

The Influence of Supply Chain Management Practices on the Procurement Performance of Horticulture Companies (A Case Study of Homegrown Horticulture Company, Naivasha)

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Abstract- Internal factors such as supply chain management have been observed to be of critical importance to the stability of the inventory prices. There is sufficient evidence indicating that firms do not quickly recover from the negative effects of price disruptions in the supply chain. For the stockholder in the horticulture industry, this event could impinge on earnings, while their loyal customers may have to rethink their loyalty if the horticulture companies decide to increase their prices in order to cushion themselves from the inventory price changes. The overall objective of this research was to establish the influence of supply chain management practices on the procurement performance of horticulture companies in Kenya focusing on Homegrown Horticulture Company, Naivasha. Specifically, it aimed at establishing how personnel training in SCM, just-in-time purchases, vendor managed inventory systems and building of collaborative networks affect the procurement performance of Homegrown Horticulture Company, Naivasha. The study adopted the case study research design which is a descriptive type of study and targeted Homegrown's management, procurement, marketing and accounting staff that number 39. The study employed the census method and used questionnaires as data collection instruments in the study. Descriptive statistics were used to analyze data which were then presented as frequencies and percentages in tables, graphs and charts. The computer program Microsoft Excel was used to aid in the analysis. The findings revealed that staff training played an important role in the management of the supply chain as the supply chain can be complex both legally and technically, hence, requiring more competent personnel to manage it well. It was also established that the use of just in time purchasing had enabled the organization to use very little storage. The use of VMI in the firm had improved service levels due to better coordination for replenishment of orders. Finally, the creation of collaborative networks by the organization's managers had enabled the firm's management to make better decisions when prices changed. It is recommended that; there is more need to expose the management and staff to more training on SCM so as to enable them anticipate risks and improve their decision making capabilities in purchasing; there is need for the horticultural firms in the area to develop good relationships with their suppliers to improve supply chain performance especially with regards to price variations and enable them make just in time purchases in a more timely fashion; there is need for

increased vendor managed inventory system in the firms as this will be very economical to both the vendor and the firm, and; finally, there is need for collaboration in redirecting supplies or equally contacting the supplier over changes in the demand in order to mitigate losses.

ABBREVIATIONS/DEFINITIONS –

JIT	-	Just in Time
SCM	-	Supply Chain Management
VMI	-	Vendor Managed Inventory

I. INTRODUCTION

A 1.1 Background of the Study

A stable inventory market is very good for investment in any given country. It serves as an indicator of the robust performance of the economy which is attracting investments. Inventory prices are usually stable relative to the prevailing political and economic situations, that is, externalities which largely characterize their performance. These externalities have a considerable effect on the inventory supply chain and influence their variations. The variations in turn affect the inventory value by increasing the investment risks and often result in losses for inventory holders. Internal factors such as supply chain management have been observed to be of critical importance to the stability of the inventory prices. However, the influence of the inventory prices on their performance has not received much research attention and what exists in literature are just anecdotes and few case studies.

Supply chain management (SCM) is "the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long term performance of the individual companies and the supply chain as a whole"(Jacoby, 2009). It has also been defined as the "design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally." (Mentzer *et al.*, 2001). Supply chain dynamic characteristically dominate the production and retail stages of any business entity. The purpose of supply chain management is to improve trust and

collaboration among supply chain partners, thus improving inventory visibility and the velocity of inventory movement. Main functions of Supply Chain Management are as follows: Inventory Management; Distribution Management; Channel Management; Payment Management; Financial Management; Supplier Management; Transportation Management and; Customer Service Management. The present study will focus on inventory price variations which is an integral part of inventory management. Hence, of particular interest to the current study is the effects of price variations in the inventories in the major retail outlets for utility products namely firms.

SCM is a cross-functional approach that includes managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end consumer. As organizations strive to focus on core competencies and become more flexible, they reduce their ownership of raw materials sources and distribution channels. These functions are increasingly being outsourced to other firms that can perform the activities better or more cost effectively (Jacoby, 2009). The effect is to increase the number of organizations involved in satisfying customer demand, while reducing managerial control of daily logistics operations. Less control and more supply chain partners led to the creation of the concept of supply chain management. However, with the increase of many actors in the supply chain comes the issue of inventory price variations.

The analysis of the long-run effects of inventory price disruptions is important to firms in Kenya for a number of reasons. First, managers and investors are likely to have more faith in estimates of economic impact that are based over long horizons, as it provides them with a more complete picture of the economic implications of disruptions. By examining the long-run inventory price effects of disruptions, it is possible to shed light on the time pattern of abnormal inventory price behavior in terms of when it starts, how long it lasts, and whether firms recover quickly from disruptions. These issues are important for setting realistic expectations of the likely consequences of disruptions. Second, Kilgore (2003) and Radjou (2002) suggest that much of the supply chain management efforts in the recent past have focused on increasing the efficiency (lowering costs) of supply chain operations, and less on managing the risks of disruptions. Much of the recent academic literature on supply chain models also seems to focus on managing costs (Milner and Kouvelis, 2002; Corbett and De-Croix, 2001; and Cachon and Fischer, 2000).

This could partly be because improving efficiency is an ongoing activity at most firms, so managers have developed the necessary skills to deal with it, and they know how to justify and manage resources that improve efficiency. On the other hand, major supply chain disruptions are infrequent, they are hard to predict and manage, thus making it difficult to justify why resources should be devoted to proactively manage such risks. Evidence on the negative economic impact of disruptions can change a firm's perceptions on the importance of anticipating and managing the risk of disruptions.

The Kenyan horticulture industry is the 3rd largest flower exporter in the world (Rikken, 2011), and is Kenya's top foreign exchange earner (Ksoll, Macchiavello and Morjaria 2009). It

employs over 50,000 people directly and supports several hundred thousand indirectly-approximately 500,000 persons (Ethical Trading Initiative, 2005). It contributes to the country's status as a leading African economy and provides a source of income for many Kenyans. The horticulture industry promises to make important contributions to Kenya's economic development by providing rural employment, attracting foreign investment, and improving domestic technology and infrastructure. There are over 150 flower producers in Kenya, many of which are medium to large scale commercial operations. In 2008, Ksoll et al. (2009) conducted a firm-level survey of over 100 exporter producers. According to their data, there are about 120 established grower-exporters who export throughout most of the year, with substantial heterogeneity across firms with respect to key characteristics, such as acreage, ownership structure, and level of vertical integration.

Major flower-growing areas in the country include Naivasha, Nakuru, Thika, Limuru, Nairobi, the Athi river plains, Nanyuki and Eldoret. Nakuru County accounts for over 50% of the total land under cut flower cultivation, and about one-quarter of all flower exporters are located in the region. Additionally, the area is in close proximity to the Jomo Kenyatta International Airport and is linked by the Nairobi-Nakuru highway. Well-developed transportation networks are particularly important since fresh cut flowers are highly perishable.

