Relationship between Demand Forecasting and Operational Performance of Stores Function in Commercial State Corporations in Kenya

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Abstract: Inventory management practices play a major role in the operation of many organizations. These practices help to improve firm’s production scheduling, delivery lead times and ultimately increase its operational performance. With the reported 46.4% of state corporations making losses, achieving Vision 2030 would be impossible without a critical look into how some of the practices including material categorization. This study intended to fill this knowledge gap by examining the influence of demand forecasting practices on operational performance of stores function in commercial state corporations in Kenya. The study was anchored on the Pareto (ABC) Model. The target population for the study was 906 Senior Management, Procurement Managers and Inventory Management Officers in the 54 Commercial State Corporations in Kenya. The researcher used the sampling formula recommended by Nassiuma to arrive at 99 sample size. Data collection was done through a structured open and closed ended questionnaire. Before embarking on data collection, the instruments were piloted to ensure they are valid and reliable. The study established significant influence of maintained inventory level as demand forecasting practice on operation performance of stores functions ($\beta=-0.223$, $p=0.018<0.05$). The study further established significant influence of information flow as demand forecasting practice on operation performance of stores functions ($\beta=0.372$, $p=0.000<0.05$). The study recommends that the policy makers in the commercial state corporations in Kenya need to formulate policies that will entrench the adoption of the best demand forecasting strategy as an inventory management practices. As a matter of policy, all the commercial state corporations in Kenya should adopt inventory management practices supported by the Public Procurement and Disposal Act 2015.

Key Words: Demand Forecasting, Inventory Management, Public Procurement and Disposal Laws, Operation Performance, Stores Operations.

I. Introduction

Monitoring of demand forecasting of inventory for efficient operational performance and service delivery to the government owned enterprises is important in improving operations of such enterprises. This is because a large majority of organizations worldwide commit large amounts of funds to inventory management which constitutes most significant part of their current assets (De Vries, 2011). These organizations strive to manage inventories efficiently and effectively so as to avoid unnecessary tying of capital. Inventory management practices thus aim to minimize costs of ordering, carrying and not carrying sufficient inventory. According to Tungo (2014), poor demand forecasting effect include remarkable differences between stock records and physical stock, inadequate records and recording, availability of obsolete and obsolescence stores, greater complaints from customers due to unfulfilled orders, disorganized stores, damaged stocks and loss of financial resources.

In the Kenyan context, a number of studies have investigated demand forecasting practices in different industries with mixed findings. For example, Okanda, Namusonge and Waiganjo (2016) investigated inventory management practice
and the performance of the unit of vaccines and immunizations in the ministry health, Kenya and found that there was strong positive correlation between inventory management and the performance of the unit of vaccines and immunizations. They concluded that buffer stock, optimal inventory level, collaborations with key stakeholders, continuously monitor inventory levels, stocks transfer/replenishment orders and procurement plan if adopted can improve the performance of the unit of vaccines and immunizations.

Similarly, Mulumba (2016) in the study on demand forecasting as an inventory management practices and financial performance of manufacturing firms in Kenya found that net transaction approach, just-in-time and vendor managed inventory all influenced financial performance. The study concluded that net transaction approach’s main concern is planning for all the resources that the organization needs to run its operations and hence improve its performance. The study further concluded that implementation of JIT in a company leads to cost reductions in the production system. The study also concluded that VMI is guided by contracts that guide the inventory of the agrochemical firm aimed at improving its performance.

In Kenya, the central government spends about Kshs. 234 billion per year on procurement. However on annual bases, the government losses close to Ksh. 121 billion about 17 per cent of the national budget due to inflated procurement quotations (KISM, 2010). For example, at KenGen, inventory management is a key facet of effective and efficient supply chain management, as stocks form a large category of assets in the company’s balance sheet. Inventory accounts for a high percentage of the company’s invested capital and is currently standing at approximately Kenya Shillings 4.9 Billion (GoK, 2016). Despite the national government pumping billions of shillings in terms of budgetary support and grants, 46.4% of the 194 state corporations had deficits in the financial year 2016/2017 (GoK, 2017), an indication of poor management of the inventory used in production. The justification for the choice of Commercial State Corporations in Kenya for the study was that, majority had deficits running into millions of shillings.

Inventory management practices in commercial state performance therefore needs further investigation in order to establish its link to their operational performance. With the reported 46.4% of state corporations making losses, achieving Vision 2030 would be impossible without a critical look into how some of the practices including material categorization, inventory control, vendor managed inventory and demand forecasting among others. Without such control mechanisms, flaws in the procurement system may not be detected and addressed (Johnson & Flynn 2015).

