeries. At the general store, such items are stored regulated air conditions with low or high temperatures to prevent items from spoilages and such items are stored in order to cater for the needs of top managements.

Raw Materials Store: To the lay man understanding, when we say raw materials it simply means that something which is not yet processed or no value has being added to make it a complete finished product ready for consumption. Even if any value has been added to any item to make it semi-finished product or finished products, it still becomes a raw material to any organization for such organization also to continue with it production process. Therefore David and Morrison (1993) explain that raw materials stores are set up to cater for production in order to avoid shortages, damages, delays etc. such goods are always bulky in nature. Therefore traffic considerations are important. Heavy tankers, containers etc. are the modes of transport systems that deliver goods to that store. It is also sited at production centers to avoid causing double handling. Goods should be segregated to avoid contamination. Facilities such as offloading should be provided to avoid payment of destruction of these items. David and Morrison argument is only basing on bulkiness of materials to become raw materials but CK Lyson in his book purchasing procedures stressed that raw materials are the most important of all inventory of which cost of raw materials should be considered because materials directly affects the cost of the product. He also explains that it is the duty of top management to control raw material inventory instead of leaving it to store officers to manage as argued by David and Morrison. In short one may opt to say that raw materials are the physical assets of every organization and therefore such stores should be managed with effective care in terms of their security to both internal and external personnel's.

Departmental Stores: Carter and Price (1993) explain that, departmental stores are set up to serve a particular department within the organization. The ranges of goods they carry cover the main materials peculiar to that particular department. The general supporting goods may be provided from the central store. David and Jessop opines to the views of Carter and Price by saying that, irrespective of whether there is a central storehouse in an organization or not, separate storehouse are required to serve the needs of individual departments and are normally located inside the main department building or adjacent to it. To make it possible for the lay man understanding, a department is a section within an organization. Departmental store is a large shop that takes deliveries of several kinds of goods to be served to the entire different that its sections with the organization. Such stores are normally located closer to the department that its serves. With this the items are kept there to avoid the time of moving to other stores for such items, they are there to cater for rush orders or to meet unplanned orders. Furthermore, Kalmani Perlman argues that establishing such store, consideration should be given to the type of goods to be held, their usage which should be peculiar to the department. Delivery of such materials should be direct to the department to avoid double handling. There is also the need for roadways and unloading bay for these items.

2.10 Empirical Evidence - The Value Adding Functions of a Store

Some firms view the storehouse to be cost negative but Jessop and Morrison (1994) explained that the storehouse can add value to production through the following.

Breaking Bulk: Stores receive bulk deliveries of goods due to economies of scale of production or transportation and then issue them in smaller quantities to customers. Where goods are supplied in large quantities perhaps because of economies of scale of manufacturing, then it may be that the store house performs the activity of taking delivery of bulk consignments and issuing in smaller units to customers or users. The storehouse enables a more efficient matching of demand with supply. To the lay man perspective, when stores is to break bulk means dividing or separating large items in to smaller pieces for consumers to buy. This is done by stores to make it possible for consumers or customer to take delivery of their unit of items in order to have easy access to transportation.

Creating Bulk: Goods are produced in small quantities in a variety of locations and brought together into larger variety lots for economic shipment to the market or users. (Carter and Price 1993) but David and Morrison included in their thought that accumulation and segregation of the items must be by smaller supply. The accumulation and aggregation of these smaller supply quantities is another way in which a store can add value. Milk, vegetables, latex and many other natural products are brought together in this way. With this, stores creates bulk by moving to different locations and brings the items needed together to form a single unit for consumers. When this is done it makes easy for quantity and quality of items needed to be located at the same place and enhances effectiveness in their shipment to consumers.

Smoothing: Jessop (1994) explains that, the rate of supply and demand, and the associated timings of customers do not exactly match therefore production companies like Ghacem Company Limited smooth their products (cements) which are stored to be made available when the customers need them. In manufacturing, we can think of

the storage as an activity which enables supplies of materials and components as when needed, or we can store finished goods until customers need them. In both cases, we smoothing that is to say accommodating the fact that the rate of supply and demand and the associated timing do not exactly match. To the lay man understanding, stores smooth items by reserving such items as much as possible for future demands irrespective of the timing. It is done as a way of adding value to their performance in order not to disappoint user department as well as customers.

