

MANAGEMENT OF INVENTORY AND FIRM PERFORMANCE IN NIGERIA

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ABSTRACT

This work considered inventory management and performance of Nigeria Brewery Plc. to determine how inventory management, availability of finished goods and low levels of inventory relate with performance. Descriptive survey research design was used to study a population of 60 staff using random sampling technique and questionnaire. Statistical package for social sciences (SPSS) was employed to analyze data generated which was presented using frequency tables and percentages. The results reveal that the variable Inventory Management (IM) was insignificant with a significance value of $1.000 > 0.05$ at 5% alpha level of significance, while Availability of Finished Goods (AFG) and Low Level of Inventory (LLI) are significant with significant values of $0.005 < 0.05$, and $0.000 < 0.05$ at 5% alpha level of significance. The findings show a negative and positive relationship between the independent variables and the dependent variable. Based on these findings the study commends future researchers to carry out further investigation on inventory management and performance in this sector so as to buttress the association between inventory management and performance in the sector, set up inventory management unit in companies to monitor inventory levels so as to avoid stock out, embrace the use of a computerized inventory management system in order to reduce waste and boost performance.

Key Words: Management, Inventory, Firm Performance, Finished Goods,

Introduction

Firms take decisions steadily in handling every management task. How resources are allocated in a firm is a commonplace matter. Acquisition, apportionment and deploying factors of production have remained the bane of business management in a bid to survive and expand entrepreneurial objects (Musenga, 2005). The aim of inventory management as a control measure targets lowest cost of inventories, still maintaining uninterrupted inventory supplies in order to stabilize firm performance and be in charge of the business activities. Management of inventory guarantees stock availability by organizing materials acquisition, production and distributions functions in satisfaction of

customers' needs. The activity extends to availability of items of stock currently sold, creation of fresh items of sales goods that are obsolete and so forth.

For any cost accounting system to be efficient there must be an effective control and maintenance of inventory. Inventory is an important asset and it is the largest single item of cost in almost every business. The problem of stock control is common to all organization, though peculiar problems arise due to peculiar nature of some business without holding inventories, it is almost impossible to meet demand the moment orders are received from customers. Customers will have to wait for either their orders to be manufactured. Even the introductions of computers and scientific

management have not been able to make manufacturing and merchandizing process quickly enough to make production and delivery instantaneous (Shin, Ennis & Spurlin, 2009).

The significance of proper or efficient inventory control cannot be over emphasized. Considering the huge investment in inventory it becomes imperative to adopt an efficient inventory control system so as to determine the optimum inventory level to be maintained (Temeng, Eshun & Essey, 2010). An excessive inventory not only immobilizes capital resources but also leads to inventories recession, loss due to spoilage and occupation of storage space on the other hand, shortage or inadequate inventories results in stoppage in production thus leading to loss of sales and customers as fluctuations in supply will not augur well with them (customer) (Panigrahi, 2013). Essentially, every decision which is made in controlling inventories in any organization regardless of how complicated the inventory supply system may be is in one way or another associated with the question of when to order and how much to order.

There is no single universally accepted method of valuing inventories. Different industries adopt different method. However, the historical cost approach seems to be most widely used. Assumptions about the relative usefulness of information offered by various methods seem to be the major factor in choosing between alternative methods of inventory valuation. In an inflationary environment like ours, there is the need to adopt a realistic inventory valuation method in order to give a correct value of inventory in the profit and loss account and statement of financial position. This becomes imperative because a deficient method will depict an inaccurate financial position of the organization and thus negating the primary

purpose of accounting i.e. provision of accurate financial information to investors, shareholders, management, government, regulatory agencies and other interested parties in order to aid them make a sound decision regarding the organization (Akinyomi, 2014).

Statement of the Problem

In Nigeria today, the downfall of every business is usually attributed to poor management and control of its resources (Assets) (Osinbajo, 2017).

Inventories which usually account for a substantial percentage of the typical industrial firm assets pose a great challenge and problem to management as to how to effectively manage and control them to allow business to operate competitively (Oforun, 1994).

In many companies, production disruptions, expensive production runs, high storage cost, frequent stock out situation, high capital tied up in inventory, high premiums freight cost, obsolescence etc, are all as a result of inefficient and ineffective inventory control system. This problem are also aggregated by the fact that the sources of raw materials are external and thus companies face problems of foreign exchange, licensing and import duty compounded by inflation. This then results in higher procurement cost and higher uncertainty in the availability of such important components as spare parts, packaging materials and other base raw materials (Bertolini & Rizzi 2002).