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II. Literature Review

2.1 Theories Informing the Study

Relationship between Demand Forecasting and Operational Performance of Stores Function in Commercial State Corporations in Kenya was based on Economic Order Quantity (EOQ) model developed by Ford W. Harris in 1913 and is one of the oldest classical production scheduling models. It is the order quantity that minimizes the total holding costs and ordering costs. Inventory models deal with idle resources like men, machines, money and materials (Suressh & Kumar, 2008). These models are concerned with two decisions: how much to order (purchase or produce) and when to order so as to minimize the total cost. For the first decision, how much to order, there are two basic costs considered, namely, inventory carrying costs and the ordering or acquisition costs. As the quantity ordered is increased, the inventory carrying cost increases while the ordering cost decreases. According to Bouadam and Maiza (2022) this model, some costs (ordering costs) decline with inventory holdings, while others (holding costs) rise and that the total inventory-associated cost curve has a minimum point. Since the primary objective of inventory management is to improve customer service, this is done through protection against stock out due to demand variability in the market.
place. The EOQ is thus the number of units that a company should add to inventory with each order to minimize the total costs of inventory such as holding costs, order costs, and shortage costs.

The EOQ provides a model for calculating the appropriate reorder point and the optimal reorder quantity to ensure the instantaneous replenishment of inventory with no shortages. The EOQ model is a crucial tool for effective inventory management because it calculates the ordering quantity of inventory using the carrying cost, ordering cost and the annual inventory usage. This theory will be the basis for the analysis of the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.

2.2 Empirical Review

Njoroge (2015) study on inventory management practices and performance of Public Hospitals in Kenya established that the most popular inventory management practices used by public hospitals in Nairobi and former central province counties are follows: ERP systems, ABC systems, e-procurement, simulation and EOQ. These practices were mainly used in level 5, level 6 and stand-alone which offers specialized services and operates under defined semi-autonomy which allows them to manage their own inventory. The study further concludes that RFID, VMIS and JIT were used to a very small extent in sub-district hospitals like level 4 at the location and divisional level. This is because of poor infrastructure to support modern technologies. This study did not analyze the influence of demand forecasting on operational performance, a research gap that the current study will fill by assessing the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.

Kasim, Zubieru and Antwi (2015) in their study on an assessment of the inventory management practices of small and medium enterprises in the Northern Region of Ghana revealed that enterprise financial performance was positively related to efficiency of inventory management at 1 per cent significance level. The study was carried out in Ghana and focused on enterprise financial performance and efficiency of inventory management presenting a literature gap that the current study will fill by analyzing the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.

Another study by Okanda, Namusonge and Waiganjo (2016) on inventory management practice and the performance of the unit of vaccines and immunizations in the ministry health, Kenya, showed that there is strong positive correlation between inventory management and the performance of the unit of vaccines and immunizations. This study was carried out in health sector as opposed to a wide spectrum of socio-economic sectors a literature gap that the current study will fill by analyzing the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.

According to Mulumba (2016) in the study on inventory management practices and financial performance of manufacturing firms in Kenya found that net transaction approach, just-in-time and vendor managed inventory all influenced financial performance. The study concluded that net transactions approach’s main concern is planning for all the resources that the organization needs to run its operations and hence improve its performance. The study was carried out in manufacturing sector as opposed to Commercial State Corporations in Kenya, a literature gap that the current study will fill by analyzing the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.

Furthermore, Munyao, Omulo, Mwithiga and Chepkulei (2015) in the study on the role of inventory management practices on performance of production departments in manufacturing firms in Mombasa County, Kenya, found out that manufacturing firms used various inventory management techniques such as the action level methods, just-in-time, periodic review technique, material requirement planning and economic order quantity. The study was carried out in manufacturing sector on material resource planning as opposed to Commercial State Corporations in Kenya, a literature gap that the current study will fill by analyzing the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.