Combining: Stores normally store a variety of goods or products so that production department and customers can have access to products according to their choices in order to avoid the time constraints of getting the choice of item at different points. David and Jessop also said that if stores did not provide value adding function of bringing materials together in to a single location then the customer would find it impossible to enjoy any real choice as shopping would take up an impossible amount of time. Materials in a retail store are supplied from a variety of origins yet customers are served best by allowing them to select according to their shopping list from the range of products available. When talking about combining as a value added role of stores it simply means that there is a continuing need to balance the requirement for the availability of materials against the costs involved in holding such stock. There is financial pressure to minimize investment in stock whilst there is an operational pressure to ensure constant availability of stock for product requirements.

2.11 Identification of Materials Within Stores

Materials is a general term describing goods that are used by organizations. The bulk of these goods are usually intended for use in connection with production or operating activities. As Jessop and Morrison (1991) said, the organization may use several items in their productions or operations, which must be kept in store. There is a need for easy identification of the materials in stores to ensure effective production process. The normal way of identifying article is by simple description but this by itself is not entirely satisfactory for stores purposes since several names may be used for the same commodity. Jessop (1991) gave example in the name use for "dustbin" he said it is either called "refuse container or rubbish receptacle". Again, in order to identify some article accurately a very long and complicated description is required to avoid this long and complicated description of materials in store. It is necessary to have some logical bases of identification that is more precise and less cumbersome or difficult.

This can be done by using alphabets, numbers or combination of both the alphanumeric and this is known as stores code. The code is then used to identify all items exactly the order mentioned above being indicated by numbers such as 17175003 or alpha-numeric such as DN/TP/004 Carter and Price (1993) define coding as a "system of symbol applied to a set of items to give a brief accurate reference to facilitate entry, collection and analysis. It is also a system of identifying items by using letters, numerals, symbols and colours in the identification of stock. Carter and Morrison hold the same view that there are different kinds of codes that organizations may use and most of them are specially designed to suit the needs of the business they serve. They may be based upon the nature of items, the purpose for which items are employed or on other basis that is regarded as suitable according to the circumstances. When the operation is completed, the list of code numbers is compiled in a book or document known as stores vocabulary. There are many advantages associated with the stores coding. First, it avoids repeated use of long description of items. It is easy to see that if full and accurate description is used on all stores documents, the clerical work involve would be immense. Even abbreviated descriptions are cumbersome and soon lead to confusion.

However, by applying stores code system each item is described accurately with few letters or numbers or combination of Letters and Numbers. Again, it accurately identifies all items in store. A separate code symbol is available for every individual type of item in all different sizes, indicating whether there is an approved specification and any special characteristics. Different items may share the same name but they will be given a unique code. In addition store code prevents duplication of items. With stores code all items are arranged in codes and should not be given any alternative code numbers. Stores code assists standardization and the reduction of varieties. This is one of the most important and profitable uses of stores code. The grouping of like items together makes it easy to examine the complete range of any given type of items. It also considers whether the number of varieties used can be reduced and standardization achieved on the minimum number of the most suitable type. Store code may be used as storehouse location system. It is clearly desirable that goods in the storehouse should be kept in some logical order. One way to doing this is to arrange the items in the sequence of the store coding system as far practicable Carter and Price (1994).'

But David and Jessop review that for store code to be very efficient in its operation is must have certain specific characteristics not just as the way and manner in which codes are designed. The code system must cover the whole range of stores in use or likely to be sued in the near future. Again, the classification and sections are designed to meet the needs of the organization. The number of letters or digits is constant for all items. Lastly Morrison (1994) explains that, the numbering is arranged so that there is adequate room for future expansion or amendment without the risk of duplication or changing existing numbers.

