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**MODERATING EFFECT OF VENDOR MANAGEMENT SYSTEM
INTEGRATION ON SUPPLY CHAIN
PERFORMANCE IN MANUFACTURING SECTOR IN KENYA: A CASE OF
UCHUMI SUPERMARKET.**

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ABSTRACT

VMIS is an inventory and supply chain management tool that enables the supplier to take responsibility for making decisions on the timing and amounts of inventory replenishment. VMIS tool is also referred to as continuous replenishment tool, continual replenishment or automatic replenishment tool. The main objective of this study was to assess the role of vendor managed inventory systems (VMIS) on supply chain performance in retail sector in Kenya with Uchumi Supermarkets as the case study. The study specifically involved the employees of Uchumi Supermarkets as the target population. A descriptive research design was used in this study. This study produced both quantitative and qualitative data. The main mode of data collection was through questionnaires that were self-administered. Once the questionnaires are received they were coded and edited for completeness and consistency. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS). The findings were presented in tables of frequency distributions percentages.

Keywords: *Inventory, supply chain management, vendor managed inventory systems and supply chain performance.*

Background of the study

In the last decade, increased density of transport, requirements of customers in the form of higher quality speed and quantity have enhanced the need for supply chain management as an important instrument to achieve the competitive advantage (Archetti et.al, 2011). Firms have increased the interests for improvement of activities in the form of new modifications of supply chains with smaller partial or complex interventions. The concept supply chain management and particularly coordinate supply chain management managers used to emphasize the role of coordination of different parts of supply chain. Managers have tried to focus not only on the fragments but on the whole chains but also the customers (Archetti et.al, 2011).

VMIS has been described as an inventory and supply chain management tool in which the supplier has taken the responsibility for making decisions on the timing and amounts of inventory replenishment. This tool has also been called a continuous replenishment process, continual replenishment or automatic replenishment (Blatherwick, 1998).The advantages of using VMI to the downstream member, usually a large retailer, have well been documented (Nagarajan and Rajagopalan, 2008). Waller et.al (1999) noted that the main advantages of VMI were reduced costs, and increased customer service levels to one or both of the participating members. Van Weele (2002) found that VMIS greatly reduced inventory-carrying costs and stock-out problems while, at the same time, it offered the ability to synchronize both inventory and transportation decisions. Homas and Griffin (1996) noted that VMIS advantages included improved customer service, reduced demand uncertainty, reduced inventory requirements and reduced cost based on a case study at Johnson and Johnson.

History of Uchumi Supermarket

Uchumi is a public limited company incorporated in 1975 under the Companies Act (Cap 486 of the Laws of Kenya). On 17th December 1976, Uchumi shareholders - Industrial Commercial & Development Corporation (ICDC), Kenya Wine Agencies Limited (KWAL) and Kenya National Trading Corporation (KNTC) - all Government owned parastatals, entered into a management contract with Standa SPA of Italy. Standa, a leading supermarket group with a presence in Europe and vast retail experience was given the task to manage and train Kenyan personnel who would eventually take over the running of the organization. The first three branches were opened in 1976. Uchumi became a trendsetter in low pricing to the advantage of all consumers, while at the same time maintaining high standards in quality of goods and services.

In the 1990's, Uchumi spearheaded the hypermarket concept in Kenya. The introduction of the hypermarket concept and specialty shops has been a runaway success. It was credited for having revolutionized the retail food sector by giving customers a variety of products to choose from and introducing the concept of self-service. It has also been a major outlet for local manufacturers and suppliers of fresh produce (over 2500 suppliers with an 85 to 15 ratio in favor of local suppliers' vis-à-vis imports).

In early 2000s, Uchumi started to experience financial and operational difficulties occasioned by a sub-optimal expansion strategy coupled with weak internal control systems. This resulted in a **marked diminution of the company's** resources, which culminated in its inability to meet its obligations on an ongoing basis. Initial restructuring of Uchumi did not forestall the deteriorating performance of the company. As a result, on 31st May 2006, the Board of Directors resolved that the company ceases operations and on 2nd June 2006; the Debenture Holders placed the company under receivership. Simultaneously, the Capital Markets Authority (CMA) suspended **the company's listing on the Nairobi Stock Exchange (NSE). Following a framework agreement** between the Government of Kenya, suppliers and debenture holders, the company was revived and commenced operations from 15th July, 2006 under Specialized Receiver Manager (SRM) and interim management. After 45 days of closure, the government injected Kshs 675 million **(US \$9.4million), as part of cash required to kick start Uchumi's business operations. Key** Uchumi creditors, Preferential Trade Area (PTA) Bank and Kenya Commercial Bank (KCB) have formally agreed to a 12-month moratorium on the company's **principal loans. In 2008 the** company returned a profit of Kshs 106 million against a loss of Kshs 257 million the previous year is marking a turnaround of Kshs. 356 million. Today, Uchumi is one of the largest commercial retailing companies in the country, operating 19 branches - 13 in Nairobi, 6 upcountry and 3 in Kampala, Uganda and one in Tanzania.