1.2 Statement of the Problem

Every business exists to make profit. In the 21st century, these profits are realized in a myriad of ways including cost savings, improvement of working capital and reduction of risk. However, in recent times there have been reports of firms facing market challenges resulting to low returns and closure. Their performance is dwindling and this has been attributed to competitive pressures. A substantial part of these pressures can be traced to the supply chain where variations in the inventory prices can considerably affect the ability of the firms to restock. According to Kendricks and Singhal (2004), there is sufficient evidence indicating that firms do not quickly recover from the negative effects of price disruptions in the supply chain. For the stockholder in the horticulture industry, this event could impinge on earnings, while their loyal customers may have to rethink their loyalty if the horticulture companies decide to increase their prices in order to cushion themselves from the inventory price changes. Studies on the effects of price variations in the supply chain and how it affects the export flowers business remain scant, hence, this informed the need for the present study which sought to establish the supply chain management practices used by horticulture companies in Kenya to manage their procurement performance.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of this study was to establish the influence of supply chain management practices on the procurement performance of horticulture companies in Kenya focusing on Homegrown Horticulture Company, Naivasha.

1.3.2 Specific Objectives

- i. To assess how personnel training in SCM affects the procurement performance of Homegrown Horticulture Company, Naivasha
- ii. To determine how just-in-time purchases affect the procurement performance of Homegrown Horticulture Company, Naivasha
- iii. To establish how vendor managed inventory systems affect the procurement performance of Homegrown Horticulture Company, Naivasha
- iv. To determine how building of collaborative networks affects the procurement performance of Homegrown Horticulture Company, Naivasha

1.4 Research Questions

- i. What is the effect of personnel training in SCM on the procurement performance of Homegrown Horticulture Company, Naivasha?
- ii. How does just-in-time purchases affect the procurement performance of Homegrown Horticulture Company, Naivasha?
- iii. How does vendor managed inventory systems affect the procurement performance of Homegrown Horticulture Company, Naivasha?
- iv. What effect does building of collaborative networks have on the procurement performance of Homegrown Horticulture Company, Naivasha?

1.5 Significance of the Study

A firm understanding of the causal factors of supply chain management and its effects on the firms procurement function is of critical importance to the investor and the interested public and policy makers. Therefore, the outcome of this study is intended to provide insight to the various cadres of management within the procurement sector and help them approach the issues of supply chain management in a much more professional manner. The results are also intended to enlighten other stakeholders in the sector on matters of supply chain variations and hopefully derive effective solutions to the supply chain management and valuation of inventory to mitigate possible losses. The study is also meant to address the governments concerns over the need to attract investments and spur equity growth in the inventory market to avoid high firm leverages that increase borrowing rates and also deny it essential revenue in form of taxes. Lastly, the outcome of this study is meant to serve as an important building block to the studies being done on managing the inventories in the supply chain in the country.

1.6 Scope of the Study

The focus of this study was on the influence of supply chain management practices on the procurement performance of horticulture companies in Kenya focusing on Homegrown Horticulture Company, Naivasha. The study was conducted over a six month period from May, 2015 to November, 2015. It used both primary and secondary data obtained from the management and staff of the company.

1.7 Limitations of the study

The main limitation of this study was the fact that its findings could be confined to the influence of supply chain management practices on the procurement performance of

horticulture companies in Kenya focusing on Homegrown Horticulture Company, Naivasha. The study findings are thus not necessarily generalizable to other institutions in other areas where the SCM practices could be significantly different. The study however, overcame this limitation partly by appropriate sampling procedure and instrumentation. Another limitation that arose in the study is the fact that some of the respondents were not be cooperative due to their position in their organizations but this was overcome by explaining the purpose of the research and assuring them of the confidentiality of their participation. The respondents also had busy schedules which made the researcher have difficulties in collecting the required information. The researcher overcame this limitation by use of the questionnaires which enabled quick response to the questions being sought in the research.

II. LITERATURE REVIEW

2.1 Introduction

This chapter surveys the studies done on the supply chain management strategies used in managing inventory price variations by firms in order to provide valuable insights into how they overcome challenges in an increasingly competitive business environment. The study material is sourced from various publications like books, journals, academic papers and websites.

2.2 Theoretical Framework

2.2.1 Theory of Constraints (TOC)

The theory of constraints (TOC) is an overall management philosophy introduced by Eliyahu Goldratt in 1984 with the aim of helping organizations continually achieve their goals.

The theory of constraints (TOC) is a management paradigm that views any manageable system as being limited in achieving more of its goals by a very small number of constraints. There is always at least one constraint, and TOC uses a focusing process to identify the constraint and restructure the rest of the organization around it. TOC adopts the common idiom "a chain is no stronger than its weakest link." This means that processes, organizations, etc., are vulnerable because the weakest person or part can always damage or break them or at least adversely affect the outcome.

The underlying premise of the theory of constraints is that organizations can be measured and controlled by variations on three measures: throughput, operational expense, and inventory. Inventory is all the money that the system has invested in purchasing things which it intends to sell. Operational expense is all the money the system spends in order to turn inventory into throughput. Throughput is the rate at which the system generates money through sales (Gupta & Snyder, 2009).

Before the goal itself can be reached, necessary conditions must first be met. These typically include safety, quality, legal obligations, etc. For most businesses, the goal itself is to make money. However, for many organizations and non-profit businesses, making money is a necessary condition for pursuing the goal. Whether it is the goal or a necessary condition, understanding how to make sound financial decisions based on throughput, inventory, and operating expense is a critical requirement (Mukherjee & Chatterjee, 2007).

In general, the solution for supply chains is to create flow of inventory so as to ensure greater availability and to eliminate surpluses. The TOC distribution solution is effective when used to address a single link in the supply chain and more so across the entire system, even if that system comprises many different companies. The purpose of the TOC distribution solution is to establish a decisive competitive edge based on extraordinary availability by dramatically reducing the damages caused when the flow of goods is interrupted by shortages and surpluses. This approach uses several new rules to protect availability with fewer inventories than is conventionally required. Before explaining these new rules, the term Replenishment Time must be defined. Replenishment Time (RT) is the sum of the delay, after the first consumption following a delivery, before an order is placed plus the delay after the order is placed until the ordered goods arrive at the ordering location.

2.2.2 The resource-based view (RBV)

The resource based view as a theory was first advanced by Birger Wernerfelt in his article *A Resource-Based View of the Firm* (1984), though the origins of the resource-based view can be traced back to earlier research. The resource-based view (RBV) as a basis for the competitive advantage of a firm lies primarily in the application of a bundle of valuable tangible or intangible resources at the firm's disposal (Mwailu & Mercer, 1983; Wernerfelt, 1984; Rumelt, 1984; Penrose, 1959). To transform a short-run competitive advantage into a sustained competitive advantage requires that these resources are heterogeneous in nature and not perfectly mobile (Peteraf, 1993). Effectively, this translates into valuable resources that are neither perfectly imitable nor substitutable without great effort (Barney, 1991). If these conditions hold, the bundle of resources can sustain the firm's above average returns (Crook, Ketchen, Combs, and Todd, 2008). RBV has been extensively applied in management and marketing.