2.11.1 Receipt Of Materials In Stores

Carter (1993), stock receipt involves all the materials and items supplied to the store, whether from internal transfer or from external sources. Both must be strictly controlled to ensure efficient stores management and smooth operations. A comprehensive set of documents has been developed to enable this control to be maintained. He explains further that each of these documents has an important and specific role to play although documents will be designed by individual organizations to accommodate their own needs. Jessop and Morrison (1991) said goods may be received from outside suppliers, from production department to other stores within the organization. They may come by hand, by post, by road, rail or air. They must be properly looked after when they arrived. The amount of recording and checking depends greatly on the nature of the goods, and the management techniques of the business. Of course, it is desirable to avoid the expense of a lot of paper work or data processing if this can be done without undue risk but the possibility of theft, fraud or mistakes is always present. As already mentioned goods are received from external suppliers, production departments or others stores within the organization. The majority of goods will arrived at their final destination by road despite the fact that they may be carried for major part of their journey by some other method of transport such as rail or air. It may seem common to off-load the goods from the vehicles as promptly as at when it arrives to avoid demurrage charges. It will be advisable to inform supplier of the days and timing when facilities will be available to accept deliveries if the storehouse are not open for business twenty – four hours and seven days a week.

Before a store keeper accepts any goods in to stores, certain information should be available. The storekeeper must be informed of what he is expected to received and when it is likely to arrive through a copy of purchase order. Again Carter and Price added that when a supplier has goods ready for delivery he normally prepares an advice note to be sent through the post to the customers. The document gives a description of the goods, the quantity involved, the method of transport and the data of dispatch and the intention is that it should be in the hands of the receiving storekeeper or before goods themselves arrive. Normally a typical receiving procedure is that before the delivery the receiver compares the supplier's advice note and the carrier's consignment note with the corresponding copy order to see that there is no disagreement.

To make it easier and simple for the lay man to understand receipt of materials in stores, it simply means that the storekeeper accepting goods in to stores by making sure that quantity and description corresponds with what has been ordered. This is done by weighing, counting or measuring items. Where short weight is received, goods damages or packages are missing it is necessary to inform the carrier immediately irrespective of whether the delivery is made in the suppliers owns transport or not. When goods has been checked on arrival the receiving storekeeper signs receipts documents to indicates that goods have been received as advised and copies sent to accounts sections to record the transaction in the store control accounts.

2.11.2 Inspection of Materials in Stores

Carter (1994) believes that in the past years, stores follow a traditional inspection role but recent years there exists a link between stores and quality control to inspect all goods or materials before receipt into stores.

Many organizations rely completely on stores to check and monitor all goods delivered into stores. The trend today is for stores and quality control to work closely together within the inspection role, since both stores and quality control have a part to play in that procedure. The stores have a very important part to play in the quality control operation by inspecting all materials delivered to the stores. Kalmani Perlman included in his thought that inspection must be mark against the predetermined levels of acceptability. He also said that, when goods are rejected by stores, quality control must be informed immediately, as must purchasing, production and planning departments. But in instances where the quality does not meet the requirement of the inspector, the items are rejected, the inspection department representation either signs the appropriate space on the goods received note as rejected or alternatively indicates the reason for rejection on the inspection certificate or prepares a separate rejection report document or causes the computer record of the transaction to be amended. The accounts payable section is informed and the goods are held pending negotiation or return to suppliers in accordance with instruction to be issued in the due course by the purchasing office

2.11.3 Storage of Materials in Stores

According to Price (1993) storage of deliveries will have to be broken down into smaller units then stored on the shelves, bins racks or whatever storage equipment is suitable. It is vital at this stage that goods are placed in their correct storage location, otherwise the whole issue and checking system will be adversely affected. Jessop and Morrison (1991) describe storages as a function that has the responsibility for the receipt, custody and distribution of very large sums of money in the form of stocks and for determination of appropriate quantities of materials to be held in order that operational needs may be met as economic manner as possible. He said when a storage function is managed and operated in a highly efficient way; it can contribute to a great success of the organization, which is nowadays widely recognized. Again stores are considered as a temporary location for materials needed for operational

purposes and should be planned, organized and operated in such a way that the period of residence of each item is as short as possible. Generally, if demand is steady or highly predictable then we should store for very short period if at all.

