

THE EFFECT OF INVENTORY MANAGEMENT ON THE PERFORMANCE OF MANUFACTURING FIRMS IN NIGERIA

**Babalola Rapheal ADESUNLORO¹, Isiaka Kolawole EGBEWOLE²,
G.M. ADESUNLORO³**

*^{1,3} Federal University Oye-Ekiti, Faculty of Management Sciences,
Accounting Department and Public Administration Department, Ekiti
State, Nigeria, Email: babalola.adesunloro@fuoye.edu.ng*

*² Federal Polytechnic Ado Ekiti, Science Technology Department, Ekiti
State, Nigeria, Tel.: 07036385137,
Email: kolawole.egbewole@fuoye.edu.ng*

How to cite: ADESUNLORO, B.R., EGBEWOLE, I.K., & ADESUNLORO, G.M. (2021). "The Effect of Inventory Management on the Performance of Manufacturing Firms in Nigeria." *Annals of Spiru Haret University. Economic Series*, 21(4), 445-460, doi: <https://doi.org/10.26458/21425>

Abstract

Research study thoroughly examined Effect of Inventory Management on the Performance of Manufacturing Firms in Nigeria, a research of some selected quoted manufacturing firms, where inventory management were captured by inventory turnover, inventory conversion period and manufacturing firm size and return on asset was used in measuring performance. Study reveal the existence of a relationship between inventory management and performance of selected quoted manufacturing firms in Nigeria. In conclusion, it can be asserted from the result that inventory management is an engine device that drive the performance of manufacturing firms in Nigeria. Inventory turnover and manufacturing firm size positively influence the performance of manufacturing firms. Also, increase in inventory turnover and firm size affects and enhances performance of manufacturing firms in Nigeria. This study recommends that management of the manufacturing firms should embrace effective inventory management practices such as inventory turnover and inventory conversion period, which can improve performance. In addition, management of the firms must develop a working

Issue 4/2021

strategic policies and guidelines principle on inventory management to control the staff and endeavor that optimal inventory levels are held, by this costs will be minimize and performance maximize.

Keywords: *return on asset; performance; inventory management; inventory turnover; inventory.*

JEL Classification: M10

1.0 INTRODUCTION

Inventories, consist of raw or unprocessed materials, work-in-progress (consumables or spare parts) and finished goods are crucial for manufacturing companies to function effectively. The performance of manufacturing firms is grounded on the capacity and the ability of the management in taking decisions such as allocation of resources for proper utilization, decisions can be qualitative or quantitative. Resources are very important in companies, firms, or organizations because they made-up part of the elements in achieving the business objectives. According to (IAS 2) International Accounting Standard 2, Inventory means tangible assets held in the course of carrying-out business operation, in the production process of such sale, or to be used in the production of goods or services for sale. Miller (2010) opined that inventory management simply means monitoring and supervision of supply, storage and availability of items in order for a satisfactory supply that is neither short nor excess. Inventory control means the availability of needed items at any time in any place necessary or demanded, by stocking enough inventory (Ogbo, Onekanma & Wanes, 2013). A total sum of similar operations necessary for acquisition, storing, sales and the disposal or use of stock items is called inventory control or management. Many organizations could not work effectively without inventory thus; they need to put into consideration how it could be managed.

Problems of Inventory have multiplied due to development to technology which has seriously increased the organization's strength to manufacture goods faster in greater quantities and with various designs Tersine, (2009), Godana and Ngugi (2014) and (Simon et al., 2018). Management visualizes excess inventory favorably but in recent times, people and managers began to discover how important inventory control is and its disadvantages when it is excess. Storing large inventories do tie down capital resources as well as generates unforeseen costs (Salawati, Tinggi, & Kadri, 2012). Similarly, excessive stock uses up land space, induces a financial

burden, and increases the likelihood of damages, spoilages likewise losses (Naliaka & Namusonge, 2015). Contrary, short or insufficient stocks oftentimes hinder business operations (Dimitrios, 2008). (Ogbadu, 2009). This study pursued to examine the Effect of Inventory Management on the Performance of Manufacturing Firms in Nigeria. Thus, serve as a valuable source of information to the researchers, organizations or companies, Governments, and the general public, also providing insight as well as adding to existing literature. Sequel to the identified research problems this research is keen towards providing answers to the question; is there a relationship between inventory management and performance of the selected quoted manufacturing firms in Nigeria?