Uchumi has over 1700 employees and it offers amongst others the following in its stores: bakery; wines; meat; fish; kitchen appliances; furniture; decorations; vegetables; clothes; toys; audio **visual equipment and fruits. Kenya's retail food sector has in the recent past been dominated**

many major supermarket chains namely, Uchumi Ltd., Nakumatt supermarket, Tusky's Supermarket, Naivas supermarket, Chandarana supermarket, Ukwala Supermarket, and other minor supermarkets whose presence cannot be ignored. The Uchumi supermarket Ltd., being one of the oldest supermarket chain in Kenya and having started to experience financial and operational difficulties occasioned by a sub-optimal expansion strategy coupled with weak **internal control systems, this resulted in a marked diminution of the company's resources, which** culminated in its inability to meet its obligations on an ongoing basis. Initial restructuring of Uchumi did not forestall the deteriorating performance of the company.

Statement of the problem

Integration of the Vendor Inventory System in the supply chain reduces inventory cost by 12-15 percent (Darwish and Odah, 2010). According to Disney and Towill (2008), global retail outlets such as Wallmatt, Foodex and Safeways have integrated VMI systems in the supply chain management but largely complained of roughly 13% reduction in gross profits as a result of implementation of the VMI systems in their supply chains. Also, a South African retail outlet-Shoprite also recorded an 18 percent reduction in total revenues as a result of integration of the VMI systems (Ngugi et al., 2012). The Vendor Managed Inventory System is able to diminish the bullwhip effect that is linked up with incorrect forecast of demand, improve the set up time of machines, help to better planning of production, decrease administrative costs of customers, increase the service level, truckload rate and decrease risk of stock out (Zhang and Zhang, 2007). It is also able to reduce the time needed for managing the inventory level, set up the minimum order to optimize loading, improve plans to minimize costs or disruptions in the whole supply chain, detect deficiencies or surplus in the goal financial statements and give more trust in the relationship of both sides (Choi, 2004).

Recently, Uchumi Company has entered into contracts with various suppliers where they have been observed to supply directly from the shelves (Uchumi, 2011). In this case, the company has been observed to face new challenges ranging from overstocking to stock run-outs. Uchumi supermarket assets have in the past years been observed to grow. In the year 2008/2009, Uchumi supermarket assets grew from 764 million (in 2008/2009) to 900 million and to 1,062 million by the year 2010/2011 (Uchumi, 2011). By June 2014, the company's assets were about US\$78.8 million (KES: 6.885 billion), with shareholder equity of approximately US\$38.4 million (KES: 3.357 billion) (Uchumi, 2014). **Post receivership suppliers' debt is in term and total current liabilities after reclassification from term loans of Ksh.567 million stands at Ksh1, 800 million.** According to Uchumi (2011), the company lost revenue worth Ksh250 million due to stock outs in its various outlets and incurred Ksh1.9 billion in warehouse charges; this was as a result of various factors at play including investment in more stock that led to tying up the much limited and scarce working capital.

Literature on inventory management is wide. Previous studies done on inventory management include Tanskanen et al. (2009) who did a study on vendor management inventory in construction, Rajeev (2008) who studied inventory management in Small and Medium Sized Enterprises, Talluri et al. (2004) who did a study on integrating demand and supply variability into safety stock evaluations and Vigtil (2007) who carried a study on information exchange in vendor managed inventory among others. It was evident that no known local study had been done on this phenomenon and it was against this background that this study sought to investigate the role of vendor inventory management on supply chain performance in the retail sector in Kenya with specific reference to Uchumi Supermarkets.

LITERATURE REVIEW

Information sharing

Information sharing serves as an essential approach for the survival of enterprises and enabler of supply chain integration. Nowadays, with the advancement in information and communication technology, information sharing has become more conceivable. Furthermore, information sharing in supply chains has become more efficient by the global introduction of long-term **cooperation and coordination which leads ultimately to the improvement of companies'** competitive advantages. There is a lack of information sharing within companies nowadays, which results in inefficiency of coordinating actions within the units in the company or organization (Li et al., 2002).