The rapid adaption of just in time (JIT) approaches in recent years refers almost to the universal recognition that stocks are expensive to hold and the opportunities should be sought to meet better use of money they represent. When demand is highly unpredictable then storage for longer period may be necessitated. In mass production like a car plant, vast quantities of materials and components parts have to be provided every day. Large sums of money are involved and it is essential to organize the materials function so that the investment is kept to the minimum. A big plant can use millions of cedi worth of materials each week. Shortages must be avoided and at the same time much must not be delivered otherwise it will dug up production areas or it will tie up working capital explained by Jessop (1991). To review this idea to the lay man understanding, storage therefore follows a system for the provision of materials to be sensibly designed; account must be taken of the nature and needs of the organization. When we talk of storage, it means stocks are received and kept accurately to be made available balance flow of materials. Equipment and any commodity to meet operational requirements. When we talk of storage it does not actual means only storing of materials but also to accept and account for receipt, issues and goods in stores.

2.11.4 Issues and Dispatch of Stock in Stores

Price (1993) opinion that, the issue function of stores management is the process of reacting to the demands of users for goods and services held within the store. The success of this function is often taken as a measure of the efficiency of the whole stores operation. Because of the size and complexity of modern business, many stores hold a great variety of items and therefore different types of issues classification exist to cover this variety. Jessop and Morrison (1991) also elaborated more that the service given by stores department to other department becomes effective at the point where storekeepers makes issues of goods and users will naturally judge the efficiency of the stores organization by the standard of service provided to them.

Authorization of stores issues is necessary since stock represent money, and should not be misappropriated, wasted or improperly used. For this reason issues cannot be made indiscriminately and before goods can be withdraw from a storehouse, there must be some authority for the transaction. This may be in the form of a signed document, a verbal instruction or a routine arrangement. Whatever method of authorization is employed should be appropriate to the everyday needs of the organization. If there is too few authorized signatures, a workman requiring materials may have to spend unreasonable time finding a supervisor to approve his demand. They continued in their explanations that the identification of requirement by the user department should be appropriate to facilitate smooth issues.

Provision is made on the issue documents for the description and stores code number of required item to be quoted, and this information is entered by the user who prepares the document. In practice however, it often happens that the details given are inadequate or even in accurate and storekeepers will be expected to find out exactly what is wanted and see that it is supplied. Storekeeper must therefore be provided with copies of vocabularies, spare parts lists and catalogues so that they have the means of identifying requirements without relying entirely on memory.

Goods demanded are not always available and when this happens the storekeeper may be required to suggest suitable alternatives. To do this effectively the storekeeper must be thoroughly familiar with the materials and has some general knowledge of the production or operational process of the firm. Again timing of issues should be communicated to the user departments so as to avoid delay in a busy storehouse. Issuing documentation is also very important in any stores operation and materials will be withdrawn from stores and exchanged for duly authorized documents, the name of which will vary depending on the nature of the organization and the type of issue.

2.11.5 Stock Records and Stock Control

Stock records are the documents, which record daily movements of stock, receipts, issues and balances. From these stock records, stock control is possible. Stock control is the principle of ensuring that stock balances are adequate to support the current rate of consumption at all times with regard to economy. Lysons (1996) defines stock control as the techniques used to ensure those stocks of raw materials or other supplies, work in progress and finished goods are at levels which provide maximum service level at minimum cost. Lucey (1994) also views stock control as the system used in organizations to control the organization's investment in stock. This includes the recording and monitoring of stock levels, forecasting future demands and deciding when and how many to order. According to Jessop and Morrison (1994) the usual approach to control stock is the control of issue to the stores. Stocks are held to increase sale and profit. If stock is held, a wider variety of product can be offered. Effective stock control reduces total cost and increase revenue.

