

**SUPPLIER RELATIONSHIP MANAGEMENT AND OPERATIONAL  
PERFORMANCE OF SUGAR FIRMS IN KENYA**

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THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION  
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## DECLARATION

This research project is my original work and has not been presented for examination to any other university.

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This research project has been submitted for examination with my approval as University Supervisor.

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## **DEDICATION**

This project is dedicated to the Almighty God for His protection and strength that saw me through my study successfully. I also dedicated this research to my loving parents; Paul Onesimus Mwangi and Margaret Wangui for their support and unending love that have enabled me come this far in my academic pursuit. God bless them.

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## ABSTRACT

In an increasing competitive marketplace, firms are seeking new methods of enhancing competitive advantage and therefore, purchasing is becoming a strategic function and a key factor in competitive positioning. Supplier Relationship Management (SRM) plays an important role in enhancing organisational performance through reduction of costs and the optimization of performance in industrial enterprises. This study therefore sought to assess the effect of supplier relationship management on operational performance of sugar firms in Kenya. The study worked towards attaining the following objectives; To determine the effect of supplier collaboration in product development on operational performance of sugar firms in Kenya, To establish the effect of information sharing on operational performance of sugar firms in Kenya, and To determine the effect of trust-based relationship on operational performance of sugar firms in Kenya. Three theories, namely the social capital theory, the theory of constraints, and the commitment trust theory, anchored this study. The research absorbed a descriptive research design. The study's target population consisted of all the employees of the 13, currently operational, sugar companies in Kenya serving in the companies' supply chain departments (Chemelil Sugar Factory; Kibos Sugar and Allied Factories; Muhoroni Sugar Factory; Mumias Sugar Factory; Nzoia Sugar Factory; Sony Sugar Factory; South Nyanza Sugar Factory; Sukari Industries Limited; Transmara Sugar Factory; West Kenya Sugar Factory; Butali Sugar Factory; Kwale International Sugar Company and Kisii sugar factory). Primary data was collected for analysis using questionnaires as instruments of collecting the data. Analysis of the data was conducted through SPSS and the findings presented using frequency tables, charts and graphs. The research established that trust-based relationships, information sharing and supplier collaboration in NPD positively impact operational efficiency in the sugar sector in Kenya. It was also found that most of the operations within the sugar firms are based on trust. In addition, the study concluded that the sector is not highly efficient in managing all its operational undertakings. The researcher recommends that the sugar firms should ensure that an effective supplier-buyer information relationship structure is established, encourage supplier involvement in product development and operational systems within the organisations should be made reliable for the firms to attain operational excellence.

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## **ACRONYMS AND ABBREVIATIONS**

COMESA	Common Market for Eastern and Southern Africa
GDP	Gross Domestic Product
JIT	Just-In-Time
KESREF	Kenya Sugar Research Foundation
KSB	Kenya Sugar Board
MSC	Mumias Sugar Company
NPD	New Product Development
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
SRM	Supplier Relationship Management
TOC	Theory of Constraints

# CHAPTER ONE

## INTRODUCTION

### **1.1 Background of the Study**

Kleinbaum, Kupper and Muller (2008) perceived Supplier Relationship Management (SRM) as a detailed undertaking towards the management of a firm's linkage with its suppliers. Short range goals of SRM include increasing productivity and reducing stock and product cycle time while organisational goals to be attained in the long run through the application of SRM entail increasing the market size hence organisational income margin (Ihiga, 2004). With the grouping of organisations under industries, a firm's association with its suppliers has turned out to be a key factor. Organisations have identified that establishing business relationships enhance its ability to effectively react to the current competitive business landscape through enhancing cost management and providing an opportunity for the organisations to concentrate on their key business undertakings (Johnson, 2009). Generally, SRM is key for firms seeking to reduce their operational costs while enhancing performance (Caeldries, 2008).

According to Ghaith, Ayman and Khaled (2014), manufacturing companies need to ensure that the supply processes are reliable so as to ensure competitiveness. They add that supplier-buyer relationships need to benefit all the involved groups in order for them to be effective. The trio also opined that even though the existing literature has brought out SRM as a key aspect, the practices that detail this phenomenon still call for more clarification. Therefore more research is needed on SRM as the current studies are contradictory in findings and are mostly theoretical or conceptual with empirical studies

being very few (Shin, Collier & Wilson, 2000). In addition, Mukolwe (2015) asserted that the sugar industry in Kenya has registered poor performance which can be attributed to poor SRM strategy within the firm's hence bad perception among the cane suppliers. The researcher therefore sought to enhance knowledge of SRM within the sugar sector in the country.

### **1.1.1 Supplier Relationship Management**

According to Scannell, Vickery and Droge (2000), organisations that record high in-house deliveries invest in assisting and developing their suppliers and also in developing strong associations with them. MacDuffie and Helper (1997) viewed that suppliers operating within lean production environments need to ensure quality, delivery and responsiveness in their processes further awakening a critical problem relating to just-in-time (JIT) environment that links with transferring the needed stock from the buyer to the suppliers therefore lowering the stock and its relevant costs among the buyers while also increasing the same among the suppliers (Ghaith, Ayman & Khaled, 2014). Handfield, Ragatz, Petersen, Monczka (1999) viewed that an effective inclusion of suppliers within an organisation's supply chain process is a key aspect for competitiveness. These researchers also perceived that enhancing an organisation's performance can be attained through healthy associations with suppliers that entails establishing trust, assisting suppliers enhance their processes, sharing relevant information with the suppliers and including them in developing new products (Langfield-Smith & Greenwood, 1998). Krause, Handfield and Tyler (2007) in a study on

United State' electronic and automotive sector;established that these aspects positively relates to the buying firm' performance.

Langfield-Smith and Greenwood (1998) opined a number of aspects determine the success of a supplier-buyer relationship; effective communication and information sharing, organisational adaptability, the inclusion of a firm' employees in buying its programs and absence of wide differences in the adopted technology and the industry in which a firm operates. Wisner (2003) claimed that an organisation' supplier-customer management strategy positively its SRM strategy hence operational performance. Echtelt et al. (2008) pointed to some major dimensions of SRM which included high levels of trust, informationsharing, risk and reward sharing, cooperation, and involvement of suppliers in new product development. Similarly, Ghaith, Ayman and Khaled (2014) argue that five major dimensions act as components of the SRM. These components include supplier quality improvement, trust-based relationships with suppliers, supplier lead time reduction, supplier collaboration in new product development and supplier partnership/development.

### **1.1.2 Operational Performance**

Operational performance focuses on attaining efficient and effective systems that are highly reliable and facilitate the achievement of excellence which exceeds customer expectations (Kivite, 2015). So as to attain such sustainable operational outcome, effective operational strategies are developed that supports the firms towards ensuring the important operational aspects in the organisations are achieved. These aspects include cost reduction, timely product development and production, product systems that are

flexible and product quality assurance (Wachiuri, 2015). Operational performance has been measured using different measures in the published literature. The most commonly cited measures were cost, quality, flexibility, and delivery (Cuaet al., 2001; McKone et al., 2001; Ahmad et al., 2010; Phan et al., 2011). According to Phan et al. (2011), cost performance is measured in terms of the unit cost of manufacturing while quality performance is measured using product capability and performance. On the other hand, flexibility performance is determined by organisational flexibility while delivery performance is measured in relation to degree of timely delivery. According to Kivite (2015), the general organizational performance culminates into independent and functional performance metrics which includes, improved market share, enhanced product quality, attained customer satisfaction and timely production. Most firms have come to the realization that it is not sufficient to only enhance efficiencies within a firm but also ensuring that the supply chain management is competitive, highly enhances the likelihood of an organisation' survival (Gold, Seuring&Beske, 2010). The researchers also assert that this emanates from the fact that performance is not only tied among organizations, but also between supply chains.

### **1.1.3 Sugar Firms in Kenya**

The Kenyan economy is dominated by the agricultural sector even though only 10% of the total land receives adequate rain. Agriculture accounts for 26% of the country' Gross Domestic Product (GDP) and 27% indirectly through linkages with agro-based and associated industries (KESREF, 2009). The contribution of agriculture to the Kenyan GDP is second to the service industry. The agricultural sector absorbs over 50% of the

labor force and is dominated by small scale farmers who account for approximately 75% of total agricultural output. The country's sugar sector supports at least 6 million Kenyans directly or indirectly. The sub-sector provides livelihood for over 250,000 small scale farmers in the country (KSB, 2013). To enhance the Kenya's economic growth and development, it is therefore important to improve agricultural productivity (Nyoro, 2012).

