INVENTORY MANAGEMENT AND PROFITABILITY OF LISTED HOSPITALITY COMPANIES IN NIGERIA

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ABSTRACT

This study examined inventory management and profitability of listed hospitality companies in Nigeria. The study adopted longitudinal research designed based on analytical review of the financial statements of the sampled hospitality companies listed on the Nigerian Stock Exchange. The technique of estimation used in this study is panel data. The analysed data spanned a ten- year period of 2008-2017. Statistical analyses of the secondary data were done using descriptive statistics while the hypotheses were tested using Pearson's product moment correlation coefficient and multiple regression analysis of ordinary least square technique (OLS) at 0.05 level of significance. The study found among others that there is a relationship between inventory management and profitability of listed hospitality companies in Nigeria; that there is a significant relationship between inventory management and earnings per share (EPS); and that there is a significant positive effect of inventory management on Dividend per Share (DPS). The study concluded that inventory management has influence on the profitability of listed hospitality companies in Nigeria. The study recommended that Companies within the hospitality industry should intensify effort in managing their inventory in order to experience more positive impact on profitability thereby leading to increase in Earnings per share (EPS) and Dividend per share (DPS).

KEYWORDS: *Inventory Management, Profitability, Listed, Hospitality Companies*

INTRODUCTION

In the present day Nigeria, there is more attention on job creation particularly in the private sector (Emefiele, 2017). This has brought the hospitality industry into the lime light. Hotels, tourist centres and rest houses are a major feature of the hospitality industry in Nigeria. It therefore becomes imperative to study how inventory is managed in this type of organisation.

The viability of an organisation can be enhanced through an effective and efficient management of material resource otherwise known as inventory. Inventory implies physical stock of goods, which are held in business for smooth and efficient operations at the minimum possible cost (Tom-Jose, Akhilesh & Sijo, 2013). Inventory can also be referred to, as the value or quantity of raw materials, supplies, work in progress (WIP) and finished stock that are kept or stored for use as need arises (Lysons & Gillingham, 2003). Stock otherwise known as inventory constitutes a substantial proportion of the current asset group. It represents investments made for obtaining a return (Duru, Oleka & Okpe, 2014). This may explain why decision makers in organisations irrespective of their size and structure pay serious attention to management of their inventory. Inventory is considered an important decision area by managers and business owners because it often constitutes a significant portion of total current assets (Moore, Lee & Taylor, 2003; Sawaya & Giauque, 2006).

The importance of inventory management in present day business cannot be over emphasised

because of the direct relation it bears on efficiency and profit (Coyle, Bardi & Langley, 2003; Koin, Newell, & Mwangangi, 2014). Inventory management allows business entities to maintain stock at the possible least cost level that is consistent with organisational objectives (Kwadwo, 2016). Apart from cost minimization, adequate inventory management prevents interruption of business due to delay in acquiring required items of inventory (Eneje, Nweze & Udeh, 2012). Profitability refers to the ability of an entity to increase its net worth through profitable operations. The profitability shows the ability of a firm to generate earnings from the use of its assets for a certain period of time (Farah & Nina, 2016). Profit is the difference between revenue received from sales and total costs which includes material costs, labour, and overhead (Stierwald, 2010). The goal of most organisations is profit maximisation (Niresh & Velnampy, 2014). Panigrahi (2013) opined that inadequate inventory tends to have a potential adverse effect on the smooth running of the business, while excess inventory involves extra cost, which may reduce the firm's profits.

Inventory management policies and procedures are normally designed to ensure that a firm or an organization uses its inventory in a way that it is able to maximize its profit from the least inventory investment amount without encroaching or affecting customer's levels of satisfaction (Anene, 2014). Inventory constitutes a large portion of total investment, it is vital that a firm adapts a good inventory management system to enable firm's growth and enhancement of firm's profitability (Anichebe & Agu, 2013).

