EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF LISTED HEALTHCARE FIRMS IN NIGERIAN STOCK EXCHANGE

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Abstract

This study seeks to examine the effect of working capital management on the performance of listed healthcare firms in Nigeria for the period of ten years (2011-2020). The listed healthcare firms were Seven (7) as at 31st December, 2020. The study selected Six (6) real pharmaceutical firms from the listed healthcare firms in Nigerian stock exchange based on filter as criteria. Data were sourced from the audited financial statements of the listed firms. The study adopted correlational research design and data were analyzed with the aid of multiple regression model based on ordinary least square. This study reveals that the relationship between inventory turnover days and profitability is positive and significant with coefficient Value of 2.184 and P Value 0.00, while the relationship between cash collection circle is positive and significant with coefficient Value of 2.556 and P Value 0.026. However, debt turnover for the period was found to be negative and not significant to the profitability with coefficient Value of -2.121 and P Value 0.140. Therefore, the study recommended that, board of directors are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources of the companies by carefully increasing their inventory turnover days as well as the cash collection circle in the listed healthcare firms in Nigerian stock exchange.

Keywords: *Cash collection circle, debt turnover, inventory turnover, and profitability*

Introduction

It is imperative to note that every business aims at maximizing profit for its growth and survival. Thus, many firms may wish to apply the best strategies to ensure effective financial decision of their businesses. Accordingly, managers and their investors considered profitability as an important pointer of performance in every business setting. Meanwhile, Amponsah, Michael and Hughes (2013) highlighted that the profitability is the wealth or value of a firm. And, Fabian, James and Moshi (2014) stress that profitability is the determinant tool for the current and past performance financially. Where

Ross, Westerfiel and Jaffe (2009) acknowledged that the maximization of shareholders wealth can be realized through profit maximization. Therefore, the profitable firms are of greater chance to maximize the shareholders wealth as compared to the loss-making firms.

Working capital is seen as approach through which an organization can access its performance both financially and other wise (Umara, Sabeen, & Qaisar, 2009). Thus, working capital management could serve as basis to which the operating activities of business can be measured. Although, it is necessary to understand that performance is access through effect working capital management. On the other hand, Ben-Caleb (2008) viewed working capital management as a process to which the well beings of business is ascertained.

Also, some good number of studies investigate the linkage between working capital and profitability, example Seonen (1998); Deloof (2003); Eljelly (2004); (Garcia-Teruel& Martinez-Salano, 2004); Lazaridiss and Tryfonidis (2005); Nobanee and AlHajjar (2005); Akella (2006), Bhunia and Brahma (2011), among others.

Furthermore, with reference to Nigeria, previous studies such as Egbide, , Ofoegbu, Duru, and Onodugu (2006), Benjamin and Kamalavalli (2006), Aremu (2011), Agbada, and Osuji (2013), Uwuibge and Uwalomwa (2013), Rafiu and John(2014), Ademola (2014) and Duru (2014), Alshatti (2015), Bassey and Moses (2015), Samuel, and Abdulateef (2016) studied the connection between working capital management and profitability. Therefore, the above studies were unable to provide evidence in addressing the subject matter. Therefore, this study dwells on accessing the effect of working capital management on profitability of healthcare firms in Nigerian stock exchange for the period of Ten years (2011-2020).

The following questions are raised:

i. To what extent does inventory turnover has impacted on profitability of listed healthcare firms in Nigerian stock exchange?
ii. How does debtor’s turnover affect the profitability of listed healthcare firms in Nigerian stock exchange?
iii. What influence does cash conversion circle has on profitability of listed healthcare firms in Nigerian stock exchange?

Objectives of the Study

The main objective of this study is to examine the effect of working capital management on profitability of listed healthcare firms in Nigerian stock exchange. Other specific objectives are:

i. Examine the effect of account inventory turnover on profitability of listed healthcare firms in Nigerian stock exchange.
ii. Determine the impact of debtors turnover on profitability of listed healthcare firms in Nigerian stock exchange.
iii. Investigate the impact of cash conversion circle on profitability of listed healthcare firms in Nigerian stock exchange.