2.11.6 Stock Taking and Stock Checking

Stock taking is one of the most essential ways of controlling stock in organizations. It can be defined as a complete process of verifying the quantity balances of the entire range of items held in stock (Aremu 1998). And stock checking is any other check on physical quantities, within may be applied either regularly or intermittently. Stock represents cash is locked up very carefully to prevent fraud or theft. Aremu (1998) explains further that since stock is equivalent to cash, it follows that it should be carefully protected, counted and checked in a similar way as cash. If stock is to be adequately safeguarded, it must be properly locate4d in secured building or stock yards to which unauthorized persons are not allowed access. Arrangement must be made for the custody of storehouse keys and security precaution exercised during non-working hours. The person immediately responsible for the care and the custody of the stock should be clearly designated. Normally store keepers are put in charge of a storehouse. Its responsibility should be made known to all concerned and he must be given proper authority and facilities to fulfill his duties. No stock taking should be made without his knowledge. The stock taking is done in order to verify the accuracy of stock records. Aremu in his argument pinpointed only process and procedures of stocktaking and stock checking but David and Morrison elaborated more on a system where by the person taking stock is given no prior information about the vocabulary numbers, descriptions, stock records balances or location of items. His theory is that the check will be more reliable as the stock taker has no idea and knowledge of what is supposed to be in stock of which referred to as blind stock taking.

2.11.7 Inventory Control

Cooper (1994) said that inventory control is one of the most common problems faced by managers, it tends to be viewed as a modern problem but in reality it has been around for a long time. The main objective to inventory now is to minimize stock levels while maintaining an acceptable level of service. Again, Bailey and Farmer (1991) explains that inventory control could be defined as the policies and procedures which systematically determine and regulate which things are kept in stock and what quantities of them are stocked. They continued that for each item stocked, decisions are needed as to the size of the requirement, the time at which further supplies should be ordered and the quantity that should be ordered.

2.11.8 Definition of Production

Moynihan and Titley (1989) defines production as any activity designed to satisfy people's want. On the other hand, production is a department in organization that brings out total output. It is at production that we combine raw materials and capital (intensive and extensive) to produce output. Bledge (2001) asserts that production is the process by which factor inputs such as labour, land and capital are combined to produce a unit output of goods and services which satisfy human wants. Production according to Turkson (1997) is a systematic method of procuring factors of production which may include manpower, raw materials, equipment, and buildings for converting the raw materials (input) to usable for utilization.

Besides the use of different terms and constructions the authors are virtually expressing the same meaning. Obviously, it could be deduced from these authors that, Production generally could be described as a way being adopted by an entity to ensure the process by which factor inputs are well planned and organized with available resources to come out with outputs to satisfy human consumption. According to Oxford dictionary (advanced learners) production is the process of producing or manufacturing goods. Cambridge also defined production as the process of making or growing goods to be sold. Longman dictionary of contemporary English also argues that production is the process of making product to be sold. The above dictionaries definitions seem to be highlighting on the meaning of Production simply to be producing and selling to consumers. All the definitions fail to point out how inputs and resources are combined to come out with an output. It can be argued that all the recognized authors are all basing their opinions and facts on how production can be effectively be planned, organized, directed and controlled with all the operational activities of an organization with the idea of transforming raw materials in to usable finished goods.

2.11.9 Pre-Production Planning

According to Appleby (1994) pre-production planning is a term used and can be considered to be a branch of production administration, which includes those function that must be carried out before production begins. Pre-production planning can be simply defined as the co-ordination of information in manufacturing capacity and material availability so that control of new manufacturing, requirements is facilitated. It is concerned with the possible effect in capacity of research trends, changes in design and methods of manufacturing. It is concerned with the following;

Product Design and Development: Appleby (1994) said that, the needs of the customer must be known and continuous research is needed into new methods, markets ad materials. The physical limitations of production capacity must be known so that orders are not accepted if they cannot be produced on time.

Production Engineering: Standard times and methods of working must be considered both for manufacturing figures and tools and actual manufacturing operations.

