

Influence of Inventory Control on Performance of Kenya Vehicle Manufacturers Limited

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Abstract

The vehicle assembling firms in Kenya have got a special role in the contribution of gross domestic product (GDP) to the country. The industry strongly influences the entire value chain in both upstream and downstream supply chain activities. Irrespective of this enormous influence, the complexity of business transactions, technological advances, globalization, speed of product cycles and the overall pace of change have made vehicle assembling firms in Kenya face unprecedented phenomenon. As a result of this backdrop, most of the organizations have also experienced uncertainties both in operational and transactional activities. Supply chain continues to have massive drawbacks such as logistical difficulties and operational challenges. These aspects paves way to non-performance outcomes that results to lack of progress in creation of profit margins and meeting customer requirements which turns out to be the impediments to any successful organization. Such alterations have completely made most of the supply chains to embrace better supply chain practices that can have possible influence on performance of motor vehicle assembling firms in Kenya. This study focused on the influence of inventory control on performance of Kenya Vehicle Manufacturers Limited. A descriptive research survey was used in the formulation of knowledge on the influence of inventory control on performance of Kenya vehicle manufacturers limited and provided solutions to areas that needed improvement. The target population for the study was 150 employees working at Kenya vehicle manufacturers limited. The researcher used stratified random sampling method since the target population was heterogeneous. To this extent therefore, the sample size was derived using Slovin's formula $n = \frac{N}{1+N(e^2)}$. A five-point Likert scale questionnaire was administered to the sample chosen. Both descriptive and inferential analysis was done using SPSS version 22. The study found out that inventory control, positively and significantly influence the performance of Kenya vehicle manufacturers limited. The correlation between inventory control and performance of Kenya vehicle manufacturers was significantly strong and positive with $R= 0.734$, $P= 0.00<0.05$. This implied that when the firm embraces inventory control the performance improves positively making the firm to have a competitive edge. The study also showed that, a unit improvement in inventory control would lead to a 0.163 increase in the performance of Kenya vehicle assembling firms in Kenya. The study concludes that inventory control systems are considered to be key pillars towards performance of motor vehicle assembling firms. The study recommends that motor vehicle assembling firms should embrace inventory control in totality so as to achieve considerable performance. To add on that, the study recommends that the firm should revert from conventional inventory control metrics to modern performance indicators in order to have a competitive edge in the market. Further, the study recommends that a well-structured inventory blue print should be incorporated in the firm's policy framework in order to ensure a seamless inventory management in the holistic motor industries in Kenya.

Keywords: Inventory Control, Supply Chain Practices, Performance, Value Chains, Upstream and Downstream.

INTRODUCTION

Inventory control has become indispensable in the contemporary business environment in order to achieve exceptional customer satisfaction, cost reduction as well as enhancing supply chain competitiveness and performance (Rao et al., 2009). Stevenson (2009) postulates that a firm that is devoid of inventory control will invariably hamper its operations entirely, decreases customer satisfaction and will increase its operating costs. Chalotra (2013) asserts that the tenacity of inventory control incorporates cost minimization, profit maximization, averting stock out and to inhibit surplus stock that are unnecessary. Saleemi (2006) alludes that the prime objective of inventory control in any organization set up is to reduce the idle time that is caused by the shortage of inventory and non-availability of inventories, inventory carrying costs as well as obsolescence. The inventory investment for most of firms takes up an enormous fraction of the total budget yet inventory control has not been fully recognized as an essential aspects that could help the firm to achieve its bottom line and position itself strategically against her competitors (Saleemi, 2006). Dooly (2005) confirms that, keeping inventory value at the lowest level is to optimize the use of working capital and to minimize the cost of storage. Nevertheless, there is invariably the challenge of managing inventory to ensure the balance of demand with supply in order to satisfy customers. Firms would ideally want to have adequate inventories to meet the customer's requirements and at the same time to ensure no lost sales as a result inventory stock outs. At the same time they want to avoid too much inventory on hand because of the cost of carrying inventory; as a result to this, tradeoff is always difficult to manage.

INVENTORY CONTROL AND PERFORMANCE OF KENYA VEHICLE MANUFACTURERS

Saleemi (2006) defines inventory control as the activity which organizes the availability of items to the consumers since it co-ordinates the purchasing, manufacturing which adds value to the product through the

transformation of raw materials into finished products and distribution functions to meet the marketing needs. This role includes the supply of consumables and a reduction of obsolescent items. Borade and Sweeney (2015) indicate that throughout the inventory chain that is from raw materials through to retail stocks, inventories should be planned and controlled to avoid holding excess or reaching to a point of stock out. For each item in inventory some questions should be answered that is how many of this items should be ordered, when and from where to be ordered? In this regard therefore optimum inventory should be held as to meet customer's requirements with minimal lead time.

