

Effect of Inventory Management Practices on Financial Performance of Larfage Wapco Plc. Nigeria.

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Abstract

This research examines effect of Inventory Management Practices on Financial Performance of Larfage Wapco Plc, Nigeria, by analyzing the extent to which value of stock carried and inventory policies employed has on cost of goods sold and profitability respectively in the firm. Survey design method was adopted for this work, which made use of Annual audited financial reports. Field design coupled with descriptive statistics was also used. The findings of study for hypothesis 1 showed that there was a significant relationship between the value of stock carried and cost of goods sold over the years between 2005 – 2013: (ρ - value of 0.005 and F- 23.96) while hypothesis 2 revealed ρ - value of 0.001 and F- statistics 46.26. This revealed that there was positive relationship between inventory management & control policy and profitability in Larfage Wapco Plc. It is recommended that cement manufacturing firms develop a policy framework to facilitate faster implementation of the best inventory management practices such as JIT, MRP and EOQ. The firm should also strengthen the supplier relation to the level of partnerships. This will facilitate implementation of programmes such as Vendor Managed Inventory (VMI). The company should diversify their inventory system to suit specific needs of production.

Keywords: Inventory Management, Business Performance, Stock out,

Introduction

In the past, inventory control was not seen to be necessary. In fact excess inventories were considered as indication of wealth. Management by then considered over stocking beneficial. But today firms have started to embrace effective inventory control (Susan & Michael, 2000). Managers, now more than ever before, need reliable and effective control in order to reduce costs and remain competitive. Lyson (1996) posits that inventory control enhances profitability by reducing costs associated with storage and handling of materials. There are several reasons for keeping inventory. Too much stock could result in funds being tied down, increase in holding cost, deterioration of materials, obsolescence and theft. On the other hand, shortage of materials can lead to interruption of products for sales, poor customer relations and underutilize machines and equipment.

Inventory management also becomes a fundamental part of supply chain management (SCM). A lot of research in SCM over the last two decades can be characterized as so called “multi-echelon inventory theory” (Quayle, 2003). SCM has in recent years become an important way to enhance the company’s competitive strength and therefore an important issue for most companies. There is need for installation of a proper inventory technique in any business organization in developing country like Nigeria. Kotler (2002) said inventory management refers to all the activities involved in developing and managing the inventory levels of raw materials, semi-finished materials (work in progress) and finished goods so that adequate supplies are made available and the costs of over or under stocks are low. Inventory represents a cost to their owner. The manufacturer has the expense of materials and labour. Therefore, the basic goal the manufacturer is to maintain a level of inventory that will provide optimum stock at lowest cost. Effective inventory management is essential in the operation of any business. Hankinson and Persson (2004) identifies three different trends in the development of logistics solutions within industry, one trend is concerned with the increased integration of logistics activities beyond organization boundaries with an aim to reduce cost items such as capital costs for inventory and handling costs of flows.

Drury (1996) defined inventory as a stock of goods that is maintained by a business in anticipation of some future demand. This definition was also supported by Schroeder (2000) who stressed that inventory management has an impact on all business functions, particularly operations, marketing, accounting and finance. He established that there are three motives for holding inventories, which are transaction, precautionary and speculative motives. The transaction motive is said to occur when there is a need to hold stock to meet production and sales requirements. A firm might also decide to hold additional amounts of stock to cover the possibility that it may have under estimated its future production and requirements. This represents a precautionary motive, which applies only when future demand is uncertain. The speculative motive for holding inventory might entice a firm to purchase larger quantity of material than normal in anticipation of making

abnormal profits. Advance purchase of raw materials in inflationary times is one form of speculative behavior.

Donald (2003), describe that holding stock is expensive and problems of inventory control almost universal. Over the past decades organizations have been trying to improve customer service while lowering stocks and increasing the speed of material flow through their supply chains. There is a need to review current thinking on inventory management, so as to emphasize on the growth of e-commerce, and the trend away models based on economic order quantities and towards dependent demand system.

