EFFECTS OF SUPPLIER RELATIONSHIP MANAGEMENT ON SUSTAINABLE SUPPLY CHAIN MANAGEMENT PERFORMANCE OF LARGE ESSENTIAL GOODS MANUFACTURING FIRMS IN KENYA.

BY

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DECLARATION

I declare that this research paper is my original work and has not been published previously or submitted elsewhere for award of a degree. I also declare that this research proposal contains no material written or published by other researchers except where due reference is made and author duly acknowledged.

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ABSTRACT

The purpose of the study was to examine if the three constructs of Supplier Relationship Management (SRM) are adopted by large essential goods manufacturing firms in Kenya and how these constructs contributed to Sustainable Supply Chain Management Performance (SSCMP) of these firms. The study was necessitated by lack of adequate research on the effects of SRM on SSCMP of large essential goods manufacturing firms in Kenya and the insights from the study would be useful to policy makers, procurement leads and management of manufacturing firms. To achieve the study objectives, the researcher sought to determine the effect of Supplier Appraisal Criteria, Supplier Collaboration, and Supplier Development on Sustainable Supply Chain Management performance of large essential goods manufacturing firms in Kenya. This research project relied on three theories: stakeholder theory, resource dependency theory and institutional theory to explain the linkage between SRM and SSCMP. By first examining past research in the field of SRM constructs and SSCMP, the study addressed research gaps identified through literature review. The study adopted a descriptive research design and used a target population of 462 procurement officers of the selected manufacturing firms. A sample of 118 staff was identified through stratified random sampling and issued with structured questionnaires. The study used regression coefficients and equations to explain the relationship between supplier appraisal criteria, supplier collaboration, supplier development and sustainable supply chain management performance of large essential goods manufacturing firms in Kenya. Concerning the first research objective, the results established that, the extent of use of supplier appraisal criteria had increased SSCM performance in the targeted manufacturing firms in Kenya. In relation to the second objective, the results showed that the degree of implementation of supplier collaboration activities by manufacturing firms in Kenya had led to improved SSCM performance. For the third objective, the results showed that the level of supplier development initiatives in the manufacturing firms in Kenya had led to improved SSCM performance. The conclusive study results revealed a very strong positive relationship between Supplier Relationship Management elements of Supplier Appraisal Criteria, Supplier Collaboration, and Supplier Development and SSCM performance. The study finally recommended to policy makers and regulators to demand that management of manufacturing firms in Kenya incorporate sustainability issues in their supply chain management goals. By managing and seeking to improve environmental, social and economic performance throughout supply chains, manufacturing firms act in their own interests, the interests of their stakeholders and the interests of society.

Keywords: SRM, SCM, SSCM performance, supplier appraisal criteria, supplier collaboration and supplier development.

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DEDICATION

I dedicate this research project to my family and to God Almighty.

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LIST OF ABBREVIATIONS AND ACRONYMS

SSCM:	Sustainable Supply Chain Management
SRM:	Supplier Relationship Management
JIT:	Just In Time
VMI:	Vendor Managed Inventory
UN:	United Nations
ISO:	International Organizations for Standards
SSCPM:	Sustainable Supply Chain Management Performance
KPI:	Key Performance Indicators
GDP:	Gross Domestic Product
KAM:	Kenya Association of Manufacturers
RDT:	Resource Dependency Theory
SD:	Supplier Development
SSD:	Sustainable Supply Development
SS:	Supplier Selection
SC:	Supplier Collaboration
CSR:	Corporate Social Responsibility

DEFINITION OF KEY TERMS

Decision Synchronization: Refers to the process by which supply chain partners orchestrate decisions in supply chain planning and operations that optimize the supply chain benefits (Simatupang, T.M., & Sridharan, R., 2005).

Goal Congruence: The extent to which supply chain partners perceive their own objectives are satisfied by accomplishing the supply chain objectives (Angeles, R., and Nath, 2001).

Information Sharing: The extent to which a firm shares a variety of relevant and, accurate, complete and confidential information in a timely manner with its supply chain partners (Angeles, R., & Nath, 2001).

Supplier Appraisal: Assessment of a potential supplier capability of controlling quality, delivery, quantity, price and all other factors to be embedded in a contract (Compton, H.K., Jessop, D.A., 2001).

Supplier Collaboration: Refers to the relationship between supply chain partners that is built over a long transactional period with an objective to lower costs, reduce supply chain risks, and improve product quality and market value (Gunasekaran et al., 2015).

Supplier Development: Refers to any activity undertaken by a buying firm or organization to improve either supplier performance, supplier capabilities or both to meet the buying firms short-and/ or long-term supply needs (Busse et al., 2010).

Supplier Relationship Management: A practice that involves the activities of planning, implementing, developing and monitoring relationships between companies with their existing and potential supply partners (Akamp & Muller, 2013).

Sustainable Supply Chain Management: A holistic viewing of procurement and supply chain management processes that focuses on and incorporates environmental, social and economic consequences as a result of supply chain management activities (Asefeso, 2015).

CHAPTER ONE:
INTRODUCTION

1.1 Background of the study

Hitherto, the industrial processing sectors worldwide remains a core pillar to several economies that has led to improvement of living standards. Human beings throughout the 21st century have continued to realize and appreciate the impact and benefits of manufacturing in other facets of their economies. However, there is equal concerns worldwide on the impact of manufacturing on environment and society with the rising discussions and global headlines around climate change and global warming, carbon emissions, water pollution and deforestation. Consequently, there is a growing pressure on companies driven by both customers and governments to adopt sustainable manufacturing practices to limit the overarching effects to the society and environment (Bi, 2011).

Sustainable manufacturing is one of the environmental initiatives that have been explored by literature overtime in a bid to safeguard the societies and environments worldwide. The concept of sustainable manufacturing has been tested and proven in developed economies with larger companies increasingly considering sustainable manufacturing as a source of competitive advantage. On the other hand, sustainable manufacturing is still in its early stages of development in less developed economies. Sustainable manufacturing can be achieved through adopting sustainable technologies in addition to sustainable supply chain practices (Abdul-Rashid et al., 2017).

Manufacturing is one of the sectors under the economic pillars of Kenya's vision 2030 development blueprint which covers the period between the year 2008 and the year 2030. The sector is currently behind the leading sectors of agriculture and service with solid infrastructural plans by the government to boost the sector over the next decade. According to Diageo (2011), local manufacturing companies in Kenya needs to build sustainable supply chains to effectively contribute towards sustainable economic development as enshrined in Kenya's vision 2030.

Sustainable Supply Chain Management (SSCM) has attracted interest from most researchers with a number of studies focused on how sustainable supply chain management practices are being embraced. Industries such food manufacturing have drawn genuine concerns from the final consumers

with the rise in environmental pollution as a result of mass food production. Other studies have examined the factors affecting adoption of sustainable supply chain management practices by oil and gas producing companies and found a strong relationship on the effect of economic stability, competition and political stability (Wan Ahmad, Rezaei, Sadaghiani & Tavasszy, 2017). Previous studies by Andalib, A. and Soltanmohammadi (2018) also found green product development as a key activity towards realizing supply chain sustainability. However, limited studies exist on the correlation between SRM and SSCMP of manufacturing firms.

1.1.1. Supplier Relationship Management (SRM)

SRM attracted attention of many scholars in 1983 when Peter Kraljic appealed to organization purchasers to be more proactive in supply chain management. He asserted that organizational buyers should devise supplier management strategies in consideration to their understanding of categories 'risk and overarching value to the organization. SRM is defined as "the discipline of tactical scheduling for and running all exchanges with third party organizations that deliver merchandise and/or services to an institution in a manner that delivers value to a company and its stakeholders" (Hughes & Jonathan, 2010). It involves creating mutual agreements with strategic supply partners to revitalize and realize the resultant benefits in delivery of quality goods and services.

Cavinato (2012) defines SRM as the practice and procedure for supplier interaction. Supply Chain practitioners view Supplier Relationship Management as a predefined procedure of defining their requirements and expectations from a supplier, and creating and running the entity-to-entity relationship to get hold of these needs. Research from consulting and academic firms shows that planned approaches to suppliers generate optimistic sourcing outcomes. Akamp & Muller (2013), defines SRM as a practice that involves the activities of planning, implementing, developing and monitoring relationships between companies with their existing and potential supply partners. The output of these acts is the understanding of the levels of relationships maintained by the manufacturing firms to their suppliers.

According to Singh, et al,. (2017), the main management activities of SRM are supplier selection,

supplier evaluation, supplier development, supplier monitoring, and supplier collaboration and supplier integration. Previous researchers have explored SRM systems and practices that includes and is not limited to; purchasing tactic, supplier appraisal, supplier collaboration and supplier development (Park, 2010). Abdollahi, et al. (2015), posits that supplier appraisal is an important facet of supply chain management that enhances and maintains the firm's competitive edge.

Moreover, research on supplier appraisal has outlined three constructs of supplier appraisal practices, supplier appraisal models and supplier appraisal criteria. The key evaluation factors in supplier appraisal criteria are technical and financial capabilities and the supplier appraisal practices includes; desk research, field research and on-site visits. On the other hand, supplier appraisal models include; categorical methods, weighted point method and cost rate method. (Murigi, P.M., 2014)

Forker and Stannack (2000), explored the competitive and cooperative purchasing strategies and proposed a fit for purpose approach that requires corporate buyers to assess the portfolio of their categories and determine appropriate strategy. Park (2010), argues that a new purchasing strategy should be developed with an overarching objective of optimizing the holistic supply chain organization and a shift from the current strategies that focuses mainly on cost reduction.

According to Hoyt & Huq (2000), the need to have more up-close relationship with suppliers has increased in importance for buying organizations. Buying organizations worldwide are adopting a new paradigm of collaborative, cooperative and honest relationship with suppliers as opposed to the traditional arm's length transactional relationship with the resulting impact of enabling organizations to respond to the unpredictable supply chain environment.

Park (2010), posits that supplier collaboration generally focuses on production and new product development phases with specific focus to reduce the cycle time for product development, improve product quality, cut production cost, and release new products seamlessly. He further recommended the use of collaborative techniques such JIT that ensures that requirements are available just in time for customers, VMI where suppliers contractually agree to manage inventory on behalf of the buying organization and collaborative planning, forecasting and replenishments that integrates supply chain operations between supplier and buyer. Gunasekaran et al. (2015), defines supplier collaboration as the

relationship between supply chain partners that is built over a long transactional period with an objective to lower costs, reduce supply chain risks as well as to improving product quality and market value.