A resource-based view of a firm explains its ability to deliver sustainable competitive advantage when resources are managed such that their outcomes cannot be imitated by competitors, which ultimately creates a competitive barrier (Hooley & Greenley, 2005; Smith & Rupp 2002). RBV explains that a firm's sustainable competitive advantage is reached by virtue of unique resources being rare, valuable, inimitable, non-tradable, and non-substitutable, as well as firm-specific (Finney et al., 2004; Makadok, 2001). These authors write about the fact that a firm may reach a sustainable competitive advantage through unique resources which it holds, and these resources cannot be easily bought, transferred, or copied, and simultaneously, they add value to a firm while being rare. It also highlights the fact that not all resources of a firm may contribute to a firm's sustainable competitive advantage. Varying performance between firms is a result of heterogeneity of assets (Lopez, 2005; Helfat & Peteraf, 2003) and RBV is focused on the factors that cause these differences to prevail (Grant 1991; Lopez 2005).

Fundamental similarity in these writings is that unique value-creating resources will generate a sustainable competitive advantage to the extent that no competitor has the ability to use the same type of resources, either through acquisition or imitation. Major concern in RBV is focused on the ability of the

firm to maintain a combination of resources that cannot be possessed or built up in a similar manner by competitors. Further such writings provide us with the base to understand that the sustainability strength of competitive advantage depends on the ability of competitors to use identical or similar resources that make the same implications on a firm's performance. This ability of a firm to avoid imitation of their resources should be analyzed in depth to understand the sustainability strength of a competitive advantage.

2.2.3 Stakeholders theory

Procurement can be viewed as involving at least two parts with different goals, a buyer and one or more vendors competing for the contract. However in addition to the agency relationship between buyer and competing vendors, there may be a number of internal stakeholders possibly with conflicting goals, adding complexity to the procurement process. These groups of internal stakeholders may include IT staff, procurement personnel, users, user representatives, line managers, financial officers and cost controllers. These may have conflicting interests even though there may not be an agency relationship between them; one common observation is that different user groups in different parts of a business may have conflicting requirements. This is where stakeholder management theory may be helpful. Eisenhardt and agency theory has been influential development of stakeholder theory Jones, (1995), Hill and Jones, (1992). Flak and Rose (2005) have done a thorough literature study of stakeholder theory and discusses the strengths and weaknesses of the theory for theoretical contribution to the e-government field. Jones defines stakeholders as applying not only to groups easily characterized by words such as customers or employees but also to subgroups of customers and employees (e.g. shop workers and middle managers) who may have distinct and competing interests.

2.4.1 Supply Chain Management

Supply chain management has a strategic role to play within the organization; it is pivotal because, as stated above, it spans all demand, right from the end-customer's requirement to the suppliers that provide the goods and services to meet that need. Sometimes, supply chain management involves going beyond the suppliers that interface with the organization to their suppliers, in order that improvements can be made. These may include removing cost, increasing quality or ensuring ethical, environmental or socially responsible inputs. Very few organizations have worked closely with their suppliers' suppliers; working at more than two suppliers removed is unusual. Supply chain management involves the sharing of risk with suppliers - this can involve moving the risk up the supply chains to those suppliers best able to manage it. Such devolution of risk will come at a cost and so it is to that extent an economic decision.

An organization has to determine the right approach to meet its own objectives; it should therefore evaluate the economic drivers to develop an appropriate level of sophistication in respect of its supply chains - this may involve deciding to bear most risks internally. For instance, organizations must ensure that the goods and services that are critical to them have security of supply and that the supply chains are managed accordingly. However supply chain management is not only about sharing risk

- it is also about sharing benefits, which is an aspect which not all organizations would necessarily be comfortable with. CIPS encourages purchasing and supply management professionals to appreciate that passing responsibility on to suppliers in terms of risk, or even outsourcing a service, requires more, not less, management of supply chains on the part of the buying organization. Some organizations make the mistake of outsourcing a requirement and believe that the supplier in question is then responsible for managing that need. CIPS believes that it is sometimes the reverse and outsourcing, and similar strategies, require very careful supply chain management in order to be successful. Supply chain management is applied by companies across the globe due to its demonstrated results such as delivery time reduction, improved financial performance, greater customer satisfaction, building trust among suppliers, and others. According to D'Amours, Ronnqvist, and Weintraub (2008), companies resort to supply chain practices to improve their performance.

The risk of supply chain disruptions—an indication of a firm's inability to match demand and supply—is receiving increased attention in the business as well as the academic press (Kilgore 2003; Radjou 2002; Billington et al. 2002; Lee et al. 1997; Fisher 1997). There seems to be widespread recognition that such disruptions have the potential to cause significant negative economic impacts. First, the economic impact of an event and announcement effect will be equal only if the event was thought impossible prior to the announcement (Malatesta and Thompson, 1984) - that is the event was a complete surprise. If the event was partially anticipated then the economic impact of the event and the announcement effect will differ. With partial anticipation, the magnitude of the economic impact cannot be judged by simply looking at the announcement affect. Second, under market efficiency one would expect that once the announcement of an event is made, there is no abnormal inventory price behavior in the post-announcement period. However, recent empirical research suggests that the inventory market reaction to new information is not fully reflected in inventory prices at announcement (Fama, 1998) However, research on the magnitude of the negative economic consequences of disruptions is just beginning to emerge. According to Quayle (2006), the level of support that the company receives from the government when importing raw materials or products from overseas or using domestic materials includes the use of norms, regulations, policies, and advice for the sector. The research conducted by Elzarka et al., (2011) describes how government can make a series of reforms to encourage export by increasing manufacturing sector's competitiveness in the international market through logistics competency. The increase of international trade for acquiring resources from other countries introduces complicated matters such as language barriers, transportation, transportation costs, exchange rates, tariffs, and administrative practices (Quayle, 2006).

Well structured, widely understood processes enhance transparency and ensure compliance with procurement guidelines. According to D'Avanzo, Lewinski and Wassenhove (2003), procurement activities must be skillfully monitored to ensure adherence to legislation, set procedures and best practice. Monitoring is also necessary to guarantee procurement operates

efficiently and effectively as possible to realize organizational objectives within available resources. In addition, without proper controls, multiple opportunities for corruption exist at all stages of the procurement process. Arbin (2006) argues that if the potential value of goods/services is to be achieved, it is critical to providers of goods/services to comply adopt with procurement methods and procedures when purchasing goods and services. Reunis and van Raaij (2006) suggest that procurement benefits are only achieved when individuals use procurement methods and procedures appropriately. According to Subramaniam and Shaw (2004), orders placed outside of a procurement system are liable to errors and may limit usage of the procured product/service Croom (2000).