Stock management is that aspect of business activity that deals with planning for purchasing, receiving, handling, storing, and releasing of materials for use in production with effective control measures. Materials are industrial goods that will become part of another physical product. Drury (1996) has classified materials for use in manufacture under three headings:

- Raw materials primarily from agriculture and the various extractive industries e.g. mineral resources, fruits, and vegetables sold to processor.
- Semi finished goods and processed materials to which some work has been applied or value added e.g. rods, wires, paper, chemicals, etc.
- Component parts and assemblies that are completely finished products of one manufacture, which can be used as part of more complex product by another manufactures.

It is Inventory management, in an organization, that deals with identifying every items of stock. Inventory management is primarily about specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply network to protect the regular and planned course of production against the random disturbance of running out of materials or goods. Effective inventory management determined how profit of an organization can be maximized. Maximizing of profit depend on minimizing cost and maximizing revenue. Maximization is an efficient concept which requires increasing profit without increasing the resources used. The import of inventory management in organization is to ensure that at any point in time the capital of the business is not necessarily tied down in form of material in the store, which may provide opportunity for fraud and theft. In other word, the management wishes to put at minimal rate stock losses, which emanate from store operation. Thus, as business organization, stock is of paramount importance, likewise the profit of the business. Inventory problems of too high or too small quantities on hand can cause business failures. If a small business experiences stock-out of a critical inventory item, production halts could result. It is thus the management of this economics of stockholding, that is appropriately being refers to as inventory management.

Therefore, it should be adequately taken care of because it has to do with profit of the business. A well planned and effective stock management can contribute substantially to a firm annual turnover. The present study intends to proffer solutions to problems associated with the management of inventory by manufacturing organizations. This is because inventory of a business can go a long way in determining the success or the failure of the business. Ineffective inventory management therefore can lead to stock out which will definitely lead to loss of customer and goodwill, which will make the profit of the business decrease and result in ultimate collapse of the organization.

The primary objective this research work is to examine the importance of inventory management on manufacturing industries profitability. In trying to get a general overview of the problem of inventory management, many questions beg for answers as to what influences the wastage of raw materials that characterized most industrial manufacturing operations as in the case of Lafarge Cement WAPCO Nig plc. Occasionally, under/over production of goods, underutilization of plant capacities which result to avoidable increase in overhead cost per unit of product. All these factors are as a result of improper inventory management and they contribute immensely to loss of profit and enterprise failure.

Statement of the problems

Due to the current fluctuations in the economy of Nigeria, manufacturers are faced with the extreme changes in customers' demands for their products. This means the problems that need to be solved and information necessary to find the solution should be discussed before undertaking any research. The implications are: Out of stock of critical material leading to hasty buying because of low stock levels, i.e. difficulties in determining average amount of stock necessary to satisfy production requirement. Unnecessary tying down of funds as well as loss of fund due to pilferage, spoilage and obsolescence of stock maintain of too low inventories so as to meet demand as at when needed.

High cost of materials purchased and rate of wastage are also main concerns that affect organizations productivity, sales and profitability.

Objectives of the study

The major objective of this study is to examine how stock management is used as an essential tool for profitability and growth in a manufacturing industry and examine the extent to which insufficient inventory of

finished goods cause loss of sales to the company and affect profitability, by providing solutions to those elements that posit problems to the effectiveness of stock control in an organization. Other objectives are as follows: Minimizing the cost of carrying stock to reduce production stoppages and minimize the risk of shortages that could cause customer dissatisfaction that might lead to loss on organization's profit. To make analytical demonstration in finding strategic management that will prevent excessive stock level and consequently tying up of capital on cost of goods sold by reviewing the organization inventory policy.

Research Hypothesis

Hypothesis 1

H₀: There is no significant relationship between the value of stock carried and the cost of goods sold in manufacturing organization

H₁: There is a significant relationship between the value of stock carried and cost of goods sold in manufacturing organization.

Hypothesis 2

H₀: There is no significant impact of inventory management and control policy on the manufacturing firm's profitability

H₁: There is a significant impact of inventory management and control policy on the manufacturing firm's profitability.

Literature Review

The Concept of Inventory Management

Installation of a proper inventory control system in any organization in developing countries like Nigeria is of paramount necessity. Inventory management is defined as a science based art of ensuring that just enough inventory stock is held by an organization to meet demand (Coleman, 2000; Jay & Barry, 2006). Inventory is the availability of any stock or resources used in an organization. Inventory systems is the set of policies that controls and monitor inventory level and determine what level should be maintained, how large an order should be made and when stock should be replenished. Inventory control is the supervision of the storage, supply and accessibility of items to ensure an adequate supply without excessive oversupply.