Inventories constitute a significant part of the company assets and each inventory item has its own characteristic in terms of cost, usage, unique production and dozens of other qualities. This study tends to fill the gap by empirically reviewing the benefits associated with the adoption of inventory management as a control measure in manufacturing company.

Objectives of the study

The major objective of this study is to look at inventory management and performance of the Nigeria Brewery Plc. Specific objectives of this study are as follows: -

- i. To determine how inventory management associates with performance in Nigeria Brewery PLC.
- ii. To establish the relationship between availability of finished goods and performance in Nigeria Brewery PLC.
- iii. To investigate the relationship between low levels of inventory and performance in Nigeria Brewery PLC

Research Questions

The following questions will direct this research in addressing the set objectives:

- i. How does inventory management associates with performance in Nigeria Brewery PLC?
- ii. What is the relationship between availability of finished goods with performance in Nigeria Brewery PLC?
- iii. Does low level of inventory have any relationship with performance in Nigeria Brewery PLC?

Statement of Hypotheses

- H₀₁:** Inventory Management (IM) has no significant association with performance of Nigeria Brewery PLC.
- H₀₂:** Availability of Finished Goods (AFG) has no significant relationship with performance of Nigeria Brewery PLC.
- H₀₃:** Low Level of Inventory (LLI) has no significant relationship with performance of Nigeria Brewery PLC.

Review of Literature

Conceptual Framework

Inventory

Inventories are vital to the victorious functioning of producing businesses. This is due to the fact that many firms maintain inventories as part of their trade operation. Inventories make up probably the most massive part of present property of most firms specifically the manufacturing businesses. The necessity for administration to ensure inventory management is appropriately managed cannot be over emphasized. An organization neglecting inventory management will probably be jeopardizing its longer term profitability and it may become failing in its trade (Ochieng, 2007). Inventory can be outlined as a tangible property held for resale within the average course of business, to be consumed within the construction of goods and services. It can be held within the store house and stock yards, the bulk of which is mostly intended for the reference to production or operation activities and also completed merchandise looking forward to be dispatch to purchasers.

Performance

The purpose of some organizations has remained the maximization of profits (Niresh & Velnampy, 2014). According to Pandey (2004), maximization of profit is a prerequisite for organizations in pursuant of sustained promoters', investors' and management interests. Performance suggests the capacity of an organization to earn incomes through management of its assets within explainable time frame (Farah & Nina, 2016). Productivity, represented by performance, involves the potentials to add values to the entire business worth of an institution, corporation or company (Muya & Gathogo, 2016). Profit ordinarily acts as the entrepreneur's reward for his/her investment. Actually, revenue is the

important motivator of an entrepreneur for doing business. Profit can also be used as an index for efficiency measuring of a business (Ogbadu, 2009). Profit is the change between earnings acquired from revenue and total bills which entails material bills, labour and many others (Stierwald, 2010).

Anene, (2014) avers that performance can also be expressed either as accounting profit or monetary profit and it is the main intention of an industry enterprise. Performance portrays the effectiveness of the management in changing the organizations' assets to earnings (Muya & Gathogo, 2016). Accordingly, companies are prone to achieve quite a few advantages in terms of enhanced performance (Niresh & Velnampy, 2014).

A predominant necessity of sustained business life and enduring success of a company equals effectiveness. Performance pulls promoters' interests and drives continuity (Farah & Nina, 2016). Some companies endeavour to increase their profitability spending countless hours on conferences to ensure reduces costs-effectiveness and widen their profitability margin (Schreibfeder, 2006). Profitability is a performance metric that reports on a firm's extent of value addition which is represented by Earnings Per Share (EPS).

In accounting theory, profitability shows the surplus of income over expense for a specified duration that represent earning of entities from the various activities they perform in a growing economy (Tariq, Muhammad, Haseeb, Inam, & Imran 2014).

Performance is generally measured using accounting ratios with the commonly used profitability ratio being Return on Assets (ROA). Return on Assets determines the amount of the profit earned per shilling of assets. This reflects the efficiency with which the manufacturing company uses its resources to create wealth

(Sehrish, Irshad & Khalid, 2010). Return on Assets basically shows how effective and efficient management has increased shareholders' wealth.

