Full Length Research

Influence of Supply Chain Management on Performance of Textile Firms in Kenya, a case of Nairobi City County

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This study was to establish the influence of Supply chain management on performance of textile firms in Nairobi City County. All the four variables had a strong effect on the influence of supply chain management in the performance of textile firms in Kenya and this study recommends a further study on other textile firms from other counties in Kenya. So as to validate the existing findings, with this new finding, hence arrive at a general consensus.

Key words; Inventory management, relationship management, information flow and Lead time

INTRODUCTION

Supply chains have grown more global and interconnected; as a result they have increased their exposure to shocks and increased the frequency of disruptions. Supply chain speed only exacerbates the problem. Even minor missteps and miscalculations can have major consequences as their impacts spread like viruses throughout complex supply chain networks (Greve & Davis, 2013). As compliance mandates, suppliers and information flows multiply, supply chains are becoming more complex, costly and vulnerable. Organizations are finding it increasingly difficult to respond to these challenges, especially with conventional supply chain strategies and designs (Godinho & Veloso, 2012).

In Kenya measurement of the supply chain performance is highly dependent of satisfying the needs of the consumer at a minimal cost as possible this requires that indicators of performance at every stage of the chain are contributing adequately enough to the production of the final product not only financial but also any other supportive activities (David & Solomon, 2012). There has been a lot of issues on transport issues in the Kenyan textile market due to jams and high cost of transport evenly this cost are transferred to the customers which make the products more expensive that the imported textile material. In order to minimize this cost companies should strive to embrace techniques as just-in-time whereby an order is only processed when a demand has raised. Over the decades there is high interest that different practitioners have increased attention to the benefits gained from an effective supply chain management (SCM) practices because of high competitiveness in any type of industry not only the textile firms (Brown & Hyer, 2010)

In Nairobi city county textile firms have gained huge recognition due to its potential in play a key role in employment and increasing economic diversification for Kenyan citizens hence in the long run offering new opportunities for Kenyan businesses to get an increasing share of the global market. The textile sector played a substantial role in underpinning the African Growth and opportunity act. It also shows there is offers more opportunities for growth and job employments to the young citizens through the increased value capture and logistics systems that are streamlined (Toroitich, Mburugu & Waweru, 2017). The textile sector in Kenya grew at 3.5% in 2015 and 3.2% in 2014, contributing 10.3% to gross domestic product (GDP). On average, however, textile has been growing at a slower rate than the economy, which expanded by 5.6% in 2015. This implies that the share of textile in GDP has been reducing over time. As a result, it can be argued that Kenya is going through premature deindustrialization in a context where textile and industry are still relatively under-developed. Kenya seems to have 'peaked' at a point much lower than in much of Asia (Chandra, 2010).

Inventory Management

Inventory is the total amount of commodities or materials contained in a store house or warehouse at a given time. It can refer to both the total amount of commodities and the act of counting them (Subba, 2016). Inventory management refers to the tracking and management of commodities which includes the monitoring of commodities moved into and out of stockroom locations and the reconciling of the inventory balances. Inventory management plays a crucial role in providing efficient flow of materials from upstream side of the supply chain to the downstream. In the long run this ensures the required goods and services for the textile firm are readily available to the market at an affordable prices. In the firm, all inventory policies must be of benefit by driving period operating expenses and working capital requirements (Solomon & Ayebale, 2017). There are many reason to keep stoke but in an industrial sector like textile where completion is very strive stoking to much can be detrimental because that is tying down capital that can be used elsewhere to generate revenue for the organization. Assuming that all stages in a supply chain there is a warehouse so stoking to much in every level the cost of holding cost could be so high that even some firms can end up spending too much on administration cost, obsolescence and deterioration of materials which in the long run will make majority of the participants in an specific chain whereby the supply chain management isn't taken seriously end up being under- receivership (Shiferaw, 2015).