Supplier development in the context of sustainability entails economic goals, environmental goals and socio-ethical goals. Buyers in developed economies are increasingly having supply markets in less developed economies where sustainability practices are yet to be fully embraced. As a result of immense pressure by customers and stakeholders in developed economies, overseas buyers are forced to focus on developing suppliers in less developed economies to cushion themselves against sustainability risks (Busse, 2016).

According to Hofmann, et al. (2014), buyers face a huge risks and severe punishment by purchasing requirements from suppliers with unacceptable sustainability operations, they could however prevent such occurrences through supplier selection and supplier development for sustainability. Supplier development practices are divided into two broad categories; 1) direct practices which includes onsite consultation, training programs, temporary personnel transfers and supplier development consortiums while 2) indirect practices includes supplier evaluation, supplier auditing, communication of feedback, supplier recognition and reward and supplier performance management (Wagner, 2011).

Among these SRM practices, this study will focus specifically on effects of supplier development, supplier collaboration and supplier selection on supply chain sustainability of manufacturing firms in Kenya.

1.1.2. Sustainable Supply Chain Management (SSCM)

The issue of sustainability has become an area of opportunity for both businesses and academicians. Asefeso (2015), defines sustainable supply chain management as a holistic viewing of the processes of supply chain and technologies which focus more not just on inventory, delivery and traditional views of cost. It is founded on the premise that the practices and products of manufacturing companies which are socially responsible are good for the environment and ensure long term profitability. Seuring & Muller (2008) opine that SSCM is a coordinated and integrated movement of

materials, information and resources from the raw materials origin to the final consumers in a manner that adds value to key stakeholders and incorporates three dimensions of sustainable development goals i.e., environmental, social and economic dimensions.

Moreover, Supply chain sustainability refers to the management by firms of environmental, economic and social impacts and enhancement of better governing practices throughout the movement process of goods and services from supplier to ultimate consumer. It requires manufacturing firms to protect their long-term viability and also acquire a social operating license (UN global impact, 2010). Businesses nowadays know that it is mandatory to measure, monitor and manage performance of suppliers in order to compete favorably in the complex and continuously changing environments. In the recent past, researchers have proposed different methods of measuring SSCM performance. These includes and is not limited to sustainable supply chain management balanced scored, product life cycle evaluation and product carbon footprint (Beske-Jansen, et al., 2015).

Hassinni et al. (2012), argues that measuring supply chain sustainability can be a difficult puzzle with conflicting goals across the three dimensions of sustainability. Purchasing environmentally friendly materials inputs can in turn lead to increased procurement costs thus adversely affecting the economic dimension of supply chain sustainability. According to Beske-Janssen, et al. (2015), there are a variety sustainability management tools applicable to performance measurement that can be broadly divided into three groups as; group 1 consisting of instrument, concept and system; group 2 consisting of economic, social, ecological and integrative sustainability aspects; group 3 consisting of International standards such ISO standards for environment, quality and health as well as the International global reporting initiative.

According to Baic et al. (2012), the crucial element of SSCPM (sustainable supply chain performance measurement) is identifying key performance indicators (KPIs). KPIs are the supply chain factors which can be measured to evaluate the performance of an organization. It includes and entails economic factors such as quality, speed, dependability, flexibility, cost, operating cost, total sales, economic value retained; social factors such as human rights screening, collective bargaining, freedom of association, child labor, compulsory labor, employee wages and benefits, employee well-

being training and education, and living standards (Rajak & Vinodh, 2015); ecological factors such as energy saved as a result of improvements in conservation and efficiency, recycled input materials, water recycled, ISO certifications and reused, and direct and indirect greenhouse gas emissions by weight (Rostamzadeh, et al., 2015).

Furthermore, supply chain sustainability measurement traces back to John Elkington theory on triple bottom line that proposes an all-inclusive approach to measuring success and impact of organizations rather than the basic bottom line. The triple bottom line broadens business success metrics into overarching groups of people, planet and profit that relates to social, environmental and economic performance: (People, Planet, Profit= Sustainability). This research paper aims at measuring sustainable supply chain management performance using the triple bottom line approach of people, planet and profit of Kenyan manufacturing firms.

1.1.3. Overview of manufacturing firms in Kenya

The manufacturing domain plays a crucial role in enhancing economic development worldwide. It does this by creating a country's competitiveness via exports, stimulating and sustaining higher productive growth and creating employment opportunities. Very few countries across the world have industrialized without input from the manufacturing domain (World Bank, 2018). Manufacturing is one of the leading sectors that contributes to Kenya's GDP even though it continues to experience slower growth rate. According to Kenya Economic Report (2020), the manufacturing sector experienced a slow growth rate of 3.2% compared to other sectors such as accommodation and food service that is leading at 10.3%.

Kenya, a developing country, has not been able to set up a vigorous manufacturing sector. The country's growth has been driven mainly by the agricultural and services sector and thus it has undergone a premature deindustrialization which has seen the reduction in GDP contribution of the manufacturing industry from 9.2% to 8.4% from the year 2016 to the year 2017 respectively (KNBS, 2016). Furthermore, the manufacturing sector has been affected by the impact of Covid 19 pandemic. A number of manufacturing firms in Kenya experienced declining sales and production below capacity compelling the firms to hastily adopt strategies such as downsizing, increased online capabilities, shut

down, decreased SKUs and new product development (KPMG, 2020)

The manufacturing companies in Kenya are categorized into 14 sectors out of which 10 sectors are considered to provide essential goods. The essential goods sectors include; Motor Vehicle Assemblers & Accessories, Chemical & Allied, Paper and Paperboard, Energy, Electrical & Electronic, Leather and Footwear, Metal and Allied, Pharmaceuticals & Medical Equipment, Textiles & Apparel, Food and Beverages and Plastic & Rubber (KPMG, 2020)

According to KAM (2014), manufacturing sector in Kenya comprises of both small and large firms. Small manufacturing firms own assets under KES 40 million whereas large manufacturing firms are those that record a turnover revenue of KES 100 million, or over 500 employees. Large manufacturing firms were 499 in number by the year 2014. The percentage composition of the various sectors is; Building 4%, Chemical and Allied 13%, Energy, Electrical & Electronics 6%, Food and Beverages 14%, Metal and Allied 13%, Motor Vehicle Assemblers and Accessories 6%, Leather & Footwear 2%, Paper and Paperboard 12%, Pharmaceuticals and Medical Equipment 4%, Plastics & Rubber 13% and Textiles and Apparels 7%.

1.2. Statement of the problem

A number of studies and reports have been done on sustainability and its increasing importance as a supply chain performance dimension. The interest in the topic has been triggered by the increasing concern on global warming and societal health with the growth in industrial activities. According to Emissions Gap Report (2020), "global greenhouse gas emissions continued to grow for the third consecutive year in 2019, reaching a record high of 52.4 giga tonnes of carbon dioxide equivalent without land use change emissions and 59.1 giga tonnes of carbon dioxide equivalent with land use change. The leading greenhouse gas emitters being the world leading manufacturing economies of China, USA, EU27+UK and India".

Many manufacturing firms are not operating optimal and sustainable supply chains owing to several factors, one of which is supplier relationship management. Other factors affecting firm's capability to realize full supply chain sustainability potential includes; lack of serious sustainability mandate from both government and industry (Gopala, K., 2012), high cost of implementation of

sustainable practices (Gopal & Thakhar, 2016), lack of internal management support (Wu, et al., 2018, Agyemang, et al., 2018, Epoh & Mafini, 2018) and inadequate information management (Wamalwa, 2014).

Previous studies have explored the effects of supplier relationship management on sustainable supply chain management performance of firms. (Adesanya, et al., 2020, Tidy, et al., 2016, Lintukangas, et al., 2015, and Tangus, et al., 2015). These studies have revealed organizational challenges in implementing sustainable supplier relationship management namely; supplier sustainability evaluation and performance metrics are limited by the view of sustainability as a regulatory requirement rather than a performance dimension of supply chain management, small firms lacked the capacity to implement green purchasing activities compared to larger firms, and the information sharing system between the firms and their stakeholders are not adequate to enhance sustainable supplier relationship management practices.

Furthermore, most of these studies were case studies done in developed countries with limited studies on developing countries. Consequently, the contribution of specific SRM practices which includes, supplier appraisal criteria, supplier collaboration and supplier development and how they affect sustainable supply chain management performance of large manufacturing firms in Kenya has received relatively little direct attention in research.

1.3. Objectives of the study

1.3.1. General objective of the study

The overall object of the study was to determine the influence of SRM on SSCMP of large essential goods and manufacturing firms in Kenya.

1.3.2. Specific objectives of the study

1. To find out the effect of supplier appraisal criteria on sustainable supply chain management performance of large essential goods and manufacturing firms in Kenya.
2. To investigate the effect of supplier collaboration on sustainable supply chain management performance of large essential goods and manufacturing firms in Kenya.
3. To examine the effect of supplier development on sustainable supply chain management performance of large essential goods and manufacturing firms in Kenya.

1.4. Research Questions

This research was guided by these questions;

1. Does supplier appraisal criteria affect sustainable supply chain management performance of large essential goods and manufacturing firms in Kenya?
2. What is the effect of supplier collaboration on sustainable supply chain management performance of large essential goods and manufacturing firms in Kenya?
3. What is the effect of supplier development on sustainable supply chain management performance of large essential goods and manufacturing firms in Kenya?

1.5. Significance of the study

The findings of this study would be useful to several interest groups as outlined below.

1.5.1. Firm management

The study findings would help the management, especially the supply chain managers and procurement managers of manufacturing firms in Kenya. Furthermore, the study findings would reveal the effectiveness of other strategies and approaches to SRM that would be useful in improving the sustainability performance of manufacturing firms.

1.5.2. Policy makers

The study findings would reveal the effectiveness of policies and regulations such as environmental and social policies and the extent of adoption of these policies by firms. Policy makers would use the findings to determine the policies that are due for review and to adopt other policies applied in other countries to boost sustainability performance of manufacturing firms in Kenya.

