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Liquidity Management and Performance of Tertiary Institutions in Kogi State

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Abstract

Liquidity and its management determine to a great extent the performance of a firm. This is because either inadequate or excess liquidity may be injurious to the smooth operations of the organization. This study titled: liquidity management and performance of tertiary institutions in Kogi State is carried out to examine the impact of inventory management, cash management and credit management on performance of Tertiary Institutions in Kogi State. The study adopts a descriptive research design and reached a population of 1004 from selected tertiary institutions. However, out of the total pupation only 278 sampled using the Godden sample size statistical formula while 226 questionnaires were duly completed and returned which gives a retrieval rate of 81%. The research instrument was validated by two experts and pilot study was conducted to ascertain internal consistency using Cronbach Alpha reliability statistics. More so, data was analyzed using a five-point likert scale and hypotheses tested using multiple regression. The findings show that there is a significant relationship between liquidity management and performance of Tertiary Institutions in Kogi state. The study recommends that the management of tertiary institutions should avoid accumulating too much short-term financing as it discourages performance. More so, the *management of tertiary instructions should adopt lean/just-in time operations to facilitate effective liquidity management towards service delivery.*

Keywords: *Liquidity, Management, Performance, Tertiary Institutions*

Introduction

Liquidity management is a critical component of any Firms environment that necessitates strategic consideration, planning, and management because it induces the level of trust between and among critical stakeholders. Liquidity should be controlled such that neither too much nor too little is available as firms with insufficient liquidity management experience illiquidity and eventually bankruptcy (Majakusi, 2016; Abdi & Kavale, 2016; Edem, 2017). The need for shareholders to maximize their wealth has led to the accomplishment of goal leading to profit maximization for businesses. Firms' capital structures are made up of debt and equity, which refers to borrowed funds as well as owned assets respectively (Umobong, 2015). A firm's debt portfolio is mostly made up of short- and long-term obligations that can only be paid if liquidity is available. Liquidity has been defined in this context as the ease with which assets can be transformed into cash and cash equivalents with minimal loss in value. The opportunity cost of remaining liquid is the loss of earnings from not investing in higher-yielding assets.

The financial performance of firms depends upon proper liquidity management and the capability to generate revenue in addition to profit. The performances of an organization and measured with different performance ratios. The effective liquidity management of firms comprises proper planning and monitoring its current assets as well as current liabilities. This therefore helps the firms to minimize the risk by meeting their current obligations and can maximize the profit by avoiding unnecessary investment in current assets (Patjoshi, 2016). Several studies were conducted in order to observe the interaction between financial liquidity and performance such as Lazaridis and

Tryfonidis (2006) who found a relationship between liquidity management efficiency and performance. Thus, firms enjoy better pricing when they hold enough cash to purchase from suppliers, thus, they may enhance their profit. To this end, having enough liquidity also affects the performance of the firms.

Liquidity points out to the ability of firms in paying back their short-term liabilities. It plays an important role in smoothening all operations of a firm. Studying liquidity is very helpful for both external and internal analysts due to its impact on firms' day to day operations (Elangkumaran & Karthika, 2013). The significance of liquidity to the performance of firms might determine their level of performance (Nasir & Afza, 2009). Liquidity is a prerequisite for a firm as it shows its ability for meeting its short-term obligations. Quick ratio and current ratio are considered to be the common measures of liquidity position of the firm. Current ratio sets the association between short term assets and short-term liabilities. Therefore, when current ratio is high it can be said that the firm's ability to pay back its short-term obligations is robust, whereas quick ratio sets the relationship between current liabilities and current assets. When assets are liquid, it means that they can be easily converted into cash quickly without loss. Low current ratio means that a firm cannot pay its obligations on time to creditors, services and goods suppliers (Owolabi, Obiakor, & Okwu, 2011). Wang (2002) discovered that aggressive liquidity management enhances the operating performance of a firm and usually results in higher values. Managing liquidity efficiently results in eliminating the risk of inability of meeting short-term liabilities when it's due as well as helping in avoiding excessive investment in these assets (Priya & Nimalathasan, 2013). Educational institutions are established to impact knowledge to the citizens thereby boosting their capability towards national development. Tertiary education is a form of institution engaged after acquiring secondary education. These institutions range from Polytechnic, Colleges of Education and Universities. In Kogi state, these institutions are established to carter for the educational needs of the citizens, while some are established by the state government; others are established by the state. The institutions require funds for its routine operations which therefore forms liquidity. This research focuses on Federal Polytechnic Idah, Kogi State, Kogi State University Anyigba and Federal College of Education, Okene. Efficient management of liquidity helps in meeting their short-term obligations.