Management of Inventory

Management of inventory is the maintenance of the company's stock cost effectively without sacrificing the set goals (Kwadwo, 2016). It involves organized efforts aimed to plan, coordinate, control and direct affairs of an entity operations efficiently in matters of inventory procurement, transportation and holding (Akindipe, 2014).

Management of inventory is the whole lot of guaranteeing materials input, in keeping with uninterrupted production and achievement of reduced costs without expending qualitative operations (Eneje, Nweze, & Udeh, 2012). This is for the reason that extra or shortage of this will likely convey risk against the organization (Duru, Oleka & Okpe, 2014).

Management of inventory is targeting cost reduction while determining operational level of inventory to be ordered, regularity of orders, avoidance of unnecessary storage costs and ensuring uninterrupted production flow (Anene, 2014). Excessive inventory use up a variety of space, can result in spoilage, attract extra financial load or risk while inadequate inventory can interrupt productions. The art of managing inventory plans purchases to assure materials availability and usage at the right time.

Inventory management is primary to a business considering the fact that it performs a decisive function to increase effectiveness and give a boost to the firm's competitive potential against competitors. Effective inventory management is all about holding the proper quantity of inventory required by the business at any point in time.

Theoretical Framework

The Theory of Economic Order Quantity

Haris (1913) propounded EOQ which evaluates

the optimum stock limit. The theory The Economic Order Quantity (EOQ) theory was propounded by Harris in 1913 to determine the Optimum Inventory Level. An optimal level where the cost of holding and ordering inventory are reduced to its barest minimum cost is the Economic Order Quantity (Lwika, Ojera, Mugenda & Wachira, 2013). Theory of EOQ assesses the most beneficial ordering size in a way to reduce carrying and ordering cost (Ziukov, 2015). EOQ theory stipulates that demand is the total annual quantity demanded by the company (Milicevic, Davidovic & Stefanovic, 2010). The theory reflects a trade-off between the cost of storing inventory and when to place an order to replenish stock. The regularity of order classically decreases for reason of higher quantum of inventory requested resulting in decreased cost of ordering even though cost of storage may increase necessitating more space costs (Schwarz, 2008). As some costs of holding inventory declines, other carrying costs increase (Lwika, et al, 2013). The point where carrying cost and ordering cost equate themselves is the EOQ. At this point, curve of ordering cost intersects line of carrying cost.

Empirical Literature Review

Naliaka and Namusonge (2015) investigated the effect on competitive advantage of manufacturing firms in Kenya by inventory management and found system of inventory management, information technology and lead time to be key factors. The study showed system of inventory control, information technology, lead time and pattern of inventory control to be central in achieving competitive advantage in Kenya companies.

Sitienei and Kioko (2015) considered outcome of managing inventories and performance using the

template of Kenya companies manufacturing cement. Secondary data used between 2000 and 2014 revealed inventory conversion period to associate with performance whereas period of receipt had no significant association. It was however, documented that leverage and firm size affect performance.

Ashok (2013) investigated the existence of relationship between inventory management and how profitable an enterprise is, in the context of organization under cement sector in India. The dependent variable in the investigation, earnings prior to interest as well as tax was employed as a proxy for profitability and the existence of any significant relationship between inventory management and how profitable a company becomes was conducted using five leading cement manufacturing organization in India. The investigation applied regression analysis in ascertaining the effect of stock conversion period on profit before interest and tax. The result indicated the existence of a statistically significant but negative linear relationship between stock conversion period and profit before interest and tax. The investigation reveals that how profitable an organization becomes has a statistically negative relationship with inventory management. Moreover, the result indicated the presence of a significant positive association between profitability and organization size. Nevertheless, the investigation reported the existence of a negative relationship between current ratio and profit before interest and tax.

Nwosu (2014) worked on material management and performance of Nigeria brewery. The study used 368 companies employing questionnaire and oral interviews in collecting information. Procurement and storage of materials were confirmed to be relevant in enhancing profitability of brewing companies. Interdepartmental

collaboration significantly contributed to the profitability of brewing firms. The study concludes effective materials management indispensable to brewing firms in making profits. Raheman and Nasr (2007) conducted an investigation on the effects of inventory turnover in days on the net operating profitability in Pakistan. The study comprised of 94 companies in Pakistan for a time-lag of 6 years ending 2004. Result of the regression conducted revealed a negative association connecting stock transformation periods and financial performance of the companies. It was also revealed that if inventory transformation period goes up, it will result in a reduction in the earnings of the organizations. Thus, organizational management can generate additional value for the business owners through the reduction of the inventory transformation periods to least amount.

