INVENTORY CONTROL PRACTICES AND PERFORMANCE OF PUBLIC COMPANIES (A SURVEY OF SELECTED STATE-OWNED COMPANIES IN RIVERS STATE)

ThankGod C Agwor, Dr
INVENTORY CONTROL PRACTICES AND PERFORMANCE OF PUBLIC COMPANIES (A SURVEY OF SELECTED STATE-OWNED COMPANIES IN RIVERS STATE)

Ndukwe A. Ukpai; Thankgod C. Agwor; and Kariba G. Bagshaw

Abstract
This study was necessitated by prevalent poor performance and distress syndrome associated with public companies. There was extensive relevant literature review which gave rise to tentative assertions or hypotheses. The survey methodology was carefully stated, followed diligently and accomplished as required, ensuring an acceptable level of validity and reliability of the data used. Indepth analysis of data was carried out. From initial theoretical assumptions, major findings were made and discussed accordingly. The hypotheses were also tested. In furtherance of this presentation considerable recommendations were outlined and discussed. There was a section for conclusions as required, where if the suggestions are adopted in vibrant government owned companies, the incidence of distress may not occur especially if such is related to inventory control practices.

Introduction
The problem of persistent poor performance and distress of public sector companies has been a source of great concern to both the government and the general public. The benefits inherent in the effective planning and controlling of business resources have gained wide recognition among managers of business organizations in their attempt at maximizing shareholder’s wealth. Organizational Management is often faced with decision problems such as choice amongst alternatives, resource commitment to different courses of action. These problems relate to investment and could exert undesirable impact on business operations, if not carefully managed. The expected cash-flow, rates of return and risks usually associated with investment proposals require careful monitoring, evaluation and analysis by management in
making and undertaking investments decisions. Most often, analysis reveal signals that guide and influence them in the decision-making processes.

Inventories are investment that constitutes a significant portion of a firm’s overall investment in assets. Inventories play a necessary role in determining the financial position of firms, as they materially affect both the income statements and balance sheets. This category of asset is therefore, seen as occupying a focal position in the management planning scheme. Inventory usually applies to finished goods available for sale, manufactured product or indirect materials which assist in production and selling of goods or providing a service, and work-in-progress which is taken to be, partly made manufacture or contracts in the course of completion (Taylor and Sheering, 1989). Therefore, Kieso and Wygant (1989), argued that, inventories are asset items held for resale in the ordinary course of business, goods that will be used or consumed in the production of goods for sale. These definitions portray inventories as “monies” locked up, which should no doubt, have significant influence on corporate profitability. Hence, there is need for an effective management and control system if the desired impact on performance should be achieved. The turbulent Nigerian Business Environment and high inflationary trend calls for efficient inventory control system by public corporations. This is necessary if they must create the impact relevant to their survival and growth.

The Nigerian economy has been undergoing serious regression culminating in alarming number of failed and distressed business organizations in the public and private sectors. The several regulatory and relief measures employed by the Government to ensure efficiency and economic viability of the nation have failed to yield the expected results. This experience seems more pronounced in the public sector where many known Government-owned companies and agencies established to improve the economy have collapsed. The economic conditions no longer allow management of these
establishments to implement policies formulated to guarantee protection for the huge investments.

Public sector companies are not able to imbibe prudent cost control culture the failure of which, turns contrary to their profit maximization objective. The reason for this less cost-conscious attitude by management of public corporations requires serious exposition. A good inventory control system should be able to incorporate an effective cost control mechanism, so that the effect of cost on profit will not be detrimental to the business. Government owned companies are mostly unable to meet the public demand for their products. Often times, they are compelled to adopt the prevalent quota system or some other discriminative sales styles in their distribution efforts and end up leaving some segments of the public unsatisfied. Inadequate supply of products is sometime occasioned by stock cuts and production stoppages which are of course, not peculiar to public companies.