2.4.2 Horticultural Exports Trade in Kenya

Although Kenya is the most successful producer and exporter of fresh produce and flowers in sub-Saharan Africa, other countries both in Africa and elsewhere, offer strong competition that could erode export market share in future. Ecuador has become a strong competitor in cut flowers, mainly roses. Egypt challenges Kenya's market share in fine beans and dominates the fast-growing EU market for sweet potato. Its sweet potato exports have increased by a staggering 88% from 2005 to 2010 while fine bean exports had a strong growth in 2006 and 2008 and then started to decline in 2009. Egypt's proximity to the European market is a major cost advantage over Kenya. Ethiopia's horticultural export volumes have increased annually over the past decade with the main contributor for this growth being cut roses. This is attributed to government subsidies introduced in 2006 facilitating private sector and foreign direct investment (FDI) opportunities. Other countries neighboring Kenya have achieved insignificant growth of cut flowers, fine beans and other fresh produce in the 2005-2010 period.

The Kenyan flower industry is the 3rd largest flower exporter in the world (Rikken, 2011), and is Kenya's top foreign exchange earner (Ksoll, Macchiavello and Morjaria 2009). It employs over 50,000 people directly and supports several hundred thousand indirectly-approximately 500,000 persons (Ethical Trading Initiative, 2005). It contributes to the country's status as a leading African economy and provides a source of income for many Kenyans. The flower industry promises to make important contributions to Kenya's economic development by providing rural employment, attracting foreign investment, and improving domestic technology and infrastructure. There are over 150 flower producers in Kenya, many of which are medium to large scale commercial operations. In 2008, Ksoll et al. (2009) conducted a firm-level survey of over 100 exporter producers. According to their data, there are about 120 established grower-exporters who export throughout most of the year, with substantial heterogeneity across firms with respect to key characteristics, such as acreage, ownership structure, and level of vertical integration.

2.4.3 Just in Time Purchasing

Owuor (2012) study on JIT found that processing firms minimize financing costs by paying for goods at least 30 days after receipt and some extract credit terms of 90 days or more from vendors. Certain products - typically staple foods such as bread, milk and sugar - are very occasionally sold as loss leaders,

that is, with negative profit margins so as to attract shoppers to their store. However, there is some considerable debate as to the effectiveness of this tactic. To maintain a profit, firms make up for the lower margins by a higher overall volume of sales, and with the sale of higher-margin items bought by the intended higher volume of shoppers (Gajanayake, 2011). All these are done to beat the rising competition in the retail market which is a critical external business environment factor.

2.4.4 Vendor Managed Inventory System

Lee (2000) found that VMI 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. Fox (1996) noted that VMI's advantages included improved customer service, reduced demand uncertainty, reduced inventory requirements and reduced cost based on a case study at Johnson and Johnson. With the reduced stock-outs, suppliers not only saved, but they also received more information on the customers' demand patterns that aided the supplier in planning better on their own inventories. The ability to plan better on inventories and deliveries are often cited as major advantages to the upstream member using VMI (Jain, 1994).

Chaouch (2001) developed an analytical model to calculate inventory levels and delivery rates to minimize costs for small suppliers forced to use VMI by larger clients. One important finding of the study was that reducing variability in the amount and timing of the demand increased the benefits of lowered prices. In addition, Blatherwick (1998) noted that VMI was an excellent tool when ordering the policies of the downstream supply chain members were less sophisticated and erratic, or when the distributor was selling to a large number of buyers with erratic buying patterns. Chaouch (2001) developed an analytical model to calculate inventory levels and delivery rates to minimize costs for small suppliers forced to use VMI by larger clients. One important finding of the study was that reducing variability in the amount and timing of the demand increased the benefits of lowered prices. In addition, Blatherwick (1998) noted

that VMI was an excellent tool when ordering the policies of the downstream supply chain members were less sophisticated and erratic, or when the distributor was selling to a large number of buyers with erratic buying patterns.

2.4.5 Building Collaborative Networks

The company environment is related to the company's relationship with suppliers and their level of trust and commitment. Company environment is also related to the company's expectations of quality, on time delivery, competition in the sector, and the level of rivalry among firms. In order to respond effectively to demand, companies realize that imports are a good option for obtaining flexibility in response, even though working with countries from overseas implies working with uncertainty (Wu, 2006). According to a study carried out by Ambrose et al. (2010), uncertainty negatively affects company performance. But this can be reduced if a strategic relationship with critical suppliers is established (Chen et al., 2004). Thus, companies need to implement new strategies that allow them to deal with environmental uncertainties in the supply chain (Wu, 2006) in order to perform in a proficient manner. According to Emiliani (2000), organizations should maintain carefully defined and disciplined processes at every level, from strategic to transactional, across the entire procurement life cycle to enhance procurement compliance. Just as important, end-users across enterprises that manage the procurement process should understand those processes and willingly adhere to them.

2.5. Conceptual Framework

A conceptual framework according to Orodho (2009) is a type of a model that illustrates the nature of relationships between independent and dependent variables in the study. The conceptual framework in Figure 2 hypothesizes the relationships between supply chain management strategies used by firms and their effects in mitigating the effects of price variations on their performance.

2.3 Theoretical Framework

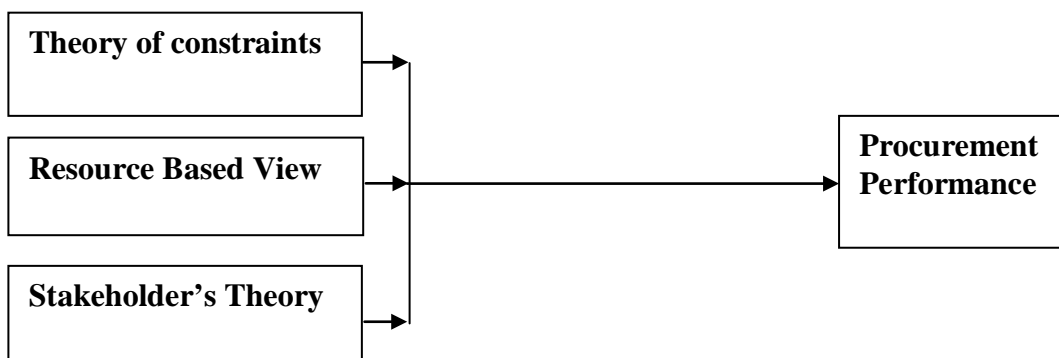


Figure 1: Theoretical Framework

Source: Author (2015)

2.6 Summary of Variables

The literature surveyed has underpinned the role as an intermediary serving the manufacturer or producer and the supermarket. In particular, the theoretical review shows the critical role the supplier plays as an agent to both parties and also how the producer and supermarkets can establish their own supply agreement to mitigate the agency costs and delays in the system. The stakeholder theory has also highlighted the role played by various stakeholders in the supply chain and their likely reactions to sudden price increases. The survey has also identified certain internal factors causing inventory price variations like management capabilities and use of ICT and build supply networks. External factors identified included environmental uncertainties, supplier relations and value added processes. Some of the strategies used in cushioning the retail chains from inventory price variations included collaborative strategies and use of vendor managed inventory systems (VMIS).