Sugarcane is mainly grown in the former western and Nyanza provinces. The crop is also grown in parts of Nandi, Kericho and Narok, Kwale and Tana-River counties. Up to 90% of the total cane produce in the country is comes from small scale farmers. Sugarcane production from large scale farmers and farms owned by sugar factories (nucleus estates) accounts for 10% of the total production (KSB, 2003), an aspect that is in contrast to other COMESA countries where plantations owned by sugar firms (Nucleus) account for at least 60% of total cane production. The industry has thirteen operational sugar factories namely: Chemelil Sugar Factory; Kibos Sugar and Allied Factories; Muhoroni Sugar Factory (in receivership); Mumias Sugar Factory; Nzoia Sugar Factory; Sony Sugar Factory; South Nyanza Sugar Factory; Sukari Industries Limited; Transmara Sugar Factory; West Kenya Sugar Factory; Butali Sugar Factory; Kwale International Sugar Company and Kisii sugar factory. With the sugar sector being critical to the economy, it still performs dismally leading to persistent deficits in production (Mukolwe, 2015). Lack of productivity growth in the sector is attributed to various factors including insufficient cane supply; cane poaching; under-using factory capacity; lack of technological progress and poor managerial capacities (KSB, 2011).

## **1.2 Research Problem**

Establishing a good SRM strategy positively impacts the overall operational performance of an organisation (William, 2006). A keen look into earlier studies conducted on SRM and organizational performance affirms that there is little research that has been conducted, linking the two variables. For instance, in a study conducted by Kasisi, Yusuf and Iravo (2015) on the effect of SRM on performance of organizations of selected sugar companies in Western Kenya, the research restricted itself to four variables; organizational structure, value management, performance collaboration and technology and concluded that these variables significantly influence performance. On the other hand, Mugarura (2010) only measured the effect of adaptation, trust and commitment on relationship continuity in her study on buyer-supplier collaboration on selected private firms in Kampala. The results revealed that adaptation, trust and commitment are key predictors of buyer-supplier collaboration. The study however does not link the SRM practices measured to operational performance.

Similarly, Kosgei (2016) in a case study of the Kenya Airways limited studied the effect of supplier relationship management on organizational performance. In this study four variable in relation to SRM were measured against operational performance. The study concluded that by an organization' focus on supplier relationships, it is an essential positioning towards enhancing overall market performance. The researcher however did not address SRM and operational performance on the sugar sector. Tangus (2015) limited her study on the effect of SRM practices on performance to manufacturing firms in Kisumu. The SRM practices measured were supplier development, segmentation and



information sharing and the study concluded that an improvement on the three SRM practices results to enhance levels of organizational performance. However, the research did not measure other SRM aspects such as trust-based relationship and supplier collaboration and their effect on operational performance.

The Kenyan sugar industry sugarcane yield stands at 65 tonnes of cane per hectare, which is way below the potential yield of 100 tonnes of cane per hectare under rain-fed conditions (KESREF, 2009). For instance, in Mumias Sugar Company (MSC), the yield from cane has been declining from 137 tonnes of cane per hectare in 1973 to an average of 58 per hectare in 2010 (Mumias Sugar Company, 2010). A research by Wawire et al (2006) established that this decline has been occasioned by a poor SRM strategy between the farmers and the firms which results from a bad perception among farmers towards contracted sugarcane farming in which both the farmer and the sugar milling firm have some management obligations towards ensuring enhanced cane production.

Therefore, little is still known, as a result of the scarce studies, on the relationship between of SRM and organizational performance especially of the Kenyan sugar firms. Most of the studies conducted address other sub-sectors other than the Kenyan sugar sector while others are conducted in other countries hence the findings may not directly be applied in the Kenyan sugar sub-sector; which is against the criticality of the sugar firms towards the Agricultural sector and the many challenges the industry is facing. In this study, four aspects of SRM: supplier collaboration in product development, supplier information sharing and trust-based relationship were measured in seeking to establish the impact of SRM on operational performance of the Kenyan Sugar firms.

### **1.3 Research Objectives**

The general objective of the study was to assess the effect of supplier relationship management on operational performance of the sugar firms in Kenya. The specific objectives were;

- i. To determine the effect of trust-based relationship on operational performance of sugar firms in Kenya.
- ii. To establish the effect of information sharing on operational performance of sugar firms in Kenya.
- iii. To determine the effect of supplier collaboration in product development on operational performance of sugar firms in Kenya

### **1.4 Value of the Study**

The global business environment keeps changing hence businesses find themselves dealing with the urgency of enhancing their operational efficiencies. The outcome of the study is therefore beneficial to the sugar firms management. These organizations acquire insight in decision making on how well to establish their Supplier Relationship Management so as to improve the operation performance of their respective organisations. However, other sectors can also absorb the recommendations of the study.

Besides, the sugar industry in the country is such a significant sector that bears both economic and social advantages. These benefits include provision of direct and indirect sustainable livelihood to a number of Kenyans and enhancement of growth in other subsectors of the economy. Therefore, the findings of this research enhance operational performance of the firms operating in the industry through facilitating their

transformation into efficient and cost effective firms hence improve profitability hence further improve the sector' impact on the country' economy and social developments.

The study also provides a knowledge platform for future research on Supplier Relationship Management and operational performance. Theory wise, the study enhances the understanding and applicability of the theories upon which it is anchored; the theory of constraints, social capital theory and the commitment trust theory.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Under this section, the study reviews various literatures relevant to this study. The literature reviewed was summarized in thematic areas including; theoretical review that covers three theories namely the theory of constraints, social capital theory and the commitment trust theory; supplier collaboration in product development; supplier information sharing and trust-based relationship. The chapter also presents the research gaps identified and the conceptual framework that depicts the association between the dependent and explanatory variables.

#### **2.2 Literature Review**

The concept of Supplier Relationship Management has been developed and based on some already existing theories. The researcher addresses some of the theories underscoring the SRM principles covered in this study. These theories include; the social capital theory, the theory of constraints, and the commitment trust theory.

##### **2.2.1 Social Capital Theory**

The social capital theory was established by Portes (1998). The researcher defines social capital as the norms and networks that facilitate individuals or people groups to act collectively. The Social capital theory is based on the principles that, while separate groups in a capitalistic society seek to attain their individual objectives and goals hence

focus most on this, the various entities have recognized that working together with likeminded partners, results to better outcome as compared to working in isolation. In relation to suppliers, they strive to sell their products to any potential buyer who is willing to give the best price while disregarding the nature of relationship between them. Social Capital theory stresses the importance of establishing collaborations in terms of working relationships between a buyer and a supplier in order to enhance the mutual benefits. According to Granovetter (1992), this therefore demands that both parties deploy their resources towards supporting one another in achieving a common objective. The researcher also asserts that the buyer therefore commits their firm's resources and infrastructure to support their selected suppliers to enhance their capabilities in production related activities whose effect is shared by the buying firms. The theory basically assumes the relationship between the supplier and the buyer as collaboration. It therefore anchors the study's objective on the effect of supplier collaboration as an aspect of SRM, on operational performance.

### **2.2.2 Theory of Constraints (TOC)**

TOC is based on management philosophy and was argued out by Goldratt (1984). The theory views any manageable system as being exposed to a small number of constraints in attaining its goals. At any time there exists at minimum a single constraint limiting the organization and the theory utilizes a focusing procedure to point out the constraint and reorganize the entire firm basing on the constraint (Goldratt, 1984). The theory adopts the assumption that organizational processes are vulnerable since the weakest individual or part of the organization can always break the processes or adversely impact the outcome

(Goldratt, 1997). According to Kosgei (2016), the underlying construct of TOC is that firms may be assessed and influenced by changes in three parameters that include throughput, inventory and operational expense. Inventory was defined as the entire financial resource invested by an organization in buying products that it seeks to sell while operational expense refer to the expenditure by the organization so as to turn the inventory into throughput.

Since a chain is as strong as its weakest link, the theory of constraints can be applied in identifying the weaknesses in a supply chain system and therefore resulting to solutions in the same thus enhancing the organization' operational performance. Suppliers relationship management is a key factor in fully establishing an organisation' supply chain. Therefore, organisational relationships need to be correctly managed, so that the supply chain is strong as a result of functioning relationships. TOC therefore anchors the study's objective the impact of supplier information sharing on operational performance since these aspects are viewed as constraints within the entire SRM strategy.

### **2.2.3 Commitment-Trust Theory**

The theory argues that two key aspect, namely trust and commitment; need to be in place so that an association is successful (Christopher, 2004). The theory of commitment-trust was argued for by Annekie and Adele (2009) in their book "Relationship Marketing and Customer Relationship Management". They assert that relationship marketing entails establishing bonds with suppliers through meeting their demands and honoring commitments. Heikkila (2002) described trust as the confidence among both parties in a

relationship based on the fact that the other party will not engage in something harmful or risky that would endanger their relationship; businesses generally develop trust through standing behind their promises. On the other hand, commitment entails a long-term desire to sustain a valued partnership.

According to an argument by Handfield (2002), rather than working for short-term profits, organizations ascribe to the principles of relationship marketing which seeks to establish the strong associations with their suppliers. Williams (2006) asserted that desire influences the organisations continuous investment in enhancing and sustaining close associations with customers. Through a number of relationship-building activities, the organisation depicts its commitment to the suppliers. Martin (2003) the results of a relationship based on commitment and trust are cooperative behaviors that allow both groups meet their needs. The theory is relevant in relation to this study since it explains the study' objective on effect of trust-based relationship on operational performance.