Public sector companies need to recognize the fact that the management’s approach today is to identify all expenditures that do not produce value for the company and evolve strategies aimed at eliminating them. Therefore, to control the stock of goods held by a company is not only essential but also vital to corporate performance efficiency. The inventory control manager needs to pursue the service level improvement objective with diligence so as to avoid possible sub-optimization of the profit objective through the consistent pilling up of expensive stocks. Management of Government-owned companies need to adopt scientific inventory control approach aimed at balancing service with the cost of providing it. The approach could provide answers to the two basic inventory decision questions of what quantity to order and when to order? The managerial concepts of Economic Order Quantity (EOQ), delivery time, stock and safety stock are some of the basic tools used in solving the decision problem.
The extent of application could account for the disparity in the efficiency and effectiveness levels of both private and public sectors. The main research question is “to what extent can efficient inventory management and control practice improve profitability of companies in the public sector?” Therefore, it is a consideration for this study to lay emphasis on the extent to which state-owned companies recognize inventory control as one major factor affecting profitability and if such recognition is evidently proven, the study will further unveil the extent of practice and the commensurateness of the performance results being achieved. It will also reveal whether or not the problem of poor profits usually reported by Government-owned companies is partly caused by loopholes existing in the inventory control systems of these companies. These expositions shall all serve as a pointer to the need for ensuring functional inventors control machinery in the performance of managerial tasks, thus reducing if not completely eliminating, the general laxity usually displayed by management of public corporations. The expected results shall be a high level attainment of organizational goal.

**Theoretical Justification**

The term ‘inventory’ has been given various definitions by several scholars, seeking to provide an appropriate description of its meaning and use in business organizations. Meigs and Johnson (1978), describe inventory as consisting of goods held for sale to customers, partially completed goods in production, and materials and supplies to be used in production. In their own sense, Hoffman and Gunders (1970), referred to inventory as stocks on hand at a particular time, of raw materials purchased for production or for resale and tangible assets which can be seen, weighted and counted.

Portraying inventories as a link between the production and consumption of goods, Pandey (1993). recognized the major forms of inventories as raw materials, work-in-progress and finished goods, 1-Ic stated that, stocks of raw materials and work-in-progress facilitate production, while stock of finished goods is required for smooth marketing operations. The fourth
type of inventory also recognized is ‘supplies’ which include office and plant cleansing materials, oil, fuel, light bulbs that are not directly consumed in production but are necessary for the production process. Pandey’s classification conforms to that of Menson (1993), who classified inventories into four broad categories namely: (1) Production inventories, which are those purchased for the market such as materials, spare parts and components manufactured in one’s own company and kept as stock for use. (2) MRO inventories (maintenance, Repairs and Operating supplies) which include, Petrol, Oil and Lubricants, etc (3) Work-in-progress inventories, which are semi-finished products usually found on the factory floor in various stages of production. (4) Finished goods inventories, which are the output of the production process, ready for sale. These descriptions and classification form the basis for inventories being seen as cash converted and locked up in this form probably for the purpose of security and appreciation in value. Inventory therefore, is that category of current asset that is converted through the manufacturing or marketing process into products from which company earns its revenue. It is one of the most important current asset, the existence of which is fundamental to the formation and operation of a typical manufacturing or merchandising concern. Therefore, it occupies a strategic position in a company’s cash flow process.

The importance of inventory to a company cannot be overemphasized, hence, there is the need for controlling and managing the inventory investments into which business financial resources are committed. Large inventories are tied with huge sums of money. Conversely, to little inventory may cause work stoppages, extra machine set-ups, loss of sales and loss of customer goodwill because of inability to deliver the product. It is therefore, of prime importance that a business organization determines and maintains adequate inventory for a given volume of business which yields the greatest financial return on the total business assets. This appears to be the fundamental idea behind inventory control.
According to French and Saward (1975), inventory control are activities, process or study of ensuring that quantities of stock e.g. raw materials, work-in-progress and finished goods or supplies are such that satisfactory service level is maintained for all stock keeping units, with stockholding cost minimized. Hotfrnan and Gunders (1970), considers inventory control functions as involving “the development and administration of policies, systems and procedures which minimize total costs relative to inventory decisions and related functions such as customer service requirements, production and scheduling, purchasing and traffic.

