AJEMATES
African Journal of Educational Management, Teaching and Entrepreneurship Studies
VOL.4, September-December, 2021https://ajemates.org

EXTENT OF APPLICATION OF INVENTORY MANAGEMENT PRACTICES BY STORES OFFICERS IN PUBLIC TERTIARY EDUCATIONAL INSTITUTIONS IN SOUTH-EAST NIGERIA

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ABSTRACT
This study determined the extent of application of inventory management practices by Stores Officers in public tertiary educational institutions in South-East Nigeria. Two research questions guided the study. Two null hypotheses were tested at 0.05 level of significance. Related literature pertinent to the study were reviewed which exposed the need for the study. Descriptive survey research design was adopted, using a population of 595 Stores Officers in all the public tertiary educational institutions. Taro Yamani formula was used to select a sample size of 239 Stores Officers. A structured questionnaire developed by the researcher was used for data collection. Cronbach Alpha method was used to establish the reliability of the instrument. The reliability yielded coefficient values of 0.81 and 0.84 for the two clusters. Data collected were analyzed using mean, standard deviation and ANOVA. Mean was used to analyze data related to the research questions and standard deviation was used to explain how the responses of the respondents varied. ANOVA was used to test the hypotheses at 0.05 level of significance. The results showed that periodic inventory management practices was lowly applied by Stores Officers in public tertiary educational institutions in South-East Nigeria, while just-in-time inventory management practices was highly applied. The results also showed that there was no significant difference in the mean ratings of the respondents on the extent they applied periodic and just-in-time inventory management practices based on years of experience. Based on the findings, the researchers recommended among others, that Stores Officers should pursue enhanced application of all inventory practices to enhance the productivity level of tertiary educational institutions.

Keywords: Inventory management practices, stores officers and tertiary educational institutions.

Introduction

Education is a basic necessity of life and an important factor which brings about changes both individuals and societies. The growth and development of any nation is hinged on the level of education attained by its citizens. In other words, education is the bridge to the development of any nation and the key for positive change in the society because of its far reaching effects on growth and development in all sectors of the economy. Education is critical to the development of human resources, impartation of appropriate skills, knowledge and attitude. It is a basis for national transformation and industrialization as well as a high way to knowledge transmission. The beauty of Nigerian educational objectives as outlined by the Federal Republic of Nigeria (FRN, 2014) is that it aims at the acquisition of appropriate skills, abilities and competencies, both mental and physical, as equipment for the individual to live in and contribute to the development of the society.

The educational system in Nigeria has been delineated into different levels; primary, secondary and tertiary levels. Tertiary educational institutions are institutions of higher learning where knowledge is imparted to its seekers and researches are undertaken in various fields of human endeavour. Tertiary educational institutions are at the post-secondary level of the national education system and include universities, polytechnics, colleges of technology, colleges of education, advanced teacher training colleges, correspondence colleges and such institutions as may be allied to them (FGN, 2014). These institutions may be publicly or privately owned and are meant to contribute to national development by developing physical and intellectual skills which will enable individuals to become self-reliant and useful members of the society.

It is important to appreciate the fact that, for tertiary educational institutions to achieve their objectives effectively, there is need to establish an effective inventory management system to furnish the management with necessary analyses, appraisals, and recommendations for decision making (Modibbo, 2015). Higher educational institutions purchase different materials and equipment known as inventory. Inventory is an asset in the form of materials and equipment in the production and service delivery processes. These materials and equipment are often properly stored in order to avoid discrepancies or loss and hence, the need for inventory control system for effective and efficient management. Inventory plays a significant role in the growth and survival of an organization in the sense that ineffective and inefficient management of inventory will mean that the organization loses customers and sales will decline. Daniel (2017) defined inventory management simply as the management of inventory or stock.

In educational institutions, inventory includes assets like stationary, moveable infrastructure like chairs, tables, desks, blackboards, teaching aids like overhead projectors, televisions, video players, DVDs, library assets like books and magazines, among others. Supply of these materials is

affected by funding such that where funding is insufficient as in the Nigerian situation, inventory supply is inadequate or grossly inadequate in some cases for effective teaching and learning. This calls for prudent management of inventory; hence Fedena (2019) averred that it is essential to manage school assets and resources in a prudent manner to ensure efficiency of use.