Research Hypotheses

The following hypotheses were formulated in their null form to guide the study:
H_1: There is significant effect of inventory management on performance of tertiary institutions, in Kogi State.
H_2: There is significant relationship between cash management on performance of tertiary institutions, in Kogi State.
H_3: There is significant relationship between credit management on performance of tertiary institutions, in Kogi State.

Literature Review

Liquidity management

Liquidity is the ability of a firm to meet short term financial obligations through conversion of current asset into cash without suffering any loss (Akenga, 2017). Liquidity in institutions implies two dimensions; quantitative and qualitative. Nworji and Alayemi (2014) argued that the quantitative aspect includes the ability of a firm to meet all present and potential demands regarding cash in such a way that reduces cost and increases the profile of the business. Liquidity will help a firm to avoid

a situation where a firm will be forced to liquidate with its attendant problems of selling assets at distressed prices and the extra fees paid to lawyers, trustees in bankruptcy and liquidators on liquidation. The definitions imply that, as liquidity increases, the probability of technical insolvency is reduced. It is pertinent to recognizing two dimensions of liquidity namely the time necessary to convert an asset into money and the degree of certainty associated with the conversion ratio or price realized for the assets. Liquidity management means the ability of a firm to maintain sufficient cash and liquid assets to pay the organization expenses and to meet its obligations. It involves a routine analysis and comprehensive evaluation of the size and timing of cash flows over the coming days, weeks, and months to minimize the risk that organizations will be able to meet their due obligations (Sanni, 2012). Liquidity management is measured with inventory management, cash management and credit management.

Inventory Management

Inventory management is one area which can significantly improve the cash flow of institution as it portrays pools of cash. One easy way of improving inventory management is to focus on sales forecasting and adapting a control system for this area. By accurately forecasting sales, inventory levels can be cut down and cash levels can improve. Nelson (2017) identified several steps in improving a firm's inventory management. This included an analysis of the inventory levels in order to reduce its size. This means that the firm might be forced to accept a higher price for their inventory as their orders becomes smaller. Furthermore, slow-moving items needs to be identified and sold off to stimulate cash flow. Other steps include accepting more back orders which effectively reduces inventory levels. However, this is usually done on the expense of customer service and needs to be weighed against the benefits as it might be beneficial to other competitors. Moreover, reducing lead times which includes picking, packing and shipping may also contribute to improving the cash flow, as this means that goods can be shipped sooner to customers and invoicing can take place. Additionally, inventory can be improved through supervision of warehouse and material-handling personnel, inventory cost which has not been accurately recorded can be located and sold. Thus, when evaluating the efficiency of inventory management, it is very common to calculate "days inventory held" (DIH) which expresses the average time that a good is held in inventory before it is sold to customer. Since goods laying idle in inventory represents costs for the institutions, the shorter the DIH are more efficiently assets are managed (Maness & Zietlow, 2015).

Cash Management

Cash management is one part of working capital management and usually concerns the different processes and procedures of handling a firm's cash and the monitoring and planning of it. Larsson and Hammarlund (2015) defined the different items included within this area as: payables systems, receivables system, management of liquid funds, currency management and risks, short term financing, accounts payables and accounts receivables.

Improving firm's cash management can result in better profit margins and higher turnover ratio which in turn can lead to higher profitability (Larsson & Hammarlund, 2015). The cash flow timeline provides an overview of how cash is converted with the inflow and outflow of funds. The shorter cash conversion the better for the firm and the way of achievement that is by looking at all the parts and understanding the relationship between them. Thus, it is the managerial decisions that cause changes in the timeline. Improvements can be made by speeding up the collection process and delaying the payment process (Maness & Zietlow, 2015).