1.5.3. Researchers and scholars

Researchers and scholars would borrow from the findings of this study to further contribute to the body of knowledge by addressing any other arising gap. The findings of the study would add into the limited research on SRM and Sustainable Supply Chain Management Performance in developing countries.

1.6. Scope of the study

This research was conducted in the field of business administration. It entailed study within the area of supplier relationship management in SSCM. Its primary goal was to elucidate how sustainable supply chain management performance is affected by supplier relationship management. The study focused on large essential goods manufacturing firms in Kenya. According to KPMG (2020), 10 manufacturing sectors out of the 14 manufacturing sectors are considered as essential goods manufacturers. The study involved data collection through the use of questionnaires that were administered to procurement leads of the sampled manufacturing firms.

1.7. Limitations of the study

The study was limited as a result of fear by employees to disclose useful information for the success of

the study which could affect the accuracy of results. The limitation to this extent was addressed through the use of signed cover letter from the institution that was meant to restore confidence and affirm that the data collected would be strictly for academic purposes. Furthermore, the Covid 19 measures implemented by the respective companies slowed the speed of data collection. Measures such as working from home hindered physical presence of key staff at the premises of the respective firms to complete questionnaires.

CHAPTER TWO:
LITERATURE REVIEW

2.1.Introduction

Chapter 2 introduces and explains the various theories that supported the foundation of the study. The chapter also provides an empirical review of previous studies by other researchers.

2.2.Theoretical review

2.2.1. The Resource Dependency Theory (RDT)

Pfeffer and Salancik developed RDT in 1978 after a series of steps that sparked interest and research by other authors until the 1980s when the theory stagnated. The themes from the theories that intrigued researchers were; power balance between organizational units and external partners during external resource acquisition and resources transfer within a network of different companies among others. Mutual dependency is developed over time in market transactions where parties to the exchange have a high uncertainty of resources and resource concentration (Pfeffer & Salancik, 2003).

RDT assumes that organizations and companies are created as complete entities with internal structures systems and procedures, however for their survival and effective operations in the market, they depend on exchange partners such as interest groups, regulatory bodies, vendors, and customers (Biermann & Harsch, 2016). RDT is pertinent to the understanding of how supplier development affects sustainable supply chain management performance. Supplier development comprises of practices such as technical and financial support, trainings and supplier deliberations that if well implemented helps a buying firm to increase its bargaining power with suppliers over time. Furthermore, management practitioners and researchers have generally accepted the proposition and assumption of RDT and adopted it in various studies. Davis and Adam, C., (2010), posits that an organization that is overly reliant on a raw materials supplier as the only source will often find itself having less power over the supplier. This dependency can be altered if an organization employs appropriate tactics to invoke interest from the supplier and reduce the power gap. One of the tactics available to organizations is supplier development.

Flynn, et al. (2008) explored five forms of power while looking into the power relationship between a customer and its supplier. They focused on legitimate power depicted by the acceptance by the

supplier to be influenced by customer based on the underlying power between them, expert power shown by the gap in knowledge, skills, and expertise between the supplier and customer, referent power realized when a supplier enjoys a cordial working relationship with the customer giving the customer the ease to deliver acceptance to the supplier, coercive power created as a result of suppliers fear that they might face punishment by the customer and reward power which exists when a customer creates incentives that are attractive to the supplier such as increased volumes of transactions.

Transactions between relationship partners create different levels of interdependence with varying degrees of interaction, problem-solving, and communication during the execution of activities. These types of interdependence can be grouped into pooled, sequential, and reciprocal. Pooled interdependence involves an interaction in which each section offers a separate and unique contribution to the whole and consequently receiving the necessary support from the whole.

2.2.2. Institutional Theory

The institutional theory is one of the most researched and interpreted theories in the business world. The theory does not have a specific author. However, according to Raynard, et al. (2016), the starting point of institutional theory research can be traced back to Meyer and Rowan's book – *Institutionalized Organizations: Formal structure as myth and ceremony* – that was published in 1977. In the publication, Meyer and Rowen (1977) made two arguments. First, they argue that firms face pressures that emanate from sources other than the task environment. To be specific, organizations tend to conform to strategies, practices, and structures that are socially imposed on them during the whole process of management, and that the use of these socially-expected practices and strategies elicits social approval (Raynard et al., 2016).

The institutional theory is pertinent to the understanding of how supplier appraisal criteria affect sustainable supply chain management performance. Supplier appraisal criteria are set by the buying organization as prerequisite for supplier engagement and includes aspects such as technical capability and financial capability. Suppliers are compelled to adhere to these criteria in order to be considered

eligible for any transactions with the buyer.

Meyer and Rowan (1977), therefore, note that these social expectation pressures essentially arise from what they term as the "institutional environment." Second, Meyer and Rowan (1977) argue that there is a possibility of contradiction between organizational efficiency and institutionalized expectations which ultimately drives the organizations to decouple formal structures from actual work practices. Simply put, organizations use practices and structures that conform to institutional prescriptions but which are deliberately distanced from the actual performance of work (Raynard et al., 2016).

The institutional theory has since been interpreted by several other authors, most notably Zucker (1987). The simple premise of institutional theory is that organizations are influenced by normative pressures. Some of these pressures arise from external influence for instance from the state and others from within the organizations. Through years of development, the institutional theory has been developed as a behavioral theory by that particular school of thought and has been used to explain organizational changes by authors such as Jennings (1994).

Despite its uptake by various schools of thought and years of development, the theory suffers from some weaknesses that justify its criticisms. The first criticism is that the institutional theory pays little attention to the role that the human agency plays towards institutional changes (Cai & Mehari, 2015). While the theory focuses on external and internal factors, these factors are mainly structural and/or political. However, the role those external stakeholders and internal personnel such as employees play are quite overlooked. Second, the theory has been criticized for paying little attention to the resource/technical environment as well (Cai & Mehari, 2015). While external and internal forces influence the management of organizations, resources and the technical environment does so as well.

Nonetheless, the institutional theory seeks to paint a picture of the policies and societal pressures as influencing organizations without necessarily including the technical environment as one of the critical factors that play that role (Cai & Mehari, 2015). Other critics also argue that the institutional theory focuses on one organizational field only – management – when organizations are embedded in several organizational fields as dictated by all morphism (Cai & Mehari, 2015). Finally, the role of geographical distance is not properly considered as a factor that influences organizational changes and

management (Cai & Mehari, 2015).

With regards to this study, this theory's premise underpins the importance of both external and internal pressures when it comes to organizations' pursuit for green or sustainable practices. Pressure from authorities, consumers, partners, shareholders, and even employees for firms to undertake sustainable practices is common in today's world. As such seeking sustainable supply chain processes may be a result of the organizations' conformity to these pressures.

2.2.3. Stakeholder Theory

The stakeholder theory's concept was originally laid out in the 1983 book "Stakeholders of the Organizational Mind" authored by Ian Mitroff. However, the theory was brought to life by R. Edward Freeman in his seminal book "Strategic Management: A Stakeholder Approach" (Co & Barro, 2009). The theory looks at the interconnected relationship that exists between the organization and its clients, employees, customers, investors, and all other parties with a stake in the organization. Concisely, the theory posits that a business has a responsibility of serving the needs of the stakeholders in as much as it also needs to serve the shareholders (Co & Barro, 2009). Maximizing value for all the stakeholders of the business is the underlying point of theory and the basis for discussions thereafter by various authors.

Stakeholder theory is of great importance in understanding the effect of supplier collaboration on sustainable supply chain management performance. Stakeholder theory proposes the adoption of long-term strategies to aid in sustained value for all stakeholders. Supplier collaboration is built on the premise of long-term engagement, information sharing, resource sharing, and goal congruence and decision synchronization.

Given that simply maximizing profits for the stockholders is not a long-term sustainable business practice in today's world, the stakeholder theory has rightly gained traction and has been researched by many scholars since its inception. Parmar, et al. (2010), for instance, contend that stakeholder theory or the overall stakeholder line of thinking emerged as a new narrative in an attempt to help in understanding and remedying three interconnected issues within the organizations. These issues are

"the problem of understanding how value is created and traded, the problem of connecting ethics and capitalism, and the problem of helping managers think about management such that the first two problems are addressed". Hence, the stakeholder theory suggests that adopting an analysis of the understanding of the relationships between a business and those it affects or is affected by it is key to solving these three problems (Parmar, et al., 2010).

From a supplier collaboration viewpoint, Co and Barro (2009) reveal that organizations that adopt collaborative strategies usually prefer changing the organization's behaviours of that of its stakeholders instead of forcing its demands on stakeholders. In their study, Co and Barro (2009) reveal that interdependence is a strong determinant of collaboration between organizations and their stakeholders. Interdependence exists where not a single party can control the conditions need for the achievement of the desired outcome (Co & Barro, 2009). A cooperative strategy pursued by organizations is, thus, derived from interdependence, the urgency to collaborate by all trading partners, and awareness that collaboration is beneficial for all (Co & Barro, 2009). On the other hand, organizations pursue aggressive strategies where the level of trust among stakeholders is low (Co & Barro, 2009).

Like the institutional theory, the stakeholder theory suffers from several weaknesses as criticized by some scholars. The first is that the stakeholder theory is simply a leeway for managerial opportunism. In this criticism, the argument is that "by providing more groups whose management can argue their actions benefit, stakeholder theory makes it far easier to engage in self-dealing and defend it than if shareholder theory were the sole purpose" (Parmar, et al., 2010). Subsequently, the proponents of this criticism, affirm that if managers only have a duty to the firm's shareholders, they will be in a better place to assess their performance and understand if it was poor or excellent.

The second criticism is that all stakeholders must be equally treated and that may not be the case. This criticism bases its premise on the language of balance in treating stakeholders and argues that each firm handles its stakeholders differently which, in essence, means that some may be more important than others. However, Parmar et al. (2010) note that this criticism makes a mistake of perceiving stakeholder theory to be about the distribution of financial resources. Some critics also argue that following the arguments made by the stakeholder theory, the law may need to be changed to

accommodate concerns “doing anything other than shareholder management is illegal” or efforts to make it feasible to put the stakeholder theory in practice (Parmar, et al., 2010).