Daskin (2002) confirms that performance of motor vehicle assembling firms is subject to improved inventory control system and therefore firms are called upon to be cognizant on the significance of ensuring better inventory management practices is embraced within the firm. The main objective of supply chain in inventory management systems is to optimize materials cost, overhead expenses, high level of services, quality assurance and low level of tied up capital and support of other functions. Supply chain performance influences greatly the inventory management system through purchasing, demand management, transportation, warehousing and storage as well as customer service.

Saxena (2003) confirms that the management of the firm is very much concerned about unavailability of items required for operation to go on without interruptions. This is so because any increase in the interruption of the machines due to shortage of raw materials leads to production loss entirely. This aspect therefore calls for inventory control not only considering at the physical balance of various materials but also considering into aspects of minimizing the inventory cost.

Sadeghi et al., (2014) affirms that inventory control is an imperative asset in relation to the performance of the firm since it allows the production and sales operations to remain running smoothly by the stock service levels meeting the demands of production and resale. It is considered to be the achievement of high levels of stock service on the minimum of stock investment which is the heart of inventory management. Production and marketing would of course like to meet all demand immediately from current stock and would therefore call for strict inventory control and procurement management.

LITERATURE REVIEW

Fullerton et al (2003) provides empirical evidence regarding those firms that use the sophisticated modern inventory control techniques normally outsmart or outperform competitors. According to the findings of the scholars there was a positive relationship that exists between the firm's profitability and the degree to which waste reducing production practices such as reduced set up times, maintenance programs and uniform workloads are implemented. The findings indicate that manufacturing firms that employ modern inventory control techniques are consistently more profitable than competitors.

Eroglu and Hofer (2011), in their study suggested that there is a strong relationship between inventory control and the performance of the firm whereby they used the Empirical Leanness Indicator (ELI) as an indicator for inventory management. They were in argument that inventory leanness is the best inventory management tool. Lean manufacturing practices in most of the industries considers inventory as a form of waste and if not managed well it can consume the profit of the firm and therefore require good management. According to their study on USA manufacturing firms covering the period 2003-2008 established that leanness affects profit margins of the industry.

Ahmed et al., (2016) conducted a study of 131 companies that were listed on the Athens Stock Exchange and found out that the mismanagement of inventories within an organization set up will tie up excess capital that could have been put into a more profitable venture to give return on investment. They then advocated that managers can create immense value for their firms by ensuring that inventory is kept at optimum level. Rajeev (2008) conducted a study of 91 Indian Machine Tool Enterprises confirmed that there is a strong relationship between inventory management practices and inventory cost acknowledged that effective inventory management practices have immense positive impact on the inventory performance of an organization as well as have got an eventual effect on the business performance.

METHODOLOGY

A descriptive research survey design was adopted in this study. According to (Mugenda & Mugenda, 2008) this research design shows the state of affairs as it exists at the present. The choice of this research design was motivated by the suitability of the instrument to collect a large amount of data. The study involved supplies staff, research and development staff, human resource staff and production staff. A stratified random sampling was used and 109 selected respondents were involved in the study. The researcher appointed two research assistants who were engaged in expediting the administration of the questionnaires. Prior to the administration of the questionnaires to the respondents, the researcher convened a training session in order to impart the necessary skills needed in data collection process. A self-designed questionnaire that entailed structured and unstructured questions was administered to all the respondents. Whereas definite responses were obtained from the structured questions, the unstructured questions allowed the respondents to express themselves and

share their views or suggestions on particular issues. Descriptive statistics was used and statistical output was generated using SPSS version 25. Inferential statistics was also used to infer the correlation analysis and multiple linear regression analysis.

ANALYSIS AND RESULTS

Descriptive Statistics

The descriptive statistics allowed the researcher to describe the distribution of scores using statistics in line with inventory control on performance of Kenya vehicle manufacturers limited. The analysis of the results are shown in table 1.