From the previous empirical studies done, it can be concluded that most researches relating to this study specifically covers the management of inventory and its effect on competitive advantage and long run business objective. The gap in literature is located on the point that none of the past work concentrated exactly on management of inventory and firm performance using the variables considered by this study; hence, the logic of the study.

Methodology

Descriptive survey was used to study the research problem because it was viable to gather data from a sizable population in an economic and effective way and involves data collection in a natural setting. The study elicited the opinion of the staff of Nigeria Brewery PLC involving the population of sixty employees from the production department, sales department and the logistic department using random sampling.

The sample of this research is calculated by using the formula developed by Taro Yamane formula was employed with 95% confidence level. Thus,

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- n = Required sample size
- e = Level of significance (0.05)
- N = Total population
- 1 = Constant

Therefore, n = ?

$$N = 60$$

$$e = 0.05$$

$$\begin{aligned} n &= \frac{60}{1 + 60(0.05)^2} \\ &= \frac{60}{1 + 60(0.0025)} \\ &= \frac{60}{1 + 0.15} \\ &= \frac{60}{1.15} = 52 \end{aligned}$$

Therefore, a sample size of 52 was used.

Allocation of questionnaire for each department:

Bowley's proportional allocation technique was used to determine the total sample size that was drawn from each of the selected departments. Thus,

$$n_h = \frac{n \times N_h}{N}$$

Where: n_h = Number of unit to be allocated to each stratum

n = Total sample size

N_h = Total number of elements in each stratum

N = Total population of the study

LOGISTIC DEPARTMENT

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

SALES DEPARTMENT

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

PRODUCTION DEPARTMENT

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

Operationalization of Variable Hypothesized

The variables for the study are the independent and dependent variable, derived from the research objective and formulated hypotheses, thus:

$$Y = f(X)$$

Where,

Y = Dependent Variable (Performance)

X = Independent Variable (Inventory Management)

PRT = f(IM, AFG, LLI) Where;

PRT = Dependent Variable (Performance)

IM = Independent Variable (Inventory Management)

AFG = Availability of Finished Goods

LLI = Low Level of Inventory

Model Specification

$$PRT = \beta_0 + \beta_1 IM + \beta_2 AFG + \beta_3 LLI + \mu$$

Where,

PRT = Performance

IM = Inventory Management

AFG = Availability of Finished Goods

LLI = Low Level of Inventory

μ = Error Term

DATA PRESENTATION

Table 1: Inventory Management and performance

S/N	STATEMENTS	SA	A	U	SD	D
1	Inefficient inventory management causes low profitability in Nigeria Brewery Plc.	20 (38.5%)	13 (25%)	10 (19.2%)	2 (3.8%)	7 (13.5%)
2	The size of inventory does not associate with profitability in Nigeria Brewery Plc.	17 (32.7%)	15 (28.8%)	8 (15.4%)	10 (19.2%)	2 (3.8%)
3	Ineffective inventory management leads to idle time in Nigeria Brewery Plc.	24 (46.2%)	18 (34.6%)	7 (13.5%)	1 (1.9%)	2 (3.8%)
4	Inadequate use of inventory management leads to inappropriate use of factors of production.	20 (38.5%)	21 (40.4%)	8 (15.4%)	0 (0%)	3 (5.8%)
5	A significant number of inventory managers do not apply the Economic Order Quantity (EOQ) and Lean theories in making inventory decisions	22 (42.3%)	15 (28.8%)	5 (9.6%)	7 (13.5%)	3 (5.8%)

Source: Field Study, 2019

Table 1 above shows the association between inventory management and performance. It can be deduced from the table that there is an association between inventory management and performance and this can be seen from the various percentage of all the statement as they are all not less than 50%. This concludes that inefficient inventory management causes low profitability in Nigeria Brewery Plc (63.3%), size of inventory does not associate with profitability in Nigeria Brewery Plc (61.5%), that ineffective inventory management leads to idle time in Nigeria Brewery Plc (80.0%), inadequate use of inventory management leads to inappropriate use of factors of production in Nigeria Brewery Plc (78.9%) and a good number of inventory managers do not apply the Economic Order Quantity (EOQ) and Lean theories in making inventory decisions (71.1%).