Inventory management in schools is the management of educational tools and resources to ensure that they are cared for properly and utilized in the ideal fashion to achieve high returns on the expenditure and labour on them. Inventory management thus affects multiple concerns an institution would have from ensuring that their investment has good returns but also ensuring that all their stakeholders benefit from everything the institution has to offer. Tertiary education institutions have a responsibility to manage their inventory and assets appropriately, because there are so many stakeholders involved. This is why Pontius (2020) explained that educational institutions receive funding, tuition, and other endowments that make them especially accountable to these stakeholders.

More importantly, these institutions fall under the governance of the Governmental Accounting Standards Board (GASB) or the Financial Accounting Standards Board (FASB) this makes their compliance with the standards critical to their continued operations. Standards in financial reporting activities of tertiary institutions in the South-East would facilitate inventory management. It is also a truism that the standards and practices would be applied to control corrupt practices by store officers. In view of the fact that inventory management is very important to educational institutions, both the administration and employees are expected to be aware of the best practices associated with the management of inventory and fixed assets. Schools have two types of stock namely educational materials, equipment and supplies. These equipment cost money and if they are left in a warehouse unused, quickly become outdated and no longer usable. This underscores the need for tertiary institutions to establish policies to ensure proper inventory management.

Inventory management is a step in the supply chain where inventory and stock quantities are tracked in and out of the warehouse or store. The goal of inventory management is to know the status of inventory at any given time in order to manage the levels correctly (Walts, 2020). Schools and universities are responsible for the storage of nearly limitless supplies and books from front office supplies to classroom texts and full libraries. The information and materials available at these institutions are incredibly valuable. However, without a quality inventory management practices, captured information can easily be lost or overlooked as materials are misplaced, forgotten, or pushed to the back of storage. Inventory management is very important because every organization strives to maintain optimum inventory to be able to meet requirements and avoid over or under inventory that can impact on the financial figures. Furthermore, inventory is always dynamic and requires constant and

careful evaluation of external and internal factors and control through planning and review.

Inventory management is critical to an organization's success in today's competitive and dynamic market. This entails a reduction in the cost of holding stocks by maintaining just enough inventories, in the right place and the right time and cost to make the right amount of needed products. Daniel (2017) observed that high levels of inventory held in stock adversely the procurement performance out of the capital being held which affects cash flow and leads to reduced efficiency, effectiveness and distorted functionality. In order to achieve the objectives of minimizing stock related costs, firms should maintain adequate levels of stock so as to enable smooth business operations.

Good inventory management is equal to good financial management. Most organizations are forced out of business due to poor inventory management because determination of many economic trends and making various forecasts are based on amount invested in inventories. Obiri-Yeboah, David and Makafui (2015) asserted that good inventory management practices help by adding value in terms of having control over and maintaining lean inventory. Inventories often constitute a major element of the total working capital. In public sector organizations a large portion of working capital is locked up in inventories resulting in various visible and invisible effects on performance. Thus, it is very essential to reduce the amount of capital locked up in inventories.

Inventory management is very important because it sets policies and establishes guidelines to ensure efficient and scientific inventory control. Inventory forms an important part of current assets of any organization. The return on investment depends on the utilization of inventories. Inventories are also the subject of reduction efforts because they are a critical variable in a firm's return on investment. The inventory management policy of the public sector enterprises has direct influence on their profitability and risk. The liquidity can be strengthened by increasing the level of investment in inventory but increased liquidity through increased levels of inventory decreases its returns because more funds will be tied up in current assets than are absolutely necessary. To increase the rate of return, the liquidity will have to be sacrificed by reducing the level of investment in inventories to the minimum. This is in line with the position of Haruna and Salome (2019) that inventory management is based on the need to demonstrate accountability for public funds, improve transparency and credibility of information used for policy making as well as efficiency. Poor inventory management can present a serious challenge in the validity of an organization and can sometimes have disastrous effect on the solvency.