Table 1: Inventory Control on Performance of Kenya Vehicle Manufacturers

Inventory Control	Mean	Standard deviation
Our firm ensures that on time order fill rate is met to avoid backorders or lost sales	4.54	0.633
Customers order fill rate is an indicator of how well the firm stocks products that are in demand from customers	4.49	0.560
Our firm uses technology application to track customer orders so as to minimize cycle time during operations	4.47	0.657
Our firm’s success is dependent on the reduction of cycle time	4.18	0.791
We have a warehouse management system to track inventory accuracy	4.69	0.496
Inaccurate tracking of orders can result into minimal inventory accuracy	4.60	0.602

On the statement that the firm has a warehouse management system to track inventory accuracy was rated highly with a mean of 4.69 and a standard deviation of 0.496. This was followed closely by the statement that the firm’s inaccurate tracking of orders can result into minimal inventory accuracy with a mean of 4.60 and a standard deviation of 0.602. The third rated statement indicated that the firm ensures that on time order fill rate is met to avoid back orders or lost sales with a mean of 4.54 and a standard deviation of 0.633. The statement that customers order fill rate is an indicator of how well the firm stocks products that are in demand from customers was positioned fourth with a mean of 4.49 and a standard deviation of 0.560. Further, the statement that the firm uses technology application to track customer orders so as to minimize cycle time during operations was positioned fifth with a mean of 4.47 and a standard deviation of 0.657. Lastly, the statement that the firm’s success is dependent on the reduction of cycle time was ranked sixth with a mean of 4.18 and a standard deviation of 0.791.

Inferential Statistics

In order to make inferences and generalization from the data obtained from the population, inferential statistics was applied in the study. To establish the relationship between the independent variables and dependent variable of the study, the researcher conducted inferential analysis. From the basis of this, correlation analysis was used to determine the strength of the relationship between the independent variable and dependent variable. In regard to this, Pearson correlation was applied to establish the relationship between the independent variable (Inventory control) and the dependent variable (Performance of Kenya vehicle manufacturers limited). The study results is as shown in table 2, 3 and 4 below.

Table 2: Pearson Product Moment Correlation

Variable	Performance of Motor Vehicle Assembling Firms	Inventory Control
Inventory Control	Pearson Correlation	0.734**
	Sig. (2-tailed)	0.000
	N	68
	Pearson Correlation	1
Performance of Motor Vehicle Assembling Firms	Sig. (2-tailed)	0.000
	N	68

** Correlation is significant at the 0.01 level (2-tailed).

The results showed that inventory control and performance of Kenya vehicle manufacturers limited was significantly strong and positive with R= 0.734, P=0.00<0.05. This implied that when the firm embraces inventory control the performance improves positively making the firm to have a competitive edge.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.905 ^a	0.820	0.808	1.30261

a. Predictors: (Constant), Inventory control

As the preliminary test for linear regression model adopted in the study, adjusted R square were computed. These were used to show the significance of the regression model adopted in the study. The adjusted R square was 0.808 accounting for 80.8% of variations in performance of Kenya vehicle manufacturers limited at 5% significance level. As a result to this, the independent variable strongly influences performance of Kenya vehicle manufacturers limited.

Table 4: Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.578	2.817		0.205	0.838
	Inventory control	0.163	0.144	0.116	1.132	0.000

a. Dependent Variable: Performance of Motor Vehicle Assembling Firms

The regression analysis indicated that, by taking all factors into account as a constant zero, the performance of Kenya vehicle manufacturers limited would be 0.578. This signifies that performance of Kenya vehicle manufacturers limited is considered to change by 0.578 units. Likewise, the regression results also shows that inventory control had a statistically significant effect on the performance of Kenya vehicle manufacturers limited with p-value 0.00<0.05. Additionally, a unit change in inventory control would lead to change in performance of Kenya vehicle manufacturers limited by 0.163 units and this implies that a unit improvement in inventory control would lead to a 0.163 increase in the performance of Kenya vehicle manufacturers limited.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

From the findings, it was crystal clear that Kenya vehicle manufacturer’s limited embraced inventory control as a strategy of improving their performance. From the regression results the study found out a unit increase in inventory control would lead to increase in the performance of the firm by a positive factor. Based on the findings of the study, inventory control is embraced considerably in the firm under the available parameters. The study concludes that inventory control systems are considered to be key pillars towards performance of motor vehicle assembling firms since it ensures optimal stocks all the time. The study recommends that motor vehicle assembling firms should embrace inventory control in totality so as to achieve considerable performance. To add on that the study recommends that, the firm should revert from conventional inventory control metrics to modern performance indicators in order to have a competitive edge in the market. Further, the study recommends that a well-structured inventory blue print is incorporated in the firm’s policy framework in order to ensure a seamless inventory management in the holistic motor industries in Kenya.

SCOPE FOR FURTHER STUDIES

This study sought to examine the influence of inventory control on performance of Kenya vehicle manufacturers in Kenya. Nevertheless, the findings of the study cannot be considered in the other sectors of the economy due to different organizational structures. The study therefore, recommends further studies in; influence of inventory control on performance of construction firms in Kenya, Effect of inventory control on performance of manufacturing firms in Kenya and role of inventory control on performance of state corporations in Kenya.

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