Critics also make an argument that stakeholder theory is linked to the field of socialism and focuses on the economy in totality given its adoption in coming up with the stakeholder economy by certain leaders in Europe such as Tony Blair. However, this criticism holds no water and simply affirms the vast breadth of the stakeholder theory’s application to other disciplines such as the political economy.

Understanding the role of the stakeholders in sustainable supply chain management is critical. Given the significant input of suppliers into the operations of any firm, they must be considered as a critical part of any organization that seeks to be sustainable especially on the supply chain front. The stakeholder theory affirms that indeed all stakeholders, including suppliers, in this case, are important to the running of the organization and, as such, must be taken seriously. This theory, therefore, simply rubber stamps the idea that supplier development, selection, and collaboration are important areas to explore when seeking to adopt a sustainable supply chain process.

2.3.Empirical Review

This section presents a review of literature according to studies done by other researchers on supplier appraisal and selection, supplier collaboration and supplier development.

2.3.1. Supplier Appraisal Criteria (SAC) and Sustainable Supply Chain Management Performance (SSCMP)

In sustainable supply chain management, supplier appraisal plays a significant role in ensuring that a firm as a whole undertakes sustainability practices as demanded by today’s business world. There is substantial evidence that firms can make losses if they do not undertake sustainable practices; hence, the reason why supply chain sustainability out starts with having suppliers who adhere to sustainable practice requirements (Salam & Ali, 2020). Supplier appraisal consists of three main constructs that includes; Supplier Appraisal Criteria (SAC), Supplier Appraisal Practices and Supplier Appraisal Models (Murigi, P.M, 2014).

According to Chauhan, et al., (2020), there is a paradigm shift from the traditional supplier appraisal

criteria that were focused on short term customer centric deliverables to advanced supplier appraisal that incorporates supply chain sustainability. Previously, traditional criteria such as cost, quality and service were considered more with gradual changes geared towards inclusion of environment, social and economic appraisal criteria aspects.

Kavinya, L.P. (2018), conducted a study on supplier appraisal criteria on oil marketing companies in Kenya and found a positive relationship between suppliers' financial status and quality of goods on procurement performance. The study considered supplier appraisal criteria constructs of supplier financial capability, supplier capacity, supplier technical capabilities and supplier's quality of services and goods. Muma, et al. (2014), examined green supply chain management practices such as sustainable supplier appraisal and their resultant effect on ecological performance of select firms in Kenya. The study found a positive correlation between green supply chain management and ecological performance of the select firms under consideration. Whereas the study focused on multiple elements of green supply chain management, there was limited scope as far as sustainable supply chain management performance is concerned. The ecological performance under examination did not provide a clear indication on the overall supply chain management sustainability performs of the firms. Furthermore, the study focused on select firms in a single industry with less regards to firms in other industries.

Luthra, et al. (2017), conducted a study on sustainable supplier appraisal on an automobile company in India and found five major supplier appraisal criteria to be critical for supply chain sustainability. According to the findings of the study "organizational health and safety system, ecological competency, ecological costs, product cost and product quality" were critical appraisal criteria for sustainable supply chain management performance. Furthermore, the study revealed more focused attention on ecological factors during sustainable supplier appraisal.

Naibor, G. S., & Moronge, M. (2018), conducted a study on supplier selection and its influence of performance of manufacturing firms in Kenya. The study revealed a positive correlation between all the supplier selection variables under consideration and performance of manufacturing firms. Economic selection criteria factors were predominantly considered during the study with minimal

inclusion of social selection criteria factors and environmental selection criteria factors. Similarly, the study focused on economic performance of manufacturing firms with little regards to end-to-end sustainable supply chain management performance. The study adopted a descriptive survey design and used quantitative data for analysis.

Kamenya, R. B. (2014), performed a descriptive study on supplier appraisal criteria and performance of large food and beverage manufacturing firms in Kenya. The study adopted multiple supplier appraisal criteria elements namely; "environmental friendliness of the supplier, supplier employee capabilities, pricing, financial stability, quality, organizational culture, production capacity and preference and reservations." The results of the study revealed a positive relationship between supplier appraisal criteria used and firm performance with more significant being on environmental friendliness, pricing and employee capabilities.

Kimani, M.N., & Mwangangi, P. (2018), conducted a study on supplier appraisal criteria and its effect on performance of metals and allied firms in Kenya. The study found a positive relationship between the supplier appraisal criteria used and firm's performance. The constructs of supplier appraisal applied by the study were; financial capability, technical capability, regulatory compliance, and employee competency.

Cole, R., & Aitken, J. (2019), conducted a study on supplier appraisal for socially sustainable supply chain management amongst five firms and found an increasing emphasis on performance of supplier development activities before organizations can transact with supply partners. The shift from a traditional approach of performing supplier development after supplier appraisal was driven by the need to align with suppliers early enough for increasing benefits to the firms. The study focused on firms that were at the forefront in building sustainable supply chain.

This study will incorporate the advanced supplier appraisal criteria that encompasses both the aspects of traditional supplier appraisal criteria and sustainable supplier appraisal criteria within social, economic and environmental dimensions.

2.3.2. Supplier Collaboration (SC) and Sustainable Supply Chain Management Performance (SSCMP)

Feng, Jiang, and Xu (2020), note that as far as sustainable supply chain management is concerned, an outward collaboration that seeks out external resources is what counts and not the inward-looking thinking associated with conventional/traditional supply chain management. Green supplier collaboration, also known as sustainable supplier collaboration, involves cooperation between the supplier and buying firm in an attempt to undertake sustainable practices together (Feng, et al., 2020).

Kopfer, et al. (2005), conducted a study on performance effects of key supplier collaboration in Switzerland and found a positive impact in terms of financial results and innovation capabilities of the buying firms. The study focused on supplier collaboration elements of dependence and trust. The study was done in a developed country with minimal insights from a developing country perspective. Performance according to the study was measured in terms of financial and innovation capabilities with zero regard to sustainable supply chain management performance of the buying firm.

Field, J.M., & Meile, L.C. (2008), performed a study on supply collaboration and supply chain performance in USA. The study broadly explored operational and partnering relationship components with control variables such as information technology. The results of the study revealed a positive relationship between partnering components that is cooperation and long-term commitments on supply chain performance. Consequently, the study did not find any relationship between the operational components of high degree of coordination and information sharing on supply chain performance. The study was focused on financial services sector in developed with no perspectives from developing countries. Furthermore, the study was limited to financial services sector leaving out other sectors such as manufacturing. Also, the study did not incorporate sustainability in supply chain performance measurement.

Cao, M., & Zhang, Q. (2011), conducted a study on supplier collaboration and firm performance with the mediating factor of collaborating advantage of USA manufacturing firms. The results of the study revealed a positive relationship between supplier collaboration and bottom-line effect on performance of manufacturing firms. The study was done in a developed country without insights on developing countries perspectives. The study focused on economic performance of firms leaving out the

environmental and social aspects. All the three aspects of economic, social and environmental performance are critical for supply chain sustainability performance. The study incorporated supplier collaboration constructs of information sharing, goal congruence, decision synchronization, and resource sharing and incentive alignment.

Botes, et al. (2017), conducted a case study on buyer- supplier collaboration and supply chain resilience in petrochemical industry in South Africa. The findings of the study revealed that buyer-supplier collaboration enables the prerequisites for achieving supply chain resilience. The study adopted supplier collaboration constructs of information sharing, decision synchronization and incentive alignment. The study focused on a single industry in South Africa leaving a gap for further research in other industries. Furthermore, the study did not examine the fundamental role of supplier collaboration in sustainable supply chain management performance.

Ideet, I.L., & Wanyoike, D. (2014), conducted a study on supplier collaboration and supply chain performance in the energy sector in Kenya. The study findings revealed positive role of supplier collaboration antecedents of partnership initiatives, information sharing and trust on supply chain performance. The study was done in the energy sector leaving a gap and opportunities for further research in other sectors such as manufacturing. The supply chain performance measurements were purely based on the traditional consideration of delivery and cost performance with no consideration on sustainable supply chain management performance.

Gichuru, et al. (2015), conducted a case study on collaborative supply chain practices and performance of beverage companies. The study results revealed a positive effect of resource sharing and information sharing on performance of the firms. The study was done in a single company thereby creating a gap for further research in generalization of the findings to firms in other sectors. Furthermore, the performance of the company was purely assessed from an economic standpoint with less regard to social and environmental aspects.

Obiso, E. I. (2011), conducted a study on green supply chain management practices among firms in Kenya and revealed the benefits of close long-term working relationship between important stakeholders such as suppliers and the buying organizations in the realization of environmental

performance. Furthermore, the study emphasized on the importance of internal policies and procedures on environmental management coupled with strong management support in the realization of environmental performance. The population of the study was limited to select firms and stand-alone aspects of sustainable supply chain management performance. This particular study set out to examine the effect of supplier collaboration on sustainable supply chain management performance incorporating supplier collaboration components of information sharing, goal congruence and decision synchronization.

2.3.3. Supplier Development (SD) and Sustainable Supply Chain Management Performance (SSCMP)

According to Busse, et al. (2016), supplier development is "any activity undertaken by a buying firm to improve either supplier performance, supplier capabilities, or both, and to meet the buying firm's short-and/or long-term supply needs". Halili and Fernando (2019) further add that suppliers develop targets producing new capabilities, capacities, and competencies of diverse suppliers. Moreover, supply development aims to improve performance that should be seen in product introductions and the management of processes and standard (Halili & Fernando, 2019). Liu, et al. (2017), therefore, add that given the move towards sustainability, buying firms should look into several aspects of supplier performance when carrying out supplier development activities such as environmental, ethics-related social and economic performances.

Sanchez, et al. (2015), conducted an empirical study on manufacturing firms in Spain and revealed a positive relationship between supplier development initiatives and purchasing performance of manufacturing firms. The study deconstructed supplier development into basic, moderate and advanced development depending on the level of involvement of buying firms in supplier activities. The assessment of purchasing performance according to the study was based on the traditional approach of quality, cost and delivery. The study was performed in a developed country leaving a gap for further research and findings from a developing country's perspective.

Sancha, et al. (2015), conducted a study and found that supplier development practices had a positive effect on supplier social performance and buyer's operational performance. The study was conducted on a sample of 120 manufacturing companies in Spain and focused on supplier development practices such as; performance

evaluation through questionnaires and audits, visits to supplier premises, training on social issues and joint activities with suppliers. The study leaves more room for further research on other sustainability aspects that is environmental and economic performance. Besides, the study was done in a developed country, Spain and leaves room for further research from a developing country's perspective.