Irrespective of the divergent descriptions of the meaning of inventory management and control, its ultimate aim is to avoid excessive and inadequate levels of inventories, while maintaining sufficient quantity for the smooth production and sales operations. The carrying of excessive and inadequate inventories are both dangerous to any firm because of the associated costs and losses. The optimum level of inventory will therefore lie between these two areas of excessive and inadequate inventories.

The fundamental objective of inventory control is to satisfy, the production and consumption needs of the customers, the adoption of a set of policies and procedures this can be achieved. Inventory control activities are performed with different techniques depending upon the specific circumstance and preference of the organization concerned. Roy Smith (1988), argued that, various techniques for controlling stock levels are in use and that they range from the ‘primitive’ to the more ‘complex’ ones depending on the operational circumstance in the organization. As inventory control aims at improving service level at minimum total cost, the deg. of sophistication of any technique chosen will largely depend on the company’s specific purpose or its economic advantage. Hence, this is the manifestation of the views of Jennis (1970), that, “more complex techniques have been of value to a number of companies, they are not necessarily feasible for general inventory situations, because they are frequently
based on assumptions and requirements which are associated with specialized operating conditions”. To choose an inventory control technique therefore, a company may give consideration to certain factors; they are as follows: (1) the company’s inventory service level improvement objective (2) anticipated benefits from improved inventory control system (3) availability of data that can aid the inventory control system (4) the nature and size of inventories being carried by the company (5) management perception of the benefits of developing an effective system of inventory control in the organization. Apart from the consideration of factors affecting choice of inventory control technique, the appraisal of currently available inventory data and development of improved reporting procedures are preliminary activities in developing an effective inventory control system. As Hoffman and Gunders (1970), rightly put it. “The effectiveness of any inventory control system is dependent upon the accuracy, timeliness and scope of data available for input into the various control techniques and inventory reports. The data required involves among others a record of inventory status and the ability to locate materials, a projected usage of inventory items and the amount of time required to obtain additional stock for replenishment inventory control could be visualized as a system whereby a company adequately makes stocks of inventory available for meeting its production and sales needs without placing additional cost burden or other inconveniences on the business. While aiming at determining the quantity of inventory to purchase and the timing of such purchase, inventory control seeks to minimize the total cost of carrying out this task.

From the foregoing, the following hypotheses are derived from the detailed theoretical justifications.
Ho1: Inventory control measures and practices in state owned enterprises have deviated from the standardized method and the industrial standard practice.
Ho2: There exists no positive relationship between inventory control systems and state-owned companies’ performance.
Ho₃: There exists no significant improvement in the average return on Government-owned companies’ inventory investments.

**Methodology**
The study was based on the impact which inventory management and control practice could have on performance of state owned corporations in contemporary Nigeria, Particularly the coastal states of Niger Delta region. Fourteen copies of the questionnaires were distributed to 14 questionnaires were retrieved representing, 71 percent of the total number, which represents the sample size in this study. Secondary data were collected from academic journals, and comprehensive annual statements of account of Government-owned companies. From the population, the segment consisting of manufacturing companies was chosen, relevant information was elicited from key personnel of the companies. The choice of manufacturing companies was because it is in manufacturing companies all three forms of inventories are available and used in reasonable magnitude, the limited time frame within which the study was to be completed and the fact that there was a pilot study to determine and actually establish the companies that were willing to participate in the study, these have taken care of the problem of non-return of administered questionnaire by respondents.