Research Objectives

The research objective of the study in consideration was intended to investigate the relationship between inventory management and performance of the selected quoted manufacturing firms in Nigeria **Hypothesis**

H_0 : there is no relationship between inventory management and the performance of the selected quoted manufacturing firms in Nigeria

2.0 REVIEW OF LITERATURE

2.1.1 Inventory

According to the International Accounting Standard 2 (IAS 2) Inventories simply means assets held for sale; production for such sale; or in materials form or supplies for absorption in the production process or services rendering. Inventories are held by a business firm to ease the production process. Inventory is made up of one of the biggest and uttermost substantial investments of any retailer or manufacturing firm. According to Akinyomi & Tasie (2011), inventories constitute an essential demand of working capital administration.

2.1.2 Reasons for Holding Inventories

Manufacturing organizations hold inventory for many reasons, such as:

Running Operations: A producer must possess some purchased items (raw materials component or work in progress) to start up the production process. Completing the production of finished goods can be hindered when a manufacturer is out of stock or even one item. In a work-Unit, they usually rely on the previous operation process to provide a part to work on. Suppose a line of work stops at a work-Unit, all other units next to carry on the process, will shut down due to

Issue 4/2021

interruption in the other unit. To avoid that, adequate inventories must be available in stock to affirm a smooth running of business operation.

Lead Time: it means the elapses of time between when orders of goods are made and the exact time they were received. For example, an external or internal (department within an organization) supplier couldn't supply the requested goods on demand, as a result, the requesting firm must stock inventory of required goods because the bigger the size of goods the firm must store as inventory depends on how long the lead time.

Quantity Discount: Purchasing a large number of goods in most cases tends to a decrease in price known as discount. (Wangari, 2015) said that inventory is an important function in the production system and in reality not possible and economic-wise cannot be practicalized for every stock to get to the actual place and time it is being put to use, therefore it is necessary to keep a certain amount of inventory at any time.

2.1.3 What is Management?

Management simply means the process of organizing, coordinating, and controlling business activities to actualize desired goals or objectives. Inventory management simply means effective use of inventory in an efficient manner. It is greatly more concerned with the proper management of inventory to actualize a higher level of inventory in an organization's working capital. The importance of adequate control of inventory is the foremost; therefore, it becomes uneasy to tie down the little capital by holding unnecessary large inventory.

The main reason for inventory management is to minimize cost, maximize profit, and avoid stock-out. There is a need to minimize expenses or costs, so as not to spend excess or unfruitful expenses such as spoilage or storage costs to achieve effective and efficient inventory management. Cost can also be minimized by avoiding avoidable costs. Moreover making efficient stocks available at the right time ensures prompt production and selling without any delay. Inventory management prevents surplus stock that is unnecessary and helps in keeping inventory with an available storage capacity.

2.1.4 Techniques of Inventory management

Inventory management is vital in the sense that, it can be customized to reduce expenses or proliferate income in the process of fulfilling customer's demands by making sure that an adequate proportion of items of inventory are maintained at the

right quality, quantity, and that are accessible at the right time and in the right place. The techniques reviewed are as follows

Just in time technique (JIT): JIT is derived from Japanese philosophy, it denotes, rationality associated with assembling which consists of acquiring the right items of the right quality in the appropriate place and at a convenient time. Utilization of JIT brings about an increase in quality, profitability, and effectiveness, heightened correspondence, and reduces expenses and extravagant spending. Hutchins (1999) and Atnafu & Balda, (2018) characterize the Just in time technique as an act ready for instant feedback to any request, ruling-out unnecessary stocking which could tie down capital and create hidden cost. It furthermore mentioned accomplishing zero inventory is the aim of JIT.

