



# **Material Management And Financial Performance Of Pharmaceutical Manufacturing Companies In South-East, Nigeria**

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## **ABSTRACT**

The study investigate the effect material management on financial performance of pharmaceutical manufacturing firms in South-East, Nigeria. Specifically the study examine the effect of material logistics management on sales volume, material planning strategy on net profit, and material procurement strategy on return on owners' equities. Relevant conceptual, theoretical and empirical literature were reviewed taking cognizance of the problem and the hypotheses of the study. The study is anchored on Lean Theory. Descriptive research design was adopted in this study. The study was conducted in the South-East, Nigeria. Data were sources from primary and secondary data. The population of study comprised 6666 registered manufacturing firms in south east. The sample size consist 1300 registered manufacturing firms in South-East using statistical formula devised by Borg and Gall. Questionnaire was used for data collection. Face and content validity was adopted in this study. The reliability of instrument was established through the test- retest method and Cronbach Alpha. Simple percentage analysis was employed to answer the research questions, while Simple Multiple Regression Analysis was use in testing research hypotheses. The result reveals that material logistics management has a positive significant effect on sales volume of Pharmaceutical manufacturing; material planning strategy has no positive significant effect on net profit in of pharmaceutical manufacturing firms; material procurement strategy has a positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms in South-East, Nigeria. The study concludes that material management has a positive significant effect financial performance of Pharmaceutical manufacturing firms in South-East, Nigeria. The study recommends among other that pharmaceutical manufacturing firms should practice proper logistics planning with suppliers and develop strategies to develop them so that they can be able to deliver the quality required without errors and defects and at the right place without delays. Material planning techniques should always be reviewed to meet requirements for use and purpose. Pharmaceutical manufacturing should adopt the use of information technology, that will not only help in information sharing, but also will help in proper procurement procedure of material from suppliers hence improving the material usage.

**Keywords:** Material Logistics Management, Material Planning Strategy, Material Procurement Strategy, sales volume, owners' equities and Net Profit

## **INTRODUCTION**

Materials management is treated as the lifeblood and heart of any manufacturing system and no organization can operate without them. They must be made available at the right price, at the right quantity, in the right quality in the right place and at the right time in order to co-ordinate and schedule the production activity in an integrative way for an industrial undertaking. A manufacturing firm will remain shaky if materials are under stocked, overstocked, or in any way poorly managed a cost centre since purchasing department was spending money on materials, while store was holding huge inventory of materials, blocking money and space (Abimbola, Adejonwo, Ademola & Obadeji 2017). An organization practices material management when they adopt certain methods necessary to ensure the smooth flow of materials needed in the day to day running of the organization. Thus, how well the organization functions depends on the quality of materials supplied.

Management of organizations plays a very important role in ensuring that the right qualities of materials are supplied to enable the company carry out its day to day activity.

Management of necessary materials without wasting money, time and effort play vital importance in the society, as we face a shortage of resources today. While considering the needs and safety of the future generation, it is very essential to manage daily needed materials to range from drawing pins to machines. An efficient material management system accounts for the profit and loss of the institutions. No one can work without these and it must be made available to all employees at the right time and right quantity to work efficiently. Before that, the management must collect the materials at the right price and right quality, and deliver to the right place. Also, materials management which is the sum total of all the itineraries which leads to making available from outside the organizations the material need of such organization ( Adamu, 2020). However, with the process of liberation and opening up of global economy, there has been a drastic change in the business environment, resulting in manufacturing organizations exposed to intense competition in marketplace. In Nigeria for instance, materials constitute a major cost component for any industry (Adamu, 2020). The expanding requirement for industry to offer items in a worldwide market based on cost and quality has generated the need to implement more productive warehousing methodologies (Lee and Dobler in Adamu 2020). Muleya and Kamalondo (2017) also identify material management as an integrated process of designing, constructing new structures or remodeling existing structures, using materials more efficiently with a great importance of contributing to construction industry's performance improvement as well as solving material waste management problems. Several authors from different parts of the world have shown that material waste from the construction firm represents a relatively large percentage of the production costs (Saidu & Shakantu, 2016). The poor management of materials leads to an increase in the total cost of building projects (Ameh & Itodo, 2013).

Despite, businesses in the Nigerian manufacturing sector have tottered over the years due to lack of adequate management commitment to timely funding of materials procurement coupled with unethical practices of some executives (Oba, 2018). Even though, statements provide the scope of materials management which involves materials requirements planning determination on purchasing, procurement of materials, inventory management, staffing, stores and warehousing management, production and supply of finished goods at lowest cost at due time. To manage materials is to manage the life of an organization. No organization can make it without proper management of materials (Wild, 2012). The bottom line and efficient flow of input material either procured from outside manufacturing or produced in house (Wanjogu, Iravo, & Arani, 2015). Keeping of materials of lowest cost is a management function of planning, organizing and controlling all the events that contributes to materials cost management thus, includes the total process from a necessity, for material/or services or works rising, right across to the supply of works to the user and in numerous causes, the product being made available always to the final customer or consumer from the above, it important to carry out an efficient control over materials by creating a separate function/department to be in custody of materials and this will be termed materials management department. This department should have planned duties of total cost control, elimination of materials waste and profit optimization (Inyang, Inyang, & Basil, 2013).

Nigeria manufacturing firms have understood the advantages of embracing great materials administration and are taking keen interest regarding materials administration since survival of any firm relies upon how well their expenses are overseen (Ondieki, 2014). Nevertheless, most Nigeria firms are not applying refined methods of materials administration in comparison to resources spent on acquisition and maintenance of materials in various firms. The issues experienced in material administration include absence of adaptability, entrusting a great deal of delicate material exercises to one office and absence of all around coordinated database to help data stream on materials (Wanjogu, Iravo & Arani, 2015). Materials Management envelops all activities of administration over materials from obtaining of raw materials through the production process to the last step of conveyance of the finished goods to the customers. It unites under one administration duty regarding deciding the assembling prerequisite, booking the assembling forms and obtaining, putting away and administering materials (Ondiek, 2014). Nigeria has a huge scale-manufacturing segment serving both the local market and export to the West African community and beyond. Assembling and manufacturing added to around 25% of the Gross Domestic Product (GDP) in 2013 (NNBS, 2014).