**Findings and Analysis**
We sought to know whether or not inventory control is practiced in government-owned companies and reasons for practicing it. All the companies interviewed agreed that they had inventory control system in place. The data from the companies practicing inventory control are presented in Table I below:
We sought to know whether or not state-owned enterprises consider inventory costs as one major problem affecting their operations. Out of the ten (10) respondents, eight (8) representing 80% answered “Yes”, while 2 repenteding 20% answered “No”. As a follow-up we used a 5-point scale ranking (ranging from very high to very low) to determine the degree of pressure, which the various classes of costs exert on the operations of the companies that gave the affirmative answer.

### Table 1: Reasons for Inventory Control Practice

<table>
<thead>
<tr>
<th>Reasons</th>
<th>No. of Companies</th>
<th>Percentage %</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>It enables efficient management of business resources.</td>
<td>4</td>
<td>40</td>
<td>1st</td>
</tr>
<tr>
<td>It helps instill cost control consciousness in management</td>
<td>1</td>
<td>10</td>
<td>4th</td>
</tr>
<tr>
<td>It facilitates organizational growth.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>It prevents wasteful investment</td>
<td>2</td>
<td>20</td>
<td>3rd</td>
</tr>
<tr>
<td>It prevents the risk of obsolescence in inventories</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>It ensures uninterrupted flow of product in the company.</td>
<td>3</td>
<td>30</td>
<td>2nd</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Survey Data, 2006.

When the Kendall’s coefficient of concordance was applied in testing the variability in the company’s responses, $W = 0.1257$ was found not to be significant as the calculated value of chi-square ($x^2$) = 9.051 is less than the table value of $x^2 = 16.919$ a 95 percent confidence level. This means that there is no common ranking by state owned companies of the degree of impact, which the various classes of inventory cost exert on their operations.

### Table 2: Ranking of the Impact of Inventory Costs on State-Owned Companies Operations

<table>
<thead>
<tr>
<th>Cost</th>
<th>Aggregate Point ER</th>
<th>%</th>
<th>Position</th>
<th>$S = \sum (R_1 - R_i)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of materials</td>
<td>37</td>
<td>14.68</td>
<td>1st</td>
<td>139.24</td>
</tr>
<tr>
<td>Clerical cost of ordering</td>
<td>21</td>
<td>8.33</td>
<td>7th</td>
<td>17.64</td>
</tr>
<tr>
<td>Transportation costs</td>
<td>29</td>
<td>11.51</td>
<td>5th</td>
<td>14.44</td>
</tr>
<tr>
<td>Storage space costs</td>
<td>34</td>
<td>13.49</td>
<td>2nd</td>
<td>77.44</td>
</tr>
<tr>
<td>Handling costs</td>
<td>30</td>
<td>11.90</td>
<td>4th</td>
<td>23.04</td>
</tr>
<tr>
<td>Property taxes</td>
<td>18</td>
<td>7.14</td>
<td>8th</td>
<td>51.84</td>
</tr>
<tr>
<td>Insurance</td>
<td>22</td>
<td>8.73</td>
<td>6th</td>
<td>10.24</td>
</tr>
<tr>
<td>Obsolescence losses</td>
<td>11</td>
<td>4.37</td>
<td>10th</td>
<td>201.64</td>
</tr>
<tr>
<td>Interest on capital invested in inventory</td>
<td>17</td>
<td>6.75</td>
<td>9th</td>
<td>67.24</td>
</tr>
<tr>
<td>Cost carrying insufficient inventory</td>
<td>33</td>
<td>13.16</td>
<td>3rd</td>
<td>60.84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>252</strong></td>
<td><strong>100</strong></td>
<td></td>
<td><strong>663.60</strong></td>
</tr>
</tbody>
</table>

**Source:** Survey Data, 2006.
There has been an impression that management of government-owned companies do not measure up with their private sector counterparts in the performance of managerial tasks. This seems to be true in several aspects of management practice. Hence we sought to confirm through the companies response as presented in table III below.