Table 2: Availability of Finished Goods and performance

S/N	STATEMENTS	SA	A	U	SD	D
1	Insufficient inventory of finished goods causes loss of sales to Nigeria Brewery Plc.	15 (28.8%)	18 (34.7%)	8 (15.4%)	5 (9.6%)	6 (11.5%)
2	Insufficient inventory of finished goods have no relationship with the level of sales in Nigeria Brewery Plc.	18 (34.7%)	14 (26.9%)	6 (11.5%)	8 (15.4%)	6 (11.5%)
3	Insufficient inventory of finished goods generally does not have any relationship on sales of Nigeria Brewery Plc.	23 (44.2%)	19 (36.5%)	4 (7.7%)	3 (5.8%)	3 (5.8%)
4	Inadequate inventory of finished goods does not disrupt customer's satisfaction level.	3 (5.8%)	6 (11.5%)	9 (17.3%)	17 (32.7%)	17 (32.7%)
5	Nigeria Brewery's sales can be boosted by implementing sound inventory management system.	23 (44.2%)	18 (34.7%)	2 (3.8%)	6 (11.5%)	3 (5.8%)

Source: Field Study, 2019

Table 2 above displays the overall relationship between availability of finished goods and performance. Having that all the statements are very significant and their percentage above 50%, we conclude that insufficient inventory of finished goods cause loss of sales to Nigeria Brewery Plc with 63.5% significance level. Also from the table it can be deduced that insufficient inventory of finished goods have no relationship with the level of sales in Nigeria Brewery Plc (61.6%), insufficient inventory of finished goods generally does not have any relationship on sales of Nigeria Brewery Plc (80.7%), and they disagreed that inadequate inventory of finished goods does not disrupt customer's satisfaction level (65.4%) and finally that sales can be boosted by implementing sound inventory management system in Nigeria Brewery Plc (78.9%).

Table 3: Low level of Inventory and performance

S/N	STATEMENTS	SA	A	U	SD	D
1	Low level of inventory have a relationship with the profitability of Nigeria Brewery Plc.	20 (38.5%)	12 (23.1%)	10 (19.2%)	6 (11.5%)	4 (7.7%)
2	Adoption of a sound inventory management system leads to reduction in total inventory associated cost.	16 (30.8%)	24 (46.2%)	5 (9.6%)	5 (9.6%)	2 (3.8%)
3	Proper inventory management enables the company to utilize their resources more efficiently.	24 (46.2%)	18 (34.6%)	5 (9.6%)	3 (5.8%)	2 (3.8%)
4	Constant monitoring of inventory level enhances the company's level of profitability.	19 (36.5%)	18 (34.6%)	6 (11.5%)	5 (9.6%)	4 (7.7%)
5	Proper understanding of inventory management enables the company to formulate profitable strategies.	21 (40.4%)	18 (34.6%)	7 (13.5%)	3 (5.8%)	3 (5.8%)

Source: Field Study, 2019

Table 3 above, indicates that the acceptance level of each of the factors leading to the relationship that exist between low level of inventory and profitability in Nigeria brewery Plc is above average (>50%). This indicates low level of inventory have a relationship with the profitability of Nigeria Brewery Plc. Adoption of a sound inventory management system leads to reduction in total inventory associated cost. Proper inventory management enables the company to utilize their resources more efficiently. And that proper understanding of inventory management enables the company to formulate profitable strategies.

Testing of Hypotheses

To test the hypotheses of this research work, the Pearson's correlation statistical analysis was employed.

Decision Rule: When making use of correlation, the range of values of the correlation coefficient (r) is -1.0 to 1.0 value to be gotten cannot exceed 1.0 or be less than -1.0. At 1.0, there is an indication of a perfect positive correlation (Accept H_0). While at -1.0 there is a perfect negative correlation. Whenever (r) is less than zero, there is a negative relationship. (Reject).

Descriptive Statistics**Table 4: Descriptive Statistics****Descriptive Statistics**

	Mean	Std. Deviation	N
Profitability	3.0000	1.44338	25
Inventory Management	10.4000	7.52773	25
Availability of Finished Goods	10.4000	6.94022	25
Low Level of Inventory	10.2800	7.80769	25

Source: IBM SPSS Version 20

The mean values of the variables are 3.0000, 10.4000, 10.4000 and 10.2800 respectively while the standard deviations are 1.44338, 7.52773, 6.94022 and 7.80769. High standard deviation depicts that the data is spread widely around the mean (less reliable) whereas low standard deviation shows that the data are clustered closely around the mean (more reliable). From the above table 8, it can be deduced that the data for the study is suitable and reliable.

