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1

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Abstract

Purpose: The purpose of this study was to determine the effect of lead time management practice on supply chain leverage of sugar manufacturing firms in Kenya

Methodology: A census survey sampling was adopted and conducted on all the 15 sugar manufacturing firms in Kenya forming the unit of analysis. A sample size of 241 respondents comprising of Procurement officers, Finance officers, Production managers and senior managers was obtained randomly from the sugar manufacturing firms. Convenience sampling was then employed to select officers and managers from the sugar manufacturing firms. Structured and semi-structured research questionnaires were used to collect primary data from the respondents. The questionnaires were dropped and picked later to enhance the response rate. The qualitative and quantitative data collected was analyzed using descriptive statistics in SPSS version 28. Inferential analysis was further carried out by correlation analysis, regression analysis and hypothesis testing. The results were then presented using tables, graphs, charts and histograms.

Results: Lead time management Practice was found to have a significant effect on supply chain leverage of sugar manufacturing (t =5.05, p =.000), from the study results. This meant that a change in lead time management practice had a significant change on supply chain leverage of sugar manufacturing firms in Kenya. The study further revealed that lead time management and supply chain leverage had a statistically significant association (R =.779, R^2 =.607). Consequently, lead time management practice was responsible for 60.7 percent of the variation in Supply chain leverage of sugar manufacturing firms in Kenya in terms of production efficiency, production flexibility and cost reduction.

Unique Contribution to Theory, Practice and Policy: The study recommends that individual sugar manufacturing firms observes lead time practices in the acquisition of raw material supplies ensuring the shortest possible lead time, to increase production optimization and efficiency, thus supporting the theory of constraints. Consequently the sugar manufacturing firms will incur limited inventory related costs associated with stock outs or overstocking hence promoting performance, resource optimization and production efficiency and flexibility.

Keywords: *Lead Time Management, Supply Chain, Supply Chain Leverage, Production Flexibility*

INTRODUCTION

The practice of lead time management may influence supply chain leverage of sugar manufacturing firms in a number of ways which may include, ensuring production efficiency, production flexibility and production continuity, without halted production processes (Murezwa & Ndolo, 2021). Effective lead time management practices could support the supply chain leverage outcomes of sugar manufacturing firms as indicated by some previous studies.

Empirical studies show that most successful Sugar processing companies do not embrace customer satisfaction neither do they engage in proper forecasting, or consider lead time concerns (Jepchirchir & Noor, 2019). An empirical study conducted by Mbiriri and Moronge in 2018 on the relationship between information sharing and lead time reduction revealed that lead time reduction had a greater impact on supply chain performance of sugar firms in Kenya. Another study on moderating effect of dynamic supply chain configuration on the relationship between dynamic supply chain capabilities and resilience of retail sector in Kenya; have concluded that lead time management practice is a critical factor affecting supply chain success, and where it is unpredictable it complicates the situation in terms of both cost and service (Mwangi, Chege, Muli and Ndolo, 2022).

Supply chain leverage involves maximum satisfaction to end users that is; delivering the right product to the right person at the right time while maximizing profits (Waswa, Mukras & Oima, 2018). According to Anantadjaya, *et.al* (2021), lead time management is an inventory control strategy relating to "all efforts put in place to ensure that consumers receive the required items or services whenever they are needed or requested, within the shortest time." Lead time management, according to Mukopi and Iravo (2019), is the duration that organizations take to receive arrange, store, and replace inventory in order to maintain an appropriate supply of goods while minimizing costs. The goal of lead time management, according to Barasaa and Makenzie (2021), is often to keep inventory costs at the lowest possible.

The advancement in the use of technology, in managing supplies alone can change the way the supply chain is organized and leveraged (Ibaghui & Olokoyo, 2019). Consequently significantly driving down expenses while improving lead times considerably (Mbugi & Lutego, 2022). Other than, lowering inventory costs alone; a firm that guarantees fast delivery of raw materials and products to the market; can position itself, as a default option for customers and other organizations that value speed. Regardless of the industry, lead time management can have a significant impact on the final price customers are willing to pay for the products over those of the competitors (Chepkesis & Keitany, 2018).

Inventory decisions triggered by lead time management practices are therefore very risky decisions which greatly impact on the supply chain leverage of an organization (Kipruto & Shale 2019). If managers keep too much inventory on hand, they will waste money storing it. At the same time they lose money if inventories are damaged or stolen. On the other hand; managers who run out of inventory may have to stop production until the necessary materials are supplied, wasting time and labor ((Nsikan, Etimb & Imec, 2020). In most realistic inventory situations certainty does not exist. A situation that can only be managed by certainty in lead times and proper inventory budgets that can have significant impact on trade in the areas they operate in (King'oo & Muli, 2019).