**Table 3: Inferiority of State-owned Companies Inventory Control Practices to those of Private-Sector Companies**

<table>
<thead>
<tr>
<th>Response</th>
<th>No of Companies</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: Survey Data, 2006.*

While identifying the reasons responsible for below-standard (or inferior) inventory control practice, we went Furthered to put up a S-point ranking scale in order to determine the degree to which the various reasons were responsible for this claim of inferiority. This is shown in the table below.

**Table 4: Ranking of the Reasons for the Inferior Inventory Control Practice of State-owned Companies**

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Aggregate Point E.R,</th>
<th>%</th>
<th>Position</th>
<th>S=Σ(Ri-R)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unnecessary intervention by the government in the company’s affairs affects sound inventory policy.</td>
<td>37</td>
<td>18.97</td>
<td>2nd</td>
<td>20.25</td>
</tr>
<tr>
<td>Management’s reluctance in the application of standard inventory measures due to the complexity and complications involved or sheer negligence</td>
<td>36</td>
<td>18.46</td>
<td>3rd</td>
<td>12.25</td>
</tr>
<tr>
<td>Lack of proper technical skill and training necessary for effective inventory control practice.</td>
<td>27</td>
<td>13.85</td>
<td>5th</td>
<td>30.25</td>
</tr>
<tr>
<td>Lack of adequate funding arrangement necessary to withstand the cost involved in ensuring workable inventory control system.</td>
<td>35</td>
<td>10.77</td>
<td>4th</td>
<td>30.25</td>
</tr>
<tr>
<td>Sub-optimisation of corporate goals as it concerns inventory management personnel.</td>
<td>21</td>
<td>10.77</td>
<td>6th</td>
<td>132.25</td>
</tr>
<tr>
<td>Lack of cost consciousness on the part of managers assigned to the inventory control functions.</td>
<td>39</td>
<td>20</td>
<td>1st</td>
<td>243.50</td>
</tr>
<tr>
<td>Total</td>
<td>195</td>
<td>100</td>
<td></td>
<td>243.50</td>
</tr>
</tbody>
</table>

*Source: Survey Data, 2006.*

We used the Kendall’s coefficient of concordance to test for variability of the responses by the companies and found from our calculations that $W = 0.1718$ was not significant since the computed value of chi-square ($x^2$) = 7.731 is less than the table value of $x^2 = 11.070$ at 95 percent confidence level. This means that there is no agreement in the responses to the
reasons for the inferiority of Government-owned companies inventory control systems compared to those of privately-owned companies.

In examining the relationship existing between inventory control systems and operational performance in state-owned companies, we tried to first identify those conditions that directly influence inventory control systems and then ascertained the weight of influence which each of the conditions has on operations performance in the companies covered by the study. The intention was affirm if the conditions in government-owned companies were same as those commonly known ones. In respect of the influencing conditions are presented in the Table below.

<table>
<thead>
<tr>
<th>Condition</th>
<th>No of Companies</th>
<th>Percentage %</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnitude of the different kinds of inventory that depends on the nature of business</td>
<td>6</td>
<td>60</td>
<td>1st</td>
</tr>
<tr>
<td>Magnitude of the inventory investment</td>
<td>4</td>
<td>40</td>
<td>3rd</td>
</tr>
<tr>
<td>Proportion of inventory to total asset</td>
<td>5</td>
<td>50</td>
<td>2nd</td>
</tr>
<tr>
<td>Proportion of inventory to current asset</td>
<td>5</td>
<td>50</td>
<td>4th</td>
</tr>
<tr>
<td>Security of the amount of Naira investment in inventory</td>
<td>3</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>All of the above</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>None of the above</td>
<td>2</td>
<td>20</td>
<td>5th</td>
</tr>
</tbody>
</table>

Source: Survey Data 2006.

In ascertaining the weight of influence which each of the different conditions has, we drew up a 5-point scale ranking. The response by the companies is presented in the Table below.