Economic order quantity: as opined by Bowersox (2002) and Atnafu & Balda, (2018), management of inventory requires to be adequately arranged in a logical manner such that an organization can determine the exact time to order and at what quantity to order. Calculating the EOQ can determine that. One can engage the use of correlation to arrange inventory reestablishment on an ideal premise. For example, the arrangement can be slated to be occurring monthly, quarterly, half a year, or yearly. By that it makes firms to have insignificant limit costs or zero inside their circulation focuses. EOQ and Re-Order Point (ROP) are necessary instruments that associations can utilize to improve their inventory management or control.

2.1.5 Inventory Management Difficulties

Major wholesalers and retailers actors involved in downstream distribution channels do encounter difficult situations in ensuring that inventory is kept wisely, not lower or higher than necessary because of challenges in predicting demands and customers' anticipation about the availability of inventory items (Coyle et al., 2003 and Agu, 2016). The challenge is greater looking at the differences of products in respect to color/design, package type, and size. Further to more describe the problem, we assume there is an accurate demand forecast; notwithstanding, the total demand will have to be broken down in respect to specifications of the product into sub-total demand forecast to control the inventory or stock-keeping units in the company in order to fulfill the final customer's order. However, the sub-total demand forecasts could be diverse, reaching hundreds or thousands of categories; in such situations, they become difficult and time-consuming. The challenging aspect of forecasting demands appropriately normally turn-out in two problems, in such a way that is totally opposite, that is overstock

Issue 4/2021

and stock-out. The more firms continue to run from not meeting demands when inventory is out of stock, this could lead to overstocking.

2.1.6 Performance Measure of Manufacturing Firms

Return on Asset: Return on Asset shows the percentage of how profitable an organization's assets are, in generating income. ROA is computed as Net income/Average Total assets. The measured number tells more about what an organization can do with what it has, that is, how many dollars of assets they control. It is a useful number for comparing competing companies in the same industry. The number will vary widely across different industries. Measured numbers vary from one company to another. Return on assets indicates the capital intensity of the company, which will depend on the industry that requires large initial investments will generally have a lower return on assets. ROAs over 5 percent are generally considered good.

Return on Equity: in corporate finance, return on equity is a measure of the profitability of a business in relation to the equity, also known as net assets or assets minus liabilities. Roe is a measure of how well a company uses investments to generate earnings growth.

Earnings per share: EPS is the portion of a company's profit that is allocated to every outstanding share of its common stock. This is calculated by taking the difference between a company's net income and dividends paid for preferred stock and dividing the figure by the average number of shares outstanding. Earnings per share is a measure of how much profit a company has generated. EPS of a manufacturing firm can be on a quarterly or yearly basis.

Profit before Tax: this is a profit earned before a manufacturing firm pays or deducts its company income tax. PBT is profit after deducting the cost of goods sold, other expenses not excluding interest excluding any form of tax liability, etc., total sum is known as profit before tax PBT.

Profit after Tax: this means, a net profit earned by a manufacturing firm after deducting all expenses such as interest, depreciation, and corporate income tax. Profit after tax can be completely retained by a manufacturing firm to be used in the business. Declared Dividends are paid to the shareholders from net profit.

2.2 Review of Theories

2.2.1 Economic Order Quantity Theory

(Agu, 2016) F.Wilson, Haris is part of notable authors within the operation management who had developed Economic Order Quantity (EOQ) models to

determine optimal inventory levels that organizations should observe and keep. Blackburn, also agreed that many organizations, companies, and firms widely adopt the use of EOQ. The model was established by F. Haris in 1913 otherwise called Wilson Economic Order Quantity; in an elaborate form, Wilson accurately analyzes EOQ. While using EOQ, it was severally shown that cost of some inventory rises while other inventory costs decrease. Economic Order Quantity is an inventory management system that helps in minimizing ordering costs and total inventory holding costs.