Yawar, et al. (2018), examined small and medium firms in diary supply chain management in India and found that supplier development enabled social sustainability of both the buying firms and the supply partners with resultant economic benefits. The case study focused on social sustainability performance of supply chain management with the isolation of economic and ecological supply chain management performance. Complimentary benefits of social, economic and ecological aspects of supply chain management were realized as a result of supplier development initiatives. Furthermore, the study revealed limited research in social and ecological sustainability performance in India, with a majority of research focused on economic sustainability performance elements such as cost, quality and delivery. Deliberate direct support by buying firms to suppliers in form of training and technological support coupled with performance monitoring, had the resultant effect of social and economic performance improvement.

Lawson et al., (2015), conducted a study on 153 manufacturing firms in UK. The results of the study revealed an indirect effect of supplier development on supplier performance on new product development. The study put into consideration the supplier development constructs such as supplier responsibility, single sourcing strategy and skills similarity. The study emphasized on supplier development as an avenue to improve supplier's performance on new product development and not in supporting sustainable supply chain management practices of the buying firm. Furthermore, the single sourcing strategy used in supplier development limits economic value that a buying firms stands to gain through a competitive sourcing strategy.

Lukhoba (2015), conducted a descriptive study on supplier development and supplier performance of food manufacturing companies in Kisumu Kenya. The study explored four aspects of supplier development namely; financial support, supplier incentive, supplier training and early supplier involvement. The results of the study revealed a positive relationship between supplier development initiatives and performance of the suppliers. The study was limited to food manufacturing firms in Kisumu leaving out other manufacturing firms in other Kenyan regions as well as other sectors such as chemical and applied manufacturing firms.

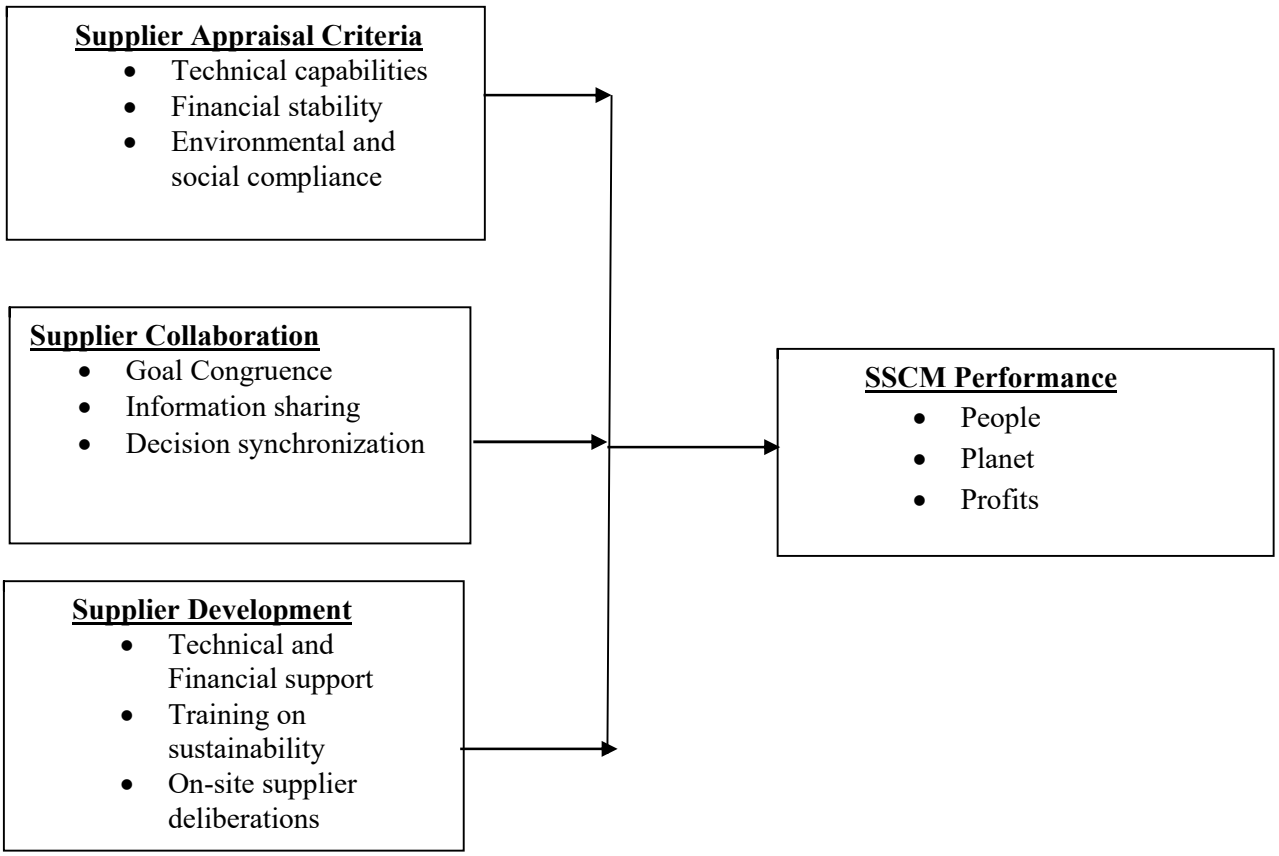
Oromo, F. A., & Mwangangi, P (2017), conducted a research on supplier development in government owned institution in Kenya and found significant economic benefits to the buying institution as a result of supplier development initiatives. Significant improvement in supplier motivation emanated from the supplier development initiatives thereby incentivizing the suppliers to stay focused on providing superior quality during purchasing transactions with the buying organization. The study focused on economic performs as a stand-alone aspect of sustainable supply chain management performance with the exclusion of the environmental and social supply chain sustainability parameters.

According to Wagner (2006), supplier development has multiple constituents that ranges from process improvements to direct human and capital financing. The choice of supplier development approach depends on the intentions of the buying firms. Where buying organizations consider maintaining long term relationships with suppliers, they are more likely to provide direct supplier development assistance. Direct supplier development support takes the form of tools and financing support, supplier development training programs, process redesign support and onsite deliberation. This study examined supplier development for sustainable supply chain management performance using the antecedents of supplier training on social and environmental aspect, onsite supplier deliberations, provision of tools and financial support.

2.4.Conceptual Framework

Figure 2.1 below shows three independent variables and one dependent variable.

Independent variables **Dependent Variable**



Source: Author (2021).

2.4.1. Supplier appraisal criteria

Compton, H.K., & Jessop, D.A. (2001) define supplier appraisal as "Assessment of a potential supplier capability of controlling quality, delivery, quantity, price and all other factors to be embedded in a contract." Murigi, P.M. (2014) posits that supplier appraisal programs are key to the realization of supply chain goals of cost reduction, maximization of value to shareholders and stakeholders, delivery performance, quality management and customer service. Procurement and supply chain leaders rely heavily on effective supplier appraisal criteria to determine the capabilities of potential suppliers to meet organizations purchasing goals. A prerequisite for a successful supplier appraisal program is determining the unique requirements of organizations and creating a supplier appraisal program that suits firms' requirements.

According to Benyoucef, et al. (2003), supplier appraisal is a challenging and tasking exercise that involves consideration of an array of factors to decide on supplier appraisal criteria. Supplier appraisal criteria is commonly grouped into technical, financial and compliance capability as standard. However, appraisal criteria differ amongst different firms and industries with the need to incorporate more industry and firm specific factors. Furthermore, the most widely used supplier appraisal criteria is the Dickson's supplier appraisal criteria comprising of 23 factors; " quality, delivery, performance history, warranties and claims policies, production facilities and capacity, price, technical capability, financial position, procedural compliance, communication system, reputation and position in industry, desire of business, management and organization, operating controls, repair service, attitude, impression, packaging ability, labour relations record, geographical location, amount of past business, training aids and reciprocal arrangements."

Murigi, P.M. (2014) argues that the financial capability of supplier is a crucial factor to consider in deciding on a supplier appraisal criterion. The financial position and strength of a supplier is central to supplier's ability to sustain operations over a long period of time and provide better terms of trade to buyers such as credit sales. Furthermore, supplier's financial capability dictates the level of involvement by supplier in product quality improvement initiatives, product research and technological advancement for better service to buyers.

2.4.2. Supplier collaboration

According to Soh, et al. (2016), existing research work on buyer – supplier collaboration has emphasized on the following strategic relationship antecedents; involvement, business understanding, communication, commitment, knowledge sharing and trust. Furthermore, these studies have found trust to be a leading antecedent of building strategic relationship with suppliers. Supplier collaboration is defined as "the joint working relationship between a buyer and supplier to create a competitive advantage through sharing information, making joint decision, and sharing benefits which results from greater profitability of satisfying the end customer needs." (Simatupang, T. M., & Sridharan, R., 2005). Healthy relationship between buyers and suppliers has mutually beneficial results to all parties. Suppliers have the benefits of getting repeat business in significant volume and equally learning of more superior techniques and practices of delivering top quality products and services. Buying organizations also have the benefit of sharing risks with suppliers, planning out on inventory, joint participation in forecasting, product quality, amongst other benefits. (Soh, et al., 2016).

According to Moradlou, et al. (2020), buying organizations should embrace collaborative working relationship with strategic suppliers and adopt more transactional relationship with suppliers of non-strategic requirements. Close working relationships with suppliers enables the transfer of tacit and explicit knowledge through information sharing, joint decision making and to analyze and incorporate new ideas in product development. Furthermore, strong working relationship with suppliers drives innovation for both buying organization and suppliers.

Rungsithong, R., & Meyer, K. E. (2020) posits that trust is vital in fostering knowledge sharing between relationship partners especially in developing markets. In the context of buyer supplier relationship, knowledge sharing is revealed in enabling environments where information transfer, generation and blend is seen to develop and enhance the quality of products offered by suppliers as well as improvement in suppliers' processes while safeguarding the intellectual property rights of the buying firms. The extent of information sharing between firms can be determined by the extent to which the buying organization shared information such as; technical and confidential product

information, and information on cost of goods sold incurred by the buyer. Consequently, information sharing in the context of suppliers as parties to the relationship refers to the information, they received from buyers relating to; improvements on product quality, improved inventory management and lowering of production costs.