Production Planning: Appleby (1994) explains that, production planning is information required before production actually commences. It includes knowledge of available orders and stocks to enable an analysis of requirements of materials and components, length of time operations will take.

2.11.10 Production Management

According to Turkson (1997) many human activities involve converting raw materials to a form capable of satisfying human needs and wants. This is the essence of production. In Economics, production refers to the creation of utilities. Utilities refer to all our needs and wants. Implied in this definition is that production is the process of producing goods from raw materials. The raw materials may be resources such as timber logs, sugarcane, maize, cocoa beans, etc. these raw materials go through a long line of processes which result in refined and sophisticated products which satisfy human needs and wants. Production does not only deal with tangible goods, but also deals with the rendering of services, such as teaching, banking, medical care, etc. Production management deals with all the decision-making processes that affect the production of goods or services according to specifications at the possible minimum cost. Production management is concerned with the process of effective planning, organizing, direction, and controlling of all the operations and activities of an organization concerned with the transformation of raw materials into usable finished goods. In other words, production management is concerned with all the processes that go to manufacture or produce certain goods or services.

2.11.11Factors of Production

The scarce resources available for use in the production of goods and services to satisfy wants are called factors of production. These are the inputs into a production process from which an output of goods and services emerges (Moynihan and Titley 1989). They further explained that factors of production can be grouped under three headings.

Land: Moynihan and Titley (1989) asserts that, the fertile soil vital to the growth of plants, minerals such as coal and oil, and animals for their meat and skins are known as natural resources but to simplify, the economist calls all of these land. Land therefore includes the seas and rivers of the world, forests and deserts, all manner of minerals from the ground, and chemicals and gases from the air and earth's crust. Land according to Turkson (1997) is often referred to as a free gift of nature. To him, land covers the following;

- The sea, rivers lakes and other forms of surface water including their living organisms such as fishes.
- The forest, savanna, desert, and their living organisms such as fauna.
- The soil on which farming takes place.
- The atmosphere including the sum moon, clouds, rains, etc.

He also said that whatever we are engaged in involves using, either directly or indirectly, any of the above components of land.

Labour: According to Moynihan and Titley (1989) nothing can be produced without people. They provide the physical and mental effort to make goods and services. People who work with the hand and with the mind are human resources, or what is termed labour. The size and ability of an economy's labour force are very important in determining the quantity and quality of the goods and services that can be produced. The greater the number of workers, and the better educated skilled they are, the more a country can produce. Whilst most people have the ability to contribute to the production of goods and services, not everyone could be a successful business person and be able to employ and organize resources in a firm. A firm is a business that owns a factory or a number of factories, offices, or perhaps even shops where goods and services are produced. Moynihan and Titley said that business know-how or the ability to run a production process is known as enterprise. The people who have enterprise and can control and manages firms are called entrepreneurs. They are the people who take the risks and decisions necessary to make a firm run successfully. Turkson (1997) also argues that, land refers to the human effort used in productive activities. It is also includes the physical and mental effort of people in the various industries. Labour, as a factor of production refers to human attributes such as intelligence, knowledge, skill, and aptitude which support the other factors of production to turn raw materials to more useful products.

Capital: To make the task of production easier, man has invented many tools, computers to calculate, screw drivers, spanners rulers and many more. As explained by Moynihan and Titley (1989) production that operate on a grander scale, turbines drive engines, tractors ploughing the land, ships transporting goods, refine metals and wood and factories and offices have been built to house many man-made tools and machines. They continued by saying that capital are man-made resources which help to produce many other goods and services. Economists tend to talk of

units of factors of production for example; an economist might say that a firm has employed thirty more units of capital which simply means that it has bought thirty new machines. Similarly, if an economist talks of units of land, it could mean tons of coal, barrels of crude oil, or acres of land. According to Turkson (1997) capital is defined in a narrower sense to mean money used to start a business. In its broader sense, capital means more than money. Capital refers to all the physical assets such as premises, plant and machinery, vehicles, fixtures and fittings, and furniture which facilitate productive activities. He added that capital may also include inputs such as raw materials. For example, inputs such as lumber, plywood, spraying chemicals etc. constitute part of the capital structure of a furniture manufacturing company.

