



INFLUENCE OF INVENTORY AUDITS ON THE PROCUREMENT PERFORMANCE OF BUTALI SUGAR MILLS LIMITED

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ABSTRACT

This objective of this study was to assess the influence of Inventory audits on the Procurement performance of Butali Sugar Mills Limited. The study adopted a descriptive survey research design. The study targeted 250 employees from five departments of Butali Sugar Mills Limited; procurement staff, internal auditors, agriculture staff, transport and factory staff. Simple random sampling technique was used. Questionnaires were used as data collection instruments. Data analysis and interpretation was based on descriptive statistics and also inferential statistics using SPSS software. The study used questionnaires as the primary data collection method. Descriptive and inferential statistics were be used in analyzing data. The study concluded that inventory audit has significant influence on procurement performance of Butali Sugar Mills Limited. The study recommended that the company need to establish inventory control policy which is well known by the staff. This would increase the accountability and transparency on the employees working in procurement department. Further, there should be continuous internal audits carried out to enhance reduction of costs.

Key Words: Inventory Audits, Procurement

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INTRODUCTION

The competitive business environment in the entire world today is dynamic. This means that the procurement function in any business organization has to critically observe its management functions such as inventory management in order to enhance performance for its survival in the market.

Inventory management is currently seen as a function for the success of any organization. This is contrary to the past reviews. According to Lysons (2012), the procurement function is responsible for managing the purchasing activity for the company, and this can be done through a centralized or decentralized methods. Miller (2010), asserts that inventory management involves all activities that are put in place that customers get the product or service they require. For this to be achieved, all the functions of an organization should be coordinated since all of them require inventory for use. Min and Pheng (2005), Koumamanakos (2008), argue that a properly managed inventory system can improve an organization's productivity by a great margin. This can be done by reducing costs of activities.

Onchoke and Wanyoike (2015), analyzed the influence of inventory management practices used in Agro-chemical distributors operating in Nakuru central sub-county on their procurement performance. The study used self-administered questionnaires. Regression analysis results revealed that inventory auditing, security practices and computerized inventory control evenly and significantly influenced procurement performance. Mwangi and Nyambura (2015) examined the role inventory management plays in the performance of companies engaged in food processing using descriptive research design and multiple regression analysis, the study identified production maintenance, cost control, record reduced loss and continuous supply as key elements of inventory management that play an important role on the performance of food processing companies. Wangari and Kagiri (2015) investigated the influence of practices used in inventory management at Safaricom Kenya limited on its

competitiveness. Data was collected using drop and pick questionnaires, regression analysis results revealed that inventory investment, inventory shrinkage and inventory turnover were significant predictors of competitiveness in Safaricom Ltd and by extension an organization competitiveness. On the other hand, Ngei and Kihara, (2017) sought to find out how inventory management systems used in firms that manufacture gas in Nairobi City County influence performance of those firms. The study used both primary and secondary data and was analyzed using multiple regression. The results revealed that VMI, Enterprise Resource Planning (ERP), Radio Frequency Identification (RFID) and e-procurement significantly predicted performance of gas firms.

Butali Sugar Mills Limited is a privately owned sugar milling industry located along Kakamega Webuye highway in the Western part of Kenya. This miller is among the four millers found in the western block region, formerly referred to as western Kenya. These are; Mumias Sugar Company Limited, Nzoia Sugar Company Limited, West Kenya Sugar Company Limited and Busia Sugar Industry. Apparently, MSC, WEKSCOL and NSC are the oldest as compared to BSML and BSI. The sugar industry in Kenya contributes almost 7.5% of Kenya's Gross Domestic Product. The sugar has a great impact on the western region's economy and also the country at large (KNAEP 2015). BSML was incorporated into business in the year 2011. This company started with a small share in the market. Currently, Butali Sugar Mills has a workforce of 2300 employees spread across its five main departments. These departments are; Agriculture department, Factory department, Human Resource department, Finance department and Procurement/ Stores department. Agriculture department is the largest department with various sections widely spread across various counties namely; Kakamega, Uasin Gishu, Nandi and Bungoma. The sections under Agriculture department are; cane development, cane harvesting and Transport/Haulage. Currently, MSC and NSC are on their knees. The main problem