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Aggregate Point</th>
<th>%</th>
<th>Position</th>
<th>$S-S_{R}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnitude of the different kinds of inventory that depends on the nature of business</td>
<td>37</td>
<td>25.17</td>
<td>1st</td>
<td>57.76</td>
</tr>
<tr>
<td>Magnitude of the inventory investment</td>
<td>36</td>
<td>24.49</td>
<td>2nd</td>
<td>43.56</td>
</tr>
<tr>
<td>Proportion of inventory to total asset</td>
<td>33</td>
<td>22.45</td>
<td>3rd</td>
<td>12.96</td>
</tr>
<tr>
<td>Proportion of inventory to current asset</td>
<td>23</td>
<td>15.65</td>
<td>4th</td>
<td>40.96</td>
</tr>
<tr>
<td>Security of the amount of Naira investment in inventory</td>
<td>18</td>
<td>12.42</td>
<td>5th</td>
<td>129.96</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2006.
When the Kandall's coefficient of concordance was used to test the variability in the companies responses, we found W—04456 to be significant.

This is because the calculated value of chi square \( (x^2) = 14.259 \) is greater than the table value of \( x^2 = 9.488 \) at a 95 percent confidence level. This means that there is an agreement in the ranking of the responses by the companies as to the conditions that directly relate inventory control systems to state-owned companies' operational performance.

The various assets of a business usually contribute to its income. Hence, to ascertain whether or not the returns on inventory investments state-owned companies have generally improved over the years, the table below contains the response by the companies.

<table>
<thead>
<tr>
<th>Response</th>
<th>No of Companies</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2006.

Probing into this serious response, we took a step further to identify the actual reasons for this unsteady growth in returns. An S-point scale ranking was used for the companies' responses in the Table below.

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Aggregate ER(_1)</th>
<th>Point %</th>
<th>Position</th>
<th>( S= \Sigma (R_iR_j) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor inventory control practice that create unnecessary loopholes in the system</td>
<td>36</td>
<td>15.79</td>
<td>2(^{nd})</td>
<td>56.25</td>
</tr>
<tr>
<td>Lack of proper Government concerns about the company's progress</td>
<td>38</td>
<td>16.67</td>
<td>1(^{st})</td>
<td>90.25</td>
</tr>
<tr>
<td>Generally poor operational performance experienced by the company</td>
<td>16</td>
<td>7.02</td>
<td>8(^{th})</td>
<td>156.25</td>
</tr>
<tr>
<td>Relatively high inventory/Total asset ratio</td>
<td>17</td>
<td>7.45</td>
<td>7(^{th})</td>
<td>132.25</td>
</tr>
<tr>
<td>Unrestricted unhealthy supply deals that ordinarily inflates total value of inventory.</td>
<td>32</td>
<td>14.04</td>
<td>5(^{th})</td>
<td>12.25</td>
</tr>
<tr>
<td>Deficiencies in the company's inventory accounting system</td>
<td>35</td>
<td>15.35</td>
<td>3(^{rd})</td>
<td>42.25</td>
</tr>
<tr>
<td>Politization of inventory supply contract and credit arrangement</td>
<td>34</td>
<td>14.91</td>
<td>4(^{th})</td>
<td>30.25</td>
</tr>
<tr>
<td>Under utilization of available capacity that delimited company's profit potential</td>
<td>20</td>
<td>8.77</td>
<td>6(^{th})</td>
<td>72.25</td>
</tr>
<tr>
<td>Total</td>
<td>238</td>
<td>100</td>
<td>592</td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey Data, 2006.
The Kendall's coefficient of concordance was used to test the variability of the response by the companies, and from computations it was observed that, W= 0.220 is not significant because the computed value of Chi-square ($x^2$) 11.764 was less than the table value of $x^2 = 14.067$ at a 95 percent confidence level. This means that there is no common ranking by state-owned companies on the reasons responsible for lack of improvement in their inventory investment.