2.12 Entrepreneurship

Turkson (1997) argues that entrepreneurship should be included in the factors of production as it is also an important factor when it comes to production. According to him entrepreneurship is the managerial aspect of production. The above stated factors or production – land, labour and capital should be properly organized to achieve the ultimate result of production. The agent that organizes these factors of production to achieve production results is what is referred to as entrepreneurship. The Managing Director who ensures that production targets are achieved and customers' delivery schedules are strictly adhered to is playing an entrepreneurial role. Entrepreneurship, therefore, determines, to a large extent, the degree to which the other factors of production should be successfully harmonized to achieve organizational objectives.

2.12.1 Specialization and Division of Labour

David Butler opines that modern mass production methods normally require a considerable degree of specialization by the workforce. Each worker carries out a small part of the total assembly, often alongside a conveyer belt which brings the components to each worker. It is argued that the division of labour results in higher productivity (the amount each worker produces in an hour) and that leads to lower average costs of production.

According to David, the reasons are as follows:

- Each task is very simple, so workers get quick at carrying it out.
- Little training is required to learn each task.
- Workers can be allocated to the tasks they are best at.
- Machines are in constant use.
- Use of assembling – line methods with less time wasted moving around the factory.

Moynihan and Titley argues that specialization and division of labour makes people to concentrate on doing those tasks they are best able to do, much more can be produced, and more wealth created. This means people's standard of living would improve and they would have greater choice. They argued further that, when workers become specialist in the job they do, repetition of the same operation increases the skill and speed of the worker and as a result more is produced.

Types of Production: This is when a firm gets one-off orders so that each product is built to the customer's specifications. This type of work is often done by relatively small specialist firms. Turkson (1997) states further that, job production usually process layout of machines or group of machines which is designed to for particular specification.

Batch Production: Butler said that batch production lies between job and flow production. A clothing manufacturer, for example may receive batch orders for thousand particular skirts. The firm can set up a production line for this type of work because it involves some repetition of particular tasks and after the batch is produced it will switch to something else. Turkson holds the same view that production is a type of production based on the principle that groups or batches of similar products are produced at the same time to meet a continuing sales demand. He argued further that, batch production, unlike job production, requires a large stock of raw materials.

Flow Production (Mass Production): David Butler explains that flow production is used when firms receive very large orders for identical products. Example Cars, electrical goods and sweets are all normally produced by flow production. This involves using assembly lines when each worker does a small task and repeats it over and over again, and he referred this to as division of labour in mass production. Turkson said that Flow of production to some extent can be seen as the continuation of certain products without any interruption. In flow production, there is no a frequent break or stoppages in production. Work-in-progress (partly finished product) are always moving from one production

point to another. There is very little waiting interval between one production operation point to another. In addition, in type of production, a breakdown of one machine will invariably affect the whole operation.

Factors That Influences Productivity: Productivity is always what comes out of production. That is, it is the end result of production. The ability to produce more or less certain products depends on the following factors.

Hard Work: According to Turkson (1997), hard work is a factor which influences productivity. If workers cultivate bad working habits such as lateness, laziness, malingering, absenteeism, and frequent visits to the hospital for minor ailments, productivity is likely, to suffer. Hard work, dedication to duty, commitment to duty is factors which increases productivity.

Training: Training, as we all know, increases a person's ability to do a good job as a result of the new knowledge acquired. Training supplements a person's academic pursuits and increases his suitability, efficiency, and proficiency on job. In this way, productivity is enhanced. It is for this reason that many organizations have regular and properly co-ordinated training programmes for their employees as the advantages contribute to increased productivity.

Motivational Factors: Motivational factors such as attractive wage/salaries, fringe benefits allowances, and other welfare services boost the morale of employees and influence them to work hard to increase productivity. If a hardworking employee is not rewarded for his services through motivation, his morale is likely to be low and this will retard his work rate and productivity will eventually.