Inventory control means availability of materials whenever and wherever required by stocking adequate number and kind of stocks. The sum total of those related activities essential for the procurement, storage, sales, disposal or use of material can be referred to as inventory management. Inventory managers have to stock-up when required and utilize available storage space resourcefully so that available storage space is not exceeded. Maintaining accountability of inventory assets is their responsibility. They have to meet the set budget and decide upon what to order, how to order and when to order so that stock is available on time and at the optimum cost (Benedict and Margeridis, 1999). Hence, Inventory management involves planning organizing and controlling the flow of materials from their initial purchase unit through internal operations to the service point through distribution (Smaros S.J., Lehtonen, J.M. Appelquist, P. & Holmstrom, J., 2003).

Inventory constitutes one of the largest and most tangible investments of any retailer or manufacturing organization. Intelligent inventory management strategies can not only help boost profit but they can mean the difference between a business thriving or barely surviving. Holding inventories at the lowest possible cost and giving the objectives to ensure uninterrupted supplies for on-going operations is the aim of inventory management. When making decisions on inventory, management has to find a compromise between the different cost component, such as the cost of supplying inventory, inventory holding cost and cost resulting from sufficient inventories (Peterson and Silver, 1998; Zipkin, 2000). According to Miller (2010), inventory control is the activity which organizes the availability of item to the customers. It coordinates the purchasing, manufacturing and distribution functions to meet the marketing needs.

This role include the supply of current sales items, new product, consumables, spare parts, obsolescent items and all other supplies. Inventory enables a company to support the customer's services, logistics or manufacturing activities in situation where purchasing or manufacturing of the items is not able to satisfy the demand. Inventory plays an ineligious row in the growth and survival of an organization in the sense that failure to an effective and efficient management of inventory, will mean that the organization will lose customers and sales will decline. In other to attain its organizational objectives, a business is to meet customer's needs. Customer desire has always been a vital issue in a company not only to maintain sales but also to increase it (Tersine, 1994; Potilen & Goldsby, 2003). Kotler (2002), posits that inventory management refers to all the activities involved in developing and managing the inventory levels of raw materials, semi-finished materials (working-in-progress) and finished good so that adequate supplies are available and the costs of over or under stocks are low.

Inventory management is primarily about specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply

network to protect the regular and planned course of production against the random disturbance of running out of materials or goods. The scope of inventory management also concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventory price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns and defective goods and demand forecasting. Balancing these competing requirements leads to optimal inventory levels, which is an on-going process as the business needs shift and react to the wider environment (Ghosh and Kumar, 2003).

Magad and Amos (1989) assert that the primary objective of inventory management is to improve customer service. This is done through protection against stock out due to demand variability in the market place. Kothari (1992) asserts that the aim of inventory management is to increase production efficiency. Closely related to the function of production control, maintaining an inventory allows for efficient materials management. Magad and Amos (1989) argued that the key issue to be considered in formulating inventory policy is cost minimization. Therefore the objective of inventory management is to minimize inventory investment. One benefit of good inventory control is improved managerial efficiency in all functional areas of management. These objectives are outlined as follows;

- To maintain adequate stocks and thus minimize the risk of shortage which could disrupt production or cause customer dissatisfaction.
- To avoid excessive stock level and consequent tying up of capital.
- To relieve management of taking frequent procurement decision for each item maintained in the store.

Concept of Profitability

According to Bourne, Kennerley, & Franco-Santos (2005) performance measurement is traditionally concentrated on financial measures. In this context operational performance is a measure of change of operations of tea processing firms or their outcome resulting from use of inventory control systems. Business performance provides the basis for a tea processing firm to assess how well it is progressing towards its predetermined objectives.

According to Atrill, and McLaney (2006), there is need to analyze the costs of maintaining certain levels of inventory as there are costs involved in holding too much stock and there are also costs involved in holding too little inventory.

According to Lardenoije, Van Raaij, & Van Weele (2005) financial measures ignore market dynamics and increased complexity in acquisition of goods and services for business firms. They are of contrary opinion that firms have to assess the complexity of acquisition of inventory and on how to control in order to improve operational performance of the firm. The study challenges the entrepreneurs to find formula to reduce inventory without compromising production and without increasing cost.