facing these companies is rooted back to issues in the supply chain, with inventory management topping the list. According to Machio (2019), the Kenya Sugar Industry has challenges of raw material scarcity, poor transport networks, environmental pollution and high prices which is compounded by the liberalized importation of sugar whose prices in the Kenyan market is comparatively cheaper. In the year 2004, sugar prices required a drop of about 39% as a requirement with the Common Market for Eastern and Southern Africa. (COMESA) (Kenya Sugar Industry Strategic Plan 2010-2014). All these four companies source for their raw materials from the same farmers within their locality. The threat of rivalry has led to battles amongst them leading to cane poaching, interruption of sugar cane supply due to court cases among others. (Bushuru, 2014).

Statement of the Problem

Most Sugar Companies in Kenya are faced with the challenge of inability to manage and control their inventory. Butali Sugar Mills is not an exception. Since its inception in 2011, the procurement function has not been performing well. The inventory management systems of these companies has been facing diverse nonperformance such as; understocking of cane (being the main raw material), poor cost control, stiff competition for cane supply and cheap sugar from COMESA countries, production time wastage due to strikes by cane transporters from farms, farmers/suppliers not being involved in the early stages of production, and lack of proper tracking of inventory leading to such problems as cane poaching. (Amoro, 2011) (World Firm, 2007) Showed that leading firms in Kenya are faced with problems of wrong forecasting due to an unavailability of inventory management information. Inventory control is an important part of supply chain management (Roumintsen and Netessive, 2005). There is no single organization that can compete and survive in the market platform without taking inventory management seriously. Physical and logical inventory needs to be assessed and managed in a manner that the information is true and accurate to avoid

overstocking and minimal shortages are realized. Good inventory management by procurement function also implies having accurate forecasting and timely replenishments (Omwubolu and Dube, 2006). Inventory management is a function not to be overlooked, Effective inventory management is vital in the operation of any business entity (Bassin, 2014).

Objective of the Study

The objective of this study was to assess the influence of Inventory audits on the Procurement performance of Butali Sugar Mills Limited. The study was guided by the following hypothesis;

- H_0 : Inventory auditing has no significant effect on the procurement performance of Butali Sugar Mills Limited.

LITRATURE REVIEW

Contingency Theory

Contingency theory posits the view that there is no universal control system that is best but the circumstance or context faced by the organization determine which control system is appropriate (Waterhouse & Tiessen, 1978, Gordon & Miller: Watson 1975). Organizations and their functions depend on various internal and external factors. The functions of audit, forecasting and supplier relationships are themselves types of organizations that are affected by various factors in the environment. The presence of such factors is why they can be managed by applying the contingency theory. In consideration of the processes and outcomes of audits, they are dependent on variable and contingent factors (Watson, 1975). The goal of an audit is to test the reliability of a company's information, policies, practices and procedures. Various factors impact a company's final results and the contingency theory takes these factors into account during the audit process (Daveren, 2014). Auditors require access to documents, systems, policies and procedures to manage an audit. They must remain compliant with industry standards, government regulations and internal requests.

Audit teams may begin the audit process with meetings where they gather risk and control awareness, after which the field work begins (Waterhouse & Tiessen 1978, Gordon & Miller 1976: Watson 1975). During the audit process, auditors perform substantive procedures and test control. They then draft reports that they submit to management and regulatory authorities. The audit sub process, particularly in planning and field work include contingencies such as business types, employee's skill level, applicable laws, available audit workforce, available technology and systems and deadline. Audit teams use a mix of structures and contingency to get output rolling quickly. The subject of auditing procurement inventories and projects can include such diverse areas as evaluation of production processes, inspecting of a company's accounts, inspecting inventory levels and assessment of compliance with industry's standards (Daft, 2012).