Globally, Panigrahi (2013) sought to establish the relationship between inventory management practices and profitability of the Indian Cement companies. The study focus was on the period of the inventory conversion in the companies on how it influences on the gross operating profit taking current ratio, size of the firm, financial debt ratio as the control variables. By the use of the inventory control practices such as EOQ, Continuous Review Systems and Periodic Review, it was established that there is a negative significant relationship between the inventory conversion period and the profitability of the Indian Cement companies. The study was carried out in manufacturing sector on material resource planning in India as opposed to Commercial State Corporations in Kenya, a literature gap that the current study will fill by analyzing the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya.
2.3 Conceptual Framework

**Demand Forecasting**
- Lead times
- Past demand
- Inventory cost

**Operational Performance**
- Cost efficiency
- Production turnaround time
- Customers satisfaction

![Diagram](Image)

Figure 1: Influence of demand forecasting on Operation Performance of Stores Function

Source: (Author, 2022)

In this study, the independent variable is the components of demand forecasting which include; lead times, past demands and inventory cost. The dependent variable is Operation Performance of Stores Function; cost efficiency, production turnaround time and customers satisfaction. The study hypothesized that when commercial state corporations in Kenya apply demand forecasting in stores management, then they are likely to improve operational performance of stores function in terms of cost efficiency, production turnaround time and customers satisfaction.

### III. Research Methodology

The study adopted cross-sectional descriptive correlation survey research design which according to Mugenda and Mugenda (2003), a descriptive research design determines and reports the way things are. According to Saunders et al. (2009) the descriptive study is concerned with finding out who, what, where, when, or how much. Cross-sectional study was embraced to answer questions concerning the current status of the research subjects in the study by looking across the entire number of Commercial State Corporations in Kenya. Therefore, the research design has the ability to produce information that was able to examine the influence of inventory management practices on operational performance of stores function in commercial state corporations in Kenya. Descriptive survey design was employed since it ensured the breadth of knowledge and precise descriptive analysis of the characteristics of the sample used to make population inferences (Orodho, 2002). The design is useful when a researcher needs to gather data on phenomena that cannot be directly observed. Its benefit is that it makes it possible to gather vast volumes of data from a large population in a highly efficient, simple and cost-effective manner, including using questionnaires.

The target population comprises of: the 54 Procurement Officers who are custodians of inventories on behalf of the corporations, 582 Senior Managers who are the consumers of inventory in their respective departments and 270 Inventory Officers in charge of inventory management. Specifically, the unit of analysis of the study was; the Procurement Officers Senior Managers who are the consumers of inventory in their respective departments and Inventory Officers in charge of inventory management. The researcher also targeted the population because she found it to be ideal and diversified in terms of inventory policy, management and utilization and therefore is able to provide the required information that was able to adequately establish the relationship between inventory management practices and operational performance of stores function in commercial state corporations in Kenya. The justification of targeting Commercial State Corporation is that they are inventory dependent since majority of them are involved in manufacturing.

The researcher used the sampling formula recommended by Nassiuma (2000), which states that, in most surveys or studies, a coefficient of variance in the range of 21 to 30 per cent and a standard error in the range of 2 to 5 per cent is generally appropriate.

\[ S = \frac{N(Cv)^2}{(Cv)^2 + (N-1)e^2} \]

Where:
- \( S \) = the sample size
- \( N \) = the population size
- \( Cv \) = the Coefficient of Variation
- \( e \) = standard error

Therefore, the sample size was:
S = \frac{986(0.21)^2}{(0.21)^2 + (986 - 1)0.022} = 98.3861 \approx 99 \text{ samples}

After obtaining the 99-sample size of the employees working in Commercial State Corporations in Kenya, the researcher used stratified sampling technique to apportion the sample size in each Commercial State Corporation based on the population strength. In order to pick the sample in each strata (that is Commercial State Corporations in Kenya), the researcher used simple random technique where a maximum of the sample size was picked out of the entire population in the strata. A simple random sample is one in which each member of the population has an equal and independent chance of being selected (Fraenkel & Wallen, 2000). A simple random sampling technique was used to select 99 employees working in Commercial State Corporations in Kenya who formed the sampling framework for the study. The study employed both quantitative and qualitative procedures for data collection. Primary data was collected through the use of questionnaires.

The process of data collection included obtaining an introduction letter was sought from the Graduate School; Jomo Kenyatta University of Agriculture and Technology which enabled the researcher to seek a research permit for collecting data, from the National Commission for Science, Technology and Innovation (NACOSTI). A copy of the permit was given to the Ministry of Interior who wrote a letter authorizing the researcher to carry out research in the Commercial State Corporations in Kenya. The questionnaire was self-administered to a total of 99 respondents and later was picked for analysis. The relationship between demand forecasting and operational performance of stores function in Commercial State Corporations in Kenya was tested with the Regression Model in equation 1,

\[ y = \alpha + \beta_1 X_1 + \epsilon \] .......................... (1).