STATEMENT OF THE PROBLEM
Ideally, organisations are expected to properly manage their inventories in order to witness efficiency and effectiveness in operations which lead to an increase in profit. Many organisations oftentimes claim to manage their inventories effectively but despite their claims, a lot of problems still persist which include; stock out, decline in productivity and profitability, customer dissatisfaction (Agu, Obi-Anike & Eke, 2016). As noted by Panigrahi (2013), inadequate inventory tends to have a potential adverse effect on the smooth running of the business, while excess inventory involves extra cost, which may reduce the firm's profits.
Investment in inventories constitutes the most significant part of current assets in most business undertakings (Tom-Jose *et al.,* 2013**).** This will naturally require a huge volume of resource commitment in order to guarantee smooth flow of production/operations as well as meeting the demand of

consumers. Therefore, there is a need to study the relationship between inventory management and profitability in an organisation. Profitability will enhance good earnings per share (EPS) as well as a better dividend per share (EPS) which are of most interest to the shareholders.

Previous studies on inventory management focused mostly on manufacturing industries like Cement industry and breweries. Researchers such as Nwosu (2014), Kariuki (2013) and Panigrahi (2013) examined various problems associated with inventory management such as material procurement, storage; stock-out and unpredictable change in prices and conversion period in breweries and cement industry respectively. There was a neglect of the hospitality industry; also, the cost of the components of inventory such as (Foods and beverages, Maintenance supplies, Operating supplies, and General stores) was not considered, hence, the rationale for this study.

Considering the link that profitability has with Earnings per Share (EPS) and Dividend per Share (DPS) as indicators of efficient and effective management of any organization, this necessitated the use of these two proxies to measure the dependent variables in this study contrary to what was obtainable in the similar studies carried out by previous researchers. This study therefore attempts to fill this gap by examining inventory management and profitability of listed hospitality companies in Nigeria.

RESEARCH QUESTIONS
The study addressed the following questions:
i.   What is the relationship between inventory management and Earnings Per Share (EPS) of listed hospitality companies in Nigeria?
ii   What is the effect of inventory management on Dividend Per Share (DPS) of listed hospitality companies in Nigeria?

OBJECTIVES OF THE STUDY
The broad objective of this study is to examine inventory management and profitability of listed hospitality companies in Nigeria.   The specific objectives of the study are to:
i.   examine the relationship between inventory management (food and beverages cost, maintenance supplies cost, operating supplies cost, and general stores cost) and Earnings Per Share (EPS) of listed hospitality companies in Nigeria
ii   analyse the effect of inventory management (food and beverages cost, maintenance supplies cost, operating supplies cost, and general stores cost) on

Dividend Per Share (DPS) of listed hospitality companies in Nigeria

RESEARCH HYPOTHESES

The following null hypotheses were formulated for the study;

Ho_1 There is no significant relationship between inventory management and Earnings Per Share (EPS) of listed hospitality companies in Nigeria

Ho_2 There is no significant effect of inventory management on Dividend Per Share (DPS) of listed hospitality companies in Nigeria

SIGNIFICANCE OF THE STUDY

This study is significant because it will stimulate awareness of the need for efficient inventory management in order to maximise its benefits on profitability.   The study contributed to existing literature in the area of inventory management and profitability in hospitality industry in Nigeria.

Also, students and researchers will find the methodological approach of this study useful in carrying out similar studies in future. That is, the study will be a reference point for related studies which students and other researchers may embark upon.

SCOPE AND LIMITATION OF THE STUDY

This study covers the period of 10 years from 2008-2017 and cut across five listed companies in hospitality industry from the Nigerian Stock Exchange (NSE). The choice of hospitality industry was made because most studies on inventory management were rarely carried out in this type of industry. The five listed hospitality companies are: Capital Hotel Plc, Ikeja Hotel Plc, Transcorp Hilton Plc, Tantalizers Plc and Tourist Company Nig. Plc. The limitation of this study is that it is restricted to listed companies in the hospitality industry in Nigeria.