The contingency theory express the need for the leader to adjust the behavior based on a natural understanding of the situation and assume a leadership style that is appropriate for the occasion (Vroom & Jago, 2002). The limits of contingency theory, however, that risks proposing a limited range of options which takes things as given and thereby narrows the role of choice and the agency of Procurement Managers to do things differently. Frequently absent are the dynamics of change and considerations that managers may proactively influence, avoid or navigate key contingencies themselves.

Contingency theory also seems to relegate implementation to something as unproblematic once a decision is made. Researchers have called for consideration of broader contingencies including institutional fit. This is symbolic of the long standing dilemma that contingency theories face, namely which contingencies should be privileged and how many contingencies can be logically examined before analysis collapses under the weight of a dilemma. The theory is static and fails to deal with organizational change and adaptation (Galunic &

Eisenhardt, 1994)

Empirical Review

Inventory auditing is a procedure designed to keep track of a company's products and merchandise. The activities involved here are: monitoring and evaluating stock items: it involves the entire purchasing cycle from buying, storage, issues, movement, and work in progress up to finished goods. The procurement function enables the organization to have goods needed for use whenever the need arises. Inventory management involves all the practices that coordinate activities of production and consumption, hence need to be monitored. Active and reliable are important for an efficient and effective operating environment (Osaguera, 2004).

The purpose of inventory audit function is to support the business activities to optimize customer service, inventory costs and operation costs (Tony, 2002). Inventory, if not properly managed has effects on the organization's performance such as capital tied up, unsmooth business operation, unguaranteed customer service, production and distribution processes (Njikan *et al*, 2005).

An organization needs to develop strong controls in order to protect its products. For an inventory audit to create accountability, it must have well placed records and a well-managed warehouse. Njikan *et al* (2015) assert that inventory audit practices improve operational performance of an organization through enhancing efficiency in capital utilization and increased service level. Organizations that implement inventory audit frameworks are able to handle material shortages, product sock outs and component pile up.

In order for an organization to succeed in inventory audits, it must first embrace audit planning. Okello (2014), conducted a study on an investigation of the effects of audit planning on inventory audit, a survey of selected audit firms in Nairobi County and the study established that audit planning facilitates the auditor to develop audit strategy so as to establish the general terms, how the inventory

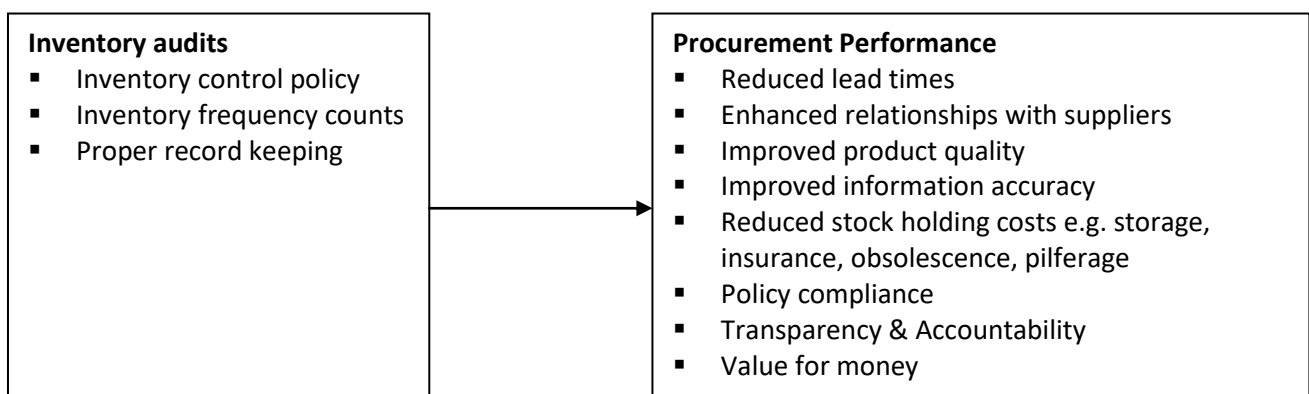
audit is to be carried: process of audit scope helps the auditor to determine the resources necessary to perform the inventory audit into the planning process. The study recommended that the auditor obtains the understanding of the accounting and Managing Supplier Relationships systems in the organization; consider the complexity of the entity's systems and controls and the manner in which they are used. Oginga (2013), conducted a study on the effect of adoption of computerized auditing on audit quality in Kenya. The findings of the study indicated a positive relationship between adoption of computerized auditing and audit quality.