As a rule of thumb in most manufacturing firms' or organizations'; direct materials often represent over 50% of the total production cost. Thus money channeled and invested in

inventory is massive thereby affecting the profitability and competitiveness of a firm. This effect trickles down the entire supply chain of the organization, both on cost and quality of products. Factors which have a direct bearing or impact on the supply chain leverage of a firm. As a result if a company does not manage its inventory efficiently it is likely to face problems (Njuguna &Wanjohi, 2021)

According to Subramani (2018), shorter lead times affects competitive advantage of manufacturing firms, and is one of the critical inventory aspects that ensures effectiveness in timely meeting of customer needs. The study further concluded that a firm can compete favorably based on the quality and delivery of customer orders. Competitive advantage comprises of the capabilities that allow an organization to distinguish itself from its competitors, its resource capacity and value which are outcome of critical management decisions (Namusonge, Mukulu & Kirima 2018). In general, organizations may manage the inventories through shorter lead times; as a cost cutting strategy. Nevertheless other areas still exist where value addition may be done to improve a firm's competitiveness. These comprise of technologically driven change, offering more value, embracing efficient lead times, and flexible supply chains (Chen, *et. al*. 2022).

Past studies in their quest to study the impact of inventory management on firms' performance and profitability utilized models like six-sigma to highlight roles of lead times (Harsa, Mohamad, & Meutia, 2019). However, the question of whether inventory control through lead time management is beneficial to firms' leverage has little reviews for the developing countries like Kenya. Especially in the important sugar processing sector. The sugar sector in Kenya supports more than 6 million people. Representing about 16% of the entire population (Nanjala, Immonje & Wasike, 2022). As a result the objective of this study was to determine the effect of lead time management practice on supply chain leverage of sugar manufacturing firms in Kenya.

Statement of the Problem

In the past lead time management as a component of inventory control strategy was not considered necessary (Mukopi & Iravo, 2019). In fact longer lead times were the order of the day for many suppliers. However, some firms are currently embracing shorter lead times as an inventory control technique (Jepchichir & Noor, 2019). Despite this, many organizations still find it hard to effectively manage their inventories (Orwa *et al.* 2022). Nevertheless other firms have adopted mechanisms like shorter lead times, to reduce inventories carried by them while satisfying customer needs (Mulandi & Ismael, 2019). In some firms, engaging in contracts having suppliers with shorter lead times have been at the heart of their inventory control strategies (Njoki, Shale & Osoro, 2022).

In the recent past, sugar manufacturing firms in Kenya have suffered massive losses while some have struggled to stay afloat. Others have completely met their untimely death by collapsing (Onyango, Wanjare & Egessa 2022). Among the issues cited in the previous sugar sector reports and studies by KSB through AFA; are corporate leadership issues and little or no concern for managing supplies from farmers (Jabuya, 2018; KNBS, 2019).

Analytical studies have established that the sugar – sub sector in Kenya is constrained by low production capacities, high operating costs and corporate leadership inefficiencies (Choolwe, 2020). In addition huge debts, cheap sugar imports and political interference are the major issues bedeviling the sugar industry in Kenya (Otieno & Riugu, 2018). Most public sugar

manufacturing firms in Kenya, are experiencing supply chain leverage challenges, in their supply chains with over 70% of them at the verge of collapsing while another 10% of the sugar firms are completely shut down (AFA, 2018; Kansime, 2022). This begs the question on whether poor lead time management practice, as an aspect of inventory control strategy in manufacturing is the missing link bedeviling the supply chain leverage of sugar manufacturing firms in Kenya. Thus this study aimed at determining the effect of lead time management practice on the supply chain leverage of sugar manufacturing firms in Kenya.

LITERATURE REVIEW

Lead times have serious effects on the coordination among supply chain partners (Mwangi, Muturi & Noor, 2019). Therefore, lead time reduction can be viewed as a coordination enabler in supply chain. In some studies, lead time reduction has been viewed as an investment strategy (Srivastav & Agrawal, 2018). In a study of the Chinese firms; a system consisting of one buyer and two suppliers with stochastic lead times as endogenous variables in which lead times can be reduced at a cost were found to leverage them (Wuletaw, 2022). It has been shown that when lead times are dependent upon the upstream backlog amount, variation of downstream orders are increased (Zhen *et al.* 2018).