The various types of materials to be managed in any organization include purchased materials, work-in-process (WIP) materials and finished goods (Banjoko, 2000). Ogbadu (2009) identified basic price, purchasing costs, inventory carrying cost, transportation cost, materials handling cost, office cost, packing cost, marketing

cost, obsolescence and wastages as the various costs involved in these materials. Thus, the management of these materials so as to reduce the costs associated is what the study refers to as Materials Management Previous Researches (Whybark and William, 1986; Evan *et al.*, 1987; Ramakrishna, 2005; Ogbadu, 2009; Ondiek, 2009) have shown that materials account for more than fifty percent of the annual turnover in the manufacturing firms. This shows clearly that priority should be given to management of materials in manufacturing firms to avoid unnecessary costs. Thus, materials management should no longer be viewed as a drain-pipe, but as a serious stabilizing and economic growth potential factor. Unfortunately, few studies exist yet on the effect of Materials Management on financial performance of manufacturing firms for a developing economy as Nigeria. This study intends to fill this gap.

### **Statement of the Problem**

In recent years Nigeria manufacturing firms, has suffered from inefficient and imprudent management of resources and product scarcity, which has resulted in invaluable economic and social losses to the society. On the surface, this scarcity has been attributed to shut downs and breakdown at the manufacturing firms due largely to a lack of smooth maintenance activities in the plant, which is brought about by the unavailability of replacement of parts, which should have been provided by the materials management department. The function of the materials management department is very important especially in view of the difficulties associated with the purchase of equipment spares, which in most cases are foreign-sourced. Frequently, the materials management department has been accused for the frequent breakdown and shut downs as a result of its inability to provide the necessary spares as at when they are need. According to a survey carried out by Mutwol (2013), on the impact of the collapse of Nigeria manufacturing firms, it was found that the sector have suffered so much over the past years due to lack of adequate commitment to timely funding of materials procurement, poor material planning, poor inventory control, purchasing problems, quality control problems; stores control problems, material movement and even surplus disposal problems. Therefore, this study became inevitable in view of the developing and changing nature of the Nigeria economy given the nature of the environment: Economic, Political, changes in technological environment, government regulations, multiple taxation, environmental degradation and reduction in quality of raw materials as a result of re-cycling and stiffer competition.

The present state of the manufacturing industry in Nigeria reflects various problems ranging from poor material logistics management, poor material planning strategy, material procurement strategy, material control, inventory management and material handling which result to substandard work, disputes, to cost and time overrun as a result of material shortage and wastages on production, theft and displacement of materials on sites, as well as poor accounting and security system of the concerned sites/firms (Adafin, 2011). According to Dahiru (2010), lack of materials not only causes delays, but a consequent decrease in productivity and resulting to cost overruns. This is no doubt lack of effective material management is one of the major cause of this problem. Failure of the manager to make available materials need could lead to delay. Non-compliance strictly with material requirement planning of quantities, schedule of materials, specifications and breweries programme in material stock control practice is another contributing factor which tends gradually to decrease profitability of a company also often leads to extension of time respectively, and hence no proper material stock control practice (Inyang Udoh, 2002).

Consequently, Dey (2015) noted that the rate at which materials are being wasted due to improper management is becoming unbearable to the company due to its effect on their profit margin and proper usage of material to achieve quality job been done through various techniques. According to Amoro (2011), most manufacturing firms face problems of stock outs, over supply, over stocking, stock obsolescence, poor forecasting, stock pilferage, poor responsiveness to customer needs and lack of proper material management equipment, methods and practices results into poor productivity. According to Ross,(2010) many firms in manufacturing sector complained of additional material management costs that resulted into decline in profit margins. Other challenges involves high and extreme cost of production, low demand of Nigeria produced items; sale of counter fait products, substandard merchandise; high living expenses that drives up wage costs and lower consumer purchasing power; insufficient export support by government and poor linkages with nearby supplies.

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and security system of the concerned sites/firms (Adafin, 2011). According to Whybark & William, (2016) manufacturing industry problems on material management ranging from; lack of forecasting demand and quantity materials requirements, lack of good supplier and customer relationship, lack of indigenous source of supply for foreign materials, lack of developing skills of workers in material management, lack of departmental efficiency and research and development in material management. This is no doubt lack of effective material management is one of the major cause of this problem. Failure of the manager to make available materials need could lead to delay. Non-compliance strictly with material requirement planning of quantities, schedule of materials, specifications and breweries programme in material stock control practice is another contributing factor which tends gradually to decrease profitability of a company also often leads to extension of time respectively, and hence no proper material stock control practice (Inyang & Udoh, 2002). Furthermore, Edwin (2015) conducted a research on the effect of material management on profitability of cement manufacturing companies in Kenya: the findings showed that proper streamlined material management systems had a positive impact on the profitability in the company. Wilfred (2014) carried out a study on the effect of the effective system of material management techniques on organization performance in the seven-up bottling company in Nigeria where he came up with the conclusion that organizations benefits from material control management by way of easy storage and retrieval of material, improved sales effectiveness, and reduced operational cost. Thus materials management should no longer be viewed as a drain-pipe, but as a serious stabilizing and economic growth potential factor. Unfortunately, few studies exist yet on the role of materials management on financial performance and therefore the study attempts to fill this knowledge gap.

### **Objectives of the Study**

The broad objective of the study was to examine the effect of material management on financial performance in Pharmaceutical manufacturing firms South-East in Nigeria. The specific objectives were to:

1. Determine the effect of material logistics management on sales volume in Pharmaceutical manufacturing firms South-East in Nigeria.
2. Examine effect of material planning strategy on net profit in Pharmaceutical manufacturing firms South-East in Nigeria.
3. Find out the effect of material procurement strategy and on return on owners' equities in Pharmaceutical manufacturing firms South-East in Nigeria.

### **Research Questions**

The following were formulate to give this study direction

1. To what extent does material logistics management affect sales volume in Pharmaceutical manufacturing firms South-East in Nigeria?
2. To what degree does material planning strategy affect net profit in Pharmaceutical manufacturing firms South-East in Nigeria?
3. To what degree does material handling on profitability in Pharmaceutical manufacturing firms South-East in Nigeria?

### **Hypotheses**

The following null hypotheses are formulated to give direction to this study:

- H<sub>01</sub>: Material logistics management has no positive significant effect on sales volume of Pharmaceutical manufacturing firms South-East in Nigeria
- H<sub>02</sub>: Material planning strategy has no positive significant effect on net profit in of Pharmaceutical manufacturing firms South-East in Nigeria
- H<sub>03</sub>: Material procurement strategy has no positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms South-East in Nigeria.

## **REVIEW OF RELATED LITERATURE**

### **Conceptual Framework**

#### **Material management**

Material management is so much connected with value chain and efficiency in the operations of manufacturing firms. According to Aina et al. (2017), "materials management encompasses all operations management functions from purchasing of raw materials through the production processes to the final delivery of the end products". This implies that the management of materials is critical to delivering values to customers. For instance, the management of materials takes account of what customers really need, how can materials be

sourced, what quantity and quality must be supplied, how can the material supplied be used effectively and efficiently to deliver a customer's desirable value. Ondiek (2009) added that materials management brings together under one management responsibility for determining the manufacturing requirement, scheduling the manufacturing processes and procuring, storing and dispensing materials'.