The present study has slightly different variables. Dettoratus, Raman, & Craig, (2013) state that a lot of revenue is lost due to stock-outs induced inventory inaccuracy. Salawati, Tinggi, & Kadri, (2012), analyzed the impact of inventory management on performance. They empirically examined the relationship between inventory management and firm performance on a sample of financial data for 82 construction firms in Malaysia for a period 2006-2010. They employed regression and correlation technique to analyse their findings. Their finding was that inventory management is positively correlated with firm performance. Their study focused only on general performance of the firms using financial change as a performance indicator.

According to Ogbadu, (2009) profit is an index for measuring performance. Manufacturing operational performance is a combination of practices; hence several performance measures can be used efficiently. According to Vastag and Whybark, (2005), the most typical measures of operational performance are rejects and scrap, reworking, labour and machine productivity, product quality, inventory levels and turnover, unit manufacturing cost, manufacturing cycle time, delivery speed and reliability. Much literature suggest that inventory control systems effectiveness and efficiency as measures of procurement performance which map onto operational performance of the organization in terms of competitive advantage, level of profitability, providing error-free goods and service, cost efficiency and increased level of output.

Empirical Framework

There have been numerous attempts to explain financial performance of companies in the fields of strategic management, accounting, finance, marketing and management science. Naturally each of these areas concentrates on different explanatory variables and therefore this study limits the survey to papers that are perceived as immediately relevant. In the US, Sanghal (2005) studied the effect of excess inventory on long term stock price performance. The study estimated the long-run price effects of excess inventory using 900 excess inventory announcements made by publicly traded firms during 1990-2002. These announcements are clear and unambiguous acknowledgement by affirm that it is suffering from excess inventory.

Examples include instances of production curtailment, temporary shutdowns, price mark downs,

promotion to liquidate inventory and inventory write-offs to deal with excess inventories. He found evidence suggesting that stock market partially anticipates excess inventory situations and that firms do not recover quickly from negative effects of excess inventory. He further noted that the negative effect of excess inventory is economically and statistically significant.

In Malaysia, Agus and Noor (2006) examined the relationship between inventory management practices and financial performance. The study measured manager's perceptions of inventory and supply chain management practices and the level of performance in the industry. The practices include lean inventory systems, Technology and strategic supplier partnerships. They employed a structured questionnaire, which was designed to assess the companies in terms of the described dimensions. The sample companies were randomly chosen from manufacturing companies (non-food based manufacturing companies with medium to high technology) in Klang valley, Malaysia. The findings suggest that inventory management practices have significant correlations with profitability and return on sales (ROS).

Roumiantsev and Netessine (2005) investigated the association between inventory management policies and the financial performance of firms. The purpose of the study was to assess the impact of inventory management practices on financial performance across the period 1992-2002. They used conventional firm specific variables (inventory levels, margins, and lead times) as explanatory variables. They found no evidence that smaller relative levels are associated with financial performance as measured by return on assets.

Eckert (2007) examined inventory management and role it plays in improving customer satisfaction. He found a positive relationship between customer satisfaction and supplier partnerships, education and training of employees, and technology.

In Greece, Koumanakos (2008) studied the effect of inventory management on firm performance of 135 manufacturing firms operating in three industrial sectors in Greece, food, textiles and chemicals were used in the study covering 2000 – 2002 period. The hypothesis that lean inventory management leads to an improvement in a firm's financial performance was tested. The findings suggest that the higher the level of inventories preserved (departing from lean operations) by a firm, the lower the rate of return. In conclusion, most of the studies reviewed concentrated on conventional firm level variables such as inventory levels, demand and lead time.

Little attempt was made to capture the perceptions of managers about the impact of inventory management practices on firm financial performance. Agus and Noor (2006) did measure the perception of managers about the impact of inventory management practices on financial performance of manufacturing firms in Malaysia. Adeyemi and Salami (2010) studied inventory management as a tool to optimizing resources in a manufacturing industry. They were of the opinion that inventory constitutes the most significant part of current assets of target majority of Nigerian manufacturing industries. Because of the relative largeness of inventories maintained by most firms a considerable sum of an organization's fund is being committed to them. It thus becomes absolutely imperative to manage inventories efficiently so as to avoid the costs of changing production rates, overtime, subcontracting, unnecessary cost of sales and back order penalties during periods of peak demand.