Hypotheses One: Inventory Management (IM) has no significant association with performance of Nigeria Brewery PLC.

Table 5**Correlations**

		Performance	Inventory Management
Performance	Pearson Correlation	1	.000
	Sig. (2-tailed)		1.000
	N	25	25
Inventory Management	Pearson Correlation	.000	1
	Sig. (2-tailed)	1.000	
	N	25	25

Source: IBM SPSS Version 20

Interpretation

The correlation table 5 above shows correlation coefficient of 0.000 meaning that there is no association between Inventory Management (IM) and performance in Nigeria Brewery. The significant value of $1.000 > 0.05$ at 5% alpha level implies that Inventory Management has no statistically significant association with performance in Nigeria Brewery. There is enough evidence to accept the null hypothesis which says that Inventory Management (IM) has no

significant association with performance in Nigeria Brewery PLC. By this the objective question one has been achieved and the research question one answered.

Hypothesis Two

H₀: Availability of Finished Goods (AFG) has no significant relationship with performance of Nigeria Brewery PLC.

Table 6**Correlations**

		Performance	Availability of Finished Goods
Performance	Pearson Correlation	1	-.541**
	Sig. (2-tailed)		.005
	N	25	25
Availability of Finished Goods	Pearson Correlation	-.541**	1
	Sig. (2-tailed)	.005	
	N	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

Source: IBM SPSS Version 20

Interpretation

From the above table 6, it can be seen that the correlation coefficient (r) of -0.541 shows a strong but negative correlation between availability of finished goods (AFG) and performance in Nigeria Brewery. The significant value of $0.005 < 0.05$ show a statistically significant relationship. The null hypothesis stands rejected, which says that availability of Finished Goods (AFG) has no significant relationship with performance in Nigeria Brewery PLC. Therefore, there is enough reason to accept the alternative hypothesis that there is a significant relationship between availability of finished goods (AFG) and performance in Nigeria Brewery PLC. The objective two is hereby achieved and research question two answered.

Hypothesis Three

H₀: Low Level of Inventory (LLI) has no significant relationship with performance of Nigeria Brewery PLC.

TABLE 7**Correlations**

		Performance	Low Level of Inventory
Performance	Pearson Correlation	1	-.902**
	Sig. (2-tailed)		.000
	N	25	25
Low Level of Inventory	Pearson Correlation	-.902**	1
	Sig. (2-tailed)	.000	
	N	25	25

**_. Correlation is significant at the 0.01 level (2-tailed).

Source: IBM SPSS Version 20

From the above table 7 it is noted that the correlation coefficient (r) of -0.902 shows a strong but negative correlation between low level of inventory and performance in Nigeria Brewery. The significant value of $0.000 < 0.05$ show a statistically significant relationship. The null hypothesis stands rejected, which says that Low Level of Inventory (LLI) has no significant relationship with performance in Nigeria Brewery PLC. Therefore, there is enough reason to accept the alternative hypothesis that there is a significant relationship between Low Level Inventory (LLI) and performance in Nigeria Brewery PLC. The objective three is hereby achieved and research hypothesis question three answered.

Result and discussion of findings

The correlation table 5 above displays the correlation coefficient of 0.000, meaning that there is no association between Inventory Management (IM) and performance in Nigeria Brewery. The significant value of $1.000 > 0.05$ at 5% alpha level implies that Inventory Management has no statistically significant association with performance in Nigeria Brewery. There is enough evidence to accept the null hypothesis which says that Inventory Management (IM) has no significant association with performance in Nigeria Brewery PLC. From the above table 6, it can be seen that the correlation coefficient (r) of -0.541 shows a strong

but negative correlation between availability of finished goods (AFG) and performance in Nigeria Brewery. The significant value of $0.005 < 0.05$ show a statistically significant relationship. The null hypothesis stands rejected, which says that availability of Finished Goods (AFG) has no significant relationship with performance in Nigeria Brewery PLC. Therefore, there is enough reason to accept the alternative hypothesis that there is a significant relationship between availability of finished goods (AFG) and performance in Nigeria Brewery PLC.

From the above table 7 it is noted that the correlation coefficient (r) of -0.902 shows a strong but negative correlation between low level of inventory and performance in Nigeria Brewery. The significant value of $0.000 < 0.05$ show a statistically significant relationship. The null hypothesis stands rejected, which says that Low Level of Inventory (LLI) has no significant relationship with performance in Nigeria Brewery PLC. Therefore, there is enough reason to accept the alternative hypothesis that there is a significant relationship between Low Level Inventory (LLI) and performance in Nigeria Brewery PLC.