There are various perspectives to the problem of inventory control in developing economies like Nigeria currently facing challenges of maintaining socio-economic progress amidst unprecedented plunge in crude oil prices and tightened global

financial conditions which resulted in sharply reduced export earnings and government revenues (Aro-Gordon & Gupte, 2016). In the Nigerian context, the key challenge of inventory control has been attributed to failure on the part of top management officials, to give deserved attention to the function of warehouses and stores as well as their inability to employ well qualified stores officers to take charge of inventory supervision and management. There is a misconception that inventory operation is not a strategic function and also the dearth of storage facilities as well as the habit of stores procedure violation by various cadre personnel in many organizations. Gitau (2016) opined that management of inventories has an important bearing on the financial strength and competitiveness of organizations because it directly affects working capital, production and service delivery. This is why Akindipe (2014) averred that the practice of inventory management in tertiary institutions in South East Nigeria today requires significant improvement, in view of the poor level of computerization, non-determination of stock level and the involvement of illiterates and unskilled personnel in the management of inventory. In order to control inventories properly, organization should have a policy of periodic check up of the materials stocked and keeping records properly (Yunis, 2019).

Tertiary education institutions in this study include public universities and colleges of education which are established to meet the nation's need for socio-economic development through knowledge-sharing, research and development. Modibbo (2015) asserted that tertiary institutions are expected to provide educational services, counselling and credible financial statements to the general public at the right time. In view of this, effective inventory management is essential to the survival of educational institutions, industries and the economy. Managing inventories by stores officers at public tertiary institutions is one of the major challenges for higher educational institutions in Nigeria especially South-East. Stores officers ensures adequate and complete keeping of appropriate store accounting records for all procurements and rendering relevant reports to management for decision making. Achieving these expectations in the every growing public tertiary institution calls for inventory management practices. Many practices are available for effectively managing inventories. According to Daniel (2017), the inventory management practices that are universally adopted by firms include Economic Order Quantity (EOQ) model, ABC model, Vendor Managed Inventory (VMI), Just-In-Time model, Bar-coding, Periodic review, Perpetual Review, Simulation, among others. This study focused on the following inventory management practices such as periodic and just-in-time inventory management practices in tertiary institutions.

The practice and implementation of inventory management have been difficult in some Nigerian tertiary educational institutions. The periodic review approach is one of the inventory management policies that review the physical availability of inventories at specified time intervals and

ordered to place orders for a maximum level of inventory (Ogbo, 2014). When a periodic review policy is applied, every unit of an item at a particular time is replenished/ ordered to raise the inventory position to the order up to level to the minimum level. Organizations physically count their products at the end of the period and use the information to balance their general ledger. This inventory valuation ensures that tertiary educational institutions track its beginning inventory and ending inventory within an accounting period in institutions financial reporting activities for credibility of accounting information.

A periodic inventory management practice is a form of inventory valuation where the inventory account is updated at the end of an accounting period rather than after every sale and purchase. The method allows an organization to track its beginning inventory and ending inventory within an accounting period. According to Kenton (2019), the periodic inventory management practice is a method of inventory valuation for financial reporting purposes in which a physical count of the inventory is performed at specific intervals. Periodic inventory reviews do not track inventory on a daily basis. They allow organizations to know the beginning and ending inventory levels during a certain period of time. These types of inventory control systems track inventory using physical inventory counts. When physical inventory is completed, the balance in the purchases account shifts into the inventory account and is adjusted to match the cost of the ending inventory (Chopra, 2015).

Businesses physically count their products at the end of the period and use the information to balance their general ledger. This accounting method takes inventory at the beginning of a period, adds new inventory purchases during the period and deducts ending inventory to derive the cost of goods sold (COGS). Under the periodic review inventory, the accounting practices are different than with a perpetual review system (Kenton, 2019). To calculate the amount at the end of the year for periodic inventory, the organization performs a physical count of stock. Periodic system examples include accounting for beginning inventory and all purchases made during the period as credits. Companies do not record their unique sales during the period to debit but rather perform a physical count at the end and from this reconcile their accounts. Cost flow assumptions are inventory costing methods in a periodic system that businesses use to calculate Cost of Goods Sold (COGS) and ending inventory. Beginning inventory and purchases are the input that accountants use to calculate the cost of goods available for sale. They then apply this figure to whichever cost flow assumption the business chooses to use, whether first –in-first-out (FIFO), last-in-first-out (LIFO) or the weighted average (Kenton, 2019).