**Test of Hypotheses**

**Hypothesis 1**

Ho: Inventory control measures and practices in state-owned enterprises have deviated from the standardized methods or industries standard practice.

The data for testing this hypothesis is from Table III which contains responses as to whether or not state-owned companies consider their inventory control practices as inferior to those of their private-sector counterpart.

\[
\begin{align*}
O & = 3,7 \quad \text{(Observed frequency)} \\
E & = 5 \quad \text{(Expected frequency)} \\
n-1 & = 2-1=1 \quad \text{(Degree of freedom)} \\
x^2_{\text{cal}} & = \frac{\sum (O-E)^2}{E} \\
& = \frac{(7-5)^2 + (3-5)^2}{5} \\
& = \frac{2^2}{5} + \frac{2^2}{5} \\
& = \frac{4}{5} + \frac{4}{5} = \frac{8}{5} \\
x^2_{\text{cal}} & = 1.60
\end{align*}
\]

Table value of chi-square $x^2$ tab 3.841 at 5 percent significant level.

Inference: $x^2_{\text{cal}} < x^2_{\text{tab}}$.

Decision: The null hypothesis is not rejected because the calculated value of Chi-square $x^2$ at a 95 percent confidence interval is less than the table value of $x^2$ we therefore confirm...
that state-owned companies inventory control measures and practices have deviated from standardized methods or industrial standard practice.

**Hypothesis 2**

**Ho:** There exists no positive relationship between inventory control systems and state-owned companies' performance.

The data for testing this hypothesis are from table VI which concerns test of convergence to ascertain the conditions that directly influence inventory control systems practiced by state-owned companies in relation to operational performance.

\[
K = 8 \text{ (No. of respondents)}
\]

\[
N = 5 \text{ (No. of variables)}
\]

\[
N-I = 4 \text{ (Degree of freedom)}
\]

\[
S = 285.20 \text{ (See table VI)}
\]

\[
W = \frac{S}{1/12 K^2 (N^3 - N)}
\]

\[
= \frac{285.20}{1/12 \times 8^2 (5^3 - 5)}
\]

\[
= \frac{285.20}{1/12 \times 64 \times 120}
\]

\[
W = 0.4456
\]

Chi-square (\(x^2\)cal) \[
= K(N-1)W
\]

\[
= 8(5-1)0.4456
\]

\[
= 8 \times 4 \times 0.4456
\]

\[
= 14.26
\]

Table value of chi-square \(x^2\) 9.488 at 5 percent significant level.

Inference: \(x^2\) cal > \(x\) tab.

**Decision:** The null hypothesis is rejected since the computed value of chi-square \(x^2\) 14.26 is greater than the table value of \(x^2 = 9.488\) at a 5 percent level of significance, we therefore, accept the alternate hypothesis that there exists a positive relationship between inventory control systems and state-owned companies performance.
Hypothesis 3
Ho: There exist no significant improvement in the average returns on state-owned companies inventory investments.

The data for testing this hypothesis are from table VII which contains responses as to whether or not state-owned companies experience steady growth in returns on their inventory investments.

\[
0 = 2, 8 \text{ (observed frequencies)} \\
E = 5 \text{ (Expected frequency)} \\
n-I = 2-11 \text{ (Degree of freedom)}
\]

\[
x^2_{cal} = \sum \frac{(O-E)^2}{E} \\
= \frac{(2-5)^2 + (8-5)^2}{5} \\
= \frac{9 + 9}{5} \\
= \frac{18}{5} = 3.60
\]

Table value of chi-square \(x^2\) 3.841 at 5 percent level of significance.

Inference: \(x^2_{cal} < x^2_{tab}\).

Decision: The null hypothesis is not rejected since the computed value of chi-square \(x^2 = 3.60\) is less than the table value of \(x^2 = 3.841\) at a 5 percent significant level. We therefore, confirm that there exists no significant improvement in the average returns on state-owned companies inventory investments.