The so-called bullwhip effect, describing growing variation upstream in a supply chain, is probably the most famous demonstration that decentralized decision making can lead to poor supply chain performance (Fiala, 2005). Information asymmetry is one of the most powerful sources of the bullwhip effect. Information sharing of customer demand has an impact on the bullwhip effect. Information technology has led to centralized information, shorter lead times and smaller batch sizes. The analysis of causes of the bullwhip effect has led to suggestions for reducing the bullwhip effect in supply chains by strategic partnership. Supply chain partnership leads to increased information flows, reduced uncertainty, and a more profitable supply chain. The cooperation is based on contacts and formal agreements. Information exchange is very important issue for coordinating actions of units. New business practices and information technology make the coordination even closer. Information sharing and strategic partnerships of units can be modeled by different network structures (Fiala, 2005).

Cost reduction

Cost associated with inventory at the incoming stock level and work in progress; Service costs, consisting of cost associated with stock management and insurance; Cost of finished goods including those in transit; Risk costs, consisting of cost associated with pilferage, deterioration, and damage; Cost associated with scrap and rework; and Cost associated with too little inventory accounting for lost sales/lost production. Further, the cost may include information processing cost which includes costs such as those associated with order entry, order follow/updating, discounts, and invoicing (Gunasekaran et al.,2004).

Among the objectives most frequently stated in supply chain management is the reduction of cost along the supply chain. Active partnering with suppliers and customers enables companies to achieve optimization potential beyond the factory gate. Often, these cost reductions are achieved rather as a side effect to other measures implemented in supply chain management. Yet, the developments in cost management thought in recent years have proven the importance of the issue (Brinker, 2000). Supply chain management and cost management therefore are among the top issues on the agenda of business practitioners and academic researchers. Still, the links between the two approaches exist. Cost reduction is among the most cited objectives in supply chain management. Additionally, if costs are to be reduced, companies increasingly turn their attention to their supply chain partners, so both suppliers and customers reach out for new frontiers of competitiveness and profitability (Christopher, 1998).

Quality Management

From the point of view of quality management, design supply chain could be recognized as providing quality products and services across every organizations in the supply chain, to clients expectations. Robinson and Malhotra (2005) stated that SCQM is the formal coordination and integration of business processes involving all partner organization in the supply channel to measure, analyze and continually improve products, services, and processes in order to create value and achieve satisfaction of intermediate and final customers in the marketplace.

According to Wang et al. (2004), improving the quality of all supply chain processes leads to cost reductions, improved resource utilization, and improved process efficiency. Many studies have been undertaken to investigate how the quality management can be used to improve the performance of the entire supply chain and inclusive solve some problems within the supply network (Lin and Gibson, 2011). The study by Lin et al. (2005), concluded that key QM practices could be integrated in the supplier participation programs to provide needed collaboration, which in turn would result in improved organizational performance and also that organizational performance can be optimized when the organization considers its suppliers as important trading partners and members of the value chain. Although, they consider that more research is needed to extend these conclusions to other countries or regions.

Buyer/Supplier Integration

Buyer-supplier relationships in the supply chain are one of the most important elements of supply chain integration. Establishing and managing effective relationships at every link in the supply chain is becoming the prerequisite of business success. High volatility in the retail industry reflects rapid fluctuations in customer demand and unpredictable market trends. In addition, environmental diversity reveals uncertainty in the global business environment. Facing market volatility and diversity, retailers are encouraged to develop relatively flexible relationships with multiple channel partners to deal with unexpected market demands and thus reduce the dependence on the vendor (Ganesan, 1994).

In an empirical study conducted in China, Liu and Wang (2000) found out that the support that **buyer-supplier relationships have a positive effect on a firm's financial performance and that the** manufacturer-distributor relationships along the supply chain have an important impact on the performance of export ventures in China (Ambler et al., 1999). According to Kalwani and Narayandas (1995), Firms engaged in long-term relationship with their customers achieve higher profitability and ROI than firms using a transactional approach. Maloni and Benton (2000) further argued that strong buyer-supplier relationships have a significant positive effect on manufacturer performance, supplier performance, and performance of the entire supply chain (Zhang, 2006).