Subsequently, materials management is defined as the process to provide the right material to the right place on time and in the right quantity, in order to minimize the cost of a project (Kulkarni, Sharma & Hote, 2017). The main goal of materials management is to ensure a smooth flow of materials from the time the materials are ordered until they are used. In order to make materials management on site effective, a proper integrated materials handling process that includes the planning, identification, procuring, storage, receiving and distribution of material, should be in place (Dallasega & Rauch, 2017:). Patel et al. (2011) noted that material management can be defined as a process that coordinates planning, assessing the requirement, sourcing, purchasing, transporting, storing, and controlling of materials, minimizing the wastage and optimizing the profitability by reducing cost of material.

When we are talking about materials it may include raw materials, components; sub-assemblies etc. now let us see the different definitions of materials management. The materials management is a process that starts with the supplier (Bially 2015). The materials management process begins from the point of entry into the company as raw materials and components. The receipt and section functions begin on receipts of delivery notice from the supplier (Heinritz, 2011). The purchase order copies are received and checked so that quality and other specifications meet the firm's requirements. After then, the inspection job is carried out. The inspection can be carried out by the storekeeper, by technical staff, and by the department requisition, (Morrison 2014). A form is filled certifying that the inspection is completed and that the goods met the specifications. After then the forms are distributed in the following order, "first copy to the procurement department to close their order, second to the accounting department for payment and review, third copy to the requisition department or users notifying them of the availability of the materials and the final copy is retained in the department" (Lee 2012). Next is the issuance and dispatch of materials to the appropriate places of need.

According to (Nair, 2017), materials management is the integrated functioning of purchasing and allied activities to achieve the maximum co-ordination and optimum expenditure in the area. From these definitions we can define materials management as the planning, organization, sourcing, and purchasing, moving storing and controlling of materials, from their initial purchase through internal operation to distribution of finished goods or services in optimum manner i.e. minimum cost. Although materials management organization can vary between firms, it can include a number of separated groups, such as material planning and control, material and purchasing research, receiving stores, scrap and surplus disposal. The main object of materials management are to solve material problems from a total company viewpoint (optimize) the coordinating performance of the various material functions, providing a communication network, and controlling material flows (Leenders, 2012). More specifically it is possible to say that the main objective of materials management is cost reduction and efficient handling of materials at all stage and in all section and in all the under taking. The rational of materials management is the integration of related material function to provide cost effective delivery of materials and services to the organization (Leenders, 2012).

### **Financial Performance**

The most important part of an organization is the performance, where performance is viewed as the success of an organization in achieving valuable outcomes, such as high returns (Memon & Tahir, 2012). Khan and Jain (2007) opines that financial performance is the process of selection, relation and evaluation the focus of financial performance is on buy figures I the financial statement and significant relationship that exists between them. The analysis of financial statement is a process of evaluating the relationship between component parts of financial statement to obtain a better understanding of the firm's position and performance. Based on Smith & Reece (1999), business performance is defined as the organization's ability to meet the desire result as determined by the company's major shareholders. On the other hand, it is to determine whether the actual output of an organization is as what has been targeted (Al Qudah et al., 2014). Thus, to achieve high business performance, organizations need to attain and sustain competitive advantages. For this reason, many researchers had argued that strategic planning makes organizations have competitive advantages and the ability to stay in business against competitors. They need to know the correct performance level is important due to it enable the organization to determine its current position and find ways to improve business if

necessary. Consequently, the measurement of business performance has captured the attention of many scholars due to its complexity (Suklev & Debarliev 2012; Matsoso & Benedict, 2014).

Different researchers have different ways to measure performance. Mandy (2014) summarized in his review that the best way to evaluate performance is by effectiveness, growth and productivity, efficiency, individual employee sales, the value of exports, organization total assets and operation profit ratio as a measurement. Researcher such as Arshada et al. (2014) measured performance using financial indicator. Financial measure is done by measuring the sales, market share, number of employees, return on capital employed, inventory turnover, return on investment, growth and profits. However, these indicators focus on the short term rather than long term strategy (Lonbani, et al., 2014). While, other researchers such as Anyieni (2014); Robinson et al. (1986) suggested to perform benchmarking to compare performance with the relative competitors. Besides, Anyieni (2014) also suggests to benchmark with the pre-set target. Moreover, Dubihlela and Sandada (2014) suggested that using perception of the owner or managers regarding the organization's success.

The different types of measurement that have been applied have been classed as objective or subjective. Tang and Zhang (2005) explained that an objective measure is measuring the financial records while subjective measures used the managers' perceptions regarding the organization performance. Nevertheless, many studies suggest using subjective measures due to the possibility of the data for objective criteria being inappropriate, misleading and difficult to obtain. If the data are available, they may not genuinely represent the actual organization performance, as the information may be manipulated (Siti & Perera, 2011). It is as well determined by the industry factors which make it unsuitable for cross industry comparison. Therefore, Falshaw et al. (2006) concluded that the objective measures are unsuitable for the purpose of research. In comparison, subjective measures are an easier way to measure performance. It is an effective manner because it permits the organization to carry out benchmark across firms (Song et al., 2005). Subjective measure also enables organizations to measure the growth in sales, market share, productivity, customer satisfaction and product quality (Haber & Reichel, 2005).

Falshaw et al. (2006) established that the subjective and objective measures provide the same outcomes. Therefore, using subjective measures in the research provides more accurate information. In the context of SMEs, Tang and Zang (2005) found that researchers began to use subjective measures to assess the performance of SMEs. This is because, studies found that objective measures are hard to practice in SMEs due to the managers or owners refused to share their financial position. Moreover, Wijetunge and Pushpakumari (2014) affirm that if the objective measures are used to measure the performance of SMEs in different industries that will be cause confusion because of inconsistency. Therefore, this study adopts subjective measures in order to measure the SMEs performance in Nigeria.

It is argued that the financial performance construct is one of the main constructs in strategy and organizational research simply because nearly every model attempts to relate the constructs of interest of performance. Indeed, one needs to question the value of any particular course of action if it does not have an influence on performance. Likewise, based on Venkatraman and Ramanujam, financial performance improvement is central to strategy research (Abesiga, Netswera & Zziwa, 2015). Traditionally, organizational performance has been measured using financial measures like return on investment, cash flow, return on capital employed and financial results.