Where:
\( Y \) = operational performance of stores function; \( \alpha \) = constant; \( \beta_1 \) = parameter estimates; \( X_1 \) = demand forecasting; \( \epsilon \) = the error of prediction.

IV. Findings

1.1 Results of Descriptive Statistics

This section presents the findings of the descriptive statistics on demand forecasting. The major variables analyzed include; the suppliers taking full responsibility of maintaining agreed level of inventory of each item, exact amount of stock ordered was delivered by the suppliers, the corporations have structured mechanisms that ensured there was availability of stock levels at all times, there was enhanced information sharing between the stores and suppliers, orders were placed immediately when re-order levels were reached, the collaborative planning and execution of forecasts has reduced lead times, demand forecasting and its effectiveness in the organization has enhanced our operations.

Table 1: Descriptive Statistics on Demand Forecasting

<table>
<thead>
<tr>
<th>Demand Forecasting</th>
<th>SD (%)</th>
<th>D (%)</th>
<th>U (%)</th>
<th>A (%)</th>
<th>SA (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintaining agreeable inventory level</td>
<td>68</td>
<td>21</td>
<td>7</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Exact ordered stock delivered by suppliers</td>
<td>8</td>
<td>3</td>
<td>6</td>
<td>53</td>
<td>30</td>
</tr>
<tr>
<td>Availability of stock at all levels</td>
<td>6</td>
<td>3</td>
<td>8</td>
<td>55</td>
<td>28</td>
</tr>
<tr>
<td>Information sharing between stores</td>
<td>-</td>
<td>9</td>
<td>1</td>
<td>47</td>
<td>43</td>
</tr>
<tr>
<td>Orders are placed automatically</td>
<td>1</td>
<td>7</td>
<td>9</td>
<td>58</td>
<td>25</td>
</tr>
<tr>
<td>Collaborative planning and execution</td>
<td>4</td>
<td>15</td>
<td>7</td>
<td>47</td>
<td>27</td>
</tr>
<tr>
<td>Demand forecast enhances operation</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>51</td>
<td>33</td>
</tr>
</tbody>
</table>

The results from table 4.9 on descriptive statistics on demand forecasting reveals that majority of the respondents 89% disagreed on the suppliers taking full responsibility of maintaining agreed level of inventory of each item, compared to 4% who agreed and 7% who were undecided. Findings on whether exact amount of stock ordered was delivered by the
suppliers reveals that 83% of the respondents agreed on the exact ordered stock delivered by suppliers compared to 11% who disagreed and 6% who were undecided (See Table 1). This finding is supported by Njoroge (2015) who studied inventory management practices and performance of Public Hospitals in Kenya established that the most popular inventory management practices used by public hospitals in Nairobi and former central province counties are follows: ERP systems, ABC systems, e-procurement, simulation and EOQ. These practices were mainly used in level 5, level 6 and stand-alone which offers specialized services and operates under defined semi-autonomy which allows them to manage their own inventory.

On availability of stock at all levels it was established that 83% of the respondents agreed that the corporations have structured mechanisms that ensured there was availability of stock levels at all times compared to 9% who disagree and 8% who were undecided. On whether there was enhanced information sharing between stores the findings reveals that majority of the respondents 90% agreed there was enhanced information sharing between the stores and suppliers compared to 9% who disagreed and 1% who were undecided. Further findings on whether orders are placed immediately indicate that majority of the respondents 83% agreed that orders were placed immediately when re-order levels were reached, compared to 8% who disagreed and 9% who were undecided. Findings on collaborative planning and execution reveals that majority of the respondents 74% agreed that the collaborative planning and execution of forecasts has reduced lead times compared to 19% who disagreed and 7% who were undecided.

Finally, findings on demand forecasting enhancing operations reveals that majority of the respondents 84% agreed that demand forecasting and its effectiveness in the organization has enhanced their operations compared to 11% who disagreed and 5% who were undecided. This finding was supported by Okanda, Namusonge and Waiganjo (2016) on inventory management practice and the performance of the unit of vaccines and immunizations in the ministry health, Kenya, showed that there is strong positive correlation between inventory management and the performance of the unit of vaccines and immunizations. The finding is further supported by Mulumba (2016) in the study on inventory management practices and financial performance of manufacturing firms in Kenya found that net transaction approach, just-in-time and vendor managed inventory all influenced financial performance.