Supply chain performance

The major goal of SCM has been identified with the maximization of the effectiveness of a **chain's outcome, providing superior service to the ultimate customer of the chain (Bowersox et al., 2010)**. Every supply chain manager therefore knows the dilemma of balancing costs; productivity, customer service and quality as well as financial benefits (Brewer and Speh, 2000). Supply Chain Performance is recognized as important for managing supply chain behavior and orientation (Karrer, 2003). Its purpose is to establish supply chain goals, evaluate supply chain and determine future supply chain directions and activities (Algren and Kotzab, 2011).

Therefore, for the measurement of supply chain performance the efficiency or the effectiveness of an outcome of a supply chain activity is analyzed (Fugate et al., 2010). Efficiency describes an input/output relation while effectiveness shows how well supply chain goals have been achieved (Bowersox et al. 2010). In this sense, supply chain performance can be seen as a function of the utilization of supply chain resources or as a function of supply chain results as compared to supply chain targets. Generally, any supply chain manager has to ensure that a certain service level can be guaranteed to the customers and that this service level is achieved at minimal costs and at the highest quality level. The cost aspect includes the total costs for order management, storage and commissioning, inventory management and transport (Bowersox et al., 2010)

Business organizations need to capitalize on Supply Chain (SC) capabilities and resources to bring products and services to the market faster, at the lowest possible cost, with the appropriate product and service features and the best overall value (Gunasekaran et al., 2001). Performance

measures are important to the effectiveness of SC. Companies can no longer focus on optimizing their own operations to the exclusion of their suppliers' and customers' operations. Supply Chain Performance Measures (SCPM) serve as an indicator of how well the SC system is functioning. Measuring SC performance can facilitate a greater understanding of the SC and improve its overall performance (Charan et al., 2008). There is an emerging requirement to focus on the performance measurement of the SC in which company is a partner (Charan et al., 2008). Interest on performance measurement has notably increased in the last 20 years (Taticchi et al., 2010). Companies have understood that for competing in continuously changing environment, it is necessary to monitor and understand firm performances.

Empirical Review

A study by Benson (2011) found out that in many US retail outlets the success of the extended VMI approach has depended on the adoption of a central information system allowing suppliers/manufacturing plants to decide how much and when to deliver taking into account all the necessary information concerning different supply network members. Such a system supports the production planning and order cycle processes within the supply network on two levels, the first based on the sales forecasts of the distribution centers including a horizon of 18 months; and the second based on the suppliers/manufacturing plants decisions concerning the order confirmation within the frozen period, taking into account possible unexpected requirements (Benson, 2011). The first level is not different from the functioning of a traditional integrated production planning DRP-MRP system. The system operates automatically: it collects data concerning the different supply network members, on the basis of which it elaborates purchase, production and delivery proposals for a period of 18 months for each manufacturing plant or distribution centre (Cetinkaya and Lee, 2009).

Boyer (2010) noted that the implementation of the “traditional” VMI –i.e. limited to supplier-customer dyads –leads to wasting significant opportunities that could instead be exploited by managing the supply network as a whole rather than as a series of dyads. In fact when optimization is local, each supplier-customer dyad optimizes its processes without taking the impact on the other supply network members into account. As a consequence, the implementation of the traditional VMI allows only a partial optimization of the supply network, as it usually only involves supplier-customer dyads.

According to Ergün Kaya (2012), effective integration of information communication technology with inventory functions using inventory management systems such as Electronic Data Interchange and Material Requirement Planning Systems could play a major influence in supporting effective implementation of VIM practice in many retail outlets. Economic order quantity is the optimum size of the order that minimizes the cost of ordering and holding cost. Concern has been raised that Uchumi supermarket management lacked to apply the EOQ as the

inventory systems used failed to minimize the cost of ordering and holding stock (Khairul et al., 2012).

Wieland and Handfield (2013) noted that poor supplier management created problems in monitoring and selecting competent suppliers and this led to delay in delivery, which created stock out costs. The supermarket employees lacked enough skills and this created a problem of in competency. The existing storage facilities were not adequate and this created more problems in ordering large quantities and distributing of inventory to supermarket branches around the country.

RESEARCH METHODOLOGY

The research design constitutes the blue print for the collection, measurement and analysis of data, Kothari (2003). The study adopted a descriptive case study design; that enabled the researcher to keep track of the activities in the research process to ensure that the objectives of the study were achieved. The target population in this case was 450 employees across the different departments in Uchumi Supermarket and consisted of the supermarket managers, lead merchandisers, the procurement team, finance and IT departments. In this case, 45 respondents shall formed the sample size of the study. This is supported by Neumann (2006) who argued that at least a 10 percent sample is sufficient to be used in a research study. The researcher used a questionnaire as the research instrument.