Ogbadu (2009) report that one of the problems facing manufacturing company is the growing trend towards the higher cost of materials and services and constant shut down of factory, which erode business profit.

The objective of this paper is to identify problems of material management, which if corrected can result in profitability. The paper also examines and outlines the roles and benefits of materials management. Secondary data and primary data were utilized in this study. The finding shows that there is need to recognize the materials management function and it has been suggested that for a firm to achieve profitability, the goal of materials should be properly carried out.

Sekerolgu and Altan (2014) investigated the effect of inventory management on the profitability of Turkish firms which operated in weaving industry, eatables industry, wholesale and retail industry, in between 2003-2012 years. Research data consists of profitability ratios and inventory turnovers ratio calculated by using balance sheets and income statements of firms which operated in Borsa Istanbul (BIST). In this research, the relationship between inventories and profitability was investigated by using SPSS-20 software with regression and correlation analysis. The results achieved from three industry departments which exist in the study interpreted as comparatively. Accordingly, it is determined that there is a positive relationship between inventory management and profitability in eatable industry. However, it was founded that there is no relationship between inventory management and profitability in the weaving industry and wholesale and retail industry.

Lwika, Ojera, Mugend, and Wachira (2013) reported that Manufacturing firms apply various techniques in the management of their inventories. The practices adopted have a significant impact on returns, profitability and volume of sales. Manufacturing firms that efficiently apply these practices have an excellent financial performance. This paper examines the impact of inventory management practices on the financial performance of sugar manufacturing firms in Kenya, by analyzing the extent to which lean inventory system, strategic supplier partnership and technology are being applied in these firms. The research survey was conducted in all the eight operating sugar manufacturing firms from the period 2002- 2007. The results indicate that there exists a

positive correlation between inventory management and Return on Sales ($r = 0.740$) and also with Return on Equity ($r = 0.653$) which were found to be statistically significant at 5% level.

Method

Survey design method was adopted for this work, which made use of financial annual reports. Field design coupled with descriptive statistics was also used. This is to allow for a detailed analysis of selected company for this studies. It also allows for an appropriate analytical comparison of the company stock management procedure as it affects organizational profitability.

Table 1: Data Specification

Years	Inventory	Profit before taxation	Profit after taxation	Cost of sales	Profitability
2005	7,863,872	3,424,762	3,032,866	10,117,533	1,492,904
2006	9,314,403	12,119,592	10,964,204	13089139	2,747,402
2007	11,368,802	12,536,431	10,678,652	16293388	9,482,904
2008	10,083,288	13,033,219	11,252,030	18058651	12,581,736
2009	12,517,380	9,237,328	5,055,398	20631990	15,927,680
2010	9,728,462	8,464,365	4,881,363	24858184	19,003,217
2011	10,282,629	10,234,566	8,524,680	23682941	21,936,752
2012	12,880,397	21,164,003	14,611,259	38538105	30,011,585
2013	11,645,619	27,443,083	14,711,676	41199890	50,628,605

Source: Annual Report of Lafarge Africa Cement Plc. (2005-2013)

This study used Regression, Qualitative and ANOVA analyses to analyze the data collected from the annual report from 2005 – 2013. The Data for this study were collected purely through secondary sources by extracting the relevant figures from the Annual Report and Accounts of the Lafarge cement Africa Plc., Nigeria from 2005 to 2013.

Results

Hypothesis 1

H_0 : There is no significant relationship between the value of stock carried and the cost of goods sold in manufacturing organization

H_1 : There is a significant relationship between the value of stock carried and cost of goods sold in manufacturing organization

Table 2: Standardized Regression Analysis of Inventory and Cost of goods sold

Null Hypothesis (H_0)	R square	Adjusted R ²	Decision
There is no significant relationship between the value stock carried and cost of goods sold	0.940	0.920	Reject H_0

Source: Author compilation (2016).

Table 3: Coefficient value of the variable measured

ANOVA	Beta coefficients	t value	Sig.	F
Value Stock	.215	4.121	0.005	23.96

Source: Author compilation (2016).