As a result of increased global trade, the short-distance supply chain within a country has transitioned to a long-distance supply chain between countries (Hussein & Makori, 2018). As a result of the change, the lead time has increased, and the fluctuation of goods or products has quickened. The lead time, also known as the replenishment delay, is the time it takes for an order to be sent and received. Existing research shows that lead time is a critical factor affecting supply chain success (Mwangi, Chege, Muli & Ndolo, 2022). In a company, if the lead time is unpredictable, the situation is complicated from both a cost and service standpoint.

Abimanyu, Wawan and Erry (2019), discussed the influence of lead time uncertainty on order quantity, inventory level, and work-in process quantity. While studying sustained oscillation in non-linear production and inventory control models. According to them; assuming demand is stable, they followed the small disturbance principle to probe lead time disturbance related to system output. They found out that the order quantity, inventory level, and work-in-process quantity increase with the lead time. For instance the longer the lead time the higher the inventory levels; therefore it is imperative to adopt good lead time practices and strategies by an organization if organization success is anything to go by.

The design of a supply chain strategy requires the knowledge of the company´s competitive factors. Grover and Dresner (2022) in their study asserts on the concepts of market qualifiers and order winners to facilitate manufacturing strategy making. This is further extended by Jobira, Abuye, Jenal and Gudeta (2022) to the determination of supply chain strategy. They suggested the utilization of a lead time management strategy. As the best option when cost is the main competitive factor, and an agile strategy when the main competitive factor is customer service.

Gaining control over lead-time is to map the status quo and material flow in a firm, which have to be identified and lead-times separated into various components (Nimpano, Shalle & Mulyungi, 2021). To be competitive the value stream needs to flow in a way that serves the customer with the overall shortest lead time, lowest cost, highest quality, and most dependable delivery. It should never be sub-optimized to serve the desires of individual processes, departments, functions, or people (Ibhagui & Olokoyo, 2019). In supply chain operation

practices, lead time uncertainty is a common management issue, which often requires a timely and holistic approach to handle. Risks emanating from uncertain lead time can result to increased inventory costs and unstable service levels, which will directly affect the overall operation performance of the supply chain (Chen, Harford & Kanara 2019).

Managing information and communication between manufacturing firms and suppliers is becoming crucial to businesses. Therefore, employing shared information systems can assist firms in reducing costs, especially if this information is exchanged on a real-time basis (Madu & Izuchukwu, 2018) Effective information sharing mechanisms require the integration of buyers and suppliers that will facilitate the execution of complex purchasing strategies, such as lead time concepts. This integration can be conducted using Information technology applications that enable both parties to synchronize their data by connecting with their business systems and establishing a more collaborative decision-making process (Maina & Gichunga, 2018).

According to Lii and Kuo (2016), the performance of manufacturing firms can be enhanced by key suppliers with more accurate lead times, improved coordination in production planning decisions, and effective management of inventory levels within the organization. The relationship with the key suppliers should ensure existence of an accurate and timely flow of information related to the planning, coordinating, and controlling of all data that can help manufacturing firms in establishing efficient production processes. This information sharing mechanism and supplier information alignment will enable the firms to make more successful decisions and achieve a competitive advantage over their rivals. The objective of lead time management practice is to enable manufacturers to provide the best value to their customers at a low cost by having effective and efficient information flows between the two parties (Faraz & Danish, 2019). Moreover, all redundant activities and waste will be eliminated by the frequent and timely supply of raw materials from suppliers to the Manufacturing firm.

Lead time management can be anchored on the theory of constraints. According to the theory of constraint; a manufacturing firm that embraces lean strategies, and shorter lead times is likely to have a great culture, engaged employees and everyone participating in the continuous improvement of the firm (Garba, 2020). According to Mekashaw (2021), a strict theory of constraint manufacturer is often focused on the exploitation of the bottleneck whenever it appears in the production process. The downside of lean approach and flexible lead times in the theory of constraints is that, a firm gets a supply chain leverage or improvement; when and if there is continuous improvement efforts aimed at eliminating bottlenecks related to organizational supply chain leverage.