2.7 Research Gap

Well structured, widely understood supply chain processes enhance transparency and ensure compliance with procurement guidelines. In the large organization- supplier partnership, the supplier is usually the manufacturer but sometimes a reseller or distributor, makes the main inventory replenishment decisions for the consuming organization. Transactions that are customarily initiated by the buyer, such as purchase procurement activities must be skillfully monitored to ensure adherence to legislation, set procedures and best practice. Studies on the effects of SCM practices on the procurement performance of horticulture companies in Kenya are lacking despite their relative importance in the well being of the companies to the country's economy.

III. RESEARCH METHODOLOGY

3.1 Introduction

This chapter detailed the procedures that were used in carrying out the study. It described the research design, target population, sampling design and sample size, method of data collection, validity and reliability of the research instruments, data collection procedures and data and data analysis techniques.

3.2 Research Design

The study adopted the case study research design which is a descriptive type of study. According to Yin (2009) a case study research method is an empirical inquiry that investigates a contemporary phenomenon within its real-life situation and context; when the boundaries between phenomena are not clearly evident; and in which multiple sources of evidence are used. Mugenda and Mugenda (2003) points out that case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Case study research design emphasizes detailed contextual analysis of a limited number of events or conditions and their relationships (Orodho, 2003).

3.3 Target Population

A study population is a study of a group of individuals taken from the general population who share a common characteristic Mugenda and Mugenda, (2003). The study targeted Homegrown management, procurement, marketing and accounting staff 39 in total.

3.4 Sampling Design

Since the population is small, the study adopted the census method; hence, there was no need for sampling. Miles (2004) asserts that one approach is to use the entire population as the sample and is the best sample for any research. However, cost considerations make this impossible for large populations; census sampling is attractive for small populations like 200 or less. A census sampling technique eliminates sampling error and provides data on all the individuals in the population. Moreover, developing the sampling frame and some costs such as questionnaire design are "fixed," that is, they will be the same for samples of 30 or 200. Virtually the entire population would have to be sampled in small populations to achieve a desirable level of precision. The respondents were categorized as shown in Table 3.1.

Table 3.1 Target Population

Respondents	Target population
Management	6
Marketing staff	8
Accounting staff	12
Procurement staff	13
Total	39

Source: Author (2015)

3.5 Data Collection

The researcher used questionnaires as data collection instruments in the study. This instrument was used to field a set of questions to which the respondents required to respond to fill in their answers depending on their understanding of the research topic. The questionnaires was both closed and open in order to give the respondent a chance to respond to that which has not been captured in the questionnaire. The reasons of choosing questionnaires are because it was cheap and easy to administer, data that was obtained by use of questionnaires was easy to arrange and analyze. Also the researcher did not need to be physically present when the respondents were filling the questionnaires hence providing the respondents with free conducive atmosphere to fill the questionnaires and the questionnaire can elicit information from respondents. The questionnaire also contained the Lickert scale to collect data regarding the objectives of the study.

The researcher obtained a letter of introduction from Mount Kenya University. Once the research proposal is approved, a research permit from the Nakuru County Ministry of Education was obtained before proceed to Homegrown Naivasha offices to seek the consent to conduct the research. Once the permission was granted, the researcher again arranged to visit the firm for familiarization purposes and to seek permission from the

administration/management concerning the intended date of data collection within their firm. When their participation is confirmed, a date was set and appointment booked with the relevant authorities as well as the participants in the study. The participants were given time to respond to all the items in the questionnaires. The questionnaires were afterwards collected for data analysis.

3.6 Data Analysis

In this study descriptive statistics was used to analyze data which was presented as frequencies and percentages in tables, graphs and charts. This was done after first editing and coding the data. According to Obure (2002) analysis of data varies with the purpose of the research, the complexity of the research design and the extent to which conclusion can be reached easily. The computer program, Statistical Package for Social Science (SPSS), was used.

3.7 Validity and Reliability of the Data

It was necessary to ascertain the validity and reliability of the instruments used to collect data so that the research findings could be reliable. Bless and Higson-Smith (2005) highlight that reliability is “concerned with the consistency of measures”, thus, the level of an instrument’s reliability is dependent on its ability to produce the same score when used repeatedly. The questionnaire used for the purposes of this study was designed by the student and checked by supervisor at the University. The researcher also used the test re-test method to determine the reliability. According to Polit and Hungler (2007), a pre-test is a trial run to determine whether an instrument solicits the type of information envisioned by the researcher. To ensure reliability of the instruments the researcher conducted a pilot study in Sian Roses in Rongai before the actual study. The firm was not being

included in the main study. The main purpose of the pilot study was to check on suitability and the clarity of the questions on the instruments designed, relevance of the information being sought, the language used and the content validity of the instruments from the responses given.

Validity on the other hand refers to whether an instrument actually measures what it is supposed to measure, given the context in which it is applied. In order to ascertain content and face validity, the questionnaires were presented to the lecturers in the University for Scrutiny and advice. The contents and impressions of the instruments were improved based on the lecturer’s advice and comments. The questionnaire was then constructed in a way that they related to each question. That ensured that all research questions were covered. The questionnaire used in this study was given to independent experts to evaluate it for face and content validity as well as for conceptual clarity and investigative bias.

IV. DATA ANALYSIS PRESENTATION AND INTERPRETATION

4.0 Introduction

This chapter presents results arising from the analysis of data collected which were analyzed using descriptive statistical methods for each variable and the findings presented in tabular and graphical summaries, and their implications discussed.

4.1 Preliminary Analysis

4.1.1 Response Rate of the Questionnaires

The response rate of the questionnaires distributed to the respondents is as given in Table 4.1

Table 4.1: Response Rate

No. of questionnaires Returned	Target No. of respondents	Response Rate (%)
33	39	85

The response rate to the research instruments was high (85%) which was a good response rate as it was amenable to most statistical methods. The high instrument response rate was achieved by use of well structured questionnaires and giving the respondents ample time to respond to the instrument. The rest of the respondents (15%) did not return the questionnaires citing reasons such as, forgetfulness, lack of time and some just became unavailable.

4.1.2 Demographic Characteristics of the Respondents

The study sought to find out the background characteristics of the respondents like gender, age, highest level of education and work experience as professionals in order to obtain more in-depth understanding of the research problem.