Co-Operate Factors of Production: Co-operate factors of production are all those supporting facilities such as plant, machinery and tools which support human effort in production. According to Turkson, the physical and mental efforts of human beings are not enough to increase productivity. Large scale farming, which has increased productivity of farm produce is basically through the use of co-operant factors of production such as irrigation schemes, fertilizers, tractors, and combine harvesters.

Relationship between Stores and Production: The existence of the relationship between stores department and production department makes it possible for the provision of materials for storage of materials to be maintained in accordance with the policy for inventory control. The stores department provides materials, tools and other shop supplies at the required times and in the required quantities to meet the factory programs advices anticipated difficulties or failure in supply, and notifies any substitute or surplus materials available from stock. According to Jessop and Morrison (1991), storehouses are ready to accept work in progress and pfinished goods at any time and to receive scraps, offcuts, rejected items and salvaged materials that might arise from production. As explained by Carter and Price, the relationship that exists between stores and production department is very important simply because the stores management has to ensure that all materials needed for the continuation of production are available as and when required. Production management's part in this relationship is to ensure that adequate warning is given to stores department about the need for materials, together with information about the type and quality required, future demands and also the performance of the materials issued.

3.0 CONCLUSION

3.1 Summary

The purpose of the research was to find out the impact of stores management on the operations of manufacturing companies. A case study of Ghacem Company limited Takoradi. The objectives of the study were to identify the storage techniques being used and the control of inventory in stores, to identify the type of relationship that exist between stores department and the user department and to determine the extent to which stores management operation can improve profitability.

3.2 Findings

Throughout the interviews and investigations, it was established that Ghacem Company Limited, Takoradi does not based their stock held in stores on stock techniques such as minimum stock level, maximum stock level and Economic Order Quantity. Again, some of materials are kept on the bare floor which resulted in deterioration and those kept on racks are not properly done. Furthermore, the employees do not recognized the important and other efficient methods of storage of materials and the need to control in central stores.
It was established that, Stores do not operate for twenty four (24) hours whiles some other departments such as production and maintenance operate for twenty four (24) hours a day to ensure effective operational

services. There are also lack of proper handling equipment's used in storehouses and stockyards and few that are available are old which needs to be replaced.

3.3 Limitation

In the course of this study, some difficulties were encountered which cannot be over looked since in one way or the other serves as limitations in achieving the objectives of this study. First and foremost, there were inadequate text and other related materials on the area of the study. Secondary, the cost of acquiring stationery printing materials and other miscellaneous expenses were high. Finally, the time frame within which the study was to be completed and submitted did not allow the researcher to have enough time to search for more information from the other related research works.

3.4 Recommendations

That the company should use the proper inventory management procedures to enable them to set up standards levels for materials that is the use of minimum stock levels and maximum stock levels and the calculation of Economic Order Quantity (EOQ). This will help them to combine both cost of holding stock, cost of ordering to minimize cost. Furthermore, management of stores should take active control on the operations of the storehouse and stockyards to ensure that there is always enough space available to accommodate requested materials. The management should educate employees on the importance of stores function in the company to enable them change their attitude when visit stores for materials. Adequate training and refresher courses should be organized for stores personnel, to enable them use the existing and current methods of handling materials. Finally, the company should adopts world class concepts standards such as JIT, ISO and others pertaining to handling of materials.

3.5 Conclusion

Stores function in Ghacem company Limited has been described as very important to the company. Since the company uses materials in all its operations to service and satisfy its numerous customers at any given time, the company's major expenditure is incurred on obsolete and damaged goods and products. In view of the above importance, management should attach much attention to the proper operations of stores personnel and safe custody of materials held in the stores since the company spends billions of cedes at that sector. The management can ensure efficient operations by employing competent stores personnel to mind the stores to maximize cost through proper stores management procedures which will facilitates and maximizing production services, satisfying and ensuring smooth operations of the company.

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