This study explored the relationship between lead time management practice as independent variable which formed a unique topology for inventory control strategy from literature reviewed especially from studies (Mangala & Moronge, 2018); and supply chain leverage of sugar manufacturing firms as the dependent variable. This relationship is illustrated in the figure 1 below;
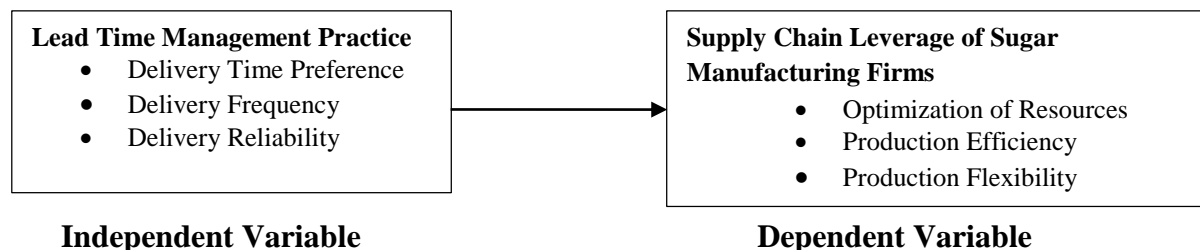
Figure 1: Conceptual Framework

Lead times have serious effects on the coordination among supply chain partners (Mwangi, Muturi & Noor, 2019). Therefore, lead time reduction can be viewed as a coordination enabler in supply chain. In some studies, lead time reduction has been viewed as an investment strategy (Srivastav & Agrawal, 2018). In a study of the Chinese firms; a system consisting of one buyer and two suppliers with stochastic lead times as endogenous variables in which lead times can be reduced at a cost were found to leverage them (Wuletaw, 2022). It has been shown that when lead times are dependent upon the upstream backlog amount, variation of downstream orders are increased (Zhen *et al*. 2018).

As a result of increased global trade, the short-distance supply chain within a country has transitioned to a long distance supply chain between countries (Lestari *et. al.,* 2019). As a result of the change, the lead time has increased, and the fluctuation of goods or products has quickened. The lead time, also known as the replenishment delay, is the time it takes for an order to be sent and received. Existing research shows that lead time is a critical factor affecting supply chain success (Mwangi, Chege, Muli & Ndolo, 2022). In a company, if the lead time is unpredictable, the situation is complicated from both a cost and service standpoint.

This information sharing mechanism and supplier information alignment will enable the firms to make more successful decisions and achieve a competitive advantage over their rivals (Cheptora, Osoro & Musau, 2018). The objective of lead time management practice is to enable manufacturers to provide the best value to their customers at a low cost by having effective and efficient information flows between the two parties (Atnafu & Balda, 2018). Moreover, all redundant activities and waste will be eliminated by the frequent and timely supply of raw materials from suppliers.

METHODOLOGY

This research design utilized both qualitative and quantitative data to help the researcher have an in depth examination of the variables under investigation. A descriptive study was carried out on all the sugar manufacturing firms in Kenya. Descriptive research is a procedure of collecting data so as to test hypothesis or answer questions related to the current subjects under investigation, (Rahman et al., 2021). The descriptive case study method was adopted in executing the research study because it is mainly concerned with describing, recording and analyzing the conditions of the subjects under study or investigation (Eldin & Ragab, 2019).

A census survey sampling was adopted and conducted on all the sugar manufacturing firms in Kenya; forming the unit of analysis of the study. The target population for this study was 241 respondents comprising of procurement officers (PO's), finance officers (FO's), production managers (PM's) and senior managers (SM's). These were drawn from the departments of

procurement, finance and production involved in inventory control practices in the sugar manufacturing firms in Kenya (KSB, 2022; AFA, 2018). The qualitative as well as quantitative data was analyzed using SPSS version 26. Correlation analysis and Regression analysis were used in inferential analysis. Finally tables were used to present the findings.

RESULTS AND DISSCUSIONS

Descriptive Analysis of Lead Time Management Practice

The study respondents were asked to indicate the extent to which they agreed with the effect of lead time management practice on supply chain leverage of sugar manufacturing Kenya using five-point Likert scale where 1= Strongly Disagree [SD], 2 = Disagree [D], 3 = Neutral [N], 4 = Agree [A], 5 = Strongly Agree [SA]. In table 1 below, the findings showed that the statement which required the respondents to indicate whether their firm is structured to reduce lead time period had ($\overline{x}$= 4.36, σ = .889). Moreover, on the statement that most firms had designed processes and systems that avoid delays in making orders with suppliers had ($\overline{x}$= 4.29, σ = .834). The findings further showed that shorter lead times in ordering and delivery of raw materials to a firm proved to lower cost of production with a ($\overline{x}$= 4.000, σ = 1.155).