Coleman (2002), Ogbo (2011) and Agu, (2016) mentioned that the model minimizes the aggregate of inventory holding cost and re-ordering cost. Ogbo (2011) & Agu, (2016) stated the fundamental fact necessary for calculating EOQ this consist, inventory holding costs; ordering costs; demand rate; lead time cycle, and price per unit all these are known and constant. The refilling is made, immediately an operation in stock is supplied to avoid inventory items being out of stock. Economic order Quantity recons with having buffer stocks as one of its demerit, which is maintained to cater for variations in lead-time and demand making it difficult to be observed in practice. The EOQ model requires that for every item stocked in the stores, there is a need to determine the point of order and the most cost-effective quantity to order.

2.2.2 Lean theory

Heizer & Render (2006) and Musau & Namusonge, (2017) mentioned that inventory management is a continuous provision of standard items with independent demand, and certain quantities should always be made available. Inventory systems focus on cost efficiency. According to Tempelmeier, (2011) and Musau & Namusonge, (2017), they mentioned that the theory was postulated so that, production, warehousing, and general supply chain decisions could be promptly executed. The lean theory was based on the EOQ model concepts, which strive to perfect as possible the quantity of independent material demanded. The theory frontal, the contingent of the diverseness of functional systems been engaged in monitoring the position of inventory, more so the diversity in inventory materials that could demand different treatment. Kros, Falasca, and Nadler, (2006) and Musau & Namusonge, (2017), stated that the theory is typically an extension of ideas of just in time (JIT). JIT is a pull-based system aimed to array production and business operation along the supply chain. Green and Inman (2005) examined the impact of lean theory on financial performance. The theory, according to

Issue 4/2021

discovered stated that it might freeze out buffer stock also it reduce wastages in the production operation. Eroglu & Hofer (2011) and Musau & Namusonge, (2017) discovered that inventory leanness positively affects profitability. They opined that inventory leanness is the most accurate inventory control tool. Lean theory intensifies on what way producers can obtain flexibility in decisions pertaining to ordering, in order to minimize the stocks of inventory and prevent inventory-carrying costs. At the aggregate level, the empirical strength of the lean explanation lies in both the time and magnitude of its adoption.

2.3 Empirical review

Inventory management over the years has become another supply chain element that features prominently in empirical literature in relation to organizational or firm performance. Mogere, Oloko, and Okibo (2013) and Musau & Namusonge, (2017) carry out a study, using the Gianchore tea factory as a case study to examine in what way inventory control systems affect operational performance in the tea industry. Using survey research method, questionnaires are structured to collect data, and analyses were conducted using regression model, it was discovered from the study that the use of material requirement planning, distribution planning, and vendor-managed inventory had a positive influence on operations efficiency. Also, on organizational performance.

A study was conducted by Lwiki, Ojera, Mugenda & Wachira (2013) and Musau & Namusonge, (2017) to assess the manner in which inventory management practices in sugar manufacturing firms impact firms' financial performance. Primary data and secondary data were used, and analysis was carried out using a correlation model. It was discovered that inventory management impacted positively with both returns on sales and return on equity.

Anichebe and (Agu 2013, 2016) carried out a study on the Effects of Inventory Management on Organizational Effectiveness in selected organizations in Enugu, the study examined the impact of proper inventory management on organizational performances in Yemenite, Hardis& Dromedas, and the Nigeria Bottling Company all in Enugu, Enugu State. The use of the Descriptive method using the survey method of data collection was adopted. The study population is six hundred and fifty-eight (658). With a sample size of two hundred and forty-eight (248). Data were generated using questionnaires, oral interviews, observations, books, journals, and the internet. Pearson product-moment correlation coefficient and linear regression were used in the hypotheses testing. The Findings indicate that there is a

significant relationship between good inventory management and organizational effectiveness. Inventory management has a significant effect on organizational productivity. There is a highly positive correlation between good inventory management and organizational profitability. The study concluded that Inventory Management is very vital to the success and growth of organizations.