Credit Management

The management of an organization's capital relates to the finance and investment of non-human resources, that is, physical and monetary assets, for the purpose of maximum benefit in terms of profitability. Maness and Zietlow (2015) noted that profitability is calculated in segment by the way through which a firm utilizes its working capital values, most especially if the firm's management criteria relating to cash transactions are put side by side. Additionally, there would be reduction in returns if the fundamental segment of working capital were realised in the absence of a corresponding increase or margins. Therefore, one of the fundamental functions of the financial officer is to introduce the real figure of each aspect of working capital at the actual and time and place to pursue the largest returns. Management of credit is an integral function of a Management considering the fact that if such functions are performed well, it will not only attract and retain customers but would enhance the profile of the business strategically.

Concept of Performance

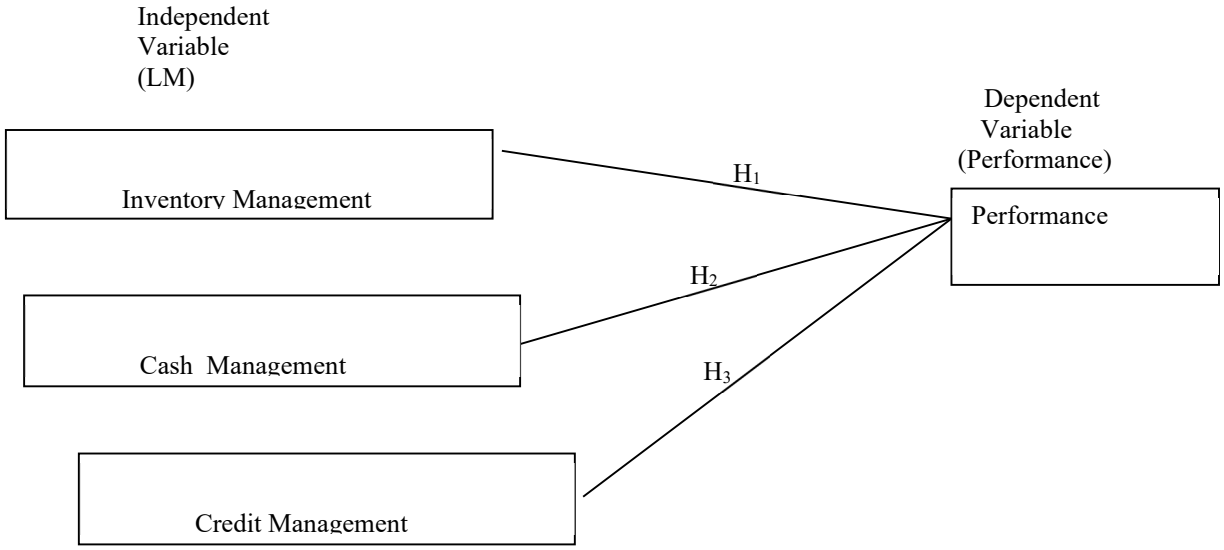
The term performance was initiated from a very operational attention to a more futuristic oriented concept, that is, where it plays a cardinal role in the formulation and execution of strategy (Yung-Jang, 2002). This is also strategic move that makes it differ from the routine performance appraisal. Thus, performance management strives to integrate with series of processes (Malik & Ahmed, 2019). Theoretically it involves a shared process between managers, individuals and teams where goals are agreed and jointly reviewed. Further, to make performance meaningful, corporate, divisional, departmental, team and individual objectives should all be integrated. In the work place, job performance is the hypothesized conception or requirements of a function. Wang (2002) noted that there are two types of performances: contextual and task. Task performance is dependent on cognitive ability, while contextual performance is dependent on personality.

The performance process, many of the pertinent models on performance management involve a simple four or five step process. These models tend to be based on the assertion that all work performance stems from and is driven by the corporate objectives. These are then broken into functional/departmental objectives. Individual objectives shoot out from these and all are monitored and reviewed on an ongoing basis with a formal review or appraisal conducted at least annually. The results of this may or may not be linked to pay. A body of work has taken place arguing for and against linking appraisals to pay. The main argument for this is that all parties take the process more seriously, while the main argument against is that pay becomes the central issue to the detriment of the developmental aspect of performance management (Umobong, 2015). Linking performance to pay is a market-based approach to gaining employee commitment, whilst simultaneously helping 'to align managerial interests with shareholder value and shift downside risk' to the employees (Graham *etal,* 2013).