The Just-in-Time is an inventory management practice with the objective of maintaining just sufficient materials at the right place and at the right time in order to make the right quantities of inventories. This concept was established by manufacturing businesses in Japan where inventories are acquired only when demanded in a business

for the purpose of production. The focus here was on enhancing return on investment of a firm through reduction of in-process inventory and its associated costs (Fanuel & Lidetu, 2019). It is about having the lowest inventory amounts possible in order to minimize inventory costs, increase efficiency and reduce wastes. Just in time purchasing recognizes high costs associated with holding high inventory level and as such it has become important in most organizations to order inventory just in time of production so as to cut costs of holding inventory like storage lighting, heating, security, insurance and staffing (Folinas, Fotiadis and Coudounaris, 2017).

According to Banton (2020), just-in-time (JIT) inventory system is a management strategy that aligns raw-material orders from suppliers directly with production schedules. Companies employ this inventory strategy to increase efficiency and decrease waste by receiving goods only as they need them for the production process. This ultimately reduces inventory costs. This method requires producers to forecast demand accurately. Under the JIT system, materials are purchased and goods produced only as required, rather than to build up stocks for future use. This alleviates the need to make space for holding products and materials, and results in less time wasted waiting for large amounts of materials and products. Just-in time provides an efficient production system in an organization and delivery of only the necessary parts in the right quantity, at the right time and place while using the minimum facilities. Just-in-time inventory management system helps in reducing inventory costs by avoiding carriages of excess inventories and mishandling of raw materials. According to Kortz in Daniel (2017), just in time purchasing recognizes high costs associated with holding high inventory level and as such it has become important in most organizations to order inventory just-in-time of production so as to cut costs of holding inventory like storage, lighting, heating, security, insurance and staffing.

Respondent variable that can influence their extent of application of inventory management practices and will be investigated in the study is years of experience. The knowledge, experience and expertise of accounting officers such as stores officers may determine the extent of application of inventory management practices in tertiary educational institutions in South East Nigeria. According to Boger in Ile and Odimmega (2018), Nigerian tertiary institutions do not attract grants from international agencies because of lack of internal transparency and accountability. Boger further stated that experienced accounting professionals can carefully adopt generally accepted principles in preparation of financial statements in order to ensure transparency and accountability of accounting information. It is on the basis of this background that this study was conceived to determine the extent of application of inventory management practices by stores officers in public tertiary educational institutions in South-east Nigeria.

Statement of the Problem

Inventory constitutes the most significant part of current assets in any organization especially tertiary educational institutions. Schools have two types of stock or inventory, namely, educational materials, equipment and supplies. These cost money and require adequate control using suitable management practices especially in the face of perennial poor funding of the Nigerian educational system. Such controls cover movement of materials stored, ordered and issued. Failure to choose appropriate inventory management practices or integrate relevant information in the process of implementing these practices in most effective way usually lead to poor performance of organizations. Poor inventory management provide negative impact on the provision of quality education in educational institutions which results into theft of educational materials and equipment, over or under stock of inventory and the attendant interruption of operations and increased cost. The problem of stock control may be attributable to failure, on the part of the top management officials, to give deserved attention to the function of stores as well as their inability to employ the services of well qualified Stores Officers to take charge of stores supervision and management. Added to this problem is the issue of dearth of storage facilities and the habit of stores procedure violation by the top, the middle, and the junior cadre personnel in the organization.