The collected data was screened for the missing data and anomalous results. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS).

DATA ANALYSIS AND INTERPRETATION

Reliability analysis

Reliability analysis is a test on the consistency of results yielded by a data collection instrument **after a number of repeated trials (Mugenda and Mugenda, 2003). Cronbach's alpha was used by** the researcher to test on the internal consistency of the items in the questionnaire used in the study. **Cronbach's alpha for each value was established by the SPSS application and gauged** against each other at a cut off value of 0.7 which is acceptable according to Cooper and Schindler (2008). In this study all the values were above 0.7 which concludes that the data collection instrument was reliable. This information was recorded in Table B.

Table: Reliability analysis

Variable	Cronbach's Alpha
Information sharing	.757
Cost level	.872
Quality management	.886

(Source: Author, 2015).

Regression Analysis

The researcher applied SPSS version 20 to code, enter and compute the measurements of the multiple regressions for the study. According to Green & Salkind (2003) regression analysis is a statistics process of estimating the relationship between variables. Regression analysis helps in generating equation that describes the statistics relationship between one or more predictor variables and the response variable.

The coefficient of determination (R^2) explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable. In this case, the R^2 as portrayed in **Table N** depicted a 67.25 percent variability in the dependent variable (Supply chain performance) as a result of the independent variables (Buyer supplier integration, Cost reduction, Quality management and Information sharing). This is an indication that the rest 32.75 of supply chain performance in the Kenyan retail sector is caused by other factors not investigated in this particular study. In this regard, there is need for future study to investigate these factors.

Table 16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					F Change	Sig. Change	F
1	.414 ^a	.695	.6725	4.03250	17.683	.019	

a. Predictors: (Constant), Buyer supplier integration, Cost reduction, Quality management, Information sharing

(Source: Author, 2015).

The reports summary ANOVA and F statistic (17.683) is significant at 0.05 confidence level. The significance value is .019 and the value of F is large enough to F critical we conclude that the set of independent variables; Buyer supplier integration, Cost reduction, Quality management, Information sharing influence Supply chain performance in retail sector in Kenya. Table O shows that the independent variables statistically significantly predict the dependent variable, $F(4, 25) = 17.683, p < .05$, this shows that the overall model was significant.

Table 17: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	44.440	4	11.110	17.683	.019 ^b
Residual	26.526	25	.6261		
Total	70.967	29			

a. Dependent Variable: Supply chain performance

b. Predictors: (Constant), Buyer-supplier integration, Cost reduction, Quality management, Information sharing

(Source: Author, 2015).

In regard, to Table B on regression coefficients, the regression equation becomes:

$$Y=3.878 + 0.754X1 + 0.653X2 + 0.765X3 + 0.621X4$$

From above regression equation; the study found out that when all independent variables (Buyer-supplier integration, Cost reduction, Quality management, Information sharing) are kept constant at zero the Supply chain performance in retail sector in Kenya will be at 3.004. A one-unit change in Buyer-supplier integration will lead to 0.293 increases in the Supply chain performance in retail sector in Kenya. Also, a unit change in information sharing will lead to 0.170 increase in the Supply chain performance in retail sector in Kenya. Further, a unit change in Quality management will lead to 0.124 increase in the Supply chain performance in retail sector in Kenya and a unit change in cost level will lead to 0.121 increase in Supply chain performance in retail sector in Kenya. To test for the statistical significance of each of the independent variables, it was necessary to test whether the unstandardized (or standardized) coefficients are equal to 0 (zero) in the population. If $p < .05$, we can conclude that the coefficients are statistically significantly different to 0 (zero).

Table: Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	3.004	.300		.019
Information sharing	.170	.196	.070	.006
Cost level	.121	.284	.082	.017
Quality management	.124	.171	.102	.015
Buyer supplier integration	.293	.206	.026	.004

(Source: Author, 2015).

At 5% level of significance and 95% level of confidence information sharing had a 0.06 level of significance; cost level showed a 0.017 level of significance, Buyer/supplier integration showed a 0.004 level of significance and Quality management had a 0.015 level of significance; hence the most significant factor was observed to be Buyer/supplier integration.