In view of the objectives of the study, the following null hypotheses have been formulated in null form based on the established objectives:

H_{01}: Inventory turnover has no significant effect on profitability of listed healthcare firms in Nigerian stock exchange.
H_{02}: Debtors turnover has no significant impact on profitability of listed healthcare firms in Nigerian stock exchange
H_{03}: Cash conversion circle has no significant impact on profitability of listed healthcare firms in Nigerian stock exchange.

Literature Review

Concept of Working Capital Management

Working capital management is concern with the decisions and activities a firm undertakes in order to manage efficiently the elements of current assets (Pandey, 2007). Van-Horne and Vachowicz (2004) see working capital management as that aspect of financial activity that is concerned with the “safeguarding and controlling of the firm's current assets and the planning for sufficient funds to pay current bills”. Duru (2014) considered working capital management as a decision that supports the value of an organization in terms of shareholders growth. He further emphasized that a well-managed working capital should support organization’s well-being from the perspective of market and liquidity. Thus, companies need to manage their working capital so as to ensure that they cater for their day to day operations and expenses and this is done by ensuring the ability of a firm to fund the difference between the short term assets and short term liabilities and that business is able to meet its financial obligations (Walter, Washington, Dingilizwe & Runesu, 2014).

Concept of Profitability

Profitability has been seen as one of the most frequently used tools to determine a company's performance. Today, most business organization relied on their resources and other financial obligations in other to maximize profit **(**Raheman, Qayyum & Afza, 2011). Profitability according to Pandy (2005) “refers to the ability of a firm to earn returns on investment made in its assets that has a positive net present value”. He further express that a financial action that has a positive net present value will create wealth for shareholders and is therefore desirable. A financial action resulting in a negative net present value should be dropped because it will endanger shareholders’ wealth. On the other hand, Hill, Kelly and Highfield (2012) considered profitability as the ability to generate revenue in excess of the cost of generating such revenue. Essentially, the term is relative measurable in terms of profit and its relation with other elements that can directly influence the profit.

Working capital Management and Profitability

There are various empirical studies about effect of corporate mergers and acquisitions on firm performances, considering the role of the working capital management one of the important tool or corporate strategy to improve firm performance. For instance, studies carried out by Bhunia et al.,(2012), Ben-Caleb et al., (2013) revealed a small degree of association between working capital management and profitability of entire firms studied even when the multiple correlation statistics disclosed that working capital and solvency position was very satisfactory, and working capital management relatively efficient. The implication of the results of these studies is that maximum profit is achievable at a certain level of cash management position. The result attests further to the crucial importance of working capital management in financial management decisions.

Bhunia et al., (2011) opined that a company that manages the trade-off between profitability and working capital management can reach optimal working capital. But, the result of similar studies carried out on manufacturing firms in Nigeria by Owolabi et al., (2012) indicated that credit policies, the cash conversion cycle and cash flow management (as indices of working capital) significantly and positively impacted upon the profitability of the firms. Out of twelve (12) manufacturing firms studied, nine (9) companies showed a good level of working capital management, and that reflected positively on the profitability of the companies. It was found that proper management of creditors' payment period, cash conversion cycle and debtors' collection period would impact positively on the profitability of firms.

In another study by Victor et al., (2013) it was revealed that there is positive but weak relationship between working capital and profitability of listed banks in Ghana. Conversely, Renato (2010) discovered that profitability is influenced progressively by working capital in a short run term range rather than longer term. Also, Priya et al. (2013) revealed similarly outcome in their study among the Sri Lanka’s manufacturing firms during 2008 – 2012. Now, quick and current ratios is widely used following the suggestion of some scholars for the purpose of control and planning instead of working capital as is suitable for cross-sectional comparison.