The three hypotheses tested were found to show that Inventory Management (IM), has no association with performance in Nigeria Brewery with a significance value of $1.000 > 0.05$ at 5% alpha level of significance. Availability of Finished Goods (AFG) and Low Level of Inventory (LLI) are all significant with significant values of $0.005 < 0.05$, and $0.000 < 0.05$ at 5% alpha level of significance. The findings also show a perfect negative relationship between the two independent variables and the dependent variable. This implies that the company should monitor these variables critically in order to ensure enhanced profitability as a management objective

Conclusion/Recommendations

The study concludes that IM, AFG and LLI impact performance in Nigeria Brewery PLC. Therefore, these impactful variables should be noted with high sense of objectivity to ensure sustained and improved performance. It recommends proper control of inventory to avoid wastes and commandeer efficiency, effectiveness and increased profitability. Trained experts should be engaged to obliterate the concept of stock-out and imbibe modern technological devices to reduce costs and ensure adequate level of stock using effective flow of information.

References

- Adeniji, A. A. (2009). Cost accounting: A managerial approach. *Value Analyses Consult*, Lagos.
- Akindipe, O. S. (2014). Inventory Management – A Tool for Optimal Use of Resources and Overall Efficiency in Manufacturing SMEs. *Journal of Entrepreneurship Management and Innovation*, 10(4), 93-113.
- Akinyomi, O. J. (2014). Effect of inventory management on profitability of Nigeria manufacturing sector. *International Journal of Management and Accounting Services*, 1(1)
- Anene, E. C. (2014). What Difference Does Inventory Control Make In Typical Small Scale Farms' Profitability? *International Journal of Management Sciences and Business Research*, 3(10), 1–4
- Bertolini M & Rizzi A. A. (2002). Simulation approach to manage finished goods inventory replenishment economically in a mixed push / pull environment, 15(4), 1-2.
- Bentum, W. (2012). The Determinants of Profitability of the Commercial Banks in Ghana during the Recent Years of Global Financial Crisis. *Master Thesis*, Aarhus University
- Duru, A. N., Oleka, C. D. & Okpe, I. (2014). Inventory Management on the Profitability of Building Materials, Chemical, and Paint Companies in Nigeria. *World Journal of Management and Behavioral Studies*, 2 (2), 21-27
- Eneje, B. C., Nweze, A. & Udeh, A. I. (2012). Effect of Efficient Inventory Management on Profitability: Evidence From of Selected Brewery Firms in Nigeria. *International Journal of Current Research*, 4(11), 350-354
- Farah, M. & Nina, S. (2016). Factors Affecting Profitability of Small Medium Enterprises (SMEs) Firm Listed in Indonesia Stock Exchange. *Journal of Economics, Business and Management*, 4(2), 132-137.
- Kwadwo, B. P. (2016). The Impact of Efficient Inventory Management on Profitability: Evidence from Selected Manufacturing Firms in Ghana. *International Journal of Finance and Accounting*, 5(1), 22-26
- Lwiki, 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
- Majed, A. M. K., Said, M. A. & Firas, N. D. (2012). The Relationship between the ROA, ROE and ROI Ratios with Jordanian Insurance Public Companies Market Share Prices. *International Journal of Humanities and Social Science*, 2(11), 115–120
- Milicevic, N., Davidovic, M. & Stefanovic, M. (2010). Financial Effects of Inventory Management in Trading Companies - EOQ Model. *Economics and Organization*,