Such traditional measurements systems do not take into account the value of intangible and intellectual assets, which are increasingly becoming important in our knowledge based economy. The financial perspective covers the financial objectives of an organization, and allows managers to track financial success and shareholder value (Maduekwe & Kamala, 2016). The financial measurement of performance is the traditional and most commonly used tool as a measure of an organization's performance. Financial measures are typically focused on profitability, market value of the firm, return on assets, investment and equity, liquidity and various other ratios. Financial measures generally focus on annual or short-term performance against accounting yard sticks, they do not deal with progress relative to competitors, no other non-financial objectives that may be important in achieving profitability, competitive strength and longer-term strategic goals (Ankrah & Mensah, 2015).

**Return on Net Profit:** Return on net profit (RNP) is a measure of company profitability based on the amount of net profit generated. Return on net profit compares the amount of net income generated for each dollar of profit (Safitri, 2018). Return on net profit is one of the most important financial metrics in gauging the

profitability of a company. Also, net profit is also helpful in determining how well a company's management team generates sales while also managing expenses. Return on net profit is also called net profit margin.

### **Theoretical framework**

This study is anchored on Lean Theory by Heizer and Render (2006). Heizer and Render (2006) indicated that material management or “inventory planning and control” refers to the ongoing provision of standard items with independent demand, where some speculative quantity should always be on hand. Lean theory therefore focuses on optimization of costs in inventory systems. It is posited that through this theory, decisions on manufacturing, warehousing, and general supply chain concerns can be expedited (Tempelmeier, 2011). The theory builds upon the economic order quantity (EOQ) model that seeks to optimize the quantity of any individual item ordered. Hence, Choice of Lean Theory for this study was informed by the need to examine how inventory management influences organizational performance thereby calling for a prudent approach to material management. The theory therefore brings to the fore, the possibility of diversity in operating systems used to monitor levels of stock, and the difference in items that may require different treatment. Lean theory is an extension of ideas of just in time. Kros, Falasca, and Nadler, (2006), elaborate just in time as a pull-based system designed to align the production and business processes throughout the supply chain. Green and Inman (2005) assessed the impact of lean theory on financial performance. They say that theory eliminate buffer stock and minimize waste in production process. Eroglu and Hofer (2011) found that leanness positively affects profitability of a business firm. They argue that material leanness is the best inventory control tool.

Furthermore, the theory elaborates on how manufacturers gain flexibility in their ordering decisions, reduce the stocks of inventory held on site and eliminate inventory carrying costs. At the aggregate level, the empirical strength of the lean explanation lies both in the timing and the magnitude of the adoption. However in the theory, inventory constrains a firm’s ability to respond to fluctuations in demand. Scholarly studies indicate that companies successfully optimize inventory through lean supply chain practices and systems to achieve higher levels of asset utilization and customer satisfaction leading to improved organizational growth, profitability and market share (Green & Inman, 2005).

Another study suggesting a positive relationship between material management and performance was that of Eroglu and Hofer, (2011) in which their study focused on US manufacturing firms covering the period of 2003-2008. They found that leanness positively affects profit margins. According to Eroglu and Hofer, (2011) firms that are leaner than the industry average generally see positive returns to leanness. They used empirical leanness indicator as a measurement for inventory management. Contrary to the present study, their study focused on assessing the relationship between inventory performance and overall firm performance. Criticism leveled against the theory is that it can only be applicable when there is a close and long-term collaboration and sharing of information between a firm and its trading partners.

According to Lean Theory, material management act as a major component of any supply chain irrespective of whether it is product or service supply chain. Inventory management plays an important role in matching demand and supply within each and every partner in the entire supply chain, ultimately providing flexibility in coping up with external and internal events of the today’s uncertain, globalized business environment (Bozarth et al. 2010). Ineffective inventory control is a major problem faced by industries in developing countries and that even the very basic inventory control concepts and techniques are not used by the majority of the companies studied. Due to the heavy reliance on imported industrial raw materials and parts, and the endemic bureaucratic delays and associated communication problems in developing countries, order lead times cannot be computed with any degree of accuracy (Chen, Frank, & Wu, 2007). Therefore, the Lean theory is of essence to the effectiveness of inventory management which will result to increased profitability, responsiveness, flexibility, cost effectiveness and asset management.

### **Empirical Review**

Previous studies have convergent opinions on the relationship between the materials management and organizational productivity. For example, Albert, Shakantu and Ibrahim, (2021) investigated the effect of poor materials management on materials waste, quality of work, and project profitability in construction projects in Nigeria. A qualitative research approach was adopted in the study which included collective case study investigations. The population for the study was ongoing building project sites (ten case studies purposefully selected) in Abuja. The research instrument was direct-covert observation by the researchers to observe and

record the construction processes, people's behaviour, actions and interactions relating to materials management. The construction processes observed included materials usage onsite, loading/ offloading of materials from procurement, storages, as well as materials handling and movement on site. Recording sheets with checklists were pre-set with statements (Likert items) and responses to observe and document the effect of poor materials management. The statements were rated on an ordinal three-point Likert scale. The observed/collected data were analysed using descriptive methods to determine the moral values. The findings from the study revealed that poor materials management has a considerable effect on material waste generation on any construction project site; moderate effects on quality of building projects, and both considerable and moderate effects on profitability in the construction projects. Based on these findings, it can be concluded that effective management of materials in construction projects would reduce the amount of waste generation, increase the quality of construction work, and offer optimum profitability to construction contractors..

Gamariel and Tuyisenge (2021) evaluated that the effect of material handling and material sourcing on profitability of Urwibutso Enterprise Ltd. The study was guided by the following research objectives: to determine the effect of stock control on profitability in Urwibutso Enterprise Ltd., to measure the impact of material logistic planning on profitability in Urwibutso Enterprise Ltd., The study utilized descriptive research design. The population of this research was 67 employees of Urwibutso Enterprise Ltd. and was given a questionnaire as a data collection instrument. Data obtained from the questionnaire were processed into SPSS. Purposive sampling technique was used and the questionnaires were used as instruments of data collection. The research findings imply that the material handling and material sourcing has positive effects on the profitability in Urwibutso Enterprise Ltd. The respondents strongly agree that the analysis about stock control (material stock accuracy, material consumption controls, and stock taking frequency) presented with an overall mean of 3.58. Analysis did for material logistic planning (preparation of logistic plans, smart material logistic goals, and usage of logistic plans), the respondents agree that is shown by the overall mean of 3.52. For the analysis of material packaging (appearance, protection, and disposability), respondents agree that is shown by the overall mean of 3.44.