2.4.3. Supplier development

Busse et al. (2016) define supply development as "any activity undertaken by a buying firm to improve either supplier performance, supplier capabilities, or both, and to meet the buying firm's short-and/or long-term supply needs". Halili & Fernando (2019) further add that supplier development targets producing new capabilities, capacities, and competencies of diverse suppliers. Moreover, supply development aims to improve performance that should be seen in product introductions and the management of processes and set standards (Halili & Fernando, 2019). Liu, et al. (2017), therefore, add that given the move towards sustainability, buying firms should consider several facets of supplier performance when carrying out supplier development activities including environmental performance, ethics-related social performance, and economic performance.

Halili & Fernando (2019) explain that sustainable practices with regards to supplier development can be viewed using four aspects: sustainable procurement, sustainable production, sustainable distribution, and sustainable design. In sustainable procurement, "firms meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the firm, but also to society and the economy, whilst minimizing damage to the environment" (Halili & Fernando, 2019). In sustainable design, there is a need for the interests of the supplier and buying firm to align taking into consideration the social impacts on society. Developing suppliers locally should give the buying firm control in product design that meets societies' acceptance. The design should be to not be harmful to the consumers.

Busse et al. (2016) further add to the supplier development sustainability discussion by arguing that there are certain barriers to implementing sustainable supply development. They identify five barriers to implementing SSD. The first barrier is the conceptual complexity of the sustainability concept. In the study, Busse, et al. (2016) argue that while there are various concepts of sustainability concerning supplier development, aligned definitions of these concepts are lacking; hence, these different conceptions create barriers when the buying firm seeks to convey the sustainability-related requirements to the supplier. Socio-economic differences

between the buyers and suppliers are considered as another barrier as noted by the studies (Busse, et al., 2016). This point opens up a discussion on the inability of suppliers to conform to sustainable requirements owing to their socio-economic status, especially with regards to small-scale suppliers such as start-ups. Spatial distance also impairs the chances of supply chain parties to meet personally and strengthen their buyer- supplier relationship through face-to-face meetings and consultations thereby acting as a barrier to SSD (Busse, et al., 2016). Finally, Busse et al. (2016) also identify cultural differences and linguistic distance as impediments to SSD implementation.

According to Wagner (2006), supplier development has multiple constituents that ranges from process improvements to direct human and capital financing. The choice of supplier development approach depends on the intentions of the buying firms. Where buying organizations consider maintaining long term relationships with suppliers, they are more likely to provide direct supplier development assistance. Direct supplier development support takes the form of tools and financing support, supplier development training programs, process redesign support and onsite deliberation.

2.4.4. Sustainable supply chain management performance

Seuring & Muller (2008), defines sustainable supply chain management as "the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development i.e., economic, environmental and social, into account which are derived from customers and stakeholder requirements." Asefeso (2015), posits that sustainable supply chain management is a holistic viewing of procurement and supply chain management processes that focuses on and incorporates environmental, social and economic consequences as a result of supply chain management activities.

According to Hsu, et al., (2016), the building blocks of sustainable development, society, economy and environment, are equivalent to John Elkington's triple bottom line theory comprising of people, planet and profit.

Hu, et al., (2019), argues that stakeholder expectations and perspective of supply chain management value has evolved from basic cost efficiency and quality to social welfare, environmental best practices

and overall economic value. Organizations worldwide are facing immense pressure from customers and stakeholders to adopt sustainable practices or lose their competitive positions in the market. Furthermore, the success of supply chain sustainability depends on the level of collaboration and synergy among all supply chain players.

Previous work by other researchers have revealed varying interest in individual constructs of sustainable supply chain management. A section of findings has emphasized on the importance of social welfare and the complexity of implementing social sustainability practices. Consequently, a great number of studies have revealed the importance of assessing the environmental impacts of companies' operations with specific focus on reduction of pollution levels. (Hu, et al., 2019)

2.5.Operationalization of variables

TABLE 1

Operationalization of Variables

OBJECTIVE	VARIABLE	INDICATOR	MEASUREMENT SCALE
To find out the effect of supplier appraisal criteria on sustainable supply chain management performance of large essential goods manufacturing firms in Kenya.	Supplier appraisal criteria	-Technical capabilities -Financial capabilities -Environmental and social compliance	Ordinal
To evaluate the relationship between supplier collaboration and sustainable supply chain management performance of large essential goods manufacturing firms in Kenya.	Supplier collaboration	-Information sharing -Goal congruence - Decision synchronization	Ordinal
To examine the effect of supplier development on sustainable supply chain management performance of large essential goods manufacturing firms in Kenya.	Supplier development	-Technical and financial support -Training on social and environmental aspects. -Onsitesupplier deliberations	Ordinal
	Sustainable supply chain management performance	-People -Planet -Profits	Ordinal

Source: Author (2021).

2.6.Critique of existing literature

A great number of previous studies on SRM and sustainable supply chain management performance have come up with inconsistent results on the underlying relationship.

Furthermore, some of the studies have focused on individual aspects of sustainable supply chain management performance rather than all the three aspects of social, economic and environmental performance.

Besides, having various constructs of supplier relationship management, few studies have focused on the three antecedents of supplier development, supplier collaboration and supplier appraisal criteria.

Moreover, a majority of studies have explored the basic factors of cost efficiency and quality

improvements while examining supply chain management performance leaving out the people, planet and profits aspects.

2.7.Research Gap

The literature review on previous studies on supplier relationship management and sustainable supply chain management performance have revealed conceptual research gaps. The constructs of supplier relationship management used across the studies were different. Also, supply chain management performance has been viewed from a traditional perspective focused on legacy factors of cost efficiency, quality improvement and economic gains, rather than social, economic and environmental performance. Furthermore, a great number of studies have focused on developed countries with minimal studies on developing countries such as Kenya.

2.8.Summary of literature

The chapter explored the various theories upon which the study is based. The study reviewed the resource dependency theory to explain the linkage between supplier appraisal criteria and SSCMP, institutional theory to explain the relationship between supplier collaboration and SSCMP and stakeholder theory to explain the linkage between supplier development and SSCMP. The reviewed literature also presented contextual and conceptual research gaps. A majority of studies were done in developed countries with minimal studies in developing countries. Some of the reviewed studies did not use variables used by the current study.

CHAPTER THREE:
METHODOLOGY

3.1 Introduction

This chapter outlines and describes the research design, sampling and sampling technique, group population, research tools used, credibility and reliability of the research tool, the procedure for collecting data, processing and its analysis.

3.2 Research Design

Research design is the arrangement of conditions that is used to collect and analyze data (Jahoda, et al., 2010). The design of the research ensures the researcher makes correct inferences (Kumar, 2010). This study applied a descriptive research design in order to find out the relationship present between the independent variable (SRM) and the dependent variable (SSCMP) as dictated by the activities of SRM outlined in the research questions. The study did not control any of the variables and aimed at finding out whether there exist negative, positive or zero correlation and the extent of any identified relationship between the independent and dependent variables.

3.3 Target Population

Target population describes a target audience with similar characteristics under consideration. According to Kothari (2013), at least 10% of fathomable population is considered adequate in descriptive surveys. The target population of interest in this study was 462 procurement officers of large essential goods manufacturing firms in Kenya. According to KAM (2014), there are 499 large manufacturing firms in Kenya, out of which, 462 are manufacturers of essential goods. This study targeted procurement officers because they are directly charged with routine supply chain and procurement activities such as supplier evaluation, purchase order processing and internal stakeholder engagements.

TABLE 2

Large Manufacturing Firms in Kenya

Sector	Number of firms
Chemical and Allied	70
Energy, Electrical and Electronics	34
Food and beverages	71
Metal and Allied	66

Motor Vehicle Assemblers and Accessories	27
Leather and Footwear	7
Paper and paperboard	63
Pharmaceuticals and Medical Equipment	21
Plastics and Rubber	68
Textiles and Apparels	35
Building	20
Wood Products	17
Totals	**499**

Source: (KAM, 2014)

TABLE 3

Large Essential Goods Manufacturing Firms in Kenya

Sector	**Number of firms**
Chemical and Allied	70
Energy, Electrical and Electronics	34
Food and beverages	71
Metal and Allied	66
Motor Vehicle Assemblers and Accessories	27
Leather and Footwear	7
Paper and paperboard	63
Pharmaceuticals and Medical Equipment	21
Plastics and Rubber	68
Textiles and Apparels	35
Totals	**462**

Source: (KAM, 2014)

3.4 Sampling and Sampling procedure

The study used stratified sampling technique in choosing the firms that were included in the study. According to Pandey, P., & Pandey, M (2015), stratified sampling is a sampling method that categorizes a population into smaller groups based on similar characteristics of units within the group. This research project adopted stratified random sampling technique in selecting the sample. Stratified random sampling produces estimates of overall population parameters with greater precision and without bias because the numbers are random. Furthermore, the use of a sample enables researchers to save time and costs associated with studying the entire population. (Mark, et al, 2009)

The study grouped the population into 10 strata as illustrated in table 3.3 below.

Each stratum represented each sector that manufactures essential goods. Through stratified random sampling, we took 25% of the population in each stratum as recommended by Mugenda and Mugenda (2003), to achieve a desired representation from the various sub groups in the population and also to

ensure greater accuracy of findings. The sample size is indicated in the extreme right column of table 4 below.

TABLE 4.

Sample Size

Sector/Strata	Strata population	Sample %	Sample size
Chemical and Allied	70	25%	18
Energy, Electrical and Electronics	34	25%	9
Food and beverages	71	25%	18
Metal and Allied	66	25%	17
Motor Vehicle Assemblers and Accessories	27	25%	7
Leather and Footwear	7	25%	2
Paper and paperboard	63	25%	16
Pharmaceuticals and Medical Equipment	21	25%	5
Plastics and Rubber	68	25%	17
Textiles and Apparels	35	25%	9
Totals	**462**		**118**

Source: (KAM, 2014)

3.5 Instrument

The research instruments as defined by Creswell, J. W. (2013), are the tools used to collect data. This study used structured questionnaire to gather primary data from the procurement leads of the sampled companies. The use of questionnaires was convenient since they were issued with ease and saved on time compared to other ways of collecting primary data. Furthermore, there was no need for personal contact when questionnaires are used as opposed to in person interviews.