In addition, the study established that majority of respondents indicated that their firm had adopted shorter transport time strategy for raw materials to facilitate agile production. ($\overline{x}$= 4.04, σ = 1.017). The findings also showed that, on firm's delivery frequency does not lead to delay in the distribution of sugar products to our market. ($\overline{x}$= 3.91, σ = 1.002). Additionally, the study established that reliability of our suppliers of raw materials ensures is continuous production in our firm. ($\overline{x}$= 4.28, σ = .997). Further, the study established that there is use multimodal transportation by our suppliers to reduce delays in delivery ($\overline{x}$= 4.12, σ = .129). Besides, the findings established that delivery frequency of finished supplies is affected by infrastructural establishment and capital resources of our firm. ($\overline{x}$= 4.21, σ = 1.017. Moreover, the study established that majority our firm's lead time policies are implemented and reduces the manufacturing cost. ($\overline{x}$= 3.97, σ = .885). Finally, the study found out that there was no control of lead time management by the top executives of sugar manufacturing firms, with a mean of 4.45 and standard deviation of 0.868, an indication that most respondents were in agreement with this position or assertion.

Table 1: Descriptive Statistics for Lead Time Management Practice

Statement	1	2	3	4	5	Mean	Std. Dev.
Our firm's sourcing is structured to reduce the lead time period.	12% N (25)	7.1% N(15)	14.7% N (31)	57.2% N(120)	9% N (19)	**4.36**	**0.889**
Our firm has designed processes and systems that avoid delays in making orders with suppliers.	1.9% N (4)	14.8% N(31)	22.4% N (47)	39.5% N (83)	1.4% N (45)	**4.29**	**0.834**
The shorter lead times in the ordering and delivery of raw materials to our firm have proved to lower cost of production.	6.2% N (13)	10.5% N(22)	28.6% N (60)	29.5% N (62)	25.2% N (18)	**4.00**	**1.155**
Our firm has adopted shorter transport time strategy for raw materials to facilitate agile production.	1.9% N (4)	13.3% N(28)	14.8% N (31)	40% N (84)	30% N (63)	**4.04**	**1.017**
Our firm's delivery frequency does not lead to delay in the distribution of sugar products to our market.	3.3% N (7)	7.6% N(16)	18.1% N (38)	41.9% N (88)	29.1% N (61)	**3.91**	**1.002**
Reliability of our suppliers of raw materials ensures is continuous production in our firm.	3.3% N (7)	4.8% N(10)	25.7% N (54)	43.3% N (91)	22.9% N (96)	**4.28**	**0.997**
There is use multimodal transportation by our suppliers to reduce delays in delivery.	2.9% N (6)	6.6% N(14)	12.9% N (27)	42.4% N (89)	35.2% N (74)	**4.12**	**0.129**
Delivery frequency of our finished supplies is affected by infrastructural establishment and capital resources of our firm.	4.8% N (10)	12.9% N(27)	23.8% N (50)	39.5% N (83)	19% N (40)	**4.21**	**1.017**
Our firm's lead time policies are implemented and reduces the manufacturing cost.	2.4% N (5)	10% N(21)	20% N (42)	42.4% N (89)	25.2% N (53)	**3.97**	**0.885**
There is no control of lead time management by the top management in our firm.	2.9% N (6)	10% N(21)	20% N (42)	41.4% N (87)	25.7% N (54)	**4.45**	**0.868**

Correlation Analysis for Lead Time Management Practice

The study found out that Lead time management practice had a strong positive relationship with supply chain leverage of Sugar Manufacturing firms in Kenya, as evidenced by a Pearson product moment correlation of .572 at the .01 level of significance, as shown in Table 2.

Table 2: Correlation Analysis

Variable		LT	SCL
LT	Pearson Correlation	1	
	Sig. (two-tailed)		
	N	210	
SCL	Pearson Correlation	.572**	1
	Sig. (two-tailed)		
	N	.000	

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

Regression Analysis

The effect of lead time management practice on supply chain leverage of sugar manufacturing firms in Kenya was studied using regression analysis. The following hypothesis was evaluated:

H_{01}: Lead time management practice has no significant effect on supply chain leverage of sugar manufacturing firms in Kenya.

Hypothesis one ($H0_1$) stated that Lead time management practices had no significant effect on supply chain leverage of sugar manufacturing firms in Kenya. Findings in Table 3 that follows shows that there was a significant effect of Lead time management practices on supply chain leverage $(\mathbf{t = 5.505}; \mathbf{p = .000})$. This implies that the null hypothesis is rejected with 95% confidence level. As a result by rejecting the null hypothesis, the study therefore concludes that Lead time management practice has a significant effect on supply chain leverage of sugar manufacturing firms in Kenya.