Edwin, Florence (2015) and (Agu, 2016) investigated the effect of inventory management on profitability of cement manufacturing companies in Kenya: A case study of listed cement manufacturing companies in Kenya. A cross-sectional data from 1999 to 2014 was gathered for the analysis of the annual reports for the three sampled firms listed at Nairobi Securities Exchange. An ordinary least squares regression technique was applied to establish the relationship between inventory management and a firm's profitability. The results revealed a negative relationship between inventory turnover, inventory conversion period, and storage cost with the profitability of the company. In addition, inventory level was found to be directly related to the firm's size and storage cost.

3.0 Methodology

This research adopted a descriptive and explanatory design focusing on the relationship between inventory management and the performance of manufacturing firms in Nigeria. This work adopted Edwin and Florence (2015) model, which showed the relationship between inventory management and profitability of cement manufacturing companies in Kenya. It is stated in functional form as,

$$PROF_{it} = f(INVM_{it})$$

In an explicit form, this model can be written as,

$$PROF_{it} = b_0 + b_1 INVM_{it} + e_{it}$$

Where: PROF= Profitability of the cement manufacturing companies, INVM = Inventory management, e = Error term, i = sample of cross-sectional variables, t = Time dimension of the Variables and b_i = parameter to be estimated

Therefore, this research work was modified the model stated in the equation using return on asset (ROA) to capture the performance of manufacturing firms while, inventory management was captured by inventory turnover (INVT),

Issue 4/2021

inventory conversion period (INCP), and manufacturing firms size (FIRZ). Hence, the model put to use in the course of this research is in functional equation form;

$$ROA_{it} = f(INVT_{it}, INCP_{it}, FIRZ_{it})$$

The estimation technique used for this research work includes descriptive analysis, correlation, and Panel data regression technique. In this research, it is expected that the coefficient of the variables or the parameters estimated is positive. This implies that the values of the estimated parameters (α_i) must be greater than zero. That is, $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ and >0 . If this is true, it means theoretically that the inventory management captured by inventory turnover, inventory conversion period, and manufacturing firm's size has a positive effect on the return on asset as a measure of performance of the quoted manufacturing firms in Nigeria.

4.0 Analysis of Data

Data extracted from the financial statement of the selected quoted manufacturing firms on the Nigeria stock exchange. Required data were extracted to compute the identified variables used in this study. The analysis was done such descriptive analysis, correlation analysis, Pooled panel least square model.

The descriptive analysis of the variables used for the investigation of the relationship between the performance of manufacturing firms measured by (ROA) and inventory management of the manufacturing firms measured by inventory turnover (INVT), inventory conversion period (INCP), and firm size (FIRZ) of the manufacturing firms. Table 4.1 revealed that the mean performance of the manufacturing firm measured using return on asset (ROA) and inventory management of the manufacturing firms captured by inventory turnover (INVT), inventory conversion period (INCP), and manufacturing firm size (FIRZ) were 14.98, 1.72, 35.14 and 22.01 respectively during the period under investigation.

The maximum and the minimum: performance of the manufacturing firms measured by return on asset (ROA) and inventory management of the manufacturing firms captured by inventory turnover (INVT), inventory conversion period (INCP), and manufacturing firm size (FIRZ) were: 34.90 & -1.91, 4.00 & -6.40, 57.69 & 12.59 and 65.99 & 3.92 accordingly. The standard deviation of 9.68, 1.83, 12.03, and 17.64 shows the actual rate that performance of the manufacturing

firm measured by return on asset (ROA) and inventory management of the manufacturing firms captured by inventory turnover (INVT), inventory conversion period (INCP) and manufacturing firm size (FIRZ) are different from their average or expected value.