LITERATURE REVIEW

Inventory is considered to be the central theme in managing materials. Tom-Jose et al. (2013) defines inventory as physical stock of goods which are kept in hands for smooth and efficient running of future affairs of an organization at a minimum cost.   Similarly, Manthan, Santosh, Rupesh, Mahendra, Pankaj and Dinesh (2016) define inventory as the goods or resources used by firms for the purpose of production and sale. It also includes the matters, which are used as helpful materials to ease production. In the generally understood term; inventory means a physical stock of goods kept in store to meet the anticipated demand.

However, from materials management perspective, an apt definition of inventory is a usable but idle resource having some economic value. This brings to the fore a paradox in the concept of inventory perceived as a necessary evil. It is necessary to have physical stock in the system to take care of the anticipated demand because non availability of materials when needed will lead to delays in production or projects or services delivery.

Lysons and Gillingham (2003) also defines inventory as the value or quantity of raw materials, supplies, work in progress (WIP) and finished goods that are kept or stored for use as need arises. Raw materials are commodities such as steel and lumber that goes into the final product. Supplies include items such as Maintenance, Repair and Operating (MRO) inventory that do not go into the final product. Work in progress is materials that have been partly fabricated but are not yet completed. Finished goods are completed items ready for shipment (Kothari, 1992). Smriti (2018) opined that Inventory includes Raw materials, Work in progress, Finished goods and Spares.

Inventory management refers to keeping or maintaining the firm's stocks at a level that a firm will only incur the least cost that is consistent with other management's set objectives or targets (Kwadwo, 2016). Inventory management is about ensuring that all input of production that is available firm are maintained at a level where production is not interrupted as well as ensuring that operational cost is kept at a minimal level without affecting operation efficiency (Eneje, Nweze & Udeh, 2012). Inventory management entails planning, organizing, directing and controlling. All these coordinated efforts are meant to ensure achievement of efficiency in all operations of the firm. Such operations may include procurement, stocking and transportation (Akindipe, 2014). Mismanagement of Inventories may lead to significant financial problems for a firm (Muhayimana, 2015).

The goal of most organizations is profit maximization (Niresh &Velnampy, 2014). Profitability refers to the ability of an entity to increase its net worth through profitable operations. The profitability shows the ability of a firm to generate earnings from the use of its assets for a certain period of time (Farah & Nina, 2016). Profitability involves the capacity to make benefits from all the business operations of an organization, firm or company (Muya & Gathogo, 2016). Profit usually acts as the entrepreneur's reward for his/her investment. As a matter of fact, profit is the main motivator of an entrepreneur for doing business. Profit is also used as an index for performance

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measuring of a business (Ogbadu, 2009). Profit is the difference between revenue received from sales and total costs which includes material costs, labour and so on (Stierwald, 2010).

EMPIRICAL REVIEW

Chen, Frank and Wu (2005) investigated inventories of U.S. manufacturing companies in the last two decades of 20th century. They found that firms with high inventory have poor long-term stock returns while firms with slightly lower than average inventory have good stock returns.

Sahari, Tinggi and Kadri (2012) empirically analyzed the relationship between inventory management and firm performance along with capital intensity. For the purpose they took a sample of 82 construction firms in Malaysia for the period 2006–2010. Using the regression and correlation analysis methods, they deduced that inventory management is positively correlated with firm performance. In addition, the results indicate that there is a positive link between inventory management and capital intensity.

Eneje, Nweze, and Udeh (2012) investigated the effects of raw materials inventory management on the profitability of brewery firms in Nigeria using a cross sectional data from 1989 to 2008 which was gathered for the analysis from the annual reports of the sampled brewery firms. The authors employed ordinary least squares as estimation technique. The study revealed that the local variable raw materials inventory management designed to capture the effect of efficient management of raw material inventory by a company on its profitability is significantly strong and positively influenced the profitability of the brewery firms in Nigeria. They concluded that efficient management of raw material inventory is a major factor to be contained with by Nigerian brewers in enhancing or boosting their profitability.