### **2.3 Supplier Relationship Management**

Supply chain management has long-term objectives and short-term objectives. The long-term objectives would include: creating value to customers, increase profits, improve efficiency of production operations, and increase market share (Williams, 2006). On the other hand, short-term objectives would generally include: improve productivity, reduce cycle time, and reduce inventory (Wisner & Tan, 2000). Generally, the strong relationships with suppliers have been regarded as one major factor for the Japanese industrial competitiveness (Sako, 1992). Ghaith et al., (2014) identified trust-based

relationships with suppliers, supplier collaboration in new product development and supplier partnership/development as among the components of SRM.

### **2.3.1 Trust-Based Relationship**

According to MacDuffie and Helper (1997), there are three main categories of trust that include competence trust where suppliers base their trust on the fact that the buyer is in a position to undertake what they agreed; contractual trust that is based on the belief that the buying organization will sustain the existing contracts and goodwill trust where trust is based on the fact that the buyer will not take advantage but always seek to act on mutual benefit basis. On the other hand, Heikkila (2002) identified two key categories of trust in relation to supplier relationship which include reliability where the trust is based on the fact that the organisation is reliable in executing what it promised and benevolence where the trust is anchored on the fact that the other organisation is keen on the partner's benefit hence does not engage in practices that may not be favorable to it.

Trust between the buyer and the supplier enhances cooperation, satisfaction, minimizes conflicts, encourages sharing of information and results to strong associations (Doney & Cannon, 1997). A study by Sako (1992) considered trust as the main aspect for the better performance of Japanese organizations in comparison to British organizations. Establishing trust not just a responsibility of the buyer only, but according to Doney and Cannon (1997) it should also be treated as critical among the supplier organization, that have to push, develop and sustain the buying organization's trust, more specifically when such trust is viewed to be pretty beneficial to the supplier. Even though building of trust is



viewed to be an expensive and time-consuming process, it results to strong and enhanced buyer-seller relationships (Ghaith et al., 2014).

### **2.3.2 Information Sharing**

Tangus (2015) argues that the sharing of information with other supply chain partners is key in ensuring success of the entire supply chain process. Information sharing is explained by Cooper and Ellram (1993) as frequent updating of information within a supplier-buyer relationship structure so as to ensure an effective relationship. With a dynamic and uncertain business landscape, a firm's ability to timely gain the required information is key in ensuring the organizations sustenance and performance. With the suppliers being an integral part of the SRM, and SRM being a key to a firm's strategies, bearing the correct information on suppliers and their performance is quite important (Kearney, 2013). Effective information sharing is characterized with being frequent, genuine, and entailing close contacts between the buyer and the supplier (Krause & Ellram, 1997).

An effective two-way communication is revealed by many researchers as being essential to achieving a successful supplier relationship (Hahn *et al.*, 1990; Veludoet *al.*, 2004) through creating rich knowledge. Bowersox *et al.* (2003) presented the important nature of information sharing as a result of the necessity of availing the organizations data to their supplier so as to enhance the operational connectivity of an activity. Strategic organization partners need to avail to one another data that includes inventory, sales and demand forecasts, promotion strategies, marketing plans and general evaluation feedback

so as to cut down on the degree of uncertainty between each other thus facilitating proper planning for their own organizational needs. According to Sanders and Premus (2005), information sharing facilitates the improvements in visibility among organizations, production planning and inventory management. Cannon and Perreault (1999) add that information sharing also enhances product quality as well as developing easier transitions during the engagements relating to new product development projects while Andersen (1990) asserts that it facilitates commitment and cooperation and assists the buyer and supplier through adapting processes with ease. Anderson & Weitz (1992) confirmed in their study the increased commitment between partners in supplier relationship management structure as a result of information sharing.

### **2.3.3 Supplier Collaboration in New Product Development**

Handfield et al. (1999) argued that having sufficient understanding on the varied abilities of suppliers is one of the key feature in the process of new product development (NPD). Smith and Reinertsen (1991) asserted that an organisation' suppliers need to be involved in the process of new product development especially in the event of high level technology while the organisation bears minimum expertise. Petersen, Handfield and Ragatz(2003) adds that involving suppliers in NPD and sharing technically valuable information is of great importance in the wake of complex technologies being applied. Handfield et al. (1999) argued that with suppliers getting familiar with the buyer organisation' processes and objectives, they may set in place, early enough, the key needs towards expected product development plans. Involving suppliers positively influences the success of NPD processes when the following aspects are considered by an

organization; top management support, learning and training, effective performance measures, enhanced supplier's qualifications, reward sharing and establishment of trust aspects (Ragatz, Handfield&Scannell, 1997).

Handfield et al. (1999) established that organizations that involve suppliers in their product development process record great improvements compared to organizations that segregate the suppliers. Their findings were based on a study of 134 globally alongside 17 other case studies. De Toni and Nassimbeni (2000) argue that some organizational benefits attached to including suppliers in NPD processes include reduce costs in organizational development processes, quick available prototypes, reduced technical changes, improved product quality, short lead-time in product development and enhanced product innovativeness. On the other hand, Echtelt et al. (2008) opined that supplier involvement in new product development allow the establishing of learning routines and matching abilities for both organizations. However, a study by Petersen et al. (2003) carried in both Japan and the US asserted that only trusted and carefully picked suppliers must be involved in new product development projects. They also established that involving suppliers in the process of NPD teams is important when the organization lacks sufficient expertise.

## **2.4 Operational Performance**

Operational performance is not only as a result of enhanced efficiency and reduced cost but also improve the supplier's involvement in the general strategy of the organization (Wangeci, 2013). Trust, supplier collaboration and communication are identified key

elements that result to effective supplier relationships (Kosgei, 2016; Tangus, 2015). These elements generally have a positive effect on organizational performance. Increased competition and the globalization of markets in the recent years has greatly contributed towards challenges linked with ensuring that products meet customer demands and are made available both efficiently and effectively (Cooper, & Ellram, 1993). Many organizations are therefore struggling to stay afloat and are faced with a myriad of challenges, key among them being increased competition in the market as well as operating in difficult economic conditions characterized by high inflation rates, high interest rates, and volatility in currency fluctuations (Porter & Teisberg, 2006).

These forces have further resulted into external business environments that are generally dynamic, uncertain, highly demanding and mostly devastating especially to those firms that do not or are unable to prepare and respond to these changes (Burnet, 2010). The organizations are therefore to align their internal operational practices in line with the changing environment while focusing on their suppliers, customers and product development alongside enhancing a culture of commitment within the management. Waweru (2008) contends that firms go into business to prosper and the level of prosperity or success is measured in terms of business performance. According to Burnet (2010), organisations that attain a higher degree of operational efficiency have a higher chance of survival and register great performance. Wangeci (2013) asserted that a number of parameters can be used to measure organisational operational performance; operational cost, quality of product, lead time, inventory level, planned maintenance and timely product development. On the other hand, Schroeder and Mallick (2010) pointed out cost,

quality, flexibility, and delivery as the major parameters for measuring operational efficiency.

## **2.5 Empirical Review and Research Gap**

Several studies have been conducted addressing the relationship between supplier relationship management and operational performance. In a study seeking to establish the role of supply chain relationships in the growth of small firms in Kenya, Mwirigi (2011) targeted small enterprises that have loans with FAULU Kenya. In order to understand the duties undertaken by supply chain relationships between respondent firms, the research assessed several relationships. The research established that supply chain relationships are key aspects in the development of small enterprises. Mwirigi asserts that they contribute towards the growth and overall performance of these firms in several different ways. The researcher concluded that creation of supply chain relationships is critical and should be approached in a clearly structured manner so as to enhance its role in the development of small enterprises.

Kosgei (2016) investigated the effect of supplier relationship management on organizational performance. The researcher however limited the study to Kenya airways limited and only analyze the effect of trust and mutual goals on organizational performance. The researcher involved a cross sectional study design and sampled 82 staff from all the department of Kenya airways ltd. Questionnaires were the tools used to collect data. The research concluded that the organization had a great opportunity to implement SRM strategies and therefore the management should show

commitment towards establishing SRM systems that can be monitored, appraised and evaluated.