Table 3 shows positive coefficient of standardized beta value of 4.121 for cost of goods sold on value of stock. The variable does statistically significant at neither 95% nor 99% confident limits. Table 2 also reflects R² value of 0.92. The table shows that there is a strong relationship between value of stock and cost of goods sold.

value of stock accounted for 94.0% variance in the cost of goods sold. Since the $p > 0.005$ Sig .005 and F-statistics 23.96, therefore reject Null hypothesis (H_0) and the study therefore concludes that there is a significant relationship between the value of stock carried and cost of goods sold over the years between 2005 - 2013. Therefore, the cost of goods sold has positive effect on the production value as a result of value of stock , inventory which has been properly prepared and accurately recorded for strong profitability for the organization. This means that value of stock can control the cost of goods sold.

Hypothesis 2

H_0 : There is no significant impact of inventory management and control policy on the manufacturing firm's profitability

H_1 : There is a significant impact of inventory management and control policy on the manufacturing firm's profitability.

Table 4: Standardized Regression Analysis of Inventory management and control policy employed and profitability

Null Hypothesis (Ho)	R square	Adjusted R ²	Decision
Inventory management and control policy employed by an organization has no significant effect on profitability	0.939	0.929	Reject Ho

Source: Author compilation (2016).

Table 5: Coefficient value of the variable measured

ANOVA	Beta coefficients	t value	Sig.	F
Inventory Policy	5.69	2.203	0.001	46.26

Source: Author compilation (2016).

Table 5 shows positive coefficient of standardized beta value of 2.203 for inventory policy used on profitability. The variable is statistically significant at 99% confident limits. Table 4 also reflects R² value of 92% in the table shows that there is a strong impact that inventory policy has on profitability through cost of goods sold. Profitability revealed 93.9% variance on inventory policy employed. Since the $p > 0.005$ Sig .001 and F- statistics 46.26, $p < 0.001$, therefore Null hypothesis (Ho) will be rejected therefore, the result explained the significant relationship between the inventory policy employed and profitability level over the years between 2005 - 2013.

Discussion

In this study, the result of hypothesis 1 revealed that there is significant relationship between value of stock carried and cost of goods sold in the firm under study. The coefficient of determination represented by r-squared is 94% for the firm explaining that the variation in cost of goods sold was signified by cost of carrying inventory up to 98% for the cement manufacturing firms while the remaining 6% is determined by other factors, such as; trade discount, cost of storing products, depreciation which were not captured by the model. Since the $p > 0.005$ Sig .005 and F- statistics 23.96, $p < 0.005$, therefore reject Null hypothesis (Ho) and the study therefore concludes that there is a significant relationship between the value of stock carried and cost of goods sold over the years between 2005 – 2013 in the understudy firm. Finding from the first hypothesis shows that for manufacturing organization aiming for a better position of cost of goods sold that would yield profit for the firm, cost of carrying and holding inventory must be given proper attention. This specified cost include; cost of capital tied down, utility costs, rent, and cost of deterioration.

The second tested hypothesis: Inventory policy by an organization has no significant effect on profitability. Profitability revealed 93.9% variance on inventory policy employed. Since the $p > 0.005$ Sig .001 and F- statistics 46.26, $p < 0.001$, therefore Null hypothesis (Ho) will be rejected therefore, the result explained the significant relationship between the inventory policy employed and profitability level over the years between 2005 - 2013. The recent information above proves the relationship that exists between inventory policies made towards profitability through costs of goods sold by proper inventory management. This leads to immediate efficiency of the organization for improved performance through profitability resulting from inventory management and control.

The results show that there is positive relationship with between inventory management and organization growth and profitability. That is, profitability of cement firms increases when effective inventory management is carried out, as inventory consists of major current assets of the firm. The findings have far reaching implications for the inventory policies of the cement manufacturing firms on profitability. This is because the results were consistent with prior findings of the research understudy by Ogbadu, (2012).

Conclusion.

There are two bases of findings, this include qualitative and quantitative findings.

Qualitative findings were theoretical research on the study of stock management and its effect on growth and profitability of an organization. Inventory from the findings occupy the most strategic position in the structure of working capital of most cement manufacturing firms. It constitutes the largest component of current asset.