Relationship Management

This is an approach used by many organizations in aid to improve and strengthen their relationship with the suppliers in order to improve the customer satisfaction in the long run. It also helps in engaging the suppliers in a specific level that will improve the organizations performance. In this case this mean that in any perfect competition market where by the similarities among product are heterogeneous and difficult to differentiate their cannot be a single strategy that can be applicable to all suppliers due to different costs involved by every supplier in producing a single unit (Pervan, Pervan & Ćurak, 2017) In the textile market the is always high level of competition hence more emphasis and focus is shifted to very small elements that impact the returns of the organization. In order for relationship management to work collective unit in improving the performance of the textile firm in relation to the supply chain management improvement all employees and stakeholder in the firm must understand the majority of the benefits accrued by ensuring the organization has health long term relation with their suppliers at all times. This will ensure that all workers in the firm work towards ensuring the procurement goals and organizational resources are collectively utilized in yielding value for money for the customer hence contributing more to the firms demand function (Owuoth & Mwangangi, 2015). According to Pervan *et al.* (2017), the intense competition worldwide and the concept of globalization has led to smaller firms struggling in balancing their expenses with their cost because at the end of the day the market will always remain the same and the primary goal for every firm is to maintain or rather increase their market share on routine basis and the main difference between a world class business that has flourished for more than 10 years with other businesses is how they manage their cash flow and suppliers.

Information Flow

Managing information flow (MIF) can often give firms a competitive advantage by providing the right information to the right people in the right format and at the correct time. In many cases, firms and individuals are willing to pay firms for this type of information. The primary purpose of an MIS is to help an organization achieve its goals by providing managers with insight into the regular operations of the organization so that they can control, organize, and plan more effectively and efficiently (Osei-Tutu, 2016). One important role of the MIS is to provide the right information to the right person in the right fashion at the right time. In short, an MIS provides managers with information, typically in reports, that support effective decision making and provides feedback

on daily operations. Note that business transactions can enter the organization through traditional methods or via the Internet or an extranet connecting customers and suppliers to the firm's transaction processing systems ((Pervan et al., 2017). According to Omisore (2014), the use of management information systems spans all levels of management. That is, they provide support to and are used by employees throughout the organization. Data that enters an MIS originates from both internal and external sources. The most significant internal source of data for an MIS is the organization's various TPSs and ERP systems and related databases

Lead Time

According to Normanyo, Ansah and Asante (2016) It is obvious to take note that these days especially in the textile sectors demand and supply will never be the same at all time but one of the main priorities in majority of the organizations is to come up with mechanisms to reduce the taken in distribution and supply of the products demanded at the market. These also require a continuous update and follow up of the cycle of demand by forecasting the quantities which might be ordered in the next purchase. Due to increased competitive levels and changes in the market it almost uncertain that any firm can know for sure their demand level. Regardless of the time take from point of order to need satisfaction proper understanding of the competitive nature from other suppliers and distributors in order to stay proactive and remain competitive win not only the local market but also the global market. According to Lysons and Farrington (2013) When firm compete the main focus should be to ensure that they remain at the market and retain their market share especially in the textile industry whereby their products are heterogeneous this will ensure that the cost of production is reduced, minimum waste and increasing returns

Performance of Textile Firms

Performance is the competency of an organization to transform the resources within the firm in an efficient and effective manner to achieve organizational goals (Barasa, Simiyu, & Iravo, 2015). Organizational goals vary depending on the purpose for which they are established. Business organizations, like textile firms, have profit, growth and survival as the main goals. The popular ratios that measure corporate performance can be summarized as profitability and growth: return on assets (ROA), return on investment (ROI), return on equity (ROE), and return on sale (ROS), revenue growth, market shares, stock price, sales growth, liquidity and operational efficiency. According to Chandra (2010),

proposed two measures of return on assets and sales growth for measuring firm performance: objective (actual amount) and subjective (perception). If objective performance measures are available, they should be utilized otherwise, subjective performance measures will be the alternative due to the absence of accurate objective performance measures. The competition keeps on increasing in today's and the only firms that remain at the global markets are those with strong supply value chain with a back bone of a reliable competitive advantage. In any case supply chain as a benefit to many firms seeking to flourish in this dynamic world by helping the firms in solving and managing risks also complexities in the global are sourcing market. Integration and team work is so crucial for the success of an effective and efficient supply chain activity from upstream to downstream. Also the participants of the supply chain function must focus on achieving the same goals and objectives, the supply chain function is characterized by long health relationship with the suppliers, the flow of materials from the right source, at the right or rather best price, at the right quantity, right quality and distributed to the right location at the required time (Ogot, 2014).