The structured questionnaires comprised of Likert scale items, open-ended and closed ended questions. The Likert scale was used to report on the extent to which the sampled manufacturing firms were disposed to Supplier Relationship Management and the extent to which it resulted to Sustainable Supply Chain Management Performance. It was subdivided into 5 main sectors: sector A which inquired general information; part B contained questions addressing to what extend supplier appraisal criteria were used, C the extent of adoption of supplier collaboration, D the extent to which supplier development had been implemented while part E had questions addressing

the effects of SRM on SSCM performance of manufacturing firms in Kenya.

3.6.Piloting

A pilot examination was conducted to assess the validity and reliability of the study instrument. Questionnaires were structured to capture adequate information on SRM and SSCM performance of manufacturing firms in Kenya. A pilot group consisting of 5 manufacturing companies based in Nairobi created, and procurement leads of these companies issued with questionnaires. The pilot examination helped in providing assurance on the accuracy and preciseness of the questionnaires.

3.6.1. Validity of the research instrument

Validity assesses the relevance of the research instruments and the content of the study (Mugenda and Mugenda, 2003). Content type validity was used to evaluate the validity of the structured questionnaires by putting into consideration all three facets of SRM and sustainable supply chain management performance in the structured questionnaires. Questionnaires were designed to include specific sections for research variables, that is, Supplier appraisal criteria, Supplier collaboration, Supplier development and sustainable supply chain management performance.

3.6.2. Reliability of the research instrument

Reliability refers to the extent to which a data collection instrument can produce dependable outcomes after repetitive testings (Mugenda and Mugenda, 2003). Reliability was tested through a test-retest method. The study questionnaires were issued to 10 procurement officers of 5 manufacturing companies based in Nairobi. After 1 week, the same questionnaire were issued to the 10 procurement officers for completing. Then for the two results the researcher calculated a correlation coefficient using Pearson method. A reliable coefficient of 0.779 (which is greater than 0.7) was calculated for the two trials.

3.7.Data collection procedure

Primary data was collected from the various procurement leads in the various sampled manufacturing firms. Procurement leads are in charge of supply chain management in many organizations and were

better suited to provide relevant information on the topic under study. Structured questionnaires were dropped and picked from the respondents at their places of work during working hours. Prior to collection, the selected manufacturing firms were presented with official letters requesting permission to collect data stamped by the university. The participants were asked to give an informed consent on their willingness to participate in the study.

3.8.Data processing and analysis

Prior to processing the received responses from the procurement leads, the research instruments were assessed for completeness and consistency, followed by data coding into Statistical Packages for Social Sciences (SPSS), with the goal of organizing responses into different categories. Descriptive statistical tools were employed in the study to help with definition of data for analysis. Furthermore, descriptive statistics were used because they form the basis of analysis for both quantitative and qualitative data analyses. These tools included and were not limited to; percentages, standard deviation and other analysis tools that demystified data presentation on bar charts and tables to illustrate the study's outcomes.

A simple regression model was applied to determine how much the independent variables influenced the dependent variable:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e \qquad (I)$$

Whereby;

Y = Sustainable supply chain management performance (Dependent Variable)

β_0 = Constant Term β_1, β_2, β_3 = Beta coefficients

X_1 = Supplier development

X_2 = Supplier selection

X_3 = Supplier collaboration

e = Error Term

3.9.Model specification tests

Model specification tests were conducted to ensure suitability of the data for primary assumptions of classical linear regression model.

Multi-collinearity: Multi-collinearity revealed if there was a close connection between the independent variables. For that condition, the assessment used was the variance inflation factor (VIF) for purposes of establishing whether multicollinearity existed. If VIF values for all the independent variables are less than 3, it indicates no or lesser degree of multicollinearity whereas a VIF value of greater than 10 would indicate a problem of Multicollinearity.

Normality test: For the purposes of confirming that the data gathered was normal, a normality test was carried. The normality of data was tested using the Kolmogorov-Smirnov test and the Shapiro-Wilk test.

Heteroscedasticity: Heteroscedasticity test was applied for testing the error term consistency across observations using scatter plots.

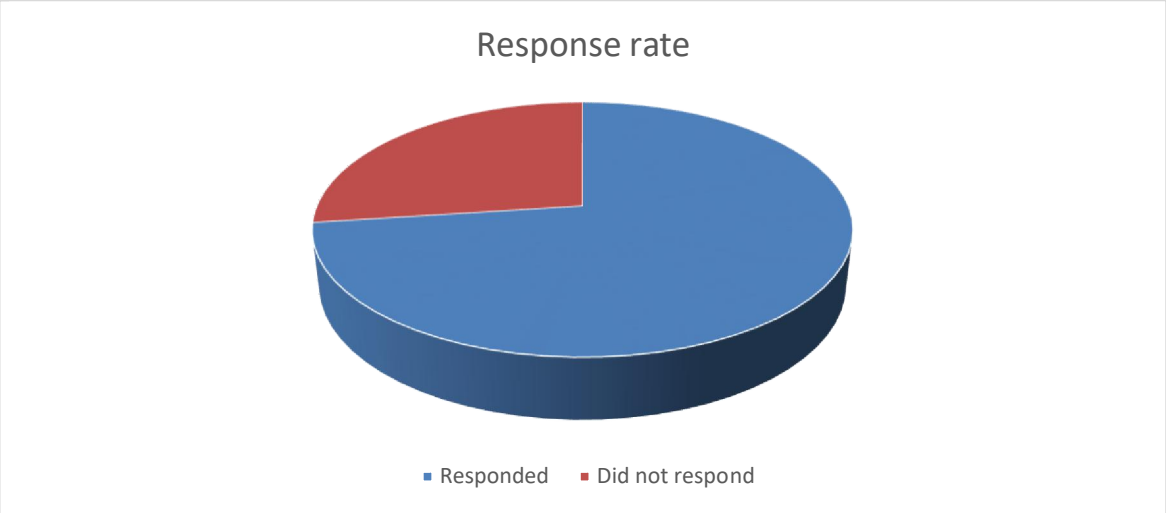
Goodness of fit: Linearity means that the two variables have straight line relationship. For this study statistic P-P plot was used to assess how closely the study data sets agree. P-P plots were also used to evaluate the skewness of a distribution.

CHAPTER FOUR
RESULTS AND DISCUSSIONS.

4.0. Introduction

This chapter presents research results, analysis and discussions of the findings with regards to the research objectives. The findings are presented in tables in the form of mean, standard deviation and percentages.

4.1. Response rate

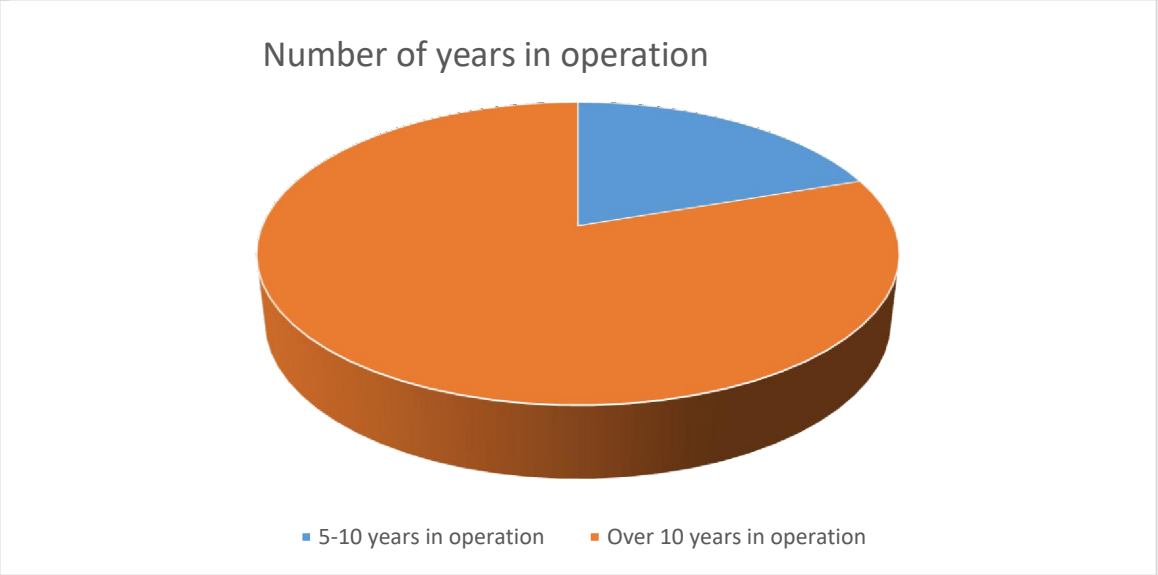


Source: Author (2021).

A total of 118 questionnaires were issued out of which 86 were completed and returned. This represented a response rate of 72.9%. The calculated response rate of 72.9% is therefore adequate and acceptable as it surpasses the 70% threshold recommended by Mugenda and Mugenda (2014).

4.2. Background Information of Respondents

In an effort to adequately understand the profiles of the respondents and ensure they were part of the target population, the researcher asked the respondents to state name of the firm they represented, number of years their firm had been in operation, the number of suppliers each respective firm engaged per year and whether or not SRM had been implemented in their organisations. All the respondents who completed and returned their questionnaires were from the targeted manufacturing firms and categories hence suitably represented the target population.



Source: Author (2021).

From the results 17 respondents (20%) indicated their firms had been in operation 5-10 years whereas 69 (80%) indicated their firms had been in operation for over 10 years. Interestingly, all the respondents stated that they engaged more than 10 suppliers in a year and that SRM was implemented since their firms came into existence.

The inference of these outcomes is that the respondents targeted by the researcher were able to give correct data as required, an element that derives from Asiamah (2017) recommendations that the concern of the researcher in picking participants of a study research should be to include respondents who can detail their work and experiences objectively and from knowledge point of view.