The third objective of the study was to assess the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya. Based on descriptive statistics the study established that demand forecasting influenced the operations within the state corporations in Kenya. This is based on the evidence that; exact amount of stock ordered was delivered by the suppliers, the corporations have structured mechanisms that ensured there was availability of stock levels at all times, there was enhanced information sharing between the stores and suppliers, orders were placed immediately when re-order levels were reached, the collaborative planning and execution of forecasts has reduced lead times, demand forecasting and its effectiveness in the organization has enhanced our operations.

4.2 Relationship between demand forecasting practice on operation performance

This section presents the results of the influence of demand forecasting on operational performance. In testing this relationship, the study used the sub-variables under demand forecasting which include; suppliers taking full responsibility of maintaining agreed level of inventory of each item, exact amount of stock ordered was delivered by the suppliers, corporations have structured mechanisms that ensures there is availability of stock levels at all times, enhanced information sharing between the stores and suppliers, orders are placed immediately when re-order levels are reached, collaborative planning and execution of forecasts has reduced lead times and demand forecasting and its effectiveness in the organization has enhanced operations as the independent variable. Further the study used linear regression to identify which of the sub-variables of inventory control has significant influence on operational performance of stores function in commercial state corporations in Kenya.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.586 *</td>
<td>.344</td>
<td>.293</td>
<td>.63792</td>
</tr>
</tbody>
</table>

Table 2: Model Summary of Demand Forecast and Operation Performance
Results revealed that the R value was 0.586 whereas R Square was 0.344, which indicated a high degree of correlation. The $R^2$ value indicates how much of the dependent variable, "operation performance of stores function in commercial state corporations in Kenya", was explained by the independent variables ‘suppliers taking full responsibility of maintaining agreed level of inventory of each item, exact amount of stock ordered is delivered by the suppliers, corporations have structured mechanisms that ensures there is availability of stock levels at all times, enhanced information sharing between the stores and suppliers, orders are placed immediately when re-order levels are reached, collaborative planning and execution of forecasts has reduced lead times and demand forecasting and its effectiveness in the organization has enhanced operations." In this case, 34.4% was the R Squared, which was fairly large indicating the proportion of the variance for operation performance explained by demand forecasting (See Table 2).

Table 3: ANOVA of Demand Forecast and Operation Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>19.405</td>
<td>7</td>
<td>2.772</td>
<td>6.812</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>37.032</td>
<td>91</td>
<td>.407</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56.437</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Predictors: "suppliers taking full responsibility of maintaining agreed level of inventory of each item, exact amount of stock ordered is delivered by the suppliers, corporations have structured mechanisms that ensures there is availability of stock levels at all times, enhanced information sharing between the stores and suppliers, orders are placed immediately when re-order levels are reached, collaborative planning and execution of forecasts has reduced lead times and demand forecasting and its effectiveness in the organization has enhanced operations." The Dependent variable is: "operation performance of stores functions in commercial state corporations in Kenya". Table 4.19 indicated that the regression model significantly predicted the outcome variable with $p = 0.000$, which was less than 0.05, and indicated that; overall, the model statistically and significantly predicted the outcome variable. The implication of this finding was that the data collected for the study had high correlation between the independent variable (Demand forecasting) and dependent variable (operation performance of stores function in commercial state corporations in Kenya).

Table 4: Influence of Demand Forecast on Operation Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstd Coefficients</th>
<th>Stand. Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.603</td>
<td>.442</td>
<td>-.235</td>
<td>-2.409</td>
</tr>
<tr>
<td>Maintained inventory level</td>
<td>-.223</td>
<td>.093</td>
<td>-.235</td>
<td>-.526</td>
</tr>
<tr>
<td>Exact ordered stock delivered</td>
<td>-.053</td>
<td>.102</td>
<td>-.078</td>
<td></td>
</tr>
<tr>
<td>Availability of stock at all levels</td>
<td>.372</td>
<td>.096</td>
<td>.500</td>
<td>3.862</td>
</tr>
<tr>
<td>Information sharing among stores</td>
<td>.157</td>
<td>.131</td>
<td>.180</td>
<td>1.203</td>
</tr>
<tr>
<td>Orders are placed automatically</td>
<td>-.041</td>
<td>.095</td>
<td>-.047</td>
<td>-.437</td>
</tr>
<tr>
<td>Forecast reduce lead time</td>
<td>.111</td>
<td>.077</td>
<td>.165</td>
<td>1.444</td>
</tr>
<tr>
<td>Demand forecast enhances operations</td>
<td>.086</td>
<td>.095</td>
<td>.115</td>
<td>.901</td>
</tr>
</tbody>
</table>

Table 4 shows the results of the analysis of the influence of demand forecasting on operation performance of stores function in commercial state corporations in Kenya. The study established significant influence of inventory level on operation performance of stores functions ($\beta = -.223$, $p = 0.018 < 0.05$). This finding showed that an increase in inventory level by 1 unit would lead to -223 multiple units decrease in operational performance of stores function in commercial state corporations in Kenya.
state corporations in Kenya. This finding is supported by Mulumba (2016) who studied inventory management practices and financial performance of manufacturing firms in Kenya and found that implementation of JIT in a company leads to cost reductions in the production system. The study also concluded that VMI is guided by contracts that guide the inventory of the agrochemical firm aimed at improving its performance.