The study first sought to establish the gender of the respondents and the findings are given in Table 4.2

Table 4.2: Gender distribution of the respondents

Gender	Frequency	Percentage (%)
Male	21	63
Female	12	37
Total	33	100

The findings in Table 4.2 show that both genders were well represented in the organization, notably observing the one third gender rule. At 63%, the males were still significantly higher than their female counterparts who stood at 37% in the sector. These findings indicate that the organization was striving to be an equal opportunity employer.

The study next sought to establish the age of the respondents. The findings are given in Table 4.3

Table 4.3: Range of the ages of the Respondents

Age of Respondents in Years	Frequency	Percentage (%)
Below 25 yrs	6	18
26 - 35 yrs	7	21
36 - 45 yrs	12	36
46 – 55 yrs	6	18
56 yrs and above	2	7
Total	33	100

From Table 4.3 it can be deduced that majority (57%) of the respondents were aged between 26 and 45 years of age. This could be due to the fact that the most of the respondents joined the organization in their late 20’s or early 30’s.

There was need to establish the highest levels of education attained by the respondents. The findings on these are as shown in Table 4.4.

Table 4.4: Highest Level of Formal Education

Highest level of Education	Frequency	Percentage
O-levels	0	0
Certificate	11	33
Diploma	9	28
Degree	7	21
Masters	6	18
Total	33	100

The findings in Table 4.4 reveal that majority (61%) of the respondents were in possession of certificates and diplomas. This could be attributed to the fact that the need for qualified professionals in the organization was high and accounting courses were flexible and one would easily register and continue with them without necessarily affecting his/her other programs. The findings on the experience of the respondents in the profession are given in Table 4.5

Table 4.5: Work Experience in the for export horticultural sector

No of Years Served in the profession	Frequency	Percentage (%)
Less than 3 yrs	6	18
4 – 6 yrs	11	33
7 – 9 yrs	10	30
10 – 12 yrs	4	12
13 yrs and above	2	7
Totals	39	100

According to the study findings in Table 4.5, majority (84%) of the respondents had been in the organization for less than 10 years. This could be attributed to the fact that the organization had opted to recruit its managers and accountants/auditors from within its staff and also develop them.

4.1.3 Personnel training in SCM and procurement performance

There was need to first determine whether the staffs received training in procurement procedures in the organization. The findings on this are presented in Figure 3.

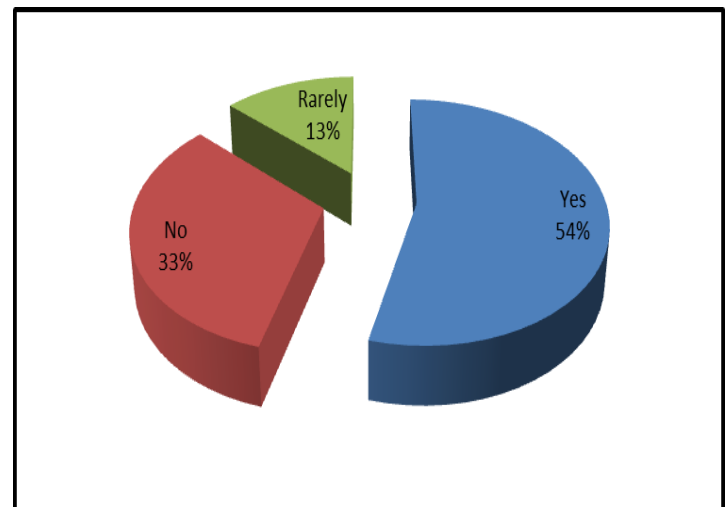


Figure 3: Staff training in procurement

The findings in Figure 3, suggest that majority (54%) of the management staffs in the horticultural firm had received some training in procurement procedures in the past. This was meant to enable them be conversant with the procedures and also manage the supply chain as expected from their end.

The study also sought to establish the effects of staff training on the performance on SCM. The findings are given in Table 4.6.

Table 4.6: Staff training and compliance to public procurement system regulations

Statement	Agree		Undecided		Disagree	
	Freq	Per(%)	Freq	Per(%)	Freq	Per (%)
If the workforce is not adequately trained in SCM, serious consequences; including, breaches of the law occur	22	67	5	15	6	18
All members of the implementation committee don't have appropriate competences to manage the supply chain	11	34	6	19	17	52
Most of the personnel who are employed in the procurement department are not properly trained and lack skills required to manage the supply chain	16	49	4	11	13	40

The findings in Table 4.6 indicate that majority (67%) of the respondents were of the opinion that if the workforce was not adequately educated in SCM, serious consequences; including, breaches of the law could occur. The findings also suggest that most of the members of the implementation committee did actually have appropriate competences to manage the supply chain as indicated by majority (52%) of the respondents. However, there was a feeling that among majority (49%) of the respondents that most of the personnel who were employed in the procurement department were not properly trained and lacked skills required to manage the supply chain. These findings underscore the importance of staff training in the management of the supply chain as the supply chain can be complex both legally and technically, hence, requiring more competent personnel to manage it well.

4.1.4 Just-in-time purchases and procurement performance

The respondents were first asked whether they had negotiated with suppliers so as to supply them when they needed their products. The findings on this are given in Figure 4.

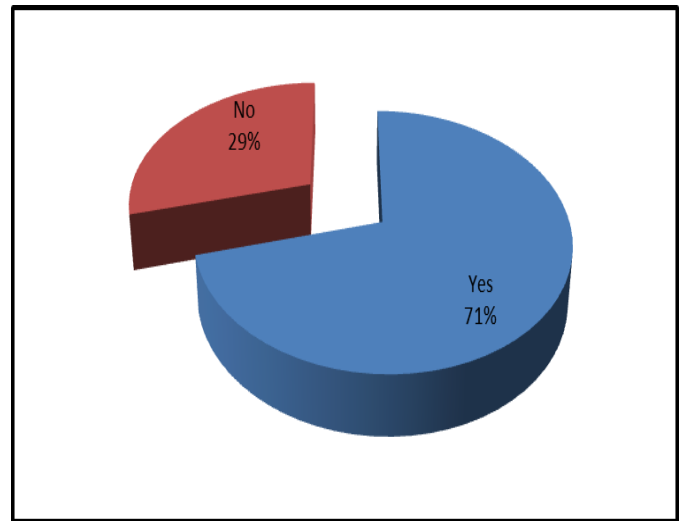


Figure 4: Arrangement with suppliers on timely delivery

The findings in Figure 4 indicate that the organization had made arrangements with suppliers on the need for timely delivery of their goods and services as indicated by majority (71%) of the respondents. Subsequently, it was important to ascertain whether making such purchases had a considerable influence on the procurement performance of the organization. The results are given in Table 4.7.