Rafiu and John (2014) discover that there is negative link between working capital and profitability in there study among listed manufacturing firms in Nigeria between year; 2000 to 2009. Similarly, Mansoori and Muhammad (2012**)** study found a negative association between working capital on profitability in Singapore between2004 to 2011. Furthermore, Panigrahi and Sharma (2013) reveals that performance has a negative effect with working capital management and firm’s performance among selected Indian cement companies for the period 2001-2010. Also, Eljelly (2004) in his effort to study working capital in relation to performance among Saudi Arabian firms, which provides that profitability, is negatively influenced by degree of current ratio and cash conversion cycle respectively, using regression technique.

In line with the reviewed theories above, the study is anchored by the Operating Cycle Theory as an underpinning theory. Operating Cycle Theory is the total time taken from the purchase of raw-materials till realization of sale proceeds, while the amount of capital required for this operating cycle is regarded as working capital. Operating cycle theory is very paramount because it determines the amount of working capital a business needs. If the account receivable period is lengthened, account payable period is shortened and if the inventory turnover is also lengthened then the operating cycle will be lengthened and the investment in working capital will be increased (Duru, 2014).

Methodology

The study employed correlational and ex-post facto research design to enable the researcher examines the effect of working capital management on the performance of listed healthcare firms in Nigerian stock exchange. The data were obtained from the secondary sources through the audited financial statement of the sampled firms between (2011- 2020) published through the Nigerian stock exchange. The population of the study consist of six (7) listed pharmaceutical firms in Nigeria firms in Nigeria namely: Ekocorp Plc, Fidson Health Care Plc, Glaxo Smithkline Consumer Nigeria Plc, May & Baker Nigeria Plc, Morison Industries Plc, Neimeth International Pharmaceutical Plc, Phama Deko Plc. While, the sample of the study consist of Six (6) listed pharmaceutical firms in Nigeria firms in Nigerian stock exchange namely: Ekocorp Plc, Fidson Health Care Plc, May & Baker Nigeria Plc, Morison Industries Plc, Neimeth International Pharmaceutical Plc, and Phama Deko Plc. respectively, except the Glaxo Smithkline Consumer Nigeria Plc. Thus, the selections of the Six (6) firms were made based on filter as criteria. Pooled ordinary least square robust regression model was adopted for the analysis through the use of STATA.

Model Specifications

In an effort to investigate the effect of working capital management on the performance of listed healthcare firms in Nigerian stock exchange, a multiple linear regression model has been adopted. The model encapsulates the contribution of inventory turnover ratio, debt turnover ratio, and cash conversion circle.

The panel model of the study is specified thus:
$ROA_{it} = \beta 0_{it} + \beta 1 ITO_{it} + \beta 2 DTO_{it} + \beta 3 CCC_{it} + \varepsilon_{it}$
Where:
ROA = profitability of the periods
i=firms
t=times
$\beta 0$ = intercept
$\beta 1$-β 4 = coefficient of the explanatory variable
ITO = Inventory turnover of the period periods
DTO = Debt turnover of the periods
CCC = Cash Conversion Circle of the periods
FSZ= Firms size
ε= error term of the model

Results and Discussions

This comprises the descriptive statistics, correlation matrix, and summary of regression results tables, policy implications as well as the recommendations based on the findings. `

Descriptive Statistics Table

Variable	*Min*	*Max*	*Mean*	*Std. Dev.*
ROA	0.15	6.36	1.2115	1.308237
ITO	0.03	2.09	0.375667	0.3419504
DTO	0	4.61	1.370167	1.121398
CCC	0.08	0.51	0.308	0.114652

Source: STATA output

It can be seen from the descriptive statistic table that the profitability indices measured by ROA reveals mean value of 1.2115 which also signifies that the average return on assets of the listed healthcare firms in Nigeria is 121% with a minimum and maximum value of 0.15 and 6.36. The inventory turnover days (ITO) reveals a mean value of 0.375667. This denotes that on average, the listed healthcare firms in Nigeria realize 38% of inventory turnover days in its operations. While, the debt turnover (DTO) has a mean value of 1.370167 which suggested that debt turnover of about 137% are being realized as far as the working capital management of the listed healthcare are concern in Nigerian stock exchange. And cash collection circle (CCC) indicates 0.308 as a mean value.