Donyavi and Flanagan, (2020) examined the contribution of material management practices on performance of construction of project. Both descriptive and correlational research designs were adopted where qualitative and quantitative approaches were applied. Data collection instruments that used were questionnaire, interview guide and documentary analysis. The target population was 200 contractors and 180 subcontractors. The sample size was 195 respondents. Furthermore, information was analysed using Statistical Package for Social Sciences version 21.0. Results evidenced a positive and significant correlation between material estimation cost and performance of construction project at Baraka Properties was 0.518. A positive and significant correlation of 0.884 was also obtained between procurement process and project performance. The results also indicated that the coefficient correlation between procurement process inventory control and project performance was 0.874.

Adamu (2020) examined that the effect of material management on the performance of Benue Brewery Industry, Nigeria using survey research design with a population of 242 respondents and a sample of 151. Data was collected using questionnaire and analyzed using descriptive statistics such as frequency, simple percentage and the relationship between the variables of the model was tested using multiple regression analysis. The result of the regression analysis shows that inventory control system and stock valuation have a positive and significant ( $p < 0.05$ ) effect on organizational performance. Lead time was negatively signed but the effect is statistically significant ( $p < 0.05$ ). The researcher concludes that when properly carried out planned material management can bring about efficiency at workplace.

Kisioya and Moronge (2019) examine the influence of Material handling practices on performance of manufacturing firms in Nairobi Kenya. The study adopted descriptive survey design and the target population was 355 large -scale-manufacturing firms in Nairobi county Kenya. Stratified random sampling was adopted to select a sample size of 188 large-scale manufacturing firms in Nairobi County, Kenya. Primary data was collected using structured questionnaires inform of Likert scale. The general managers of each manufacturing firm selected were involved in data collection. Filled questionnaires were reviewed for completeness and then coded and entered in SPSS. Data analysis was involved both descriptive and inferential statistics. The analysed data was presented inform of tables together with associated explanations. A good response rate of 71.3% was realized. It was established that most of the material handling practices indicators have positive impact on performance of the firm. The study further adopted a regression analysis to determine the relationship between



the variables at 5% confidence level of significance. The study findings showed that the four variables had a significant influence on performance of the firms. The study recommended that a similar research should be conducted in a different field

Joel, and Noor (2019) determined the influence of material management on performance of Large Manufacturing Firms in Nairobi City County, Kenya. The study adopted the descriptive research design; research design is defined as a plan, structure and strategy of investigation conceived to obtain answers to research questions and control variance. The study used stratified random sampling procedure to select respondents. Stratified random sampling procedure is a probability sampling procedure in which the target population is separated into mutually exclusive homogenous segments (strata). The close ended question provides more structured responses to facilitate tangible recommendations. The study used multiple linear regression analysis to test the statistical significance of the various independent variables. In testing the significance of the model, the coefficient of determination (R<sup>2</sup>) was used to measure the extent to which the variation in implementation on supply chain performance is explained by the variations of various factors on the outsourced distribution services. The study established that Basic functionality of materials management includes various factors such as supply, material pricing, and usage. Large manufacturing firms should take more in-depth look at the functions of materials management and how it is advantageous to large manufacturing firms supply chain to enable production facility and locate areas where aid is needed. The study recommends that Materials management has successfully optimized production in various manufacturing firms' facilities, but the process cannot effectively stand alone.

Daniel, (2019) stated that the effects of materials management on the productivity of an organization. This study specific aims are finding out how an organization can tackle the problems identified and how effective material management can increase the profitability of an organization. Secondary data were obtained through books, journals, and internet. Empirical works of other scholars were consulted. A sample size of 255 was obtained from the population of 705 at 5% error tolerance and 95% degree of freedom using Yamane's statistical formula  $255(100\%)$  of the questionnaires distributed 250 (98%) were returned and (52%) were not returned. The questionnaire was designed in Likert scale format. The researchers conducted a pre-test on the questionnaire to ensure the validity of the instrument. Pearson moment product co-efficient and regression analysis were used to test the hypotheses. The study discovered that material management used by the organization adds to the profitability of the company, sufficient storage facilities stops interruption on production process amongst other things. As an outcome of the above, it was suggested that there should be respectable record system of materials for the processes of the organization as it influences production and the training of staff to obtain new skills and knowledge required for the work for the profit of the organization

Also, Dagim, (2018) examined that the role of material management on organizational performance: A Case Study in Commercial Bank of Ethiopia. The research employed descriptive research designed to describe the role of material management on the bank's performance. The target populations of the study were 80 employees of the bank who are directly involved in the material management aspects. The researcher used census sampling, by involving all of the employees of the bank who are working in material management as the population of the study. The quantitative data were analyzed through descriptive statistics such as mean, standard deviation, median and percentages. Narrative approach besides this was applied in analyzing the qualitative data in order to demonstrate the findings of the study in a cleaner manner using table and analyzed with the help of percentage. The thesis result reveals the study established that there is practice of planning and using it, but federal proclamation is not well obeyed. This concluded that the bank's endeavor to material procurement is not backed by proper practice based on law. In addition, inventory control system is employed only averagely that it lacks consistency and profundity. However, annual inventory practice is carried out in the bank implying linger of a year to get information on materials procured and used.

Oyebamiji (2018) pointed out that the effect of materials management on the performance of manufacturing industry with particular reference to the selected cement industry. Purposive sampling technique was employed to select Dangote Cement Plc, Ashaka Cement Plc and Lafarge Africa Plc, while judgmental technique was used to select ten (10) staff members from purchasing/store/ logistic department of the selected cement industry respectively, totaling thirty (30) respondents as a sample size for the study. The data collection instrument for the study was a structured questionnaire and a personal interview. Then, data analysis was conducted with the aid of multiple regression analysis. Result revealed that materials management dimensions jointly contribute significantly to firm performance. The study further revealed that materials

inventory, materials procurement and inter-departmental collaboration have an insignificant effect on firm performance, while only materials storage has a significant impact on firm performance. The study concluded that effective materials management is a veritable tool to organization performance. Subsequently, the study recommended that management should embrace effective materials management especially in the area of materials inventory, materials procurement and inter-departmental collaboration, in order for the industry to achieve its vision of being a global leader in cement production and the largest employers of labour in the world.