Table 4.7: Just-in-time purchases and procurement performance

Statement	Agree		Undecided		Disagree	
	Freq	Per(%)	Freq	Per(%)	Freq	Per (%)
We carry out forecasting so as to enable us predict when we would be needing to replenish supplies	22	66	3	11	8	23
ICT enables us to make forecasting decisions based on total supply chain information	15	46	7	22	11	32
Just in time purchasing has enabled us to use very little storage	18	55	5	14	10	31

The timeliness of just in time purchases is posing a significant challenge to us 20 62 3 9 10 29

The results in Table 4.7 indicate that the organization’s management carried out forecasting so as to enable them to predict when they would be needing to replenish supplies as indicated by majority (66%) of the respondents. The findings also indicate that use of ICT enabled them to make forecasting decisions based on total supply chain information (46%). Majority (55%) of the respondents were also of the feeling that just in time purchasing had enabled them to use very little storage. Essentially, they only procured what they needed at any given time. However, the findings also suggest that the timeliness of just in time purchases was posing a significant challenge to the organization.

4.1.5 Vendor managed inventory systems and procurement performance

Concerning this objective, the study first sought to establish whether VMI was practiced in the organization to a considerable extent. The findings are given in Figure 5.

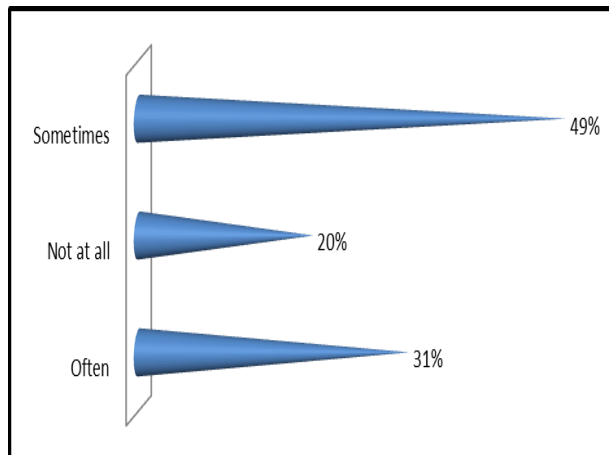


Figure 5: Practice of VMI in the organization

Looking at the findings in Figure 5, it is evident that the organization practiced VMI at times when they felt that it was necessary as indicated by majority (49%) of the respondents. However, the study sought to establish how the use of VMI affected the organization’s procurement performance. The findings are given Table 4.8.

Table 4.8: Vendor managed inventory systems and procurement performance

Statement	Agree		Undecided		Disagree	
	Freq	Per(%)	Freq	Per(%)	Freq	Per (%)
VMI use in our firm Improves service levels due to better coordination or replenishment orders	16	49	4	11	13	40
VMI use leads to reduced lead time and increased inventory turns	17	52	6	19	11	34
VMI leads to reduced inventory stock outs by increasing inventory visibility	22	67	5	15	6	18
VMI leads to Increased inventory turnover	15	44	7	21	12	35
VMI leads to smooth supply chain processes	17	51	4	14	11	32
VMI Reduces costs due to better resource utilization for production and transportation,	20	60	4	14	9	26

The findings in Table 4.8 suggest that the use of VMI in the firm had improved service levels due to better coordination for replenishment of orders (49%). It is also evident from the findings that the use of VMI had led to reduced lead time and increased inventory turns (52%). The findings also suggest that VMI led to reduced inventory stock outs by increasing inventory visibility (67%) and this had also led to increased inventory turnover (44%). The use of VMI had also led to smooth supply chain processes (51%). Majority (60%) of the respondents also

felt that the use of VMI reduced the costs due to better resource utilization for production and transportation.

4.1.6 Building of collaborative networks and procurement performance

The findings on whether the organization shared information with other manufacturers procuring the same goods in the area are given in Figure 6.

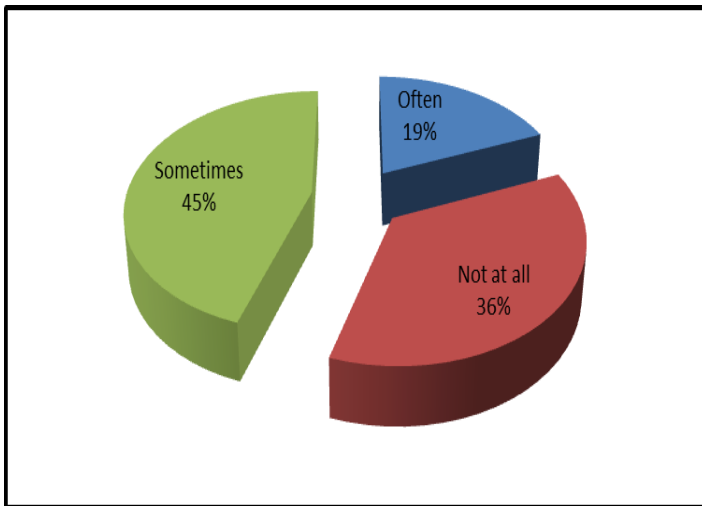


Figure 6: Information sharing between firms on procurement

The findings in Figure 6 indicates that information sharing on procurement information was occasionally shared between the firms concerning certain items that they commonly procured as indicated by majority (45%) of the respondents.

The study also sought to establish how building of collaborative networks affected procurement performance. The results on this are summarized in Table 4.9.

Table 4.9: Building of collaborative networks and procurement performance

Statement	Agree		Undecided		Disagree	
	Freq	Per(%)	Freq	Per(%)	Freq	Per (%)
Creation of networks has enabled us to make better decisions when prices change	20	62	3	9	10	29
Collaborative networks have also increased our access to supplier information	18	55	5	14	10	31
Collaborative networks have considerably reduced the costs of transportation and other risks in the supply chain	23	69	4	13	6	18
Networking with suppliers has enabled to hedge prices to cushion us from price variations	17	52	6	19	11	34

The results in Table 4.9 indicate that the creation of collaborative networks by the organization’s managers had enabled us them to make better decisions when prices changed (62%). The collaborative networks had also increased their access to supplier information as indicated by majority (55%) of the respondents. Consequently, there was a feeling among majority (69%) of the respondents that the collaborative networks had considerably reduced the costs of transportation and other risks in the supply chain. In addition, networking with suppliers had enabled the firm to hedge prices to cushion it from price variations (52%).

4.2 Main findings

The study first sought to evaluate how personnel’s training in SCM affects the procurement performance of Homegrown Horticulture Company, Naivasha. To achieve this objective, the respondents were asked to respond to various queries describing personnel training in their organization. It was established that the management staffs in the horticultural firm had received some training in procurement procedures in the past. However, there was a feeling that most of the personnel who were employed in the procurement department were not properly trained and lacked skills required to manage the supply chain.