Research Design

The research design in this study was descriptive research design. The study describes the phenomena of this study in details with the help of both qualitative and quantitative research design. This approach allows both the qualitative and qualitative approaches to complement each other in addressing the research problem the study is trying to solve (Cheng, Fung Kei,2014).. The design was very helpful considering the level of competition which increases every minute it is imperative to ignore the times of events that have a cause-effect on the perforce of textile industry and this approach puts more emphasis on matters at hand rather than the past and the future which is uncertain. Finally it provides facts and suggestions on relationship between variables and their apparent causes (Franzosi, Roberto; Doyle, Sophie; MeClelland, Laura; Putnam, Caddie & Civari, Stefanie, 2013).

Reliability Analysis

This study undertook a pilot test of the research instruments in a view to determine reliability of the data collection instruments, also known as the questionnaires. The Cronbach's alpha was used to measure internal consistency of the operation under this study. According to (Saunders et al., 2012) the Alpha value threshold results at 0.7 and above is good. Alpha values greater than 0.9 ($\alpha \geq 0.9$ is Excellent) can be considered

excellent,α ≥ 0.7 but < 0.9, considered good, α≥ 0.6 but α < 0.7 considered acceptable,α≥ 0.5 but <0.6 considered poor, while alpha values less than 0.5 (α < 0.5) are considered unacceptable. This is in line with Kothari (2011). The study benchmarked its reliability test against these alpha values for all the variables under this study.

The results, shown in Table 1, all the variables were found acceptable with alpha levels above the 0.7 threshold. More specifically, inventory management had the highest reliability (α=0.891) followed by performance of textile firms (α=0.871) then relationships management (α=0.788), then information flow (α=0.783) and lead time was (α =0.793) had the lowest respectively. This finding is in line with the findings of Osorio et al. (2015). The study found that the analysis was reliable and could be used for further investigation.

Pearson Correlation Analysis

The study further conducted inferential statistics entailing both Pearson and regression analysis with a view to determine both the nature and respective strengths of associations between the conceptualized predictors (independent variables) and performance (dependent variable) for Textile firms. (Table 2)

From the findings, a positive correlation is seen between each variable and performance. The strongest correlation was established between Inventory Management and performance(r = 0.570), and the weaker relationship found between Inventory Management and performance (r = -0.112). Relationship Management and information flow were found to be strongly and positively correlating with performance of Textile firms correlation coefficient of -0.053 and 0.178 respectively. This is tandem with the findings of Kothari (2011), who observed that all the independent variables were found to have a statistically significant association with the dependent variable at over 0.05 level of confidence.

Regression Analysis

To establish the degree of influence of Textile firms on performance, a regression analysis was conducted, with the assumption that: variables are normally distributed to avoid distortion of associations and significance tests, which was achieved as outliers were not identified; a linear relationship between the independent variables and dependent variable for accuracy of estimation, which was achieved as the standardized coefficients were used in interpretation. The regression model was as follows:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X3 + \varepsilon$

Performance of Textile firms = $\alpha + \beta_1$ (Inventory

Management) + β_2 (Relationship Management) + β_3 (Information Flow) $_+ \beta_4$ (Lead Time) $_+$ error term.

Regression analysis produced the coefficient of determination and analysis of variance (ANOVA). Analysis of variance was done to show whether there is a significant mean difference between dependent and independent variables. The ANOVA was conducted at 95% confidence level.

Model Goodness of Fit

Regression analysis was used to establish the strengths of relationship between performance of textile firms for (dependent variable) and the predicting variables; Inventory Management, Relationship Management, information flow and lead time (independent variables). The results showed a correlation value (R) of 0.761 which depicts that there is a good linear dependence between the independent and dependent variables. This is tandem with the findings of Githui (2012). (Table 3)

With an adjusted R-squared of 0.761, the model shows that inventory management, relationship management, information flow and lead time explain 76.1% of the variations on performance of textile firms while 23.9% is explained by other indicators which are not inclusive in study or model. A measure of goodness of fit synopses the discrepancy between observed values and the values anticipated under the model in question. This finding is in line with the findings of Mbaka (2017).

Analysis of Variance (ANOVA)

From the results in table 4, analysis of variance statistics was conducted to determine the differences in the means of the dependent and independent variables to show whether a relationship exists between the two. The P-value of 0.05 implies that performance of textile firms has a significant relationship with Inventory Management, Inventory Management, Relationship Management and information flow which is significant at 5 % level of significance. This is in line with the findings of Kamau (2013), who observed that this also depicted the significance of the regression analysis done at 95% confidence level. This implies that the regression model is significant and can thus be used to evaluate the association between the dependent and independent variables. This is in line with the findings of Mogere,et al. (2013) who observed that analysis of variance statistics examines the differences between group means and their associated procedures.