In order to be competitive in the world market, most organizations have put their focus on scaling down their supply chain and logistics. This is owed to the current paradigm shift which is also evident in the sugar industry. The procurement function of any organization must remain alert in order to improve o their performance. The procurement function needs to embrace policies and procedures that improve the supply of inventory thus, raw materials and finished goods. In Kenya, the Public Procurement and Oversight Authority (PPOA) is a regulatory body formed to direct and do oversight on all matters of procurement. PPOA (2015) outlines the objectives of inventory control, assets

and stores management and distribution.

The ultimate goal of any production is consumption. For goods and services to be consumed, there must be a customer. This therefore implies that the procurement function must put into consideration the issue of customer satisfaction. The customer ultimately pays for the end product or service, which to them, is the value added effort of transforming raw materials to finished goods. By this, activities that do not add value to the customer, such as products being stored, inspected, or delayed is 100% waste (Richard *et al* 2009).

The performance of a procurement function is determined by the profits and growth it achieves. These two parameters can be fairly used to assess the performance of a function and/or the entire organization. According to Nderitu (2014), organization performance is the test of assessing the extent of a coop oration's objectives attainment. Therefore, inventory management is a key asset in the performance and growth of the procurement function of any organization. Proper inventory management saves an organization from poor quality production, disappointment of seasoned customers, loss of profits and good social responsibility (Johnson, 2008).



Independent Variable

Dependent Variable

Figure 1: Conceptual Framework

METHODOLOGY

This study adopted a descriptive survey research design. The target population of this research were

employees working in procurement /Stores department, Agriculture department, Factory department, Finance department and

Transport/Haulage department of Butali Sugar Mills Limited (BSML). This study targets a total population of 150 employees. The study sample frame was made up of employees drawn from all the five departments of Butali Sugar Mills Limited (BSML), involving the middle level staff and management staff. The sample size was determined basing on formula by Yamen, (1967) which according to population was 109. The study adopted stratified sampling method where respondents who conformed to the purpose of the study were selected. The researcher used questionnaires as the primary data collection method. Descriptive and inferential statistics were used in analyzing data. The data collected from respondents was analyzed using statistical packages for social sciences (SPSS). Regression analysis was applied to determine the relationship between variables. Descriptive statistics, Inferential statistics was used to measure the relationships between variables; thus regression and correlation models.

FINDINGS AND DISCUSSIONS

Descriptive statistics

Descriptive analysis for this section used percentages, frequencies and means to show the response from the respondents as shown in the table below for the variable. The respondents were required to state their level of agreement on various statements on each variable. The level of agreement ranged from 1-strongly disagree, 2-disagree, 3-Neutral, 4-agree and 5- strongly agree. The results were as follows.

Inventory audits and Procurement performance

The sampled respondents were provided with 6 statements related to Inventory audits. The pertinent results were as shown in Table 1.

Table 1: Inventory audits

Statements	1	2	3	4	5	Mean
Our company performs frequent inventory audits.	24 (27.3)	35 (39.8)	11 (12.5)	17 (19.3)	1 (1.1)	3.727
The company has put up an inventory control policy which is well known by the staff.	12 (13.6)	18 (20.5)	20 (22.7)	35 (39.8)	3 (3.4)	3.011
Our company prepares proper records of the sugarcane supplied and sugar produced.	20 (22.7)	37 (42)	23 (26.1)	4 (4.5)	4 (4.5)	3.739
The Internal Auditors of the company present their audit reports to the management for implementation.	20 (22.7)	39 (44.3)	14 (15.9)	12 (13.6)	3 (3.4)	3.693
The Internal Auditors' reports enable all departments of the company adhere to the set policies and procedures.	11 (12.5)	49 (55.7)	23 (26.1)	3 (3.4)	2 (2.3)	3.727
There's accountability and transparency on the employees working in procurement department.	18 (20.5)	29 (33)	35 (39.8)	4 (4.5)	2 (2.3)	3.648