Napoleon, Ayoakateng, Asubonteng, Asigri and Alubokin (2018) assessed that material management techniques required for construction firms in the Tamale Metropolis of Ghana. Using empirical data obtained from administering questionnaires to 96 material management personnel in Tamale Metropolis. The data was analyzed using descriptive and inferential statistics such as factor analysis, and Pearson product moment correlation coefficient. The study adopted descriptive quantitative survey approach. Using empirical data obtained from ninety-six administered questionnaires of material managers in Tamale Metropolis; the data was analyzed using descriptive and inferential statistics such as factor analysis, and Pearson product moment correlation coefficient. The study indicated that firms often employed store keepers and security personnel on site; list of materials in project that includes for example (material name, material number and unit price), and provide clear specifications to suppliers. However, they seldom use ICT; and rarely offer training for their workers. The study further revealed that planning and monitoring of material schedule; establishing good business relations with suppliers; the use of security measures on site; use of information communication technology; and also use of competent workers as well as effective training of workers is significant for effective material management on construction site, and has direct effect on construction project delivery success. The study therefore concluded that the more the number of the material management approach adopted on a project, the higher the project delivery success. It was recommended that construction companies should make use of more than one material management technique on construction projects so as to achieve maximum project delivery success.

Assiamah, Daniel and Hanson (2018) studied that materials management and its effect on cost of supplies case study of cocoa processing company of Ghana. Primary data, interviews (face-to-face, telephone) and questionnaire were used. Secondary data has been sourced through literature from the university library and internet sources, qualitative design method was chosen over others because of the nature of the research work. Financially, materials (inventories) are very important to manufacturing companies and on the balance sheet they usually represent from twenty to sixty percent of total assets. Therefore, if the application of the concept of materials management is accepted with well qualified personnel, it could lead to the minimization of cost. The function of a materials manager is to promote coordination and integration within the supply chain and the major benefits are assumed to be; reduction in interdepartmental conflicts, reduction of inventory levels, increased knowledge of total corporate operations and reduction of materials handling costs among others

## **METHODOLOGY**

Descriptive research design was adopted in this study. Descriptive research according to Kothari (2004) is a powerful form of quantitative analysis. This design was preferred because it enables the researcher describe the area of research and explain the collected data in order to investigate the differences and similarities with our frame of reference within a given period of time (time of research). The study was conducted in the South-East geopolitical zone of Nigeria. South-East is made up of five states which include Anambra, Enugu, Imo, Abia and Ebonyi. All the registered pharmaceutical manufacturing firms in South-East, Nigeria that make up the region were studied. With respect to this research, the researcher makes use of primary and secondary data. This study makes use of questionnaire to generate the primary data. Secondary data will be sources from SMEDAN and National Bureau of Statistic Collaborative Survey (2019). The population of study will comprise 6666 registered pharmaceutical manufacturing firms in South-East, Nigeria. The total population consists of 6666 (88) registered pharmaceutical manufacturing firms in South-East, Nigeria (**Source:** National Bureau of Statistic Collaborative Survey (2021)). Samples size consisted 1300 using statistical formula devised by Borg and Gall (1973). The main instrument that was used for data collection is the questionnaire. The reliability of the questionnaire was established through the test- retest method and Cronbach Alpha reliability coefficient of 0.94 was obtained. This was considered high enough to make the instrument reliable.

Simple percentages analysis was use to analyzing the research questions while Simple Multiple Regression Analysis was use in testing research hypotheses.

**DATA PRESENTATION AND ANALYSIS**

The data generated in this study were presented and analyzed in three main sections namely, demographic data of the respondents, answer to the research questions and test of hypotheses. In doing the analysis, frequency tables and simple summary statistics were used to analyze the demographic characteristics of the respondents and the research questions which were structured to take the format of the Likert scale. Simple percentages analysis was use to analyzing the research questions while Multiple regression analysis were used to test and verify the various null hypotheses formulated to guide the objectives of the study and strengthen the analysis. 1300 copies of the questionnaire were issued out, 1021 were completed and returned thus showing a response rate of 78.5 percent were return. The table also shows that 1021Copies of valid questionnaire were return. 100 copies of questionnaire were invalid showing 7.7 percent response rate. While 179 copies of questionnaire got missing. The analysis was base on 1021 relevant copies of questionnaire.

**RESULTS AND DISCUSSION**

**Answer to Research Questions**

The research questions covered the six (6) thematic areas of the study excluding the demographic features which we have dealt with in the earlier sections of the analysis. The sections B to F were critically examined and analyzed to really bring out the opinions of the respondents as the related to the thematic areas.

**Research Question One:** *To what extent does material logistics management affect sales volume in Pharmaceutical manufacturing firms South-East in Nigeria?*

**Table 1: Material logistics management and sales volume**

S/N	Items of the Questionnaire	Alternative Responses					Total
		SA	A	D	SD	UND	
1.	The firm prepares detailed materials logistics plan	459 (45.0%)	500 (49.0%)	30 (2.9%)	20 (2.0%)	12 (1.2%)	1021 (100.0)
2.	The firm uses the materials logistic plan to control movement of materials to the firm	441 (43.25)	493 (48.35)	36 (3.55)	31 (3.0%)	20 (2.0%)	1021 (100.0)
3.	Material logistics control contributes to Reduction in production costs	457 (44.8%)	478 (46.8%)	45 (4.4%)	21 (2.1%)	20 (2.0%)	1021 (100.0)
4.	The material logistics plan shows means of movement of materials to the firm	461 (45.2%)	500 (49.0%)	25 (2.4%)	20 (2.0%)	15 (1.5%)	1021 (100.0)
5.	Material logistics has accurate material stock records	458 (44.9%)	501 (49.1%)	31 (3.0%)	19 (1.9%)	12 (1.2%)	1021 (100.0)
Total		2276 (44.6)	2472 (48.2)	167 (3.3)	111 (2.2)	79 (1.5)	5105 (100.0)

Note: (SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree and UND = Undecided).

The analysis in Table 1 shows presents effect of material logistics management affect sales volume in Pharmaceutical manufacturing firms in South-East in Nigeria. Regarding the issue bordering on the firm prepares detailed materials logistics plan, 459 (45.0%) of the total sample strongly agreed, 500 (49.0%) agreed. However, 30 (2.9%) disagreed, 20 (2.0%) strongly disagreed and 12 (1.2%) were undecided. On whether the firm uses the materials logistic plan to control movement of materials to the firm, 441(43.25) respondents strongly agreed and 493(48.35) agreed. On the other hand, 36(3.55) respondents disagreed, 31 (3.0%) strongly agreed and 20 (2.0%) were undecided. On questions that bordered on whether material logistics control contributes to reduction in production costs, 457(44.8%) respondents strongly agreed and 478(46.8%) agreed. Conversely, 45(4.4%) disagreed, 21 (2.1%) strongly disagreed and 20 (2.0%) were undecided. On whether material logistics plan shows means of movement of materials to the firm, 461(45.2%) respondents strongly agreed and 500(49.0%) agreed. On the other hand, 25 (2.4%) disagreed, 20 (2.0%) strongly disagreed and 15 (1.5%) were undecided. The result on Table 4.3.1 indicates that 458 (44.9%) respondents strongly agreed that material logistics has accurate material stock records, 501(49.1%) agreed, 31

(3.0%) disagreed, 19 (1.9%) strongly disagreed and 12 (1.2%) were undecided. Using a cutoff point of 2.50 for the rating scale, all the items had mean scores above the cutoff point. This implies that effect material logistics management affects sales volume in Pharmaceutical manufacturing firms South-East in Nigeria.