Discussion of Findings
Our study reveals that, the major reasons government owned companies maintain inventory control systems are: enhancement of efficient management of business resources; ensuring of uninterrupted flow of company’s product in the economy and prevention of wasteful investment. This
corroborates an earlier stated view of Pandey (1993), that, an effective inventory management should be able to ensure a continuous supply of materials to facilitate uninterrupted production; maintain sufficient stock of raw materials in periods of short supply and anticipated price changes; maintain sufficient finished goods inventory for smooth sales operations and efficient customer service; control investment and keep it at an optimum level etc.

Inventory control activities are just a subservient aspect of a major department inventory control personnel lack requisite qualification or proficiency and sufficient delegable authority; inventory control cost are relatively high, the modem tools of inventory control are rarely applied. These are direct results of managerial inefficiencies, economic deprivations and environmental limitations are responsible for public sector companies inability to evolve effective systems of inventory control.

Private-owned companies are mostly free From the problems faced by their counterparts and their performance results are relatively better. This fact supported the result of the chi-square test of our first hypothesis, evidently suggest that inventory control practices of state owned companies are inferior to those of private companies. The deviation of government-owned companies inventory control systems from general principles and standardized methods of practice might be due to managerial inefficiencies or lack of proper environmental preconditions. It does not alter the relationships that exist between inventory control practice and operational performance. since the conditions that maintain this relationship are not different.

Further findings reveal a minority opinion amongst the state-owned companies that the above mentioned conditions do not directly influence their inventory control systems in relation to operational performance. They commented that management teams recklessly run the companies and rendered little or no returns to government. These were however, identified to be
foreign managing partners commissioned to operate government owned companies. Our findings based on the data gathered show that returns on inventory investments in state-owned companies have generally not improved over this years. The reasons for this failure as revealed in table 4 are briefly discussed below; lack of proper government concern about the companies progress’ as the highest ranking reason, is brought about by the fact that the companies have not proved to be a viable source of revenue to government in spite of the latter’s huge expenditures in this direction. Apart from the high-level management inefficiency that continuously prevents state-owned companies from realizing government purpose of establishing them, the absence of continuity in policies and programmes occasioned by the incessant interposition of the military in the nations polity alone could divert government attention from the companies.

These findings led us to the conclusion that among the state—owned enterprises, returns on inventory investment had not experienced a consistent, growth pattern. This was confirmed by the result of the chi-square test of our third hypothesis that there is no significant improvement in the average returns on state-owned companies inventory investment.

**Recommendations and conclusion**
We have attempted an appraisal of the relationship between inventory control practices and performance of government-owned companies. In doing this, we developed certain research questions and hypotheses that guided us in the manner of presentation and analysis of data gathered. The importance of inventory control as a determinant of corporate profitability and survival in the public sector industry is quite obvious. It is a general desire that inventory controllers or organizational management place much emphasis on it in order to reap its immense benefits. Unfortunately, the inhibiting organizational factors identified and other developmental deficiencies inherent in the nation’s economy have dampened this desire
and given rise to much limitation to effective management and control of business inventories in public—sector enterprises.

We recommend; separate department for inventory control activities, training and retraining 1 inventory staff; improvement in infrastructure and banking system; non-politicization of management appointments; non-interference in internal management as systems improvement strategies. It is hoped that the adoption of these recommendations would help install an inventory management and control machinery capable of enhancing performance efficiency in public-sector companies.

These factors alone could account greatly for the persistently poor performance records usually associated with government-owned enterprises as far as inventory management and control is concerned. As mentioned earlier, the companies inability to provide goods and services to the public at affordable prices, and generate reasonable revenues to government is recorded against them as poor performance. It is therefore, hoped that the installation of a clearly defined inventory control system devoid of all forms of loopholes could lead to the much desired improvement in the performance of public-sector enterprises in the country.

**Works Cited**