From the results in Table 1, 39.8% of the respondents agreed that their company performed frequent inventory audits while 27.3% strongly agreed on the same although 19.3% disagreed. Similarly, 20.5% and 13.6% of the respondents

agreed and strongly agreed respectively that the company has put up an inventory control policy which is well known by the staff while 22.7% were neutral. The results also revealed that 42.0% of the respondents agreed that their company prepares

proper records of the sugarcane supplied and sugar produced while 22.7% strongly agreed on the same. However, 26.1% disagreed that their company prepares proper records of the sugarcane supplied and sugar produced.

The results further revealed that 44.3% and 22.7% of the respondents agreed and strongly agreed respectively that the Internal Auditors of the company present their audit reports to the management for implementation. Majority of the respondents agreed that the Internal Auditors' reports enable all departments of the company adhere to the set policies and procedures as shown by 55.7% and 12.5% strongly agreed on the same although 26.1% were neutral.

Lastly, slight majority of the respondents were neutral that there is accountability and transparency on the employees working in procurement department as shown by 39.8%. On the other hand, 20.5% strongly agreed on the same while 33.0% agreed that there's accountability and transparency on the employees working in procurement department.

Procurement performance

The sampled respondents were provided with 8 statements related to Procurement performance of Butali Sugar Mills Limited. The relevant results were as shown in Table 2.

Table 2: Procurement performance

Statements	1	2	3	4	5	Mean
Our procurement function has reduced lead times due to contingency planning and early supplier involvement in raw material sourcing.	18 (20.5)	28 (31.8)	29 (33)	7 (8)	6 (6.8)	3.511
The inventory audits done in our company has led to policy compliance in the procurement function as well as the entire organization.	4 (4.5)	16 (18.2)	30 (34.1)	31 (35.2)	7 (8)	2.761
Contingency planning has reduced stockholding costs such as capital tied up, pilferage and obsolescence in the company.	9 (10.2)	35 (39.8)	24 (27.3)	16 (18.2)	4 (4.5)	3.330
The procurement function has improved information accuracy due to frequent inventory audits.	16 (18.2)	43 (48.9)	13 (14.8)	15 (17)	1 (1.1)	3.659
Our procurement function has been able to receive value for money for the inventories purchased due to well managed supplier relationship and contingency planning.	13 (14.8)	38 (43.2)	15 (17)	21 (23.9)	1 (1.1)	3.466
The strategy of managing supplier relationship has enabled the procurement function to improve product quality (sugar).	4 (4.5)	30 (34.1)	30 (34.1)	21 (23.9)	3 (3.4)	3.125
The inventory audits done in the company has led to transparency and accountability in the procurement function and the company at large.	19 (21.6)	24 (27.3)	29 (33)	13 (14.8)	3 (3.4)	3.489
Effective management of supplier relationship by the procurement function has led to enhanced relations with suppliers hence increased productivity.	20 (22.7)	50 (56.8)	12 (13.6)	2 (2.3)	4 (4.5)	3.909

From Table 2, 31.8% of the respondents agreed that their procurement function has reduced lead times due to contingency planning and early supplier involvement in raw material sourcing while 20.5%

strongly agreed with a mean of 3.511. The results also revealed that 18.2% and 4.5% of the respondents agreed and strongly agreed respectively that the inventory audits done in our

company has led to policy compliance in the procurement function as well as the entire organization. However, 35.2% of the respondents disagreed and 34.1% were neutral with a mean of 2.76. Slight majority of the respondents agreed that Contingency planning has reduced stockholding costs such as capital tied up, pilferage and obsolescence in the company as shown by 39.8% and further 10.2% strongly agreed on the same. Similarly, 48.9% of the respondents agreed that the procurement function has improved information accuracy due to frequent inventory audits and further 14.8% strongly agreed although 23.9% disagreed on the same.