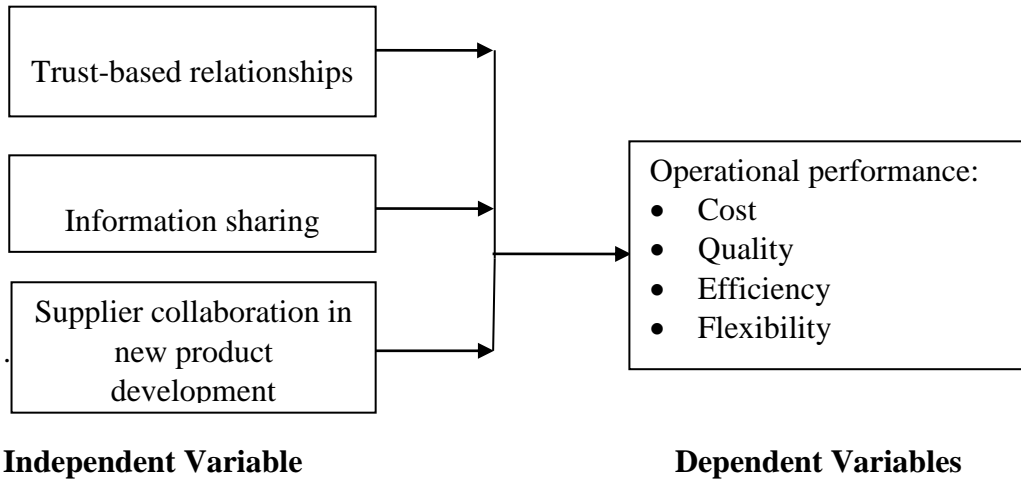
Kasisi et al. (2015) assessed the effects of Supplier Relationship Management on the Performance of Organizations in selected sugar companies in Western Kenya. The study was guided by four research objectives that were; to determine the effect of the organization structure, value management, collaboration and technology on the performance of an organization the research adopted a survey design and targeted the management and the procurement staff of three sugar companies; Mumias, West Kenya and Butali Sugar Company. The researcher concluded that organizational culture, value measurement, collaboration and technology are vital in attaining organizational performance. The researcher however does not link SRM to operational performance and also failed to measure SRM aspects such as trust-based relationship and supplier information sharing.

## **2.6 Conceptual Framework**

The conceptual framework depicts the association between the objectives of the research that are linked to Supplier Relationship Management; supplier collaboration in development of new products, supplier information sharing and trust-based-relationship, and their impact on operational performance of sugar firms in the country. Trust between the buyer and the supplier enhances cooperation, satisfaction, reduces conflicts, encourages information exchange and results to long-term relationships (Doney & Cannon, 1997). On the other hand, Tangus (2015) argues that the sharing of information

with other supply chain partners and establishing collaboration with suppliers in developing new products are key in ensuring success of the entire supply chain process.

**Fig 2.1: Conceptual Framework**



**Source: Researcher (2017)**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Under this section presents the blueprint of the research methodology to be adopted, describing it from the point of data collection to data analysis and presentation. The chapter is divided in to the following sub-sections; research design, target population, sampling design, data collection instruments, data collection procedures and finally data analysis.

#### **3.2 Research Design**

A descriptivestudydesign was utilized in this study.Tangus (2015) adopted this research design in his study that sought to establish the relationship between SRM and organisational performance in manufacturing firms operating in Kisumu County, Kenya. The research design was therefore adopted in analyzingSRM aspects including collaborating with suppliers in developing new products, information sharing and trust based relation and their effect on operational performance.

#### **3.3 Target Population**

The research's population of interest consisted of all the 13 cane processing firms currently operational in Kenya. These include Chemelil Sugar Factory; Kibos Sugar and Allied Factories; Muhoroni Sugar Factory (in receivership); Mumias Sugar Factory;



Nzoia Sugar Factory; Sony Sugar Factory; South Nyanza Sugar Factory; Sukari Industries Limited; Transmara Sugar Factory; West Kenya Sugar Factory; Butali Sugar Factory; Kwale International Sugar Company and Kisii sugar factory.

To establish the effect of SRM on operational performance of sugar firms in Kenya, the study deployed a census technique in obtaining the respondents to be used in the study. Due to the fact that the size of the study' population is minimal; 13 sugar firms, all the sugar firms were censured for response in the study. One respondent; head of the supply chain department, from each of the 13 firms were selected; assuming that the other possible respondents have more or less the same nature and characteristics, such that the results to be obtained can be generalized for the entire firm. The research settled for this group of respondents because they are believed to be better placed in providing the sought feedback since they engage with the suppliers of their various organizations' hence conversant with their organization' SRM practices and strategies. The category of respondents also enhanced the reliability and precision of the collected data. The census list was made up of 13 respondents.

### **3.4 Data Collection**

The study collected primary data for analysis and employ both quantitative and qualitative approaches in obtaining the data. The study used questionnaires as instruments of collecting the data. Semi-structured questionnaires were deployed by the researcher which consisted of two main sections; background information section and the section that captures each of the research objectives. The questionnaires were designed so that

they can be easily completed by the respondents from each of the targeted companies with no facilitation from the researcher. The data collection instrument was distributed with the assistance of two trained research assistants. The researcher however first sought authorization from the various sugar firms' human resource departments. The respondents were further required to complete the questionnaires which were then to be collected after 3 days. These assisted in enhancing the overall response rate and also minimize loss of the questionnaires.

### **3.5 Data Analysis**

The questionnaires were initially cross-checked in order to ensure complete filling before being coded so as to facilitate further analysis so as to enhance the accuracy of findings after analysis. Data was analyzed using both Statistical Package for Social Sciences (SPSS) and MS Excel packages. The results were further presented in tables, charts and graphs. Quantitative data was obtained and summarized for analysis from the questionnaires' close-ended questions while qualitative data was obtained from open-ended questions in the questionnaires. To assess the characteristic set up of the sample and study areas, data on the respondents and the sugar firms was obtained and descriptive analysis methods applied in describing the organisation' and respondents background information. Frequencies, mean and standard deviations was used to summarize the findings.

To analyze the impact of supplier collaboration in developing new products, information sharing and trust based relationship on operational performance of the Kenyan sugar firms, the research deployed descriptive analysis method where several descriptive

statistics measures were determined including percentages, mean and standard deviation (SD). To establish the strength and nature of association between the explanatory and dependent variables, inferential analysis was conducted that included Pearson's correlation and regression analyses; the variables were measured and analyzed as summarized in table 3.1 below. The regression model to be adopted by the study was as indicated below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;  $Y_i$  – Operational Performance ( $i = 1, 2, 3, 4$ ) and  $Y_1, Y_2, Y_3, Y_4 =$  Cost, Quality, Efficiency and Flexibility respectively

$\beta_0$  - Constant

$\beta_i$  ( $i = 1,2,3$ ) - Regression Coefficients

$X_1$  – Supplier collaboration in developing new products

$X_2$  – Information sharing

$X_3$ - Trust-based relationships

$\varepsilon$  - Error term

**Table 3.1: Operationalization of variables**

<b>Variable</b>	<b>Proxy of measure</b>	<b>Data collection method</b>	<b>Data analysis method</b>
Trust-based relationship	Level of adoption and Impact of trust	Questionnaire	Descriptive analysis
Information Sharing	Type and Impact of shared information	Questionnaire	Descriptive analysis
Supplier collaboration	Degree and Impact of collaboration.	Questionnaire	Descriptive analysis
Relationship between variables	Type and nature of association	Questionnaire	Correlation and regression analyses.

**Source: Researcher (2017)**

## **CHAPTER FOUR**

### **DATA ANALYSIS, FINDINGS AND DISCUSSION**

#### **4.1 Introduction**

The study' general objective was to assess the effect of supplier relationship management on operational performance of the sugar firms in Kenya. The researcher undertook a census study on all the sugar firms currently operational in the country. Data was collected from all the heads of supply chain departments of the 13 firms. This section therefore presents the findings and discussions of the analyzed data.

#### **4.2 Response Rate**

Questionnaires were distributed to each of the sugar firm' head of supply chain department; a total of 13 questionnaires were issued. All the 13 questionnaires issued were completely filled-up and returned resulting to a response rate of 100.0%. The response rate was attributed to the fact that the respondents were allowed 3 days to fill and hand-in the research instruments.

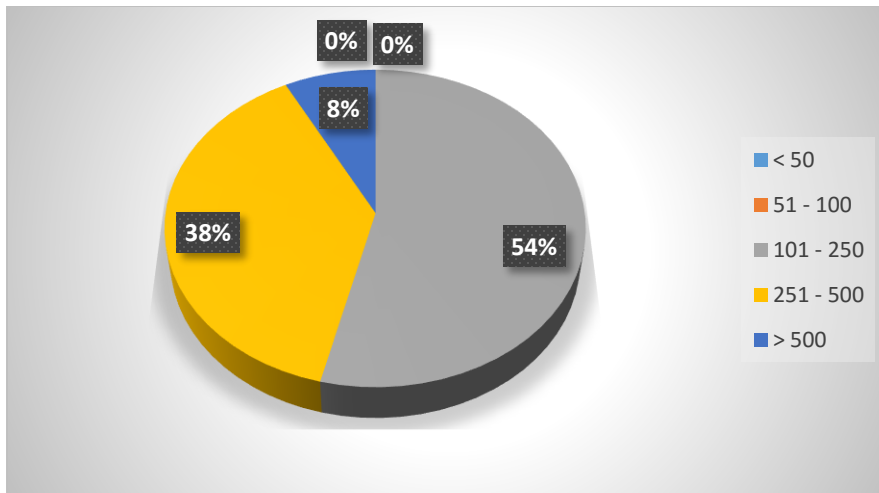
#### **4.3 Background Information**

The study sought to establish some background information on the sugar firms. The information collected include the number of staff employed by the organisation, number of employees within the supply chain department and age of the organisation.

### 4.3.1 Number of Employees

Figure 4.1 represents the summary of findings on the number of employees within the various targeted sugar firms.