**Research Question Two:** *To what degree does material planning strategy affect net profit in manufacturing company South-East in Nigeria?*

**Table 2 Material Planning Strategy and Net Profit**

S/N		Alternative Responses					Total
		SA	A	D	SD	UND	
1.	Material requirement planning reduce cost of materials	452 (44.3%)	487 (47.7%)	37 (3.6%)	25 (2.4%)	20 (2.0%)	1021 (100.0%)
2.	Material requirement planning improve labor performance	453 (44.4%)	489 (47.9%)	32 (3.1%)	25 (2.4%)	22 (2.2%)	1021 (100.0)
3.	Material requirement planning provides adequate storage of materials	461 (45.2%)	469 (45.9%)	40 (3.9%)	31 (3.0%)	20 (2.0%)	1021 (100.0)
4.	Material requirement planning system ensures material is available for production	501 (49.1%)	455 (44.6%)	25 (2.4%)	20 (2.0%)	20 (2.0%)	1021 (100.0)
5.	Material requirement planning reduce of materials surplus	450 (44.1)	501 (49.1)	25 (2.4)	25 (2.4)	20 (2.0)	1021 (100.0)
Total		2317 (45.4)	2401 (47.0)	159 (3.1)	126 (2.5)	102 (2.0)	5105 (100.0)

**Source: Researcher's Field Survey, 2022**

Note: (SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree and UND = Undecided).

The analysis in Table 2 shows presents effect of material planning strategy on net profit in pharmaceutical manufacturing firms South-East in Nigeria. Regarding the issue bordering on the material requirement planning reduce cost of materials, 452(44.3%) of the total sample strongly agreed, 487(47.7%) agreed. However, 37 (3.6%) disagreed, 25 (2.4%) strongly disagreed and 20 (2.0%) were undecided. On whether the firm uses the material requirement planning improve labor performance, 453(44.4%) respondents strongly agreed and 489 (47.9%) agreed. On the other hand, 32 (3.1%) respondents disagreed, 25 (2.4%) strongly agreed and 22 (2.2%) were undecided. On questions that bordered on whether material requirement planning provides adequate storage of materials, 461 (45.2%) respondents strongly agreed and 469(45.9%) agreed. Conversely, 40 (3.9%) disagreed, 31 (3.0%) strongly disagreed and 20 (2.0%) were undecided. On whether material requirement planning system ensures material is available for production, 501 (49.1%) respondents strongly agreed and 455(44.6%) agreed. On the other hand, 25 (2.4%) disagreed, 20 (2.0%) strongly disagreed and 20(2.0%) were undecided. The result on Table 4.3.2 indicates that 450 (44.1) respondents strongly agreed that material requirement planning reduce of materials surplus, 501 (49.1) disagreed, 25 (2.4) strongly disagreed and 20(2.0) were undecided. Using a cutoff point of 2.50 for the rating scale, all the items had mean scores above the cutoff point. This implies that material planning strategy affect net profit in manufacturing company South-East in Nigeria

**Research Question Three**

Research question three sought to determine to what degree does material handling on profitability in Pharmaceutical manufacturing firms South-East in Nigeria.

**Table 3: Material Handling and Organizational Performance**

S/N	Items of the Questionnaire	Alternative Responses					Total
		SA	A	D	SD	UND	
1.	Firm using the latest material handling technology in receiving raw materials in the store	457 (44.8)	461 (45.2)	45 (4.4)	35 (3.4)	23 (2.3)	1021 (100.0)
2.	Our firm has latest coolers for keeping perishable materials	469 (46.0)	470 (46.0)	31 (3.0)	29 (2.8)	21 (2.1)	1021 (100.0)
3.	Our firm has latest machines for moving materials while in the store	459 (45.0)	485 (47.5)	40 (2.0)	20 (2.0)	17 (1.7)	1021 (100.0)
4.	Material handling uses data information inter change to share information on material stock levels with suppliers	501 (49.1)	457 (44.8)	25 (2.4)	20 (2.0)	18 (1.8)	1021 (100.0)
5.	Material handling machineries in the store have improved store efficiency	457 (44.8)	461 (45.2)	45 (4.4)	35 (3.4)	23 (2.3)	1021 (100.0)
Total		2343 (45.9)	2334 (45.7)	186 (3.6)	139 (2.7)	102 (2.0)	5105 (100.0)

Note: (SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree and UND = Undecided).

Table 3 shows that material handling on profitability in Pharmaceutical manufacturing firms South-East. Regarding the issue bordering on firm using the latest material handling technology in receiving raw materials in the store, 457 (44.8) of the total sample strongly agreed, 461(45.2) agreed. However, 45 (4.4) disagreed, 35 (3.4) strongly disagreed and 23 (2.3) were undecided. On whether the firm has latest coolers for keeping perishable materials, 469 (46.0%) respondents strongly agreed and 470(46.0) agreed. On the other hand, 31 (3.0%) respondents disagreed, 29 (2.8%) strongly agreed and 21 (2.1)were undecided. On questions that bordered on whether firm has latest machines for moving materials while in the store, 459 (45.0) respondents strongly agreed and 485 (47.5) agreed. Conversely, 40 (3.9%) disagreed, 20 (2.2%) strongly disagreed and 17 (1.7%) were undecided.