Many scholars have found that lack of good inventory management had adversely affected organizations both internationally and locally. It has also been observed that management and staff have minimal knowledge on how to apply the inventory order quantity which negates the success of an organization. These result in improper verification and valuation of inventory in institution's financial reporting. For better functions of the public tertiary educational institutions, materials and equipment should be stored properly so as to avoid discrepancies or losses. This makes the study on extent of application of periodic and just-in-time inventory management practices by stores officers in public tertiary educational institutions in South-East Nigeria imperative. The study will provide empirical data to enable relevant stakeholders take objective actions to ensure proper inventory management in educational institutions.

Research Questions

The following research questions guided the study:

1. To what extent do Stores Officers apply periodic inventory management practices in public tertiary educational institutions in South-East Nigeria?
2. What is the extent to which Stores Officers apply just in time inventory management practices in public tertiary educational institutions in South East Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of the respondents on the extent they apply periodic inventory management practices in public tertiary educational institutions in South-East Nigeria based on experience (1 – 5 years, 6 – 10 years, above 10 years).
2. Stores Officers do not differ significantly in their mean ratings on the extent they apply just-in-time inventory management practices in public tertiary educational institutions in South-East Nigeria based on experience (1 – 5 years, 6 – 10 years, above 10 years).

Research Method

Descriptive survey research design was adopted in this study. According to Nworgu (2015), descriptive survey research design is one which aims at collecting data and describing in a systematic manner the characteristics, features or facts about a given population using a questionnaire. The study was conducted in South-East Nigeria which is located in the eastern part of the River Niger. South-East Nigeria consists of Abia State, Anambra State, Ebonyi State, Enugu State and Imo State. The population of this study consisted of 595 Stores Officers in all the public tertiary educational institutions (five federal universities and four federal colleges of education) in South-East Nigeria. A sample size of 239 Stores Officers was used for the study. The sample size was derived using Taro Yamani formula. Data for the study was collected using a structured questionnaire titled "Extent of Application of Inventory Management Practices in Tertiary Educational Institutions (EAIMPTEI)". The respondents were requested to rate the items on a 5-point rating scale of Very Highly Applied (VHA), Highly Applied (HA), Moderately Applied (MA), Lowly Applied (LA) and Very Lowly Applied (VLA) with values 5, 4, 3, 2 and 1 respectively. The instrument was validated by three experts in Business Education Department. Cronbach Alpha method was used to establish the reliability of the instrument. The reliability yielded coefficient values of 0.81 and 0.84 for the two clusters. Data collected were analyzed using mean, standard deviation and ANOVA. The application of Statistical Package for Social Sciences (SPSS) version 23 was used for data analysis. For the hypotheses, p-value was used for decision making. Where the calculated p-value is less than the stipulated level of significance 0.05 (i.e. $p < 0.05$), it implies that there is a significant difference between respondents' mean scores and the null hypothesis is rejected. On the other hand, if the p-value is greater than or equal to the alpha level of 0.05 ($p \geq 0.05$), it means that there is no significant difference in the respondents mean scores and is not rejected.

Presentation of Results

Research Question 1: To what extent do Stores Officers apply periodic inventory management practices in public tertiary educational institutions in South-East Nigeria?

Table 1: Mean ratings of Stores Officers on their extent of application of periodic inventory management practices in public tertiary educational institutions in South-East Nigeria.

N = 193

S/No	Periodic Inventory Management	Mean	SD	Decision
1.	Ensuring that policies and procedures are current in writing and properly approved	2.08	0.65	Lowly applied
2.	Ensuring orders are placed at specific time intervals.	1.92	0.66	Lowly applied
3.	Ensuring that receiving, issuing, accounting and storing responsibilities are properly segregated	1.70	0.72	Lowly applied
4.	Taking appropriate steps to safeguard goods against risk of loss by theft are ensured	1.77	0.59	Lowly applied
5.	Ensuring that departments compare quantities received against receiving reports	2.00	0.74	Lowly applied
6.	Ensuring that adequate provisions are made for obsolete and inactive items in inventories	2.09	0.70	Lowly applied
7.	Management monitoring and approving the write-offs of obsolete and inactive inventories	1.99	0.70	Lowly applied
8.	Ensuring that materials released from storerooms are only on the basis of requisition approved by the department	1.86	0.74	Lowly applied
9.	Ensuring all classes of inventory items are physically counted annually.	1.89	0.68	Lowly applied
10.	Ensuring that current inventory is adjusted at year end by fiscal year end physical counts.	1.90	0.75	Lowly applied
Cluster Mean		**1.92**		**Lowly applied**