Table 4.1: Descriptive Analysis Result

	ROA	INVT	INCP	FIRZ
Mean	14.97910	1.719000	35.13767	22.00933
Median	13.42500	1.940000	32.87000	16.69500
Maximum	34.90000	4.000000	57.69000	65.99000
Minimum	-0.912000	-6.400000	12.59000	3.920000
Std. Dev.	9.681274	1.834154	12.03423	17.64430
Skewness	0.329804	-3.084861	0.428013	1.226552
Kurtosis	2.268959	14.15921	2.212558	3.602649
Jarque-Bera	1.211878	203.2417	1.691056	7.976129
Probability	0.545562	0.000000	0.429331	0.018536

Source: Researchers' Computation, 2021

The table above depicts that the performance of the manufacturing firms measured by return on asset (ROA) and inventory management of the manufacturing firms captured by inventory conversion period (INCP) and manufacturing firm size (FIRZ) is skewed positively with a skewness coefficient of 0.33, 43 and 1.23 respectively thus implies that the distribution of variables under investigation has a long tail to the right. therefore, the kurtosis of the performance of the manufacturing firms measured by return on asset (ROA) and inventory management of the manufacturing firms captured by inventory turnover (INVT), inventory conversion period (INCP), and manufacturing firm size (FIRZ) with

Issue 4/2021

kurtosis coefficient indexes of 2.27, 14.16, 2.21 and 3.60 respectively. The Jarque-Bera and the value of profitability show that inventory management of the manufacturing firms captured by inventory turnover (INVT) and manufacturing firm size (FIRZ) was not normally distributed and with an element of statistical significance which emphasized that inventory management of the manufacturing firms captured inventory turnover (INVT) and manufacturing firm size (FIRZ) of the manufacturing firms have an effect on the performance.

Table 4.2: Correlation Matrix

	ROA	INVT	INCP	FIRZ
ROA	1.000000	0.444634	-0.409214	0.017810
INVT	0.444634	1.000000	-0.126622	0.214717
INCP	-0.409214	-0.126622	1.000000	-0.378906
FIRZ	0.017810	0.214717	-0.378906	1.000000

Source: Researchers’ Computation, 2021

Tables 4.2 shows the correlation values that exist between the performance of the manufacturing firms measured by return on asset (ROA) and inventory management of the manufacturing firms captured by inventory turnover (INVT), inventory conversion period (INCP), and manufacturing firm size (FIRZ). Table 4.2, it was seen that a positive correlation exists between the performance of the manufacturing firms measured by return on asset (ROA) and inventory management of the manufacturing firms captured by inventory turnover (INVT) and manufacturing firm size (FIRZ), showing the correlation coefficient of 0.44 and 0.02 respectively. Also, the study revealed a negative correlation between the performance of the manufacturing firms measured by return on asset (ROA) and inventory management of the manufacturing firm captured by inventory conversion period (INCP) with correlation coefficient of -0.41. However, the table shows a negative correlation between inventory turnover (INVT) and inventory conversion period (INCP) and inventory conversion period (INCP) and manufacturing firm size (FIRZ) as a measure of inventory management of the manufacturing firms

showing correlation coefficients of 0.13 and -038 respectively. In addition, a positive correlation was discovered between the inventory turnover (INVT) and manufacturing firm size (FIRZ) as a measure of inventory management of the manufacturing firms showing a correlation coefficient given as 0.21. Thus, it can be asserted based on this result that inventory management is an engine device to drive the performance of the manufacturing firms in Nigeria.