The value of carrying stock will vary from company to company. For instance, if a company has a large cash balance with no attractive investment options, has excess space storage, and its product have a low probability for deterioration or obsolescence, the company's cost are very low. A company with enormous debt, little space, and products subject to deterioration will have high carrying value which will have positive effect on

the cost of goods sold and affect the firm profitability.

From the analysis, a weighted value was represented in inventory policy employed. Inventory control techniques, fixation of norms of inventory, stock level sub system, perpetual inventory control system, and pricing of raw materials are the inventory policy to be managed in the understudy firm. From the findings growth and profitability can be maximized with much emphasis on inventory policy using different approaches in an attempt to solve the problem associated with inventory management.

Quantitatively, coefficient of standardized beta value of 0.215 for cost of goods sold on value stock shows positive relationship between the two variables.

The present study on inventory management in manufacturing industry would certainly complement and supplement the existing knowledge on stock management. This strongly advocates the cost of sales, carrying cost, inventory policy, which made it to be growing from strength to strength increasing the productivity capacity in spite of the economic problem in Nigeria. This research work found out that there is a positive relationship between Inventory management and profitability of the firm. The more inventories converted into money, the more profitability ratios included in analysis. If the firms operating in this sector sustain their inventory management policies effectively, they increase their profits.

Prudent management of materials reduces depreciation, pilferage and wastages while ensuring availability of the materials as at when required, would lead to improved Financial Performance of Lafarge Plc. in particular and Cement Industry in general. Given the problem that arises as a result of the inefficiencies, breakdown and shut down of the plant and carrying cost of materials, it becomes very necessary to re-organize the materials management department, establish good relationship with suppliers of spare parts in order to minimize losses arising from frequent breakdown and improve profitability.

Inventory management has become highly developed to meet the rising challenges in most corporate entities and this is in response to the fact that inventory is an asset of distinct feature. The inventory management situation of Lafarge plc has been revealed using a well-built inventory policy to handle its idle stock without incurring unnecessary cost by also minimizing associated carrying cost.

Recommendations

This study thus suggests some recommendations to remedy certain defects in the company inventory policy and if these recommendations are implemented, the company's inventory management situation will attain a greater height and improve the firm financial position.

Firstly, as analyzed of positive relationship between inventory and cost of goods sold and value of carrying stock. This does not imply that inventory automatically determines production costs or sales and vice-versa. However, it does indicate that inventory levels can be of useful indication of what level of sales and profitability to expect. Thus, organization sales and marketing department of the company should pay attention to the growth pattern of inventory usage and incorporate it in sales forecasting technique. It is important to determine the incremental holding costs for a year.

Secondly, it is recommended that cement manufacturing firms develop a policy framework to facilitate faster implementation of the best inventory management practices such as JIT, MRP and EOQ. Thirdly, the firm should also strengthen the supplier relation to the level of partnerships. This will facilitate implementation of programmes such as Vendor Managed Inventory (VMI).

Fourthly, the company should diversify their inventory system to suit specific needs of production

Inventory management should maximize space and timely delivery to avoid staying off production.

Management should closely monitor and manipulate their inventory system to maintain production consistency for organizational profitability and effectiveness.

Fifthly, the flow of information should be increased and should be circulated adequately in order to enhance adequate updates of inventory records.

Sixthly, the company should try by all means to adhere to inventory policies made. A situation whereby materials or items are allowed to leave the stores without proper requisition, this shows the internal control is weak. In order to ensure that the company adheres to inventory policies, under no circumstance should items of inventory be allowed to leave stores without proper requisition. To avoid duplication of records due to price variance, the FIFO (first in first out) and LIFO (last in first out) system of issues should be adopted. This will ensure the elimination of the need to open several cards for single items because of price variation. Sufficient stock should be held in order to avoid stock-out so that when the ordering level is high; there will be enough stock to be delivered.

Lastly, stock management unit should also pay attention to sales growth over the years and thus take into consideration, the apparent relevance of sales, production cost and profitability.