**Figure 4.1: Number of Employees**



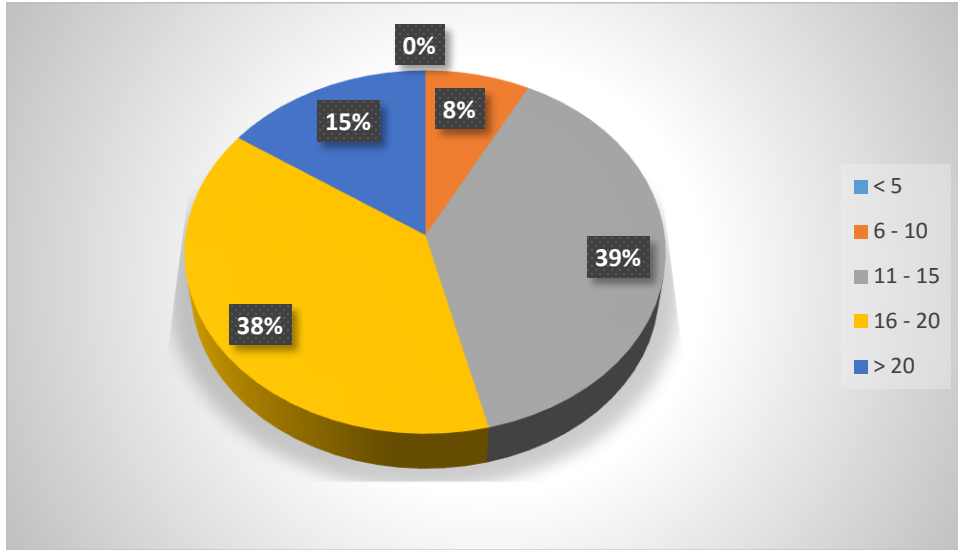
**Source: Research Data (2017)**

The findings in figure 4.1 reveal that none of the firms had less than 100 employees while slightly more than one-half (7, 53.6%) indicated that their organisations had between 101 and 250 employees. 38.5% and 7.7% of the respondents revealed that their firms had between 251 – 500 and above 500 employees respectively. These findings further depict that most (53.6%) of the sugar firms are middle sized organisations with a near similar number (46.2%) being large sized organisations.

### 4.3.2 Supply Chain Department Employees

The researcher inquired on the number of employees within the supply chain departments of the various studied sugar firms. The findings were as presented in figure 4.2 below.

**Figure 4.2: Supply Chain Department Employees**



**Source: Research Data (2017)**

The findings on the number of employees within the supply chains departments indicated that 15.4% (2) of the organisations had more than 20 employees serving in their supply chain departments while on 7.7% (1) had less than 10 supply chain department employees. These results indicate that most of the sugar factories engage in robust supply chain activities as depicted by more than one half (53.4%) of them having not less than 16 employees serving within the respective supply chain departments. This further indicates that the factories are generally sizeable.

### **4.3.3 Age of the Organisation**

The respondents were asked to provide information on the length of period their organisations had been in operation. The responses obtained were then analyzed and presented in table 4.1.

**Table 4.1: Age of the Organisation**

<b>Period</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Less than 5 yrs	-	0.00
5 – 10 years	1	7.70
11 -15 years	1	7.70
16 – 20 years	4	30.70
Above 20 years	7	53.90
Total	13	100.00

**Source: Research Data (2017)**

The results depict that most (7, 53.9%) of the firms had been in operation for not less than 20 years while 4 respondents representing 30.7% indicated that their firms had been in operation for between 16 to 20 years. Only 1 (7.7%) of the firms had been operating for between 5 to 15 years while none of the sugar companies had been incorporated in the sector in the last 5 years. These results therefore confirm that the sector has not had new entrants in the last 5 years.

#### **4.4 Trust Based Relationships**

The study sought to determine the effect of trust based relationships, as an aspect supplier relationship management, on operational performance. The respondents were to provide their feedback on the scale: 1=Strongly Agree, 2=Agree, 3=Not sure, 4=Disagree, 5=Strongly Disagree. The scores of strongly agree and agree have been taken to depict a variable which had a mean score of 0 to 2.4 on the continuous likert scale of (0=S.E<2.5). Similarly, the scores of ‘not sure’ are taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous likert scale: (2.5=M.E. <3.5) while the score of both



disagree and strongly disagree are taken to represent a variable which had a mean value of 3.5 to 5.0 on a continuous likert scale; (3.5= L.E.<5.0). On the other hand, a standard deviation with a value <1.0 implied that the responses were not varying significantly.

**Table 4.2: Trust Based Relationships**

<b>Aspects of trust based relationships</b>	<b><i>N</i></b>	<b><i>M</i></b>	<b><i>SD</i></b>
Most of the organisation' operations are based on trust.	13	2.37	.41
The trust between the organisation and its suppliers has enhanced cooperation and the length of relationship.	13	2.44	.32
Trust based relationships in the organisation encourage information exchange between the firm and its suppliers.	13	2.07	.43
The firm' established trust with its suppliers has proved to be financially beneficial through reduced operational costs.	13	1.93	.44
The organisation intentionally pushes, develops and seeks to retain trust with its suppliers.	13	3.11	.62
Valid N (listwise)	13		

**Source: Research Data (2017)**

From the findings on the aspects of trust based relationships as represented in table 4.2, it is evident that most of the organizations' operations are based on trust as depicted by the mean of 2.37. A study of Japanese organisations by Sako (1992) considered trust as the main aspect for the better performance in comparison to British organizations. On the other hand, the standard deviation of 0.41 (<1.0) evidences that the responses obtained do not vary significantly. The mean of 2.44 depicts that the trust between the organisation and its suppliers has enhanced cooperation and the length of relationship while the mean

of 2.07 indicates that the trust based relationships in the organisation encourage information exchange between the firm and its suppliers. The respective standard deviations of the findings on these variables (0.32 and 0.43<1.0) reveal that the responses did not vary significantly. These findings are similar to conclusions made by Doney and Cannon (1997). The mean of 1.93 depicts that the firms' established trust with their suppliers has proved to be financially beneficial through reduced operational costs. The responses obtained however differed insignificantly (0.437<1.0). On the other hand, the respondents were not sure as to whether their organisations intentionally push, develop and seek to retain trust with its suppliers. This was evidenced by the mean of 3.11 and standard deviation of .62 which further indicated that the responses collected did not significantly vary. The findings by Ghaith et al. (2014) confirmed that though building of trust is viewed to be an expensive and time-consuming process, it results to strong and enhanced buyer-seller relationships.

## **4.5 Information Sharing**

The researcher established how various aspects of information sharing impact operational performance and the various categories of information that the organisations share with their suppliers. The results were presented in tables 4.3 and 4.4.

### **4.5.1 Aspects of Information Sharing**

The respondents were to indicate how likely various aspects of information sharing impact operational performance within the firms in a likert (1=Very Likely, 2=Likely, 3=Not sure, 4=Unlikely, 5=Very Unlikely). The scores on the continuous likert scale:

0=V.L<1.4 represent variables that are very likely to impact operational performance. Similarly the scores on the likert scales 1.5=L<2.5, 2.5=N.S<3.5, 3.5=U.L<4.5 and 4.5=V.U<5 represent variables that are likely, not sure, unlikely and very unlikely to impact operational performance respectively.

**Table 4.3: Aspects of Information Sharing**

<b>Aspects of information sharing</b>	<i>N</i>	<i>M</i>	<i>SD</i>
Frequent sharing of information with other supply chain partners.	13	2.41	.33
Establishing an effective supplier-buyer information relationship structure.	13	1.74	.28
Ease access to the required supplier information at the right time.	13	2.35	.45
Having the right information on suppliers and their performance.	13	2.99	.51
Supplier involvement in product development enhance operational performance through establishing the organisation' learning routines and matching abilities.	13	2.21	.33
Availing the organization' data to their supplier so as to enhance the operational connectivity of an activity.	13	3.46	.76
Valid N (listwise)	13		

**Source: Research Data (2017)**

The findings as summarized in table 4.3 on the impact of various aspects of information sharing on operational performance present the mean of 2.41, 1.74, 2.35 and 2.21 which respectively, depict that the organizations' frequent sharing of information with other supply chain partners, establishing an effective supplier-buyer information

relationship structure within the organisations, ease access to the required supplier information at the right time within the organisations and supplier involvement in product development through establishing the organizations' learning routines and matching abilities are likely to impact operational performance. Additionally, their respective standard deviations of .33, .28, .45 and .33 indicate that the responses given do not significantly vary. Such finding was also arrived at by Tangus (2015) who generally argued that sharing of information with other supply chain partners is key in ensuring success of the operational and supply chain activities. The results further indicate that the respondents were however not sure on how likely having the right information on suppliers and their performance impacts operational performance of the sugar firms; this was depicted by the mean of 2.99. A standard deviation of .51 (<1.0) further implies that the feedback by respondents did not hugely vary. Similarly, the mean of 3.46 implies that the respondents were not sure on the likely impact that availing of the organization' data to its supplier in order to improve the operational connectivity of an activity would have on operational performance. The standard deviation of .76 (<1.0) reveals that the responses obtained did not vary hugely. However, Bowersox *et al.* (2003) confirmed that availing organizations' data to their supplier enhances the operational connectivity of an activity.