Table 1 shows that the mean scores of all the 10 items on periodic inventory management practices range between 1.70 and 2.09 which indicate that each of them is lowly applied. The cluster means score of 1.92 shows that, and whole periodic inventory management practices are lowly applied by Stores Officers in public tertiary educational institutions in South-East Nigeria. The standard deviations for all items are within the same range showing that there is homogeneity amongst responses indicating a greater consensus of opinion.

Research Question 2: What is the extent to which Stores Officers apply just-in-time inventory management practices in public tertiary educational institutions in South East Nigeria?

Table 2: Mean ratings of Stores Officers on their extent of application of just-in-time inventory management practices applied in public tertiary educational institutions in South-East Nigeria. N = 193

S/No	Just-in-Time Inventory	Mean	SD	Decision
1.	Maintaining first enough material at just the right time in just the right place to make the right amount of product	4.00	0.62	Highly applied
2.	Coordinating movement of inventory	4.23	0.58	Highly applied
3.	Matches demand and supply by use of JIT	4.27	0.65	Highly applied
4.	Reducing warehousing space by use of JIT	3.91	0.60	Highly applied
5.	Ensuring timely delivery of materials and equipments	4.02	0.79	Highly applied
6.	Using JIT to prevent stock outs	4.37	0.60	Highly applied
7.	Using JIT to reduce inventory levels	3.90	0.70	Highly applied
8.	Using JIT to save cost of inventory	4.03	0.75	Highly applied
Cluster Mean		**4.09**		**Highly applied**

Table 2 shows that the mean scores of all the eight items on just-in-time inventory management practices range between 3.90 and 4.37 which indicate that each of them is highly applied. The cluster means score of 4.09 shows that, and all the just-in-time inventory management practices are highly applied by Stores Officers in public tertiary educational institutions in South-East Nigeria. The standard deviations 0.58 to 0.79 show that there is homogeneity amongst responses indicating a greater consensus of opinion.

Test of Hypotheses

Hypothesis 1: There is no significant difference in the mean ratings of the respondents on the extent they apply periodic inventory management practices in public tertiary educational institutions in South-East Nigeria based on experience (1 – 5 years, 6 – 10 years, above 10 years).

Table 3: Summary of ANOVA on the periodic inventory management practices applied by Stores Officers in public tertiary educational institutions in South-East Nigeria

Source of Variance	Sum of Square	df	Mean Square	F	P-value	Decision
Between Groups	13.502	2	6.751	1.465	.234	Not Sig
Within Groups	875.617	190	4.609			
Total	889.119	192				

Table 3 shows that at 190 degree of freedom, experience does not significantly influence the mean ratings of respondents on the extent of their application of periodic inventory management practices in public tertiary educational institutions in South-East Nigeria. F-ratio is 1.465 and P-value (.234) which is greater than the stipulated 0.05 level of significance (P-value > alpha level). Therefore, the null hypothesis is not rejected.

Hypothesis 2: Stores Officers do not differ significantly in their mean ratings on the extent they apply just-in-time inventory management practices in tertiary educational institutions in South-East Nigeria based on experience (1 – 5 years, 6 – 10 years, above 10 years).

Table 4: Summary of ANOVA on the just-in-time inventory management practices applied by Stores Officers in public tertiary educational institutions in South-East Nigeria

Source of Variance	Sum of Square	df	Mean Square	F	P-value	Decision
Between Groups	9.530	2	4.765	1.867	.157	Not Sig
Within Groups	484.916	190	2.552			
Total	494.446	192				

Table 4 shows that at 190 degree of freedom, experience does not significantly influence the mean ratings of the respondents on the extent of their application of just-in-time inventory management practices in tertiary educational institutions in South-East Nigeria. F-ratio is 1.867 and *P-value* (.157) is greater than the

stipulated 0.05 level of significance (P-value > alpha level). Therefore, the null hypothesis is not rejected.