On whether material handling uses data information inter change to share information on material stock levels with suppliers, 501 (49.1%) respondents strongly agreed and 457 (44.8) agreed. On the other hand, 25 (2.4%) disagreed, 20 (2.0%) strongly disagreed and 18(1.8%) were undecided. The result on Table 4.3.2 indicates that 457 (44.8) respondents strongly agreed that Material handling machineries in the store have improved store efficiency, 461 (45.2) agreed, 45 (4.4) disagreed, 35 (3.4) strongly disagreed and 23(2.3) were undecided. Using a cutoff point of 2.50 for the rating scale, all the items had mean scores above the cutoff point. This implies that material handling affect profitability in Pharmaceutical manufacturing firms South-East in Nigeria

**Test of Hypotheses**

**Hypothesis One**

Ho: Material logistics management has no positive significant effect on sales volume of Pharmaceutical manufacturing firms South-East in Nigeria

Ho<sub>1</sub>: Material logistics management has a positive significant effect on sales volume of Pharmaceutical manufacturing firms South-East in Nigeria

**Table 4: Regression analysis showing the effect of material logistics management and sales volume of Pharmaceutical manufacturing firms**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta (β)		
Sales Volume	34.044	2.662		12.786	.000
Logistics Management	2.752	.168	.636	16.431	.000

Multiple R=0.636, Multiple R<sup>2</sup>=0.404, Adjusted R<sup>2</sup>=0.403, F<sub>1,398</sub>=269.971

**\*p<0.05**

Table 4 revealed that material logistics management has a positive significant effect on sales volume of Pharmaceutical manufacturing firms South-East in Nigeria . (t =16.431, p<0.05).The null hypothesis is rejected. The table indicates a significant multiple correlation between the predictor variable (logistics management) and sales volume of Pharmaceutical manufacturing firms in South East Nigeria (r = 0.636, p<0.05). The value of the coefficient of determination (R<sup>2</sup>= 0.404) indicates that logistics management accounted for about 40.4% (R<sup>2</sup> x 100) of the observed variance in sales volume of Pharmaceutical manufacturing firms in South East Nigeria, while the remaining 59.6% unexplained variance is largely due to other variables that can account for sales volume of Pharmaceutical manufacturing firms in South East Nigeria. The calculated F-ratio (269.971) is statistically significant at 0.05 level of significance. This implies that the predictor variable provides a significant explanation for the variation in sales volume of Pharmaceutical manufacturing firms in South East Nigeria.

**Hypothesis Two**

Ho: Material planning strategy has no positive significant effect on net profit in of Pharmaceutical manufacturing firms South-East in Nigeria

Ho<sub>1</sub>: Material planning strategy has a positive significant effect on net profit in of Pharmaceutical manufacturing firms South-East in Nigeria

**Table 5: Regression analysis showing the effect of material planning strategy no net profit in of pharmaceutical manufacturing firms**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta (β)		
Return On Net Profit	36.496	1.834		19.901	.000
Material Planning Strategy	2.696	.119	.750	22.613	.000

Multiple R=0.750, Multiple R<sup>2</sup>=0.562, Adjusted R<sup>2</sup>=0.561, F<sub>1,398</sub>=511.350

**\*p<0.05**

Table.2 revealed that material planning strategy has no positive significant effect on net profit in of pharmaceutical manufacturing firms South-East in Nigeria. (t =22.613, p<0.05).The null hypothesis is rejected. The table indicates a significant multiple correlation between the predictor variable (material planning strategy) and on return on net profit of pharmaceutical manufacturing firms in South East Nigeria (r = 0.750, p<0.05). The value of the coefficient of determination (R<sup>2</sup>= 0.562) indicates that material planning strategy accounted for about 56.2% (R<sup>2</sup> x 100) of the observed variance in return on net profit of pharmaceutical manufacturing firms in South East Nigeria while the remaining 43.8% unexplained variance is largely due to other variables outside the regression model which are otherwise included in the stochastic error term. The calculated F-ratio (511.350) is statistically significant at 0.05 level of significance. This implies that

the predictor variable provides a significant explanation for the variation on return on net profit of pharmaceutical manufacturing firms in South East Nigeria.

**Hypothesis Three**

Ho: Material procurement strategy has no positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms South-East in Nigeria.

Ho<sub>1</sub>: Material procurement strategy has no positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms South-East in Nigeria.

**Table 6: Regression analysis showing the effect of material procurement strategy on return on owners' equities of Pharmaceutical manufacturing firms**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta (β)		
Return on Capital Employee	31.386	2.585		12.143	.000
Material procurement strategy	2.908	.162	.669	17.959	.000

Multiple R=0.669, Multiple R<sup>2</sup>=0.448, Adjusted R<sup>2</sup>=0.446, F<sub>1,398</sub>=322.540

\*p<0.05

Table 3 showed that material procurement strategy has no positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms South-East in Nigeria.. (t =17.959, p<0.05).The null hypothesis is rejected. The table reveals that there is significant multiple correlation between the predictor variable (material procurement strategy) and effect on return on capital employee of Pharmaceutical manufacturing firms in South East Nigeria (r = 0.669, p<0.05). The value of the coefficient of determination (R<sup>2</sup>= 0.448) indicates that material procurement strategy accounted for about 44.8% (R<sup>2</sup> x 100) of the observed variance effect on return on capital employee of Pharmaceutical manufacturing firms in South East Nigeria while the remaining 55.2% unexplained variance is largely due to other variables outside the regression model which are otherwise included in the stochastic error term. The calculated F-ratio (322.540) is statistically significant at 0.05 level of significance. This implies that the predictor variable provides a significant explanation for the variation effect on return on capital employee of Pharmaceutical manufacturing firms in South East Nigeria.

**Summary of Findings**

1. Material logistics management has a positive significant effect on sales volume of Pharmaceutical manufacturing firms South-East in Nigeria. Material logistics management had a coefficient of (t =16.431, p<0.05).
2. Material planning strategy has no positive significant effect on net profit in of pharmaceutical manufacturing firms South-East in Nigeria. Material planning strategy had a coefficient of (t =22.613, p<0.05).
3. Material procurement strategy has a positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms South-East in Nigeria. Material procurement strategy had a coefficient of (t =17.959, p<0.05).

**CONCLUSION**

This work examined the effect of material management on financial performance of Pharmaceutical manufacturing firms in South-East, Nigeria. Data were source from primary sources and were analyzed using multiple regression analysis. The analysis reveals that material logistics management has a positive significant effect on sales volume; material planning strategy has no positive significant effect on net profit; material procurement strategy has no positive significant effect on return on owners' equities of Pharmaceutical manufacturing firms in South-East, Nigeria. Therefore the study concludes that material management has a positive significant effect financial performance of Pharmaceutical manufacturing firms in South-East, Nigeria

## RECOMMENDATIONS

Base on the findings and conclusions the following recommendations were made

1. Pharmaceutical manufacturing firms should practice proper logistics planning with suppliers and develop strategies to develop them so that they can be able to deliver the quality required without errors and defects and at the right place without delays. Reliable logistical communication practices should be adopted among the suppliers and the buying organization so as to curb costs from quantity and product deviations.
2. Pharmaceutical manufacturing firms should always be involved and consulted in development of material requirement planning. The material planning techniques should always be reviewed to meet requirements for use and purpose. This will improve the performance of firm and able to meet the requirements of the company and also reduce disputes among suppliers.
3. Pharmaceutical manufacturing should adopt the use of information technology that will not only help in information sharing, but also will help in proper procurement procedure of material from suppliers hence improving the material usage.

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