Findings on availability of stock at all levels established that the corporations’ structured mechanisms that ensured there was availability of stock levels at all times had significant influence on operational performance of stores function in commercial state corporations in Kenya ($β=0.372$, $p=0.000<0.05$). This finding showed that an increase in availability of stock at all levels practice by the corporations in determining stock levels by 1 unit would lead to 0.372 multiple units increase in operation performance of stores function in commercial state corporations in Kenya. This finding is supported by Panigrahi (2013) who found out that by the use of the inventory control practices such as EOQ, Continuous Review Systems and Periodic Review, it was established that there is a negative significant relationship between the inventory conversion period and the profitability of the Indian Cement companies.

The third objective of the study was to establish the influence of demand forecasting on operational performance of stores function in commercial state corporations in Kenya. Based on the analyzed data the study established that out of 7 elements of demand forecasting considered in the study, 2 elements had significant influence on operation performance of the store functions in commercial state corporations in Kenya. These elements included; suppliers taking full responsibility of maintaining agreed level of inventory of each item, corporations have structured mechanisms that ensures there is availability of stock levels at all times, The remaining 5 elements did not have relationships with operation performance of the store functions, these elements included; exact amount of stock ordered was delivered by the suppliers, enhanced information sharing between the stores and suppliers, orders are placed immediately when re-order levels are reached, collaborative planning and execution of forecasts has reduced lead times and demand forecasting and its effectiveness in the organization has enhanced operations. The hypothesis $H_0$ Demands forecast has no significance relationship with operational performance of stores function in commercial state corporations in Kenya was therefore rejected.

### V. Conclusions and Recommendations

#### 5.1 Conclusions

By the support of the empirical findings of this study as is documented in section four, the study examined the influence of demand forecasting practices on operational performance of stores function in commercial state corporations in Kenya. The primary data used in this study comprises of ninety-nine (99) employees working at different management level and store departments. Furthermore, staff competence variable was used as the moderating variable in the study model. The objective of the study was to analyze the relationship between demand forecasting on operational performance of stores function in commercial state corporations in Kenya. In order to answer this objective, the first null hypothesis $H_0$ Demand forecasting has no significant influence on operational performance of stores function in commercial state corporations in Kenya was rejected. The study therefore concludes that demand forecasting influenced operation performance of stores function in commercial state corporations in Kenya.

#### 5.2 Recommendations

Based on the findings and the conclusions on the relationship between demand forecasting on operational performance of stores function in commercial state corporations in Kenya, the study came up with the following recommendations to operational performance of stores function;

1. From these research findings, the policy makers in the commercial state corporations in Kenya need to formulate policies that will entrench the adoption of the best inventory management practices sensitive to demand forecasting which assures optimum stock capacity. As a matter of policy, all the commercial state corporations in Kenya should adopt inventory management practices supported by the Public Procurement and Disposal Act 2015.

2. The study also recommends that the commercial state corporations in Kenya should closely examine the inventory management practices in their stores so that they adopt demand forecasting policy that assures low inventory holding cost that attains the operational performance of stores function can be used by the corporations to enhance the overall performance.

3. The corporations in their endeavor to achieve effective demand forecasting should improve optimum demand forecast based optimum inventory hosting to improve the Commercial State Corporations.
Relationship between Demand Forecasting and Operational Performance of Stores Function in Commercial…


total. Demand forecasting will also improve the optimum re-order level which is crucial in inventory management and entire operations performance.

VI. Areas for Further Research

A comparative study should be carried out on examine the influence of demand forecasting practices on operational performance of stores function in both the commercial and noncommercial state corporations in Kenya. This is because demand forecasting practices is very important in controlling the quality inventories used by the state corporations in producing finished goods and services for public consumption, the inventories being important current asset. This is because the current study only examined the influence of demand forecasting practices on operational performance of stores function in commercial state corporations in Kenya leaving out the non-commercial state corporations.

References