The findings also revealed that if the workforce was not adequately educated in SCM, serious consequences; including, breaches of the law could occur. These findings underscore the importance of staff training in the management of the supply chain as the supply chain can be complex both legally and technically, hence, requiring more competent personnel to manage it well.

It was imperative to determine how just-in-time purchases affect the procurement performance of Homegrown Horticulture Company, Naivasha. The study achieved this objective by asking the respondents to respond to statements describing the practice of just in time purchases in their organization. The results of the second objective revealed that the organization had made arrangements with suppliers on the need for timely delivery of their goods and services. The findings also revealed that the organization’s management carried out forecasting to anticipate when they would need to replenish supplies. The use of just in time purchasing had enabled the organization to use very little storage. Essentially, they only procured what they needed at any given time. However, the findings also suggest that the timeliness of just in time purchases was posing a significant challenge to the organization.

The study also sought to establish how vendor managed inventory systems affect the procurement performance of Homegrown Horticulture Company, Naivasha. The study achieved this objective by asking the respondents to respond to statements describing the use of VMI in their organization. Both open and closed ended questions were used to capture the respondents reactions and the results summarized and discussed in the following sub-sections.

With regard to this objective, it was evident that the organization practiced VMI at times when they felt that it was necessary. The use of VMI in the firm had improved service levels due to better coordination for replenishment of orders. It was also evident from the findings that the use of VMI had led to reduced lead time and increased inventory turns. The findings also suggest that VMI led to reduced inventory stock outs by increasing inventory visibility and this had also led to increased inventory turnover. The use of VMI had also led to smooth supply chain processes and also reduced the costs due to better resource utilization for production and transportation.

Finally, there was also need to determine how building of collaborative networks affects the procurement performance of Homegrown Horticulture Company, Naivasha. This objective was measured by asking the respondents to give their views on several questions pertaining to building of collaborative networks practices to improve the supply chain management in the organization. It was established that information sharing on procurement information was occasionally shared between the firms on commonly procured items. The creation of collaborative networks by the organization's managers had enabled the firm's management to make better decisions when prices changed. The collaborative networks had also increased their access to supplier information. Consequently, there was a feeling that the collaborative networks had considerably reduced the costs of transportation and other risks in the supply chain. In addition, networking with suppliers had enabled the firm to hedge prices to cushion it from price variations.

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a detailed summary of the major findings of the actual study; it then draws conclusions and discusses implications emanating from these findings. Finally, it makes some recommendations and suggestions on areas of further study.

5.1 Discussion of the main findings

Concerning the first objective, it was established that the management staffs in the horticultural firm had received some training in procurement procedures in the past. However, there was a feeling that most of the personnel who were employed in the procurement department were not properly trained and lacked skills required to manage the supply chain. The findings also revealed that if the workforce was not adequately educated in SCM, serious consequences; including, breaches of the law could occur. These findings underscore the importance of staff training in the management of the supply chain as the supply chain can be complex both legally and technically, hence, requiring more

competent personnel to manage it well. These findings agree with Arbin (2006) who pointed out the importance of training in enhancing well structured, widely understood processes enhance transparency and ensure compliance with procurement guidelines. According to D'Avanzo, Lewinski and Wassenhove (2003), procurement activities must be skillfully monitored to ensure adherence to legislation, set procedures and best practice. Training in monitoring is also necessary to guarantee procurement operates efficiently and effectively as possible to realize organizational objectives within available resources. In addition, without proper controls, multiple opportunities for corruption exist at all stages of the procurement process.

The results of the second objective revealed that the organization had made arrangements with suppliers on the need for timely delivery of their goods and services. The findings also revealed that the organization's management carried out forecasting to anticipate when they would need to replenish supplies. The use of just in time purchasing had enabled the organization to use very little storage. Essentially, they only procured what they needed at any given time. However, the findings also suggest that the timeliness of just in time purchases was posing a significant challenge to the organization. These findings reflect those of Owuor (2012) whose study on JIT found that processing firms minimize financing costs by paying for goods at least 30 days after receipt and some extract credit terms of 90 days or more from vendors. According to (Gajanayake, 2011), in order to maintain a profit, firms make up for the lower margins by a higher overall volume of sales, and with the sale of higher-margin items bought by the intended higher volume of shoppers

With regard to the third objective, it was evident that the organization practiced VMI at times when they felt that it was necessary. The use of VMI in the firm had improved service levels due to better coordination for replenishment of orders. It was also evident from the findings that the use of VMI had led to reduced lead time and increased inventory turns. The findings also suggest that VMI led to reduced inventory stock outs by increasing inventory visibility and this had also led to increased inventory turnover. The use of VMI had also led to smooth supply chain processes and also reduced the costs due to better resource utilization for production and transportation. These results concur with Fox (1996) who noted that VMI's advantages included improved customer service, reduced demand uncertainty, reduced inventory requirements and reduced cost based on a case study at Johnson and Johnson. With the reduced stock-outs, suppliers not only saved, but they also received more information on the customers' demand patterns that aided the supplier in planning better on their own inventories. The ability to plan better on inventories and deliveries are often cited as major advantages to the upstream member using VMI (Jain, 1994).

Finally, it was established that information sharing on procurement information was occasionally shared between the firms on commonly procured items. The creation of collaborative networks by the organization's managers had enabled the firm's management to make better decisions when prices changed. The collaborative networks had also increased their access to supplier information. Consequently, there was a feeling that the collaborative networks had considerably reduced the costs of

transportation and other risks in the supply chain. In addition, networking with suppliers had enabled the firm to hedge prices to cushion it from price variations. These findings agree with Ambrose et al. (2010) who observed that uncertainty negatively affected company performance and, therefore, demanded the establishment of strategic relationships with critical suppliers if they were to be reduced (Chen et al., 2004). Thus, companies need to implement new strategies that allow them to deal with environmental uncertainties in the supply chain (Wu, 2006) in order to perform in a proficient manner.

5.2 Conclusions

Based on the findings above, it can be concluded that staff training played an important role in the management of the supply chain as the supply chain can be complex both legally and technically, hence, requiring more competent personnel to manage it well. The use of just in time purchasing had enabled the organization to use very little storage. Essentially, they only procured what they needed at any given time; however, timeliness of just in time purchases was posing a significant challenge to the organization. The use of VMI in the firm had improved service levels due to better coordination for replenishment of orders. The use of VMI had also led to smooth supply chain processes and also reduced the costs due to better resource utilization for production and transportation. Finally, the creation of collaborative networks by the organization's managers had enabled the firm's management to make better decisions when prices changed.

5.3 Suggestions for further studies

Further research need to be done in the following areas;

- i. More studies should be done on the effect of just in time purchasing in reducing the losses brought about by reverse logistics.
- ii. Studies should also be done on the effectiveness of e-procurement in improving the performance of the supply chain.

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