- 9(4), 507–519.
- Mugenda, O., & Mugenda, A. (1999). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: ACTS Press.
- Mugo, S.N. (2015). *Innovations and Performance of Kenya's Wine Industry*. An unpublished MBA project, University of Nairobi.
- Muhayiman, V. (2015). Inventory Management Techniques and Its Contribution on Better Management of Manufacturing Companies in Rwanda: Case Study: Sulfo Rwanda Ltd. *European Journal of Academic Essays*, 2(6), 49-58
- Musenga F. M. (2005). Inventory management as a determinant for improvement of customer service. University of Pretoria
- Muya, T. W. & Gathogo, G. (2016). Effect of Working Capital Management on the Profitability of Manufacturing Firms in Nakuru Town, Kenya. *International Journal of Economics, Commerce and Management*, 4(4), 1082–1105
- Naliaka, V.W. & Namusonge, G. S. (2015). Role of Inventory Management on Competitive Advantage among Manufacturing Firms in Kenya: A Case Study of Unga Group Limited. *International Journal of Academic Research in Business and Social Sciences*, 5(5), 87-104
- Niresh, J. A. & Velampy, T. (2014). Firm Size and Profitability: A Study of Listed Manufacturing Firms in Sri Lanka. *International Journal of Business and Management*, 9(4), 57–64.
- Nwosu, H. E. (2014). Materials, Management and Firm's Profitability. *The International Journal of Business & Management*, 2(7), 80-93.
- Ochieng, J. A. (2007). Relationship between Working Capital of Firms listed in Nairobi Stock Exchange and Economic Activities in Kenya. *Unpublished MBA Project, University of Nairobi*.
- Oforum C. O. (1994). **Inventory Management and Manufacturing Companies: A case study of the Nigerian Cement company Nkalagu.**
- Ogbadu, E. E. (2009). Profitability through Effective Management of Materials. *Journal of Economics and International Finance*, 1(4), 99-105
- Ogbu, O. B. (2008). Evaluation of Usefulness of Inventory Management: A case study of some selected Beverage companies.
- Ogbo, A. I., Onekanma, I. V. & Ukpere, W. I. (2014). The Impact of Effective Inventory Control Management on Organizational Performance: A Study of 7up Bottling Company Nile Mile Enugu, Nigeria. *Mediterranean Journal of Social Sciences*, 5(10), 109–118.
- Osinbajo, Y. (2017). *Vanguard Nigeria Newsletter*. Retrieved from <http://www.Vanguardngr.com/2017/11>.
- Pandey, I.M. (2004). *Financial Management*. London: Mordem Printers.
- Panigrahi, A. K. (2013). Relationship between Inventory Management and Profitability: An Empirical Analysis of Indian Cement Companies. *Asia Pacific Journal of Marketing & Management Review*, 2(7), 107–120
- Saunders, Lewis and Thornhill, (2003) *Organizational justice and management of change* 32(3) 360-375.
- Schreibfeder, J. (2006). Inventory Management: Analyzing Inventory to Maximize Profitability. Effective Inventory Management, Inc.
- Schwarz, L. B. (2008). The Economic Order-Quantity (EOQ) Model. Purdue University
- Sharma, S. C. (2000). Materials Management and Materials handling, *Nai sarak Delhi*: Khanna Publishers. 1008 P.
- Shin, S., Ennis, K. L. & Spurlin, W. P. (2015).

- Effect of Inventory Management Efficiency on Profitability: Current Evidence from the U.S. Manufacturing Industry. *Journal of Economics and Economic Education Research*, 16(1), 1-15
- Sehrish, G., Faiza, I. & Khalid, Z. (2011). Factors Affecting Bank Profitability in Pakistan. *The Romanian Economic Journal*, 14(39), 61 - 87
- Sitienei, E. K. & Kioko, C. W. (2015). The Effect of Working Capital Management on Profitability of Cement Manufacturing Companies in Kenya. *IOSR Journal of Economics and Finance*, 6(6), 53-61
- Stierwald, A. (2010). Determinants of Profitability: An Analysis of Large Australian Firms. Melbourne Institute Working Paper No. 3/10. The University of Melbourne
- Swaleh, L. A. & Were, S. (2014). Factors Affecting Effective Implementation of Inventory Management Systems in the Public Sector (A Case Study of National Aids Control Council). *International Journal of Social Sciences Management and Entrepreneurship*, 1(2), 17-32.
- Tariq, W., Muhammad, U., Haseeb, Z., Inam, A. & Imran A. (2014). Determinants of Commercial Banks Profitability: Empirical Evidence from Pakistan. *International Journal of Accounting and Financial Reporting*, 4 (2), 1- 22.
- Temeng, V.A., Eshun, P.A., & Essey, R.K. (2010). Inventory Management, *International Research Journal on Finance and Economics*, 1(2), 1-7.
- Udeh, M., Elaigwu, C. O., & Olotu, O. A. (2018). Economic analysis of soya beans marketing in Benue state, Nigeria. *Academy of Agriculture Journal*, 3(6), 469-478.
- Ziukov, S. (2016). A Literature Review on Models of Inventory Management under Uncertainty. *Business Systems and Economics*, 5(1), 26-35