#### **4.5.2 Type of Shared Information**

The research sought to determine the type of information that the organisations share with their various suppliers with intent of enhancing operational efficiency. The findings were presented in table 4.4 below.

**Table 4.4: Type of shared Information**

Type of Information	Yes		No		Rank
	Freq.	%	Freq.	%	
Inventory level	7	53.85	6	46.15	3
Sales and demand forecasts	9	69.23	4	30.77	2
Promotion strategies	3	23.08	10	76.92	4
Marketing plans	3	23.08	10	76.92	4
General feedback to supplier from supplier evaluation.	11	84.62	2	15.38	1

**Source: Research Data (2017)**

The results of the findings in relation to the type of information shared between the organisations and their suppliers reveal that most of shared information is on general feedback to supplier from supplier evaluation as depicted by the frequency of 11 (84.62%) hence ranked 1. The second most shared information by the organisations is on sales and demand forecasts as revealed by the frequency of 9 (69.23%) while the third ranked most shared information by the organisations is on the level of inventory as indicated in by the frequency of 7(53.85%). The findings also revealed that the least shared information between the organisations and their suppliers included promotion strategies and marketing plans which were both ranked fourth, bearing a frequency of 3 (23.0%). Generally, the findings depict that most (84.62%) of the organisations share information on general feedback to their supplier evaluations. This further depicts that most of the organisations conduct supplier evaluations. On the other hand, less than one-third (23.08%) of the organisations share information on promotion strategies and

marketing plans with their suppliers an aspect that may be explained by the sensitive nature of such information. However, according to Premus (2005), strategic organization partners need to avail to one another data that includes inventory, sales and demand forecasts, promotion strategies, marketing plans and general evaluation feedback so as to cut down on the degree of uncertainty between each other thus facilitating proper planning for their own organizational needs.

#### **4.6 Supplier Collaboration in New Product Development**

The findings on the effect of various aspects of supplier collaboration in new product development on operational performance have been summarized in table 4.5. The respondents were to provide their feedback on the scale: 1=Strongly Agree to 5=Strongly Disagree. The scores of strongly agree and agree take a mean score of 0= S.E<2.5 on the continuous likert scale, the scores of 'not sure' represent a mean score of 2.5=M.E<3.5 on the continuous likert scale while the score of "disagree and strongly disagree" take a mean value of 3.5= L.E<5.0 a continuous likert scale. On the other hand, a standard deviation with a value <1.0 implied that the responses were not varying significantly.

**Table 4.5: Supplier Collaboration in New Product Development**

<b>Aspects of supplier collaboration in NPD</b>	<b><i>N</i></b>	<b><i>M</i></b>	<b><i>SD</i></b>
The organisation treats knowledge on the varied competencies of its suppliers as key aspect in the process of new product development.	13	3.67	.57
Involving suppliers in the process of developing new products positively impacts the efficiency in operational performance.	13	2.06	.50
Availing information of the organisation' operations to suppliers enhances future product development processes.	13	2.31	.51
The organisation' involvement of its suppliers in product development has resulted to the firm' competitive edge over its peers through enhanced operational performance.	13	3.39	.60
Supplier involvement in product development enhance operational performance through establishing the organisation' learning routines and matching abilities.	13	2.22	.39
Valid N (listwise)	13		

**Source: Research Data (2017)**

The findings in table 4.5 reveal that the organisation do not treats knowledge on the varied competencies of its suppliers as key aspect in the process of new product development as depicted by the mean of 3.67 whereas the standard deviation of 0.57(<1.0) further depicts that the responses were varying insignificantly. A different argument is however raised by Handfield et al. (1999) who asserted that having sufficient understanding on the varied abilities of suppliers is key in the process of new product development (NPD). The findings also indicated that the respondents are not sure if the

organizations' involvement of its suppliers in product development has resulted to the firm' competitive edge over its peers through enhanced operational performance as depicted by the mean of 3.39. Handfield et al. (1999) adds that supplier involvement in NPD improves an organisation' competitiveness. The findings of the research as indicated by the mean of 2.06, 2.31 and 2.31 respectively established that involving suppliers in the process of developing new products positively impacts the efficiency in operational performance, availing information of the organisation' operations to suppliers enhances future product development processes and supplier involvement in product development enhance operational performance through establishing the organisation' learning routines and matching abilities. In addition, the respective standard deviations of these aspects (0.50, 0.51 and 0.39) further indicate that the responses obtained were varying insignificantly. These findings are in line with the assertion in Social Capital theory by Portes (1998) who stresses on the importance of establishing collaborations in terms of working relationships between a buyer and a supplier in order to enhance the mutual benefits.

#### **4.7 Operational Performance**

The research sought to establish the impact of various operational aspects on operational performance and the level of efficiency of variables of operational performance within the sugar firms. The findings were as summarized in tables 4.6 and 4.7 below.



### 4.7.1 Aspects of Operational Performance

Table 4.6 summarizes the analysis of the results on various aspects relating to operational performance of the sugar firms in a five point scale that ranged from ‘Strongly agree (1)’ to ‘Strongly Disagree’ (5). The scores of strongly agree and agree have been taken to depict a variable which had a mean score of 0 to 2.4 on the continuous likert scale of (0=S.E.<2.5). Similarly, the scores of ‘not sure’ are taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous likert scale: (2.5=M.E.<3.5) while the score of both disagree and strongly disagree are taken to represent a variable which had a mean value of 3.5 to 5.0 on a continuous likert scale; (3.5= L.E.<5.0). A standard deviation of >1.0 implies a significant difference on the responses obtained from the respondents pertaining the impact of the variable.

**Table 4.6: Aspects of operational Performance**

<b>Aspects of operational performance</b>	<b><i>N</i></b>	<b><i>M</i></b>	<b><i>SD</i></b>
Effective management of supply chain positively impacts the operational performance of the organisation.	13	1.32	.22
The organisation’ operational performance is greatly influenced by the external business environment.	13	1.00	.00
The organisation effectively interacts with its environment so as to enhance its performance.	13	3.75	.62
The operational systems within the organisation are reliable towards ensuring organisational operational excellency is attained.	13	3.13	.45
Valid N (listwise)	13		

**Source: Research Data (2017)**

From table 4.6, the mean of 1.32 indicates that the respondents strongly agreed that effective management of supply chain positively impacts the operational performance of the organisations whereas the standard deviation of 0.22(<1.0) indicates that the respondents did not vary significantly on this variable. The mean of 1.00 depicts that the respondents strongly agree that the organisation's operational performance is greatly influenced by the external business environment while the standard deviation of 0.00 implies that all the respondents provided the same feedback. These assertions are also supported by Burnet (2010). The respondents were however not sure if the operational systems within the organisation are reliable towards ensuring organisational operational excellency is attained as revealed by the mean of 3.13 while the standard deviation of 0.45(<1.0) implies that the respondents did not vary significantly on this aspect. On the other hand, the mean of 3.75 depicts that the organisations do not effectively interact with their environment so as to enhance its performance. The respondents did not also significantly bear varying opinions on this aspect as indicated by the standard deviation of 0.62. According to an argument by Burnet (2010), firms should be able to effectively respond to their external business environments while seeking to improve overall performance since most of these environments are generally dynamic, uncertain and highly demanding.

#### **4.7.2 Efficiency Level of Operational Performance**

The study established the level of efficiency of operational performance by measuring a number of variables. The responses were to be provided on the scale of 1= High Efficiency, 2= Medium Efficiency, 3= Low Efficiency. From the results, the scores of 'High Efficiency', 'Medium Efficiency' and 'Low Efficiency' are taken to represent

variables on the continuous likert scales of 0=H.E<1.5, 1.5=M.E<2.5 and 2.5=L.E<3 respectively. A standard deviation of >1.0 implies a significant difference on the responses obtained from the pertaining the impact of the variable.

**Table 4.7: Efficiency Level of Operational Performance**

Measures of operational performance	<i>M</i>	<i>SD</i>	<i>Rank</i>
Quality of product	1.06	.54	1
Planned maintenance	1.23	.37	2
Inventory level	1.27	.31	3
Total equipment efficiency	1.41	.44	4
Lead time	1.87	.27	5
Timely product development	2.11	.13	6
Flexible manufacturing practices	2.52	.21	7
Lean manufacturing practices	2.66	.19	8
Operational cost	2.71	.10	9
Risk analysis	2.78	.08	10

**Source: Research Data (2017)**

From the results summarised in the table 4.8, it was evident that the organisations are highly efficient in producing quality products (Ranked 1), planning maintenance services (Ranked 2), maintaining the right inventory level (Ranked 3) and ensuring total efficiency of equipment (Ranked 4). The ranks are as depicted by the mean of 1.06, 1.23, 1.27 and 1.41 respectively. The standard deviations of 0.54, 0.37, 0.31 and 0.44 < 1.00, further indicate that the responses varied insignificantly. The findings also revealed that the firms were mildly efficient in ensuring a good lead time and timely product development as depicted by the mean of 1.87 (Rank=5) and 2.11 (R=6) respectively. The respective standard deviations of 0.27 and 0.13 also indicate that the responses on these variables did not vary significantly. On the other hand, flexible and lean manufacturing practices, operational cost and risk analysis recorded low level operational efficiency.