The results also revealed that 43.2% of the respondents agreed that their procurement function has been able to receive value for money for the inventories purchased due to well managed supplier relationship and contingency planning. Only 34.1% of the respondents agreed and further 4.5% strongly agreed that the strategy of managing supplier relationship has enabled the procurement function to improve product quality (sugar)

However, 34.1% were undecided and 23.9% disagreed on the same.

The results further revealed that 27.3% of the respondents agreed that the inventory audits done in the company has led to transparency and accountability in the procurement function and the company at large and additional 21.6% strongly agreed on the same. However, 33.0% of the respondents were undecided. Lastly, majority of the respondents (56.8%) agreed that effective management of supplier relationship by the procurement function has led to enhanced relations with suppliers hence increased productivity and further 22.7% strongly agreed on the same.

Inferential Analyses

From Figure 2, normal Q-Q plot of Inventory audits the deviation from normality was not significant as from the approximation to the line of fit. Hence, the data had almost normal distribution and hence could be used for parametric test such as linear regression.

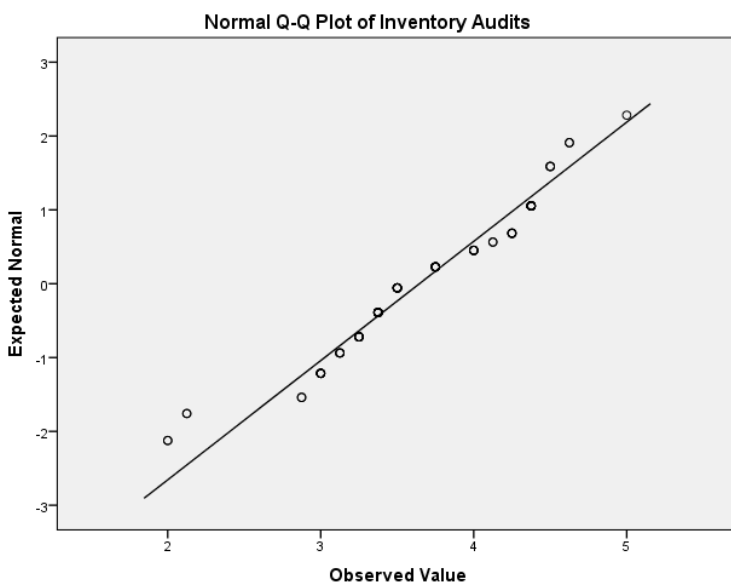


Figure 1: Normal Q-Q plot of Inventory audits

From Figure 3 Normal Q-Q plot of Procurement performance the departure from normality was not

much as from the approximation to the line of fit. Thus the data was near normal distribution and hence could be used in a regression analysis.

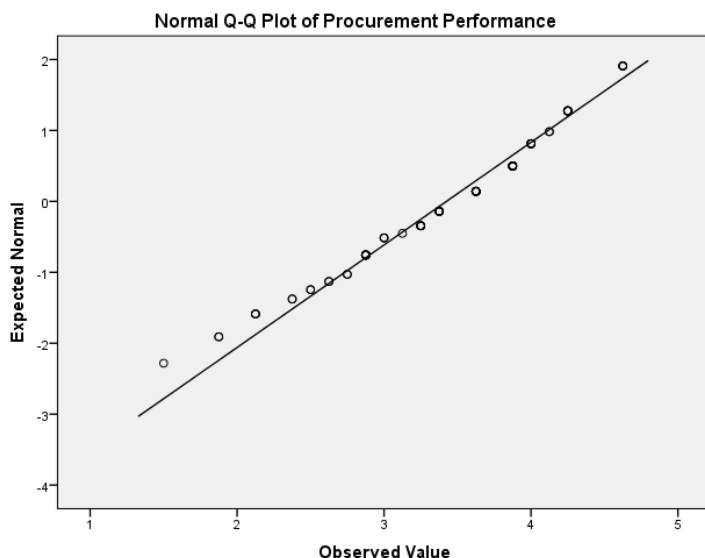


Figure 3: Normal Q-Q plot of Procurement performance

Pearson Correlation Results

Responses on Inventory audits on Procurement Performance

The objective of the study was to assess the influence of Inventory audits on the Procurement

performance of Butali Sugar Mills Limited. Regression analysis was conducted to find the proportion in the dependent variable (Procurement performance) which can be predicted from the independent variable (Inventory audits). Table 3 showed the analysis results.