Table 4.3: Fitted Regression Model

Variable (Dependent): ROA				
Adopted Method: Least Squares				
Sample size: 150				
Observations: 50				
Variable	Coeffic.	Standard. Error	t-Statistic	Probability.
C	26.57545	6.140033	4.328225	0.0002
INVT	2.327330	0.839347	2.772785	0.0101
INCP	-0.359304	0.135009	-2.661327	0.0132
FIRZ	0.135030	0.093523	1.443817	0.1607
R-squared	0.674433	Mean dependent var		14.97910
Adjusted R-squared	0.632252	S.D. dependent var		9.681274
S.E. of regression	8.086896	Akaike info criterion		7.141933
Sum squared resid	1700.345	Schwarz criterion		7.328759
Log-likelihood	-103.1290	Hannan-Quinn criteria.		7.201700
F-statistic	5.187426	Durbin-Watson stat		1.903440
Probability(F-statistic)	0.006080			

Source: Researchers' Analysis, 2021

The fitted model presented in table 4.3, reveal that a positive relationship exists between the performance of the manufacturing firms measured by return on asset (ROA) and inventory management captured by inventory turnover (INVT) and manufacturing firm size (FIRZ) this implies, there is a positive impact of inventory management on manufacturing firm's performance. On the other hand, a negative

Issue 4/2021

linear relationship exists between the performance of the manufacturing firms measured by return on asset (ROA) and inventory management captured inventory conversion period (INCP). The study further revealed a one percent increase in inventory management captured by inventory turnover (INVT) and manufacturing firm size (FIRZ) led to an increase of 2.33 also 0.14 percent respectively in the performance of manufacturing firms measured by return on asset (ROA). However, it was discovered that the inventory management measured by the inventory conversion period (INCP) limits the performance of manufacturing firms measured by return on asset (ROA) by 0.36 percent during the period under investigation. Thus, the result established a relationship exists between inventory management and return on asset as a measure of manufacturing firms' performance.

5.0 Findings

From Table 4.2, it was discovered that a positive correlation exists between the performance of the manufacturing firms measured by (ROA) and inventory management of the manufacturing firms captured by (INVT) and (FIRZ) showing a correlation coefficient of ($r=0.44$ and 0.02) respectively. In addition, a positive correlation was discovered between the (INVT) and (FIRZ) as a measure of inventory management of the manufacturing firms with the correlation coefficient given as ($r=0.21$). Also shows a negative correlation between the performance of the manufacturing firms measured by (ROA) and inventory management of the manufacturing firm captured by (INCP) with correlation coefficient of ($r= -0.41$). However, it was discovered that a negative correlation exists between (INVT) and (INCP) and (FIRZ) as a measure of inventory management of the manufacturing firms with the correlation coefficients of ($r= -0.13$ and -0.38) respectively. Thus, it can be asserted based on the result that inventory management is an engine device that drives the performance of the manufacturing firms in Nigeria.

However, as stated, the null hypothesis mentioned that no relationship exists between inventory management and performance of the selected quoted manufacturing firms in Nigeria, however, with table 4.2 result null hypothesis is now rejected. We now accept that there exists a relationship between inventory management and the performance of the selected quoted manufacturing firms in Nigeria.