Discussion of Findings

The results of the study indicated that periodic inventory management practices were lowly applied by Stores Officers in public tertiary educational institutions in South-East Nigeria. This finding is in consonance with that of Otchere, Adzimah and Aikens (2016) who stated that organizations are faced with serious long lead time challenges due to poor application of periodic inventory management practices. Periodic inventory management practices are relatively good and it helps institutions in checking inventory continuously and at fixed intervals to keep their stock always in order to meet institutions demands. In support of this, Munyao, Omulo, Mwithiga and Chepkulei (2015) opined that the periodic review approach helps to avoid stock-outs with its costs and overstocking which again may tie-up working capital and may also lead to deterioration of stock and obsolescence in the stores. This will help Stores Officers to ensure that orders are placed at specific time intervals and adequate provisions made for obsolete and inactive items in inventories. This will enable an institution to track its beginning and ending inventory within an accounting period for financial reporting purposes. Findings further revealed that there was no significant difference in the mean ratings of respondents on the extent they apply periodic inventory management practices in public tertiary educational institutions in South-East Nigeria based on experience. This contradicts the studies carried out by Otchere, Adzimah, Aikens (2016) and Munyao, Omulo, Mwithiga and Chepkulei (2015) that showed there is a significant difference. This is an indication that tertiary educational institutions in South-East Nigeria do not review their inventory levels periodically.

The results of the study indicated that just-in-time inventory management practices were highly applied by Stores Officers in public tertiary educational institutions in South-East Nigeria. This is similar with the findings of Nuria (2016) who reported that just-in-time inventory management practices were well managed to a high extent in university departments. Gitau (2016) also found that just-in-time inventory management practices are used to a great extent which leads to performance in their financial activities. Most institutions employ this inventory strategy to increase efficiency and decrease waste by receiving materials and equipment only as they need them rather than to build up stocks for future use. This ultimately reduces inventory costs. In support of this, Nzioka and Susan (2017) stated that just-in-time inventory practice ensures timely delivery of materials and equipment thereby preventing stock outs. This enhances return on investment of an institution through reduction of in-process inventory and its associated costs by avoiding carriages of excess inventories and mishandling of equipments. Findings also revealed that stores officers with different years of experiences do not differ

significantly in their mean ratings on the extent they apply just-in-time inventory management practices in tertiary educational institutions in South-East Nigeria. It follows therefore, that the null hypothesis of no significant difference was accepted. This indicates that Stores Officers with 1-5 years, 6-10 years and above 10 years of experience hold the same view as to the application of just-in-time inventory management practices in their various institutions. This contradicts the findings of Gitau (2016) and NdianguKung's (2016) that showed there is a significant difference.

Conclusion

It is clear from the study that inventory management practices (periodic) have not been fully applied by stores officers in public tertiary educational institutions in South-East Nigeria. Inventory management practices are essential in the operation of educational institutions. As an asset on the balance sheet of public tertiary educational institutions, inventory has become increasingly important because many educational institutions are applying the strategy of reducing their investment in fixed assets, like plants, warehouses, equipment and machinery, which highlights the significance of reducing inventory. Based on the findings of the study, it is concluded that unless the administration of universities ensure appropriate application of good inventory management practices, they will continue to suffer especially in relation to stock management. Good inventory management practices will help ensure timely delivery of materials and equipment and maintain ideal levels of inventory that have an effect on reducing high cost of maintaining stock thereby increasing profitability of institutions. It will also help to ensure efficiency in the output of the institutions.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Stores Officers should pursue enhanced application of all inventory management practices to enhance the productivity level of public tertiary educational institutions.
2. Management of public tertiary educational institutions should ensure periodic stock review in order to ensure that proper records are intact with regard to materials in stock, materials to be supplied and materials to be procured.
3. The National Universities Commission (NUC) and National Commission for Colleges of Education (NCCE) should lay emphasis on proper inventory management techniques and measuring of efficiency deviations to identify weaknesses in the process of managing inventories.

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