Conceptual Model

This study designs a model which drives the research variables. For the purpose of emphasis, fig. 1 describes the model as shown thus.

Fig 1 Conceptual Model



Source: Designed by the Researcher (2023)

Fig 1 shows the conceptual model designed by the researcher. The model shows that the independent variable is liquidity management and it is decomposed as inventory management, cash management and credit management. Again, the dependent variable is performance. This means that performance is being influenced by liquidity management. To this end, the model describes how inventory management, cash management and credit management could influence performance.

Theoretical Review

The theoretical foundations reviewed while investigating the connection between corporate liquidity and its performance were anchored on the Liquid Asset Theory. The concept of corporate liquidity management is fundamentally premised on the liquid asset theory as proposed by Keynes (2016). The theory is used to explain the need for which firms to be rational in making investment decision that targets high returns, minimum risks and ensures adequate provisions for holding liquid assets. This theory in support of the liquidity preference theory focuses on precautionary motives for holding cash assets instead of illiquid assets by firms desire to cushion the effect of uncertainties and market imperfections affecting the business operations. Dietrich and Wanzenried (2011) observed that achieving high returns while holding liquid assets at a low risk could be counterproductive since liquid assets are cost ineffective and have the tendency to reduce profits. This theory has relevance to the study on liquidity management and performance of tertiary institutions thus t is adopted for the research.

Research Methodology

The research adopted a descriptive research design which is a research survey design involving studying the respondents with the view to eliciting responses for the purpose of statistical analysis. The primary data obtained were through a twenty items structured questionnaire and data collected were subjected to descriptive and inferential statistical analysis.

The population of this study is the entire employees who in the Bursary Departments of selected firms' tertiary institutions in Kogi State. The total population is 1004, however, this research therefore adopted the Godden' statistical formula which is statistical technique for determination of sample size hence, in using the Godden statistical formula we have:

The Godden (2004) formula denoted as.:

$$SS = \frac{Z^2 (P)(1-P)}{C^2} \quad \text{-- equ (1)}$$

$$\text{New SS} = \frac{SS}{1 + \frac{(SS-1)}{\text{Population}}} \quad \text{- - - - - equ (2)}$$

Where SS = Sample size
Z = Confidence level 95 %
P = Percentage of population (50%)
C= Confidence interval = 5 % (0.05)

$$SS = \frac{1.96^2 (0.5)(1-0.5)}{0.05^2} \quad \text{- - - - - equ (1)}$$

$$SS = \frac{3.8416 (0.5)(1-0.5)}{0.0025}$$

$$SS = \frac{0.9604}{0.0025}$$

$$SS = 384$$

Population = 1004

$$\text{New SS} = \frac{384}{1 + \frac{(384 - 1)}{1004}}$$

$$\frac{384}{1 + 0.382}$$

$$\text{SS} = \frac{384}{1.382}$$

New SS = 278

However, out of the total of 278 questionnaires distributed only 226 were duly completed and retrieved giving a response rate of 81%. The research adopts the systematic sampling technique so that every respondent could be given equal chances of representation. More so, questionnaire was the major source of primary data therefore while a five- point Likert-scale responses of strongly agree (5), Agree (4), Undecided (3), Disagree (2) and strongly disagree (1) were used. The study employed the services of six trained research assistants who helped in the administration of the research questionnaire. In addition, the study relied solely on inferential statistics in testing the hypotheses and multiple regression was used in examining the strength of relationship between the decomposed independent variables and the dependent variable. This process was aided with the statistical package for social sciences (SPSS).

Reliability of the Instrument

Reliability of this study was used to determine the internal consistency of the instrument. In testing the reliability of the instrument, the study carried out a pilot study by distributing questionnaires numbering twenty (20) to the target respondents through the help of six trained research assistants; the Cronbach Alpha coefficient measure of internal consistency was adopted. The reliability of the instrument using Cronbach alpha reliability test with the Statistical Package for Social Sciences

(SPSS) yielded the result of 0.75 for inventory management, 0.78 for cash management, 0.92 for credit management and 0.88 for performance. The reliability result is showed in table 1.