Table 1. Reliability Coefficients

Variable	Cronbach's Alpha
Inventory management	0.891
Supplier Relationship	0.788
Information Flow	0.833
Lead Time	0.793
Performance of Textile firms	0.871

Table 2. Model Correlation of all Variables

		Inventory Management	Relationship Management	Information Flow	Lead Time	Performance of Textile Man.Firms.
Inventory Management	Pearson Correlation	1	-.239	.000	.837**	.250
	Sig. (2-tailed)		.454	1.000	.001	.486
	N	86	86	86	86	86
Relationship Management	Pearson Correlation	-.239	1	.258	-.200	.583
	Sig. (2-tailed)	.454		.418	.533	.077
	N	86	86	86	86	86
Information Flow	Pearson Correlation	.341	.258	1	.258	.327
	Sig. (2-tailed)	1.000	.418		.418	.356
	N	86	86	86	86	86
Lead Time	Pearson Correlation	.837**	-.200	.258	1	-.250
	Sig. (2-tailed)	.001	.533	.418		.486
	N	86	86	86	86	86
Performance of Textile Man. Firms.	Pearson Correlation	.250	.583	.327	-.250	1
	Sig. (2-tailed)	.486	.077	.356	.486	
	N	86	86	86	86	86

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

Table 3. Model Goodness of Fit

R	R^2	Adjusted R^2	Std. Error of the Estimate
0.851	0.761	0.798	0.057

a. Predictors: (Constants), Inventory Management, Relationship Management, information flow and lead time b. Dependent Variable: performance of textile firms

Regression Coefficients of Determination

To determine the relationship between the independent variables and the dependent variable and the respective strengths, the regression analysis produced coefficients of determination. Findings in table 5 reveal a positive relationship between motivation of employees for job satisfaction and all the independent variables. Taking the regression model:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$; where,

Y= Performance of Textile firms;

α = Constant; β_1 - β_4 = Beta coefficients; X1 = Inventory Management X_2 = Relationship Management; X_3 = information flow; X_4 = Lead time and ε = Error term, from the result shown below, it's clear that when all the independent variables are regressed against the dependent variable the constant gives a negative result meaning there is a strong relationship and how each predictor has an effect on the dependent variable.

A unit change in Lead time would thus lead to a 0.647 effect on performance of textile firms for ceteris paribus; while a unit change in Lead time would have an effect of 647 change in on performance of textile firms, a unit change in inventory management would have an effect of .423 change in on performance of textile firms also a unit change in Relationship Management would have an

Table 4. ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.143	1	1.046	.451	.003
Residual	6.432	85	.485		
Total	**10.57**	**86**			

Table 5. Regression Coefficient Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.183	.060		-1.143	.023
Inventory Management	.423	.112	.838	5.471	.000
Relationship Management.	.249	.068	.162	2.471	.041
Information Flow.	.374	.059	.587	4.386	.000
Lead Time	.647	.115	.321	2.654	.017

a. Predictors: (Constants), Inventory Management, Relationship Management, information flow and lead time   b. Dependent Variable: performance of textile firms

effect of .249 change in on performance of textile firms and finally a unit change in information flow would have an effect of .374,   change on performance of textile firms. This finding is in line with the findings of Mbaka (2017). This implies that among other factors, Inventory Management, Relationship Management, information flow and Lead Time are significant determinants of performance of textile firms.

CONCLUSION

In view of the above findings, the following conclusions were drawn in line with the research objectives. Inventory management remains central to the performance of textile firms in Nairobi City County. Involvement of inventory management is paramount and has direct impacts on performance of textile firms. Relationship management is fundamental to the understanding of poor performance of the textile firms and has direct impacts on performance of textile firms in Kenya. The use of information flow has positive impact on performance of the textile firms in Kenya. However, the information flow of the textile firms is not elaborate enough to support firm's functions. Adherence to lead time is crucial for the understanding of firm performance and has direct impacts on performance of textile firms in Kenya. Lead time help in streamlining procurement processes in the firms by, for instance, setting out the Re-

order Levels for the purpose of expediting the orders when need arises and the application of Just in Time as the best practices.

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