Clearly from the reviewed literatures, most studies of this nature focused on manufacturing sector such as Cement industry, food and beverages industry and construction firms not hospitality industry. Thus, this study peruses on various inventory management techniques both traditional and modern used in the hospitality industry. Furthermore, this study is unique because it examined inventory management from the cost perspective by using proxies such as food and beverages, maintenance supplies, operating supplies and general stores and profit using proxies such as Earnings Per Share (EPS) and Dividend Per Share (DPS) which were not mostly used by some of the previous researchers.

METHODOLOGY

This study employed longitudinal and quantitative research design. The population of this study comprises the total numbers of listed hospitality companies on the Nigerian Stock Exchange as at 2019 were five (5) which are: Capital Hotel Plc, Ikeja Hotel Plc, Transcorp Hilton Plc, Tantalizers Plc and Tourist Company Nigeria. Due to the few numbers of listed hospitality companies in Nigeria, the study considered the entire population as appropriate sample size for the study which are the Five (5) listed hospitality companies stated as the number of the population. Hence, the study employed census sampling technique. This study employed secondary sources of data. The secondary data used for this research were obtained from the Nigerian Stock Exchange and annual financial statement of the listed hospitality companies for ten (10) years from 2008-2017. This research work adopted both descriptive and inferential statistics to achieve the stated objectives. Data were presented using table, while descriptive statistics used include, mean and standard deviation among others. Two (2) Hypotheses were tested using Pearson's product moment correlation coefficient and multiple regression analysis of ordinary least square technique (OLS) using statistical package of social science (SPSS) because of its appropriateness for researches in social and management sciences.

Model specification

The model for this study established the relationship between dependent and independent as well as the effect of moderating variable on them. Proxies for dependent, independent and moderating variable are stated respectively; Earning per share (EPS) and Dividend per Share (DPS); Food and Beverages(FB), Maintenance Supplies (MS), Operating Supplies(OS) and General Stores(GS); Employee Cost(EC).

This study modified the model used by Edwin and Florence (2016).

$$Y = \beta_0 + \beta_1(FB) + \beta_2(MS) + \beta_3(OS) + \beta_4(GS) + \beta_5(EC) + \mu_1 \ldots$$

(A)   Model to test the relationship between inventory management and Earnings per share (EPS)

$$EPS = f(FB, MS, OS, GS, EC) \ldots\ldots\ldots$$

Mathematical Econometric form of the model is presented below as:

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$$EPS_{it} = \beta_0 + \beta_1(FB)_{it} + \beta_2(MS)_{it} + \beta_3(OS)_{it} + \beta_4(GS)_{it} + \beta_5(EC)_{it} + \mu_{1it} \ldots \text{(i)}$$

(B)   Model to test the significant positive effect of inventory management on Dividend per Share (DPS)

$$DPS = f(FB, MS, OS, GS, EC) \qquad \ldots\ldots\ldots$$

$$DPS_{it} = \beta_0 + \beta_1(FB)_{it} + \beta_2(MS)_{it} + \beta_3(OS)_{it} + \beta_4(GS)_{it} + \beta_5(EC)_{it} + \mu_{1it} \ldots \text{(ii)}$$

Where:

EPS= Earnings per shares
DPS= Dividend per share
FB= Food and beverages
MS= Maintenance supplies
OS= Operating supplies
GS=General stores
EC=Employee cost
β_0= Intercept or Constant
β_1= Regression Coefficient
μ_1 = Error term
i = Cross sectional variables from 1, 2, 3, 4, 5
t = Time series variable from 1, 2, 3, 4, 5