References

Agus, A & Noor, Z.M (2006). *Supply chain management and performance*. An Empirical Study a working paper

- university of Malaysia.
- Atrill, P. and McLaney E. (2006). *Accounting and Finance for Non-Specialists*, (5th Edition). London. FT Prentice Hall.
- Benedict, C. & Margeridis, H. (1999). *Chain Reaction*. Charter, 70(2)
- Bourne, M., Kennerley, M. and Franco-Santos, M. (2005), 'Managing Through Measures: a Study of Impact on Performance', *Journal of Manufacturing Technology Management*, 16, (4),373-395.
- Coleman, B. (2000). Determining the Correct Service Level Target. *Production and Inventory Management Journal*
- Donald Walters (2003). *Inventory Control and Management*. 2nd edition, London George, Allen & Unwin
- Dettoratus, N., Raman, A., & Craig, N. (2013). The impact of supplier reliability on retailer demand. Chicago: Harvard Business school.
- Drury, C. (2004). *Management and Cost accounting*. London: Prentice Hall
- Drury, C. (1996). *Management and Cost Accounting*. London. International Housan Business Press
- Eckert, S.G (2007). Inventory Management and its effects on customer satisfaction. *Journal of Public policy* 1 (3).
- Ghosh A.K. and Kumar P. (2003). *Production Management*. New Delhi: Anmol Publication Pvt. Ltd.
- Hakansson, H., and Persson, G. (2004). Supply Chain Management: The Logic of Supply Chains and Networks. *The International journal of logistic management*, 15(1), 11-26.
- Jay, H., and Barry, R. (2006). *Principles of Operations Management*. 6th Edition. New Jersey; Pearson Prentice Hall, Education Inc.
- Kothari, C.R (1992). *An introduction to operational Research*. New Delhi: Vikas publishing
- Kotler P (2002). *Marketing Management*, 2nd edition. The Millennium edition. New Delhi: Prentice Hill of India.
- Koumanakos, D.P (2008). The effect of inventory management on firm performance *International Journal of productivity and performance Management*. 57, 355-369
- Lyson K (1996). *Purchasing and Chartered Institute of Purchasing and Supply*, London: Pitman Publish.
- Lardenoije, E.J.H., Van Raaij, E.M. and Van Weele, A.J. (2005). Performance Management Models and Purchasing: Relevance Still Lost, in: *Researches in Purchasing Supply Management Proceedings of the 14th IPSERA Conference, France*, 687-697.
- Lwiki, Ojera, Mugend, and Wachira (2013).The Impact of Inventory Management Practices on Financial Performance of Sugar Manufacturing Firms in Kenya. *International Journal of Business, Humanities and Technology*, 3 (5), 75-85.
- Magad, E. and Amos, J. (1989). *Total materials management*. New York. Van Norstrand
- Ogbadu E.E (2009). Profitability through effective management of materials. *Journal of Economics and International Finance* 1(4), 99-105.
- Peterson, R. and Silver, E. (1998). *Decision systems for Inventory Management and Production Planning*. New York: John Wiley and Sons.
- Quayle, M. (2003). A study of supply chain management practice in UK industrial SMEs. *Supply Chain Management: An International Journal*, 8(1), 79-86
- Roumianstev, S, and Netessine, S (2005), Should inventory policy be lean or responsive? : *AnEmpirical Analysis working paper university of Pennsylvania*.
- Susan, T., and Michael, K. (2000) Research Results Digest-Number 40.
- Schroeder R.G (2000). *Operations Management Contemporary Concepts and Cases*. USA International Edition.
- Smaros S.J., Lehtonen, J.M. Appelquist, P. and Holmstrom, J. (2003). The Impact of Increasing Demand Visibility on Production and Inventory Control Efficiency. *International Journal of Physical Distribution and Logistics*.
- Salawati, S., Tinggi, M., and Kadri, N. (2012). Inventory Management in Malaysian Construcion Firms: Impact on Performance. *SIU Journal management*, 2, 59-60. 74.
- Int. J. Production Economics* 93–94 (2005) 129–138
Inventory management: Is there a knock-on effect?
- Int. J. Production Economics* 93–94 (2005) 129–138
Inventory management: Is there a knock-on effect?
- Vastag, G. and Whybark, D. C. (2005). Inventory Management: Is there a knock Effect? *International Journal of Economics*. 93-94,129-138
- Int. J. Production Economics* 93–94 (2005) 129–138
Inventory management: Is there a knock-on effect?
- Zipkin, P. (2000). *Foundations of Inventory Management*. New York: Irwin/McGraw-Hill.

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