Table 3: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2.507	.016		25.263	.000	1.976	2.938
	LT	.148	.027	.258	5.505	.000	.095	.201

From the results in Table 3, the new regression model resulted into;

$$Y = 2.507 + 0.148X + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

From the regression model it was concluded that, Lead time management practice had a positive significant effect on supply chain leverage of sugar manufacturing firms in Kenya. As a result a unit increase in Supply chain leverage in yielded a corresponding 0.148 increase in lead time management practice.

Table 4: Model Summary

		Model Summary		
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.779[a]	.607	.670	.22017

a. Predictors: (Constant), LS, DF, LT, BF

The findings in Table 4 shows that Supply Chain Leverage model as a function of Lead Time Management Practice, yielded an R^2 value of 0.607. This indicates that 60.7% of the variation in supply chain leverage of sugar manufacturing firms in Kenya can be explained by Lead time management practices, a position supported by studies conducted by Wamoto, Kwasira & Ndolo (2023), who concluded organizations that do not implement proper lead time strategies were vulnerable to halted production operations.

Analysis of Variance

Table 5: ANOVA[a]

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	1749.619	4	437.405	74.212	.000[b]
	Residual	1208.256	205	5.894		
	Total	**2957.875**	**209**			

a. Dependent Variable SCL

 b. Predictors: (Constant), LT, DF, LS, BF

The results from Table 5 indicate that the overall model for supply chain leverage was statistically significant ($F_{4,205} = 74.212, \ p < .05$). The results imply that the independent variables are jointly good predictors of supply chain leverage of the sugar manufacturing firms; since they predict the dependent variable supply chain leverage, thus supporting a strong relationship.

From the study findings in table 3, it is further revealed that Lead time management practice was found to have a positive significant effect on supply chain leverage of sugar manufacturing firms in Kenya (**β = .148; p = .000).** The resultant regression equation is as shown below;

Y = 2.57 + 0.148 **Lead time Management* ………………………………… Equation (2)

From the results lead time management practice, as an inventory control techniques had a significant effect on Supply chain leverage of Sugar manufacturing firms in Kenya. A position that is confirmed by Mwangi, Muturi and Noor (2019), who found out in their study that Lead time management influenced the coordination of Supply chain Partners. In addition from the study results in table 3, the standardized beta coefficient of 0.258 indicate that when Lead time management practice goes up by 1 standard deviation, supply chain leverage goes up by 0.258 standard deviations. The standardized beta coefficients indicate that Lead time management had a moderate effect on supply chain leverage of sugar manufacturing firms consequently 0.258 which implies that if all the other inventory management practices are held constant, a

unit increase in Lead Time Management could result to a 25.8% increase in supply chain leverage of sugar manufacturing firms in Kenya.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The objective of the study was to determine the effect of Lead time management practice on supply chain leverage of sugar manufacturing firms in Kenya. The regression findings showed that lead time management practice had a statistically significant positive effect on supply chain leverage of sugar manufacturing firms in Kenya ($\beta = 0.148$, $p = 0.000$) which led to the rejection of the null hypothesis. This implied that holding all other factors constant, a unit change in lead time management was responsible for 25.8% increase in supply chain leverage of sugar manufacturing firms in Kenya.

From the study results it was concluded that lead time management practice is responsible for the supply chain leverage of sugar firms. Time taken to get the finished products to the market increases consumption, while proximity of lead time ensures flexibility in production. It is therefore concluded that lead time management practice is a significant positive predictor of supply chain leverage of sugar manufacturing firms in Kenya.

Recommendations

The study recommended that sugar manufacturing firms in Kenya should observe lead time management practices in the acquisition of supplies in order to improve efficiency. Consequently increasing production optimization and production efficiency. Production managers and procurement officers in the sugar manufacturing firms should further insist on and integrate shorter lead times from all their suppliers, for effective production planning. This will increase production flexibility and efficiency. Finally with predictable and predetermined lead time practices sugar manufacturing firms, can reduce cost of production through proper inventory control. The management of the sugar firms should also adopt and create policies regarding implementation lead time practices in the organizational policies. The study further recommended that inventory control practices and their supply chain leverage related policies be incorporated in the training programmes of workers operating in the supply chain of sugar manufacturing firms in Kenya; as this was found to enhance supply chain leverage of sugar manufacturing firms in Kenya.

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