A Priori Expectation

A prior expectation is presented in mathematical forms below:

$$\frac{dEPS/DPS}{dFB} \neq 0$$

Connotes that foods and beverages cost is expected to exert either positive or negative impact on Earnings Per Share, Dividends Per Share and Return on Asset of listed hospitality companies in Nigeria.

$$\frac{dEPS/DPS}{dMS} \neq 0$$

Connotes that maintenance supplies cost is expected to exert either positive or negative impact on Earnings Per Share, Dividends Per Share and Return on Asset of listed hospitality companies in Nigeria.

$$\frac{dEPS/DPS}{dOS} \neq 0$$

Connotes that office supplies cost is expected to exert either positive or negative impact on Earnings Per Share, Dividends Per Share and Return on Asset of listed hospitality companies in Nigeria.

$$\frac{dEPS/DPS}{dGS} \neq 0$$

Connotes that general supplies cost is expected to exert either positive or negative impact on Earnings Per Share, Dividends Per Share and Return on Asset of listed hospitality companies in Nigeria.

$$\frac{dEPS/DPS}{dEC} \neq 0$$

Connotes that employee cost is expected to exert either positive or negative impact on Earnings Per Share, Dividends Per Share and Return on Asset of listed hospitality companies in Nigeria.

RESULTS AND DISCUSSION
The test results are presented and interpreted in this section. The descriptive statistics are presented in table 1.

Table 1: Descriptive Statistics

Variable	LOGEPS	LOGDPS	LOGOS	LOGMS	LOGGS	LOGFB	LOGEC
Mean	3.0106	1.8852	17.531	16.906	17.885	18.071	20.584
Median	3.3672	1.9459	17.509	17.447	17.462	17.986	20.646
Maximum	4.4206	3.7099	19.157	18.975	20.252	19.750	22.353
Minimum	0.6931	-2.9957	15.325	14.002	15.650	16.787	17.241
Std. Dev.	1.1725	1.6938	1.0671	1.4778	1.2440	0.6537	0.9474
Skewness	-0.5411	-1.3911	-0.2819	-0.3036	0.5518	0.2624	-1.0492
Kurtosis	2.0433	5.1026	1.7117	1.6248	2.1584	2.8341	5.0089
Jarque-Bera	2.8686	8.6153	4.1199	4.5197	3.5313	0.6188	17.581
Probability	0.2382	0.0134	0.1274	0.1043	0.1710	0.7338	0.0001
Sum	99.351	32.049	876.59	811.49	786.95	885.49	1029.2
Sum Sq. Dev.	43.996	45.908	55.802	102.64	66.554	20.512	43.983
Observations	33	17	50	48	44	49	50

Source: Author's Computation (2019)

Result of Regression Analysis
The regression estimates are presented in the tables below:

Table 2: Regression Result for Model I
Dependent Variable: LOGEPS

VARIABLES	COEF.	STD. ERR.	Z	PROB.
LOGFB	-0.3456771	0.5651434	1.68	0.541
LOGMS	0.5052816	0.1761644	2.87	0.004
LOGOS	-0.2938237	0.2516755	0.243	-0.7870986
LOGGS	0.6759424	0.2513479	0.007	0.1833096
LOGEC	0.2304639	0.25978	0.375	-0.2786955
CONSTANT	-11.17297	9.55872	0.242	-29.90772
R-SQUARED	0.4662			
Wald chi^2(5)	21.83	corr(u_i, Xb) = 0		Prob > chi^2=0.0006
HAUSMAN TEST (CHI2)	2.01			Prob>chi^2 = 0.8483

Source: Author's Computation (2019)

Table 3: Autocorrelation Result for Model I

PESARAN'S TEST OF CROSS SECTIONAL INDEPENDENCE	-0.307
PROBABILITY VALUE	0.7587
AVERAGE ABSOLUTE VALUE OF THE OFF-DIAGONAL ELEMENTS	0.338

Source: Author's Computation (2019)