Table 3: Regression Results of Inventory audits on Procurement Performance

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.594 ^a	.353	.345	.559620		
a. Predictors: (Constant), Inventory audits						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.678	1	14.678	46.867	.000 ^b
	Residual	26.933	86	.313		
	Total	41.611	87			
a. Dependent Variable: Procurement performance						
b. Predictors: (Constant), Inventory audits						
Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients		T	Sig.
	B	Std. Error	Beta			
1	(Constant)	1.007	.358		2.813	.006
	Inventory Audits	.663	.097	.594	6.846	.000
a. Dependent Variable: Procurement performance, Inventory audits						

From the table 3 above the value of R square was 0.353 which implied that up to 35.3% change in procurement performance of Butali Sugar Mills

Limited is significantly accounted for by Inventory audits. From the ANOVA result, the significance of the model had a value F (1,86) =46.867, P<0.01

which showed that the model was significant 99.0% confidence level. This postulated that inventory audits are a useful predictor of procurement performance. The simple linear regression equation is as shown below;

$$Y_{pp}=1.007+0.663 \text{ Inventory audits}$$

The unstandardized regression coefficient value of inventory audits was 0.663 and significance level of $p<.001$. This implied that a unit change in inventory audits would result to significant change in Procurement performance by 0.663 in the same direction.

Hypothesis testing

Study hypothesis two (H_0) stated that inventory auditing has no significant effect on the procurement performance of Butali Sugar Mills Limited. Regression results indicated that inventory audits has significant influence on Procurement performance of Butali Sugar Mills Limited ($\beta = 0.309$ at $p<0.01$). The hypothesis was therefore rejected. The results indicated that a single improvement in inventory audits will lead to 0.309 unit improvement in Procurement performance of Butali Sugar Mills Limited.

CONCLUSIONS AND RECOMMENDATIONS

The objective of the study was to assess the influence of Inventory audits on the Procurement performance of Butali Sugar Mills Limited. Descriptive statistics indicated that most of the respondents agreed that the company performs frequent inventory audits. Most of the respondents also agreed that the Internal Auditors' reports enable all departments of the company adhere to the set policies and procedures. Majority of the respondents also indicated that the company

prepares proper records of the sugarcane supplied and sugar produced. Pearson Correlation results a moderate relationship between inventory audits and procurement performance of Butali Sugar Mills Limited. Linear regression analysis indicated that inventory audits significantly accounts for variance in procurement performance of Butali Sugar Mills Limited. Multiple regression analysis revealed that when other variables are controlled in the model, a unit change in inventory audits would results to a significant change in procurement performance in the same direction. Thus, inventory audits are useful predicator of procurement performance of Butali Sugar Mills Limited.

The study therefore concluded that inventory audit has significant influence on procurement performance of Butali Sugar Mills Limited. The null hypothesis was rejected. Therefore, inventory audits are a useful predicator of Procurement performance of Butali Sugar Mills Limited. The company performed frequent inventory audits. The company prepared proper records of the sugarcane supplied and sugar produced. However, the company has not adequately put up an inventory control policy which is well known by the staff.

From the conclusion, the study recommended that the company need to establish inventory control policy which is well known by the staff. This would increase the accountability and transparency on the employees working in procurement department. Further, there should be continuous internal audits carried out to enhance reduction of costs. There should be continuous periodical reports being carried out to enhance reduction of costs. The periodical reports can be used to facilitate the suppliers' relationship to enhance procurement audit.

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