References

- [1] Agu, A. O. (2016). *Effect of Inventory Management on the Organizational Performance of the Selected Manufacturing Firms*. 5(4), 56–69.
- [2] Akinyomi, O. J. & Tasie, C. (2011). Effects of working capital management on the profitability of Nigerian manufacturing firms. *Journal of Management and Enterprise Development*, 8(1), 57-62
- [3] Anichebe, N. A., & Agu, O.A. (2013). Effect of inventory management on organizational effectiveness, *Information and knowledge management*, 3(8), 92-100
- [4] Atnafu, D., & Balda, A. (2018). The impact of inventory management practice on firms' competitiveness and organizational performance: Empirical evidence from micro and small enterprises in Ethiopia The impact of inventory management practice on firms' competitiveness and organizational performance: Empirical evidence from micro and small enterprises in Ethiopia. *Cogent Business & Management*, 5(1), 1–16. <https://doi.org/10.1080/23311975.2018.1503219>
- [5] Bowersox, D. J. (2002). *Supply chain – Logistics management*. International edition. USA: Mc Graw Hill.
- [6] Coleman, B. (2000),” Determining the Correct Service Level Target”. *Production and Inventory Management Journal*, 41(1):169-176
- [7] Dimitrios, P. (2008). The effect of inventory management on firm performance, *International Journal of Productivity and Performance Management*, 57 (5)
- [8] Edwin S and Florence M (2015) The Effect of Inventory Management on Profitability of Cement Manufacturing Companies in Kenya: A Case Study of Listed Cement Manufacturing Companies in Kenya, *International Journal of Management and Commerce Innovations* 3(2) 111-119
- [9] Eroglu, C., & Hofer, C. (2011). Lean, leaner, too lean? The inventory-performance link was revisited. *Journal of Operations Management*, (29), 356–369
- [10] Godana B.E. and Ngugi K. (2014) Determinants of Effective Inventory Management at Kenol Kobil Limited. *European Journal of Business Management*. Vol. 1, Issue 11, ISSN 2307- 6305. <http://www.ejobm.org>. London: McGraw-Hill.
- [11] Green, K.W. Jr & Inman, R.A. (2005), “Using a just-in-time selling strategy to strengthen supply chain linkages”, *International Journal of Production Research*, 43(16). 3437-3453.
- [12] Hutchins, D. (1999). *Just in time*. UK: Gower Publishing, Ltd
- [13] Kros, J. F., Falasca, M. & Nadler, S. S. (2006). Impact of just-in-time inventory systems on OEM suppliers, *Industrial Management and Data Systems*, 106(2),224-241.
- [14] Lwika, T., Ojera, P.B., Mugenda, N.G., & Wachira, V.K. (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.

Issue 4/2021

- [15] Mogere, K., Oloko, M. & Okibo, W. (2013). Effect of Inventory management practices on Operational Performance of Tea Processing Firms: A Case Study of Gianchore Tea Factory, Nyamira County, Kenya. *The International Journal of Business & Management*, 1 (5), 12-27.
- [16] Musau, E. G., & Namusonge, G. (2017). *The Effect of Inventory Management on Organizational Performance Among Textile Manufacturing Firms in Kenya*. 7(11), 1032–1046. <https://doi.org/10.6007/IJARBSS/v7-i11/3543>
- [17] Naliaka, V. W., & Namusonge, P. G. S. (2015). *Role of Inventory Management on Competitive Advantage among Manufacturing Firms in Kenya : A Case Study of Unga Group Limited*. 5(5), 87– 104. <https://doi.org/10.6007/IJARBSS/v5-i5/1595>
- [18] Ogbadu, E. E. (2009). Profitability through effective management of materials. *Journal of Economics and International Finance*, 1(4), 099-105.
- [19] Ogbo, A.I. (2011)” Production and Operations Management”. Enugu: De-verge Agencies Ltd
- [20] Ogbo, A. I., & Onekanma, I. V. (2014). Impact of effective inventory control management on Organizational performance. *Mediterranean Journal of Social Science Asia*, Vol. 2 (1435)
- [21] Salawati, S., Tinggi, M., and Kadri, N. (2012). Inventory Management in Malaysian Construction Firms: Impact on Performance. *SIU Journal management*, 2, 59-60.
- [22] Simon, P., Limited, N. S., & Njoku, P. C. (2018). *Inventory Management and Organizational Performance (Study of Dansa Food Limited)*. December. <https://doi.org/10.13140/RG.2.2.11093.27364>
- [23] Tersine, R. J. (2009). Principles of inventory and material management, 2nd edition, North-Holland.
- [24] Wangari, K. L. (2015). *Influence of Inventory Management Practices on Organizational Competitiveness: A Case of Safaricom Kenya*. 1(5), 72–98.