The Correlation Matrix Table

Variable	1	2	3	4
1. ROA	1			
2. ITO	0.5585	1		
3. DTO	-0.2402	-0.1863	1	
4. CCC	0.15772	-0.1417	-0.1332	1

Source: STATA output

The table indicates that both ITO and CCC correlate positively with ROA at coefficient of 0.5585 and 0.15772 respectively, while DTO correlate negatively with ROA at coefficient value of -0.2402 among listed healthcare firms in Nigerian stock exchange.

Summary of Variance Inflation Factor (VIF) and Tolerance Value Table

Variable	*VIF*	*Tolerance*
ITO	1.07	0.937073
DTO	1.06	0.9393
CCC	1.05	0.953538

Source: STATA Output

The table indicates that VIF were consistently below Ten (10) and greater than 1one which implies that no multicolinearity effect exist within the independent variables of the study. This clearly indicates the suitability or fitness of the model used in the study with one dependent and three independent variables as well as one control variable. Also, the tolerance values were consistently greater than 0 but less than 1. Thus, this proves the absence of multicolinearity in the (Tobachmel & Fidell, 1996).

Summary of Pooled Ordinary Least Square Robust Regression Result Table

Variable	*Coefficient*	*t-values*	*P-values*
Constant	-0.2312628	-0.45	0.656
ITO	2.184341	3.35	0.001
DTO	-0.1212283	-1.5	0.14
CCC	2.559355	2.29	0.026
R2			0.3791
F- Stat			11.4
F- Sig			0.0000
Hettest Chi 2			0.0000
Husman Chi			0.5972
Breush- Pegan			1.0000

Source: STATA Out put

The proportion of the total variation in the ROA as jointly explained by the ITO, DTO and CCC respectively is shown as 38% which is also represented by cumulative R^2 (0.3791). The table reveals F-statistics is 11.40 which indicated the fitness of adopted model which is further confirmed by the F. sig (significant at 1%) The result further shows data were unequally spread due to presence of Breuch Pagan/ Cook- Weisberg test for heteroskedasticity at 0.0000. Moreover, the Hausman specification test for fixed and random effect result shows Chi- square probability of 0.5972 which is not significant which necessitate the need for further to ensure the appropriate model is determined. However, the Breusch and Pagan Lagrangian Multiplier Test for Random Effects result shows Chi- square probability of 1.0000 which means the result was not significant. Hence, robust ordinary least square was run which is the right test to interprete the finally result.

Inventory Turnover and Profitability

From the table 4.3 above, inventory turnover shows a significant P-*value* of 0.001 and a coefficient of 2.18. This shows that inventory turnover has a positive and significant influencing on profitability. Thus, if there is one unit increase in inventory turnover profitability will increase by 2.18%. This connotes that null hypothesis which will be rejected.

Debt turnover and Profitability

The table 4.3 reveals that debt turnover has a P- *Value* 0.14 beta coefficient of -0.1212283. This implies that debt turnover has a negative but, insignificant influence on profitability. Hence, the null hypothesis of the study would be accepted.

Debt turnover and Profitability

Cash collection circle and profitability reveals a significant P-value of 0.026 and a beta value of 2.559355. This provides an evidence for rejecting null hypothesis of the study which states that cash collection circle has no significant influence on the profitability of the listed healthcare firms in Nigerian stock exchange.

Conclusions

The paper found that inventory turnover has a negative and significant effect on return on assets of the listed healthcare firms in Nigerian stock exchange. Also, cash collection circle has a positive and significant influence on return on assets of the listed healthcare firms in Nigerian stock exchange. On the other hand, debt turnover has no significant effect on the performance of the listed healthcare firms in Nigerian stock exchange.

Recommendations

The study recommends that, board of directors are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources of the companies by carefully increasing their inventory turnover days as well as the cash collection circle in the listed healthcare firms in Nigerian stock exchange.

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