These were depicted by the mean of 2.52 (Rank=7), 2.66 (Rank=8), 2.71 (Rank=9) and 2.78 (Rank=10) respectively. Similarly, the responses obtained in relation to these variables varied insignificantly as depicted by the standard deviation of 0.19, 0.10 and 0.08 respectively. Schroeder and Mallick (2010) pointed out that efficient management of cost, quality and flexibility positively impact operational efficiency of organisations. Therefore, the firms' low efficiency level on operational cost, flexible manufacturing practices and risk analysis may be attributed to the poor performance of the organizations' operational performance.

#### 4.8 Correlation Analysis

Correlation analysis results were summarized in table 4.8. The results presented the findings on the nature and type of relationships between the study variables; trust-based relationship, information sharing, supplier collaboration in NPD and operational performance.

**Table 4.8: Correlation Analysis**

		Trust-based relationship	Information sharing	Supplier collaboration	<i>Operational Performance</i>
Trust-based relationships	Pearson Correlation	1			
	Sig. (1-tailed)				
Information sharing	Pearson Correlation	0.32	1		
	Sig. (1-tailed)	0.23			
Supplier collaboration	Pearson Correlation	0.22	0.5	1	
	Sig. (1-tailed)	0.18	0.1		
<i>Operational performance</i>	<i>Pearson Correlation</i>	<i>0.61</i>	<i>0.41</i>	<i>0.58</i>	<i>1</i>
	<i>Sig. (1-tailed)</i>	<i>0.17</i>	<i>0.25</i>	<i>0.18</i>	

Source: Research Data (2017)

From the results, the values of  $r = .61$  ( $P = 0.17$ ) and  $r = .58$  ( $P = .18$ ) imply that trust-based relationship and supplier collaboration in NPD have an averagely strong positive relationship with operational performance. These further depict that an enhancement of trust-based relationships and collaboration with suppliers in NPD within the sugar firms result to an average improvement in the level of operational efficiency attained. On the other hand, information sharing had a value of  $r = 0.41$  ( $p = 0.39$ ) implying a weak but positive relationship between operational performance and information sharing. The result indicates that improved information sharing, to a small extent, results to an improvement in the degree of operational efficiency recorded in the sugar firms. A study by Kasisi et al. (2015) on the effect of SRM on performance also revealed a positive association between the variables of trust and supplier collaboration and performance.

#### 4.9 Regression Analysis

A regression analysis presenting the cumulative effect of the independent variable on the dependent variables was conducted and the findings summarized in table 4.9, 4.10 and 4.11 below.

**Table 4.9: Regression Analysis**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.74 <sup>a</sup>	.55	.32	.624

a. Predictors: (Constant), trust-based relationship, information sharing, supplier collaboration in NPD

**Source: Research Data (2017)**

From table 4.9, the value of R square depicts that that trust-based relationship, information sharing and supplier collaboration in NPD collectively affect operational performance by up to 32.0%.

**Table 4.10: ANOVA table**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.32	2	.16	.21	.03 <sup>a</sup>
	Residual	12.11	36	.34		
	Total	12.43	38			

a. Predictors: (Constant), trust-based relationship, information sharing, supplier collaboration in NPD

b. Dependent Variable: Operational performance

The significance value of 0.03 ( $< 0.05$ ) reveals that the combined effect of trust-based relationship, information sharing, supplier collaboration in NPD on operational performance is statistically significant.

**Table 4.11: Regression Coefficients**

Model	Unstandardized		Standardized		T	Sig.
	Coefficients		Coefficients			
	B	Std. Error	Beta			
1 (Constant)	.61	.54			0.46	.111
Trust-based relationships	.38	.16	.34		2.77	.001
Information sharing	.19	.10	.44		.92	.000
Supplier collaboration in NPD	.22	.13	.22		1.62	.001

a. Dependent Variable: operational performance

**Source: Research Data (2017)**

The Constant = 0.61, indicates that if trust-based relationships, information sharing and supplier collaboration in NPD were all rated as zero, operational performance would be .61. Similarly,  $X_1 = 0.38$ , depicts that a unit change in trust-based relationships with a zero rating of information sharing and supplier collaboration in NPD results to .99 units increase in the level of operational performance. On the other hand,  $X_2 = .19$ , shows that a unit change in information sharing with a zero rating of trust-based relationship and supplier collaboration results to .80 units increase in the level of operational performance while  $X_3 = 0.22$ , indicates that a unit change in supplier collaboration in NPD and a zero rating of trust-based relationships and information sharing results in .83 units increase in the degree of operational performance.

From table 4.9, the overall regression equation of the study is;

$$Y = 0.61 + 0.38X_1 + 0.19X_2 + 0.22X_3 + \epsilon$$



## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This study was conducted with an aim to establish the relationship between supplier relationship management and operational efficiency. Three supplier relationship variables were measured against operational performance; trust-based relationships, information sharing and supplier collaboration in new product development. This chapter therefore presents the summary of findings as presented in the previous chapter, conclusions and recommendations derived from the findings, implication of the study on policy, theory and practice, limitations of the study and suggestions for future studies with regard to supplier relationship.

#### **5.2 Summary of Findings**

The study sought to establish the effect of trust based relationship on operational performance of sugar firms in Kenya. The findings of the study established that most of the organizations' operations are based on trust and the trust between the organisation and its suppliers has enhanced cooperation and the length of relationship, encouraged information exchange between the firm and its suppliers and has proved to be financially beneficial through reduced operational costs. These findings were also argued for by Ghaith et al. (2014) who asserted that though building of trust is viewed to be an expensive and time-consuming process, it results to strong and enhanced buyer-seller relationships. On the other hand, it was not clear if the organisations intentionally push, develop and seek to retain trust with its suppliers.

The research also sought to determine the effect of information sharing on operational performance of sugar firms in Kenya. The findings indicate that frequent sharing of information with other supply chain partners, establishing an effective supplier-buyer information relationship structure, and ease access to the required supplier information at the right time are likely to impact operational performance. The results also evidenced that supplier involvement in product development enhances operational performance through establishing the organisation' learning routines and matching abilities. These findings were in line with an argument by Cannon and Perreault (1999). The respondents were however indifferent as to whether having the right information on suppliers and their performance and availing the organization' data to their supplier so as to improve the operational connectivity of an activity would impact operational performance. Other findings also revealed that the sugar firms share various categories of information with their suppliers at varying degrees. The most shared information between the two parties are general feedback to supplier from supplier evaluation, information on sales and demand forecasts and the level of inventory. Information entailing promotion strategies and marketing plans were the least shared.

To determine the effect of SRM on operational performance of sugar firms in Kenya, the study measured the effect of supplier collaboration in NPD. The findings depicted that the organisations do not treat knowledge on the varied competencies of their suppliers as key aspect in the process of new product development. The results were however not clear as to whether the organisation' involvement of its suppliers in product development has resulted to the firm' competitive edge over its peers through enhanced operational performance. The study further established that involving suppliers in the process of

developing new products positively impacts the efficiency in operational performance, availing information of the organisation's operations to suppliers facilitates future product development processes and involving suppliers in product development enhance operational performance through establishing the organisation's learning routines and matching abilities. These results were similar to the findings by Handfield et al. (1999) who argued that involving suppliers positively influences the success of NPD processes.

In line with the findings by Burnet (2010), the results confirmed that effective management of supply chain positively impacts the operational performance of the organisation and that the organisation's operational performance is greatly influenced by the external business environment. The results were however not clear if the operational systems within the organisations were reliable towards ensuring organisational operational excellence is attained. It was also evident that the cane processing companies do not effectively interact with their environment so as to enhance its performance. In relation to the level of efficiency of operational performance within the sector, it was revealed that the organisations are highly efficient in producing quality products, planning maintenance services, maintaining the right inventory level and ensuring total efficiency of equipment. The firms were however mildly efficient in ensuring a good lead time and timely product development while low efficiency was depicted on flexibility and leanness in manufacturing practices, operational cost and risk analysis. Generally, a positive association was revealed to exist between the independent (trust-based relationships, information sharing and supplier collaboration in NPD) and dependent variables (operational performance) as it was also evidenced in the study by Kasisi et al. (2015).

### **5.3 Conclusion**

The study concluded that suppliers relationship management aspects such as trust-based relationships, information sharing and supplier collaboration in NPD positively impact operational efficiency in the sugar sector in Kenya. With most of the operations within the sugar firms being based on trust, this has seen the companies enhance cooperation and the length of relationship, encouraged information exchange between the firm and its suppliers and resulted to financial benefits through reduced operational costs. The study also concludes that frequent sharing of information with other supply chain partners, establishing an effective supplier-buyer information relationship structure, and ease and timely access to the required supplier information may influence operational performance.