Table 1. Reliability Statistics

Proxies/ Independent Variable	Number of items	Cronbach Alpha
Inventory management	5	0.75
Cash management	5	0.78
Credit management	5	0.92
Performance	5	0.88

Source: SPSS statistical analysis

The 1 revealed that all the variables have Alpha Values above 0.70 hence, the instrument is deemed reliable.

Technique for Data Analysis

The study adopted inferential statistics in analyzing the data. The inferential or parametric statistics was used in testing the earlier formulated hypotheses while multiple regression analysis which examines the strength of relationship between the independent variable (liquidity management) and dependent variables (performance) however, for the purpose of making a statistical inferences in this research only the inferential statistic results are presented for analysis.

Data Analysis and Results

The study tests the hypotheses using the multiple regression statistical analysis with the aid of Statistical Packages for Social Sciences (SPSS). The independent variable is liquidity management and the decomposed variables are inventory, cash management and credit management respectively while the dependent variable is performance. The specific analytical approaches adopted are the descriptive, model summary and coefficient. The decision rule is to accept P. value if the alpha value is $\geq$0.05 otherwise the null hypotheses be rejected.

Table 2. **Descriptive Statistics**

Descriptive Statistics

	Mean	Std. Deviation	N
Inventory management	3.64	1.14	236
Cash management	3.21	0.22	226
Credit management	3.26	1.35	226
Performance	3.50	1.38	226

Table 2 shows the descriptive statistics of the variables, it shows that the selected scale means lie within the accepted range, therefore, they are highly reliable and the research concludes that data obtained and analyzed is significant and reliable. The mean value for inventory management is 3.64, cash management is 3.21, credit management 3.26 and performance is 3.50 as well as standard deviation for inventory management is 1.14, cash management 0.22, credit management 1.35 and performance as 1.38. This implies that performance is being influenced by inventory management, cash management and credit management respectively.

Test of Hypotheses

Table 3. Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.865[a]	.748	.747	.23321	.121

a. Predictors: (Constant) inventory management, cash management, credit management.
b. Dependent Variable: Performance

Table 3 shows that there is a significant positive relationship between the dependent variable (performance) and independent variable (inventory management, cash management and credit management) as indicated by a strong R of 0.865. The coefficient of determination R^2 (R square) which measures the percentage of the total change in dependent variable that can be explained by independent variable indicating that variables of liquidity management collectively increase 0.865 which means that liquidity management increase the 87% of performance. This also implies that a 1% increase in liquidity management will lead to 87% performance. However, this could be overstated so the adjusted estimate for the whole result was explored and it also gives 0.787 and the standard error of the estimate is 0.23321. Finally, the model shows that there is no auto correlation in the variables as it shows the Durbin Watson of 0.121.

Table 4. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.119	.023		1.212	.000
	IM	.322	.015	.233	22.24	.000
	CM	.414	.324	.235	12.11	0.00
	CM	.335	.263	.332	24.45	0.00

a. Dependent Variable: performance

To test the significance of the regression for the variables liquidity management (independent variable) and performance (dependent variable) the P-value was considered. The result shows that the average performance is 0.119 when liquidity management is zero. The t-test value is 1.212 and its sig-value is 0.000 which is less than alpha value of 0.05 hence, it means that it is statistically significant. This implies that without the influence of liquidity management the average performance is 1.212.

Conclusions

The study investigated the effect of liquidity on the performance of tertiary institutions in Kogi state. The findings revealed that there is a significant positive relationship between inventory management and the performance. More so, it revealed that there is positive significant relationship between cash management and performance. Finally, there positive significant relationship between credit management and performance. The above findings conclude tertiary institutions though maintained liquidity but much is still expected to enable them maintain liquidity levels in meeting up their short-

term obligations thus; it explains that there is a serious need for liquidity management in helping tertiary institution to meet up their short-term obligations.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are suggested as follows; the management of tertiary institutions should avoid accumulating too much short-term financing as it discourages performance. This may be a result of strict credit terms that is mostly associated with short-term facilities. More so, the management of tertiary instructions is advised to adopt lean/just-in time operations. This is because it has a positive impact with their improve performance in terms of stock holding which is mostly associated with other relevant and unavoidable cost which may be avoided in lean/just-in-time operations. Finally, relevant department responsible for management of liquidity should encourage the management by rendering expertise advisee to explore the benefit of long-term financing of debt from the lending institutions as such would positively improve their performance.

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