Discussions Buyer/supplier integration

The study sought to investigate the role of VMI integration in the Kenyan retail sector. From the study findings, 70 percent of the respondents agreed that buyer/supplier integration as a result of VMI integration had an effect on supply chain performance, 6.7 percent disagreed while 23.3 percent were not sure. This is an indication that buyer/supplier integration did affect the supply chain in the Kenyan retail sector. This was in line with the study findings made by Benson (2011) who established it was possible for the US outlets that had integrated the VMI approach to adequately how much and when to deliver since they were closer to the information regarding their supply network members since the system is able to elaborate purchases, production and delivery proposals for a period of 18 months for each manufacturing plant or distribution center (Cetinkaya and Lee, 2009). Also, Ambler et al. (1999) had earlier on established that the buyer-supplier relationships along the supply chain have an important impact on the performance of export ventures in China (Ambler et al., 1999). Further, the study established that buyer/supplier integration was the most significant variable (0.004) at 5 percent level of significance. This was in line with the literature by Ganesan (1994) who stated that buyer-supplier relationships in the supply chain are the most important elements of supply chain integration.

Information sharing

Information is vital for performance of any supply chain. In this regard, information sharing is the most important aspect of a supply chain network (Fiala, 2005). From the study findings, Majority of the respondents (63.3) percent agreed that information sharing did affect the **company's supply chain. 16.7 percent failed to agree while 20 percent** were not sure. This was in tandem with the findings made by Zhang & Zhang (2007) who established that information sharing does yield significant performance improvements for the supply chain. Further, the study established that information sharing was the second most significant factor affecting supply chain performance in the Kenyan retail sector. This is in line with the argument made by Benson and Kenneth (2011) who argued that VMI is information intensive and requires effective data base linkages among the supply chain partners to facilitate information flow.

Quality management

According to Robinson and Malhotra (2005) supply chain can only be recognized across different countries and regions if it provides quality products and services across every **organization in the supply chain as per the clients' expectations. One of the specific variables of**

this study was to investigate if the aspect of quality management did influence supply chain performance in the Kenyan retail sector. From the study findings, 80 percent of the respondents agreed that quality management did affect the supply chain performance, 13.3 percent disagreed with 6.7 percent being not sure. This collaborates to the study finding made by Benson and Kenneth (2011) who established that 90-70 percent of the respondents agreed VMI system resulted in increased accuracy in demand forecasts and overall improvement in customer service levels. This study further established that quality management was the third most significant factor affecting the supply chain performance in the Kenyan retail sector. This is in agreement with the literature by Wang et al. (2004) who made a remark that improving the quality of all supply chain processes can result to cost reduction, improved resource utilization and even improved process efficiency.

Cost level

Every business organization exist to make profit. To be able to do so, the company has to cut down costs; this way the company does not only make profits but gains a competitive edge over its rivals (Brinker, 2000). Among the objectives most frequently stated in supply chain management is the reduction of cost along the supply chain(Gunasekaran et al., 2004). One of the specific objectives of this study was to investigate if cost level did influence supply chain performance. From the study findings, 73.3 percent of the respondents agreed that cost level did influence the supply chain performance. 20 percent disagreed while 6.7 percent were not sure. These findings are in line with findings made by Tarulli (2004) who observed that VMI enhances competitive advantage through cost savings, relationships and information quality. An indication that VMI systems can be adopted by supermarkets to gain competitive advantages (Tarulli, 2004).

Conclusion

Firstly, the study made a conclusion that 67.25 percent of the supply chain performance in the Kenyan retail sector was affected by factors; buyer/supplier integration, information sharing, quality management and cost level. Secondly, VMI system can be adopted by the supermarkets to help gain a competitive edge. However, VMI integration is an expensive process hence not possible with small retail outlets which generally form the largest portion of the retail outlets in Kenya. nevertheless, the VMI system is system is suitable for large and medium size supermarkets which have well established networks systems and the capability to effectively run the system.

Recommendations

The study made the following recommendations:

1. The supermarkets in Kenya intending to integrate VMI system need to highly invest in warehousing facilities and ICT. This way, it integration of VMI systems in these supermarkets will be a bit easier and faster.

2. The different supermarket intending to transact or share information via the VMI system should together come up with some sort of agreement among them so as to boost trust amongst them as well as ensure confidentiality and trustworthiness to prevent incidences of the systems falling out.
3. The supermarkets seeking to integrate the VMI systems should also properly evaluate the benefits attributable to the VMI system in the long run and not just its cost implications in the short run. This way they will be paying attention to the bigger picture.
4. The study also recommended a similar study to be undertaken to establish the other factors resulting to the 32.75 percent of the supply chain performance that was not covered in this study.

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