The study further concluded that involving suppliers in developing new products and availing information of the organisation's operations to suppliers improve operational performance through establishing the organisation's learning routines and matching abilities. The research also concludes that the sector's operations are greatly influenced by the environment in which it operates therefore effective management of supply chain improves its operational performance. The study also concludes that the sector is not highly efficient in managing all its operational undertakings.

### **5.4 Recommendation of the Study**

The study recommends that the organisations should intentionally push, develop and seek to retain trust with its suppliers in order to continually reap the benefits of trust-based

relationships that include reduced operational costs through improved operational efficiency. The sugar firms should also ensure that an effective supplier-buyer information relationship structure; is established that eases access to the required supplier information as this also enhances the organisation' operational performance. The organisations should also ensure that information entailing promotion strategies and marketing plans are well shared with the suppliers.

The researcher also recommends that supplier involvement in product development should be encouraged so as to enhance efficiency in operational performance. The organisations should establish learning routines and matching abilities of its suppliers through availing operational information of the organisation to the suppliers. The study recommends that operational systems within the organisations should be made reliable for the firms to attain operational excellence. The companies should seek also to effectively interact with their environment so as to enhance their performance. Since the firms are mildly efficient in ensuring a good lead time and timely product development and lowly efficient in relation to flexibility and leanness in manufacturing practices, operational cost and risk analysis, the reseracher recommends that efficiency in managing these operational aspects sould be improved.

## **5.5 Implication of the Study on Policy, Theory and Practice**

With the global business environment continuously transforming, businesses find themselves dealing with the urgency of enhancing their operational efficiencies. The findings of the study therefore provides the management of the sugar firms with insight in

decision making on how well to establish their SRM strategies so as to improve the operation performance of their respective organisations.

The sugar industry in the country is such a significant sector with both economic and social advantages. The findings of this research enhance operational performance of the firms operating in the industry through facilitating the developing of progressive policies among the relevant bodies hence transformation the industry into being efficient and cost effective.

The study also provides a knowledge platform for future research on Supplier Relationship Management and operational performance. Theory wise, the study will enhance the understanding and applicability of the theories upon which it is anchored; the theory of constraints, social capital theory and the commitment trust theory.

## **5.6 Limitation of the Study**

Supplier relationship management is an issue that is of interest to a number of industries in the country. However, this research was limited to only sugar firms operating within the country. This was occasioned by a number of challenges that entail time and finances. Several SRM variables have been identified to influence operational performance within organisations. This research however restricted itself to only three variables; trust-based relationships, information sharing and supplier collaboration in NPD. A number of other limitations were encountered in the process of undertaking this study with the major one being having to push a number of respondents so as to provide the sought after data. The researcher accomplished this by scheduling one-on-one meetings and constant follow-up calls.

## **5.7 Suggestions for Further Studies**

This study explored the relationship between SRM and operational efficiency within sugar firms in Kenya. The researcher therefore opines that additional studies can be conducted on other sectors of the economy like the manufacturing sector, NSE listed companies, service industry or the government institutions. The effect of other SRM variables such as quality improvement and supplier lead time, among others, on operational efficiency of the sugar sector in Kenya can also be measured. This will further assist enhance the knowledge and understanding of SRM and operational efficiency.

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## APPENDICIES

### Appendix I: Questionnaire to Employees

Questionnaire Number: \_\_\_\_\_

Interview Date: \_\_\_\_\_

#### Instructions

- a) Please do not write your name on the questionnaire.
- b) The information you give will be treated with confidentiality
- c) Kindly provide answers to the questions as honestly and precisely as possible.
- d) Indicate your choice by a tick (√)

**Kindly answer the following;**

#### SECTION A: BACKGROUND INFORMATION

1. How many staff has the organization employed?  
 Below 50 [ ]    51 – 100 [ ]    101 – 250 [ ]    251 - 500 [ ]    Above 500 [ ]
2. How many employees are in the supply chain department?  
 Less than 5 [ ]    6 – 10 [ ]    11 – 15 [ ]    16 – 20 [ ]    Above 20 [ ]
3. What age is your organisation?  
 Less than 5 [ ]    5 – 10 [ ]    11 – 20 [ ]    21 – 30 [ ]    Above 30 [ ]

#### SECTION B: TRUST BASED RELATIONSHIPS

4. The statements below refer to trust based relationships, as an aspect supplier relationship management, and its association to operational performance. Please indicate your opinion on the following dimension [1=Strongly Agree, 2=Agree, 3=Not sure, 4=Disagree, 5=Strongly Disagree].

Statements	1	2	3	4	5
a) Most of the organisation’ operations are based on trust.					
b) The trust between the organisation and its suppliers has enhanced cooperation and the length of relationship.					
c) Trust based relationships in the organisation encourage information					

exchange between the firm and its suppliers.					
d) The firm' established trust with its suppliers has proved to be financially beneficial through reduced operational costs.					
e) The organisation intentionally pushes, develops and seeks to retain trust with its suppliers.					
f) The organisation views the building of trust with its suppliers as a costly and time-consuming process.					

### SECTION C: INFORMATION SHARING

5. The following aspects relate to information sharing and operational performance in organisations. Please indicate how likely each aspect impacts operational performance in your organisations using the following dimensions [1=Very Likely, 2=Likely, 3=Not sure, 4=Unlikely, 5=Very Unlikely].

Statements	1	2	3	4	5
a) Frequent sharing of information with other supply chain partners					
b) Establishing an effective supplier-buyer information relationship structure.					
c) Ease access to the required supplier information at the right time.					
d) Having the right information on suppliers and their performance.					
e) Supplier involvement in product development enhance operational performance through establishing the organisation' learning routines and matching abilities.					
f) Availing the organization' data to their supplier so as to enhance the operational connectivity of an activity.					

6. Below are some of the types of information shared between organisations and their suppliers. Kindly indicate which category your organisation avails to its suppliers.

#### Type of Information

- i) Inventory levels

Yes [ ] No [ ]

- ii) Sales and demand forecasts Yes [ ] No [ ]
- iii) Promotion strategies Yes [ ] No [ ]
- iv) Marketing plans Yes [ ] No [ ]
- v) General feedback to supplier from supplier evaluation Yes [ ] No [ ]

**SECTION D: SUPPLIER COLLABORATION IN NEW PRODUCT DEVELOPMENT**

7. Below statements relate to supplier collaboration in new product development as a supplier relation management tool in enhancing operational performance. Please indicate your opinion on the following dimension [1=Strongly Agree, 2=Agree, 3=Not sure, 4=Disagree, 5=Strongly Disagree].

Statements	1	2	3	4	5
a) The organisation treats knowledge on the varied competencies of its suppliers as key aspect in the process of new product development.					
b) Involving suppliers in the process of developing new products positively impacts the efficiency in operational performance					
c) Availing information of the organisation’ operations to suppliers enhances future product development processes.					
d) The organisation’ involvement of its suppliers in product development has resulted to the firm’ competitive edge over its peers through enhanced operational performance.					
e) Supplier involvement in product development enhance operational performance through establishing the organisation’ learning routines and matching abilities.					

**SECTION E: OPERATIONAL EFFICIENCY**

8. Below statements relate to operational performance. Please indicate your opinion on the following dimension [1=Strongly Agree, 2=Agree, 3=Not sure, 4=Disagree, 5=Strongly Disagree].

<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
g) Effective management of supply chain positively impacts the operational performance of the organisation.					
h) The organisation' operational performance is greatly influenced by the external business environment					
i) The organisation effectively interacts with its environment so as to enhance its performance.					
j) The operational systems within the organisation are reliable towards ensuring organisational operational excellency is attained.					

9. Below are some of the aspets used to measure operational performance in manufacturing companies. Please indicate using the scale provided, the level of efficiency of each of the variable in your organisation [H=High, M=Medium, L=Low].

<b>Operational performance Variable</b>	<b>Level of Efficiency</b>		
	<b>H</b>	<b>M</b>	<b>L</b>
1. Operational cost			
1. Quality of product			
2. Lead time			
3. Inventory level			
4. Planned maintenance			
5. Timely product development			
6. Lean manufacturing practices			
7. Flexible manufacturing practices			
8. Total equipment efficiency			



9. Ability of global production			
10. Risk analysis			

**THANK YOU**

## Appendix II: WorkPlan

Items of Work/Activities	Year 2017				
	July/August	August	September	September	November
Proposal writing and defense					
Preparation for and data collection					
Data analysis					
Thesis writing					
Submission of draft thesis for review					
Submission of final thesis					
Thesis defense					
Corrections and final submission					

### **Appendix III: List of Sugar Companies in Kenya**

1. Chemelil Sugar Factory
2. Kibos Sugar and Allied Factories
3. Muhoroni Sugar Factory
4. Mumias Sugar Factory
5. Nzoia Sugar Factory
6. Sony Sugar Factory
7. South Nyanza Sugar Factory
8. Sukari Industries Limited
9. Transmara Sugar Factory
10. West Kenya Sugar Factory
11. Butali Sugar Factory
12. KwaleInternational Sugar Company
13. Kisii sugar factory