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Table 4: Regression Result for Model II
Dependent Variable: LOGDPS

VARIABLES	COEF.	STD. ERR.	Z	PROB.
LOGFB	3.113917	1.766159	1.76	0.078
LOGMS	0.1082306	0.3657854	0.30	0.767
LOGOS	1.706233	0.7042555	2.42	0.015
LOGGS	-1.099297	0.8084284	-1.36	0.174
LOGEC	-0.8762315	0.665135	-1.32	0.188
CONSTANT	-48.37394	21.20875	-2.28	0.023
R-SQUARED (OVERALL)	0.5870			
Wald chi^2 (5)	14.21	corr(u_i, Xb) = 0		Prob > chi^2 = 0.0143
HAUSMAN TEST	0.20			0.9991

Source: Author's Computation (2019)

Table 5: Autocorrelation Result for Model II

PESARAN'S TEST OF CROSS SECTIONAL INDEPENDENCE	1.718
PROBABILITY VALUE	0.0859
AVERAGE ABSOLUTE VALUE OF THE OFF-DIAGONAL ELEMENTS	0.232

Source: Author's Computation (2018)

DISCUSSION OF FINDINGS

From the regression result presented above, the following discoveries were made:

The overall R-squared result showed that approximately 47% variation in LOGEPS is being explained by LOGFB, LOGMS, LOGOS, LOGGS and LOGEC. The Wald statistics with value of 21.83 is significant and showed that the whole model is okay. Hausman test result which is 2.01 and a probability value of 0.8483 implies that the random effect model is the model appropriate for the study. In a more technical term, this simply shows that difference in coefficients is systematic. Model one regression result showed that only MS has significant positive relationship with EPS which therefore showed that the first null hypothesis of no significant relationship between inventory management and earnings per share (EPS) of listed hospitality companies in Nigeria is rejected. This study therefore concludes that there is significant relationship between inventory management and earnings per share (EPS) of listed hospitality companies in Nigeria.

The overall R-squared result in model two showed that 58% variation in LOGDPS is being explained by LOGFB, LOGMS, LOGOS, LOGGS and LOGEC. The wald stat with value of 14.21 is significant and showed that the whole model is okay. Hausman test result which is 0.20 and a probability value of 0.9991 implies that the random effect model is the model appropriate for the study. In a more technical term, this simply shows that difference in coefficients is systematic. Model two regression result showed that OS has significant positive relationship with DPS which therefore showed that the second null hypothesis of no significant positive effect of inventory management on Dividend Per Share (DPS) of listed hospitality companies in Nigeria is rejected. Therefore, the study found that there is a relationship between inventory management and profitability of listed hospitality companies in Nigeria.

CONCLUSION AND RECOMMENDATIONS

The study examined inventory management and profitability of listed hospitality companies in Nigeria by using data mined from their published financial statement on the Nigeria stock Exchange (NSE) from 2008-2017. Inventory management which is the independent variable was measured using proxies such as Foods and beverages (FB), Maintenance supplies (MB), Operating supplies (OS) and General stores (GS) while, and profitability which is the dependent variable was measured using proxies such as Earnings per share (EPS) and Dividends per share (DPS). Based on the findings of this study, the study concluded that inventory management has influence on the profitability of listed hospitality companies in Nigeria. More so, the study concluded that there is a significant relationship between inventory management and earnings per share

(EPS) of listed hospitality companies in Nigeria and a significant positive effect of inventory management on Dividend Per Share (DPS) of listed hospitality companies in Nigeria.

In the light of the foregoing findings and conclusions, the following recommendations are suggested:

i. Companies within the hospitality industry should intensify more effort in managing their inventory in order to experience more positive impact on profitability thereby leading to increase in Earnings per share (EPS) and Dividend per share (DPS).

ii. Companies within the hospitality industry should ensure and promote healthy and satisfactory relationship between inventory management and profitability from time to time.

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