4.3. Supplier Appraisal Criteria in practice by manufacturing firms in Kenya

The study set out to investigate the extent to which the targeted manufacturing firms had adopted specific supplier appraisal criteria in the selection of suppliers to pursue SSCM goals with. The respondents were asked to reply to the statements on a 5 point Likert scale and specify the extent to which they agreed using the following ratings: 1=Very large extent, 2=Large extent, 3=Moderate extent, 4=Small extent, 5=Very small extent. Moreover, standard deviation indicated how widespread the respondents were in their view of the same item of the research variable. Standard deviations greater than 1 imply a significant divergence of opinion on the impact of the variable among respondents.

TABLE 5

Supplier Appraisal Criteria Result

	Mean	Std. Deviation
The organization uses price as a supplier appraisal criterion	2.9884	1.39321
The organization uses delivery as a supplier appraisal criterion	3.0814	1.48890
The organization uses quality as a supplier appraisal criterion	3.1163	1.35836
The organization uses human rights policy as a supplier appraisal criterion	2.9767	1.43876
The organization uses workers health and safety policy as a supplier appraisal criterion	2.9302	1.45352
The organization uses information disclosure policy as a supplier appraisal criterion	3.1163	1.32326
The organization uses waste management policy as a supplier appraisal criterion	3.0465	1.37974
The organization uses environmental compliance as a supplier appraisal criterion	2.9767	1.45503
The organization uses pollution control policy as a supplier appraisal criterion	3.3488	1.43705
The organization uses technical capabilities as a supplier appraisal criterion	3.1279	1.49349

Source: Author (2021)

The results show that the responds agreed that their organizations use a set of supplier appraisal criteria such as price to a large extent (mean=2.9884, SD=1.39321), delivery service to a mooderate extent (mean=3.0814, SD=1.48890), quality to a moderate extent (mean=3.1163, SD=1.35836), human rights policy to a large extent (mean=2.9767, SD=1.43876), workers health and safety policy to a large extent (mean=2.9302, SD=1.45352), information disclosure policy to a moderate extent (mean=3.1163, SD=1.32326), waste management policy to a moderate extent (mean=3.0465, SD=1.37974), environmental compliance to a large extent (mean=2.9767, SD=1.45503), pollution control policy to a moderate extent (mean=3.3488, SD=1.43705), and technical capability criteria to a moderate extent (mean=3.1279, SD=1.49349). It is noteworthy that though these firms had adopted supplier appraisal criteria for selecting their key suppliers there was a widespread difference in opinion among the respondents on the extent of its adoption (SD>1.000).

The findings imply that there exist supplier appraisal criteria in the targeted manufacturing firms. The findings show that these firms have identified and initiated collaborative relationships with a number of strategic suppliers based on a selection criterion of price, delivery, quality, human right policy, worker's health and safety policy, information disclosure policy, waste management policy, environmental compliance, pollution

control policy and technical capabilities of a supplier. These findings correspond with those by Rezaei and Ortt, (2013) who recommend that supplier relationships are typically prioritized according to both spend and a set of business criticality criteria reflecting the strategic importance of the supplier to the organization. Murigi (2014) adds that supplier appraisal program is a prerequisite for determining the unique requirements of organizations and creating a supplier appraisal program that suits firms' requirements.

4.4. Supplier Collaboration Practices undertaken in manufacturing firms in Kenya

The study set out to find out the level to which the targeted manufacturing firms had undertaken specific supplier collaborative practices in pursuance of SSCM goals with its suppliers. The respondents were asked to reply to the statements on a 5 point Likert scale and specify the extent to which they agreed using the following ratings: 1=Very large extent, 2=Large extent, 3=Moderate extent, 4=Small extent, 5=Very small extent. Moreover, standard deviation indicated how widespread the respondents were in their view of the same item of the research variable. Standard deviations greater than 1 imply a significant divergence of opinion on the impact of the variable among respondents.

TABLE 6

Supplier Collaboration Result

	Mean	**Std. Deviation**
The organization frequently shares relevant information with suppliers to aid in requirements planning	3.3256	1.50639
The organization participates in joint decision making with suppliers on strategic materials	3.3953	1.34846
The organization ensures timely communication with suppliers on canceled orders	3.4651	1.45277
The organization maintains regular communication with suppliers on customer returns	3.4651	1.28060
The organization relays information of product sustainability to suppliers	2.8256	1.47283
The organization shares industry learnings on sustainable practices with suppliers	2.7674	1.32554
The organization maintains honest and candid conversations with suppliers on sustainability performance	3.1977	1.29995
The organizations suppliers have a clear business understanding on minimum requirements for product quality and industry standards	2.9302	1.36158
The organization's suppliers are committed towards achieving joint sustainability efforts	2.4186	1.32368
The organization is committed towards maintaining relationships	2.5000	1.35256

with suppliers and offers benefits such as prompt payments		

Source: Author (2021)

The results show that the responds agreed that their organizations participate in joint decision making with suppliers on strategic materials to a moderate extent (mean=3.3953, SD=1.34846), ensure timely communication with suppliers on canceled orders to a moderate extent (mean=3.4651, SD=1.45277), maintain regular communication with suppliers on customer returns to a moderate extent (mean=3.4651, SD=1.28060), maintain honest and candid conversations with suppliers on sustainability performance to a moderate extent (mean=3.1977, SD=1.29995), have a clear business understanding on minimum requirements for product quality and industry standards with suppliers to a large extent (mean=2.9302, SD=1.36158), have suppliers who are committed towards achieving joint sustainability efforts to a large extent (mean=2.4186, SD=1.32368), and have commitment towards maintaining relationships with suppliers and offers benefits such as prompt payments to a large extent (mean=2.5000, SD=1.35256), frequently share relevant information with suppliers to aid in requirements planning to a moderate extent (mean=3.3256, SD=1.50639), relay information of product sustainability to suppliers to a large extent (mean=2.8256, SD=1.47283), and share industry learnings on sustainable practices with suppliers to a large extent (mean=2.7674, SD=1.32554). It is noteworthy that though these firms had engaged in supplier collaboration with their key suppliers there was a widespread difference in opinion among the respondents on the extent of its implementation (SD>1.000).

These findings reflect those by Soh et al. (2016), who carried out research work on buyer – supplier collaboration and emphasized on the following strategic relationship antecedents; involvement, business understanding, communication, commitment, knowledge sharing and trust, and, Li, et al (2006) who found out in their study that sourcing committees proactively engage with suppliers in discovery of the best value in terms of quality, pricing and overall relationship at all levels within the supply network.

4.5. Supplier Development Activities carried out in manufacturing firms in Kenya

The study set out to investigate the degree to which the targeted manufacturing firms had implemented specific supplier development activities in pursuance of SSCM goals with its suppliers. The respondents were asked to reply to the statements on a 5 point Likert scale and specify the extent to which they agreed using the following

ratings: 1=Very large extent, 2=Large extent, 3=Moderate extent, 4=Small extent, 5=Very small extent. Moreover, standard deviation indicated how widespread the respondents were in their view of the same item of the research variable. Standard deviations greater than 1 imply a significant divergence of opinion on the impact of the variable among respondents.

TABLE 7

Supplier Development Results

	Mean	**Std. Deviation**
The organization provides suppliers with direct financial support for sustainable raw materials procurement	2.6860	1.30395
The organization transfers competent employees to help suppliers with quality inspection	2.3256	1.21211
The organization sends industry experts to support suppliers during new product launches	2.6395	1.43824
The organization maintains a training calendar for suppliers on environmental and societal best practices	2.3837	1.31210
The organization supports suppliers with key process redesign i.e., production processes	2.4535	1.13404
The organization provides suppliers with advance payment for requirements	2.2907	1.10471
The organization provides key certification support to suppliers i.e., ISO 14001 certification on environment	2.6512	1.26275
The organization provides technological support to suppliers	2.4535	1.17480
The organization engages in onsite supplier deliberations and consultation	2.2326	1.08112
The organization works closely with suppliers during new product development	2.1860	1.14287

Source: Author (2021).

The results show that the responds agreed that their organizations provide suppliers with direct financial support for sustainable raw materials procurement to a large extent (mean=2.6860, SD=1.30395), transfer competent employees to help suppliers with quality inspection to a large extent (mean=2.3256, SD=1.21211), send industry experts to support suppliers during new product launches to a large extent (mean=2.6395, SD=1.43824), maintain a training calendar for suppliers on environmental and societal best practices to a large extent (mean=2.3837, SD=1.31210), provide suppliers with advance payment for requirements with suppliers to a large extent (mean=2.2907, SD=1.10471), provide key certification support to suppliers i.e., ISO 14001 certification on environment to a large extent (mean=2.6512, SD=1.26275), and provide technological support to suppliers to a large extent (mean=2.4535, SD=1.17480), support suppliers with key process redesign i.e.,

production processes to a large extent (mean=2.4535, SD=1.13404), engage in onsite supplier deliberations and consultation to a large extent (mean=2.2326, SD=1.08112), and work closely with suppliers during new product development to a large extent (mean=2.1860, SD=1.14287). It is noteworthy that though these firms had engaged in supplier development activities with their suppliers there was a widespread difference in opinion among the respondents on the extent of supplier development implementation (SD>1.000).

To this end, these findings are supported by Krause & Handfield (2007) who conjectured that supplier development is a bilateral effort by both the buying and supplying organization to jointly improve the supplier's performance or capabilities in one or more of the following areas: cost, quality, delivery, time to market, environmental responsibility, and managerial capability and financial viability. According to Wagner (2006), supplier development has multiple constituents that ranges from process improvements to direct human and capital financing.

4.6. Sustainable Supply Chain Management Performance of manufacturing firms in Kenya

Consequently, the study looked to establish the effects SRM activities of Supplier Appraisal, Supplier Collaboration and Supplier Development had on the SSCM performance of the selected firms. Respondents were asked to indicate previous year's verses current year's performance of their sustainable supply chain management using specific performance measures. The results were as shown below.

TABLE 8.

SSCM Performance Results

SSCM PERFOMANCE MEASURES	Unit of measure	Previous Year Performance	Current Year Performance	Increase / decrease	% Increase/ Decrease
1. Average Order cycle time	days	14	12.4	1.6	11.42%
2. Customer satisfaction ratings	%	68.2	74.4	6.2	9.09%
3. Average cost of raw materials	Kes	79000000	94800000	-15800000	-20%
4. Total revenue from goods sold	Kes	266000000	366000000	100000000	37.59%
5. Total Inventory holding costs	Kes	17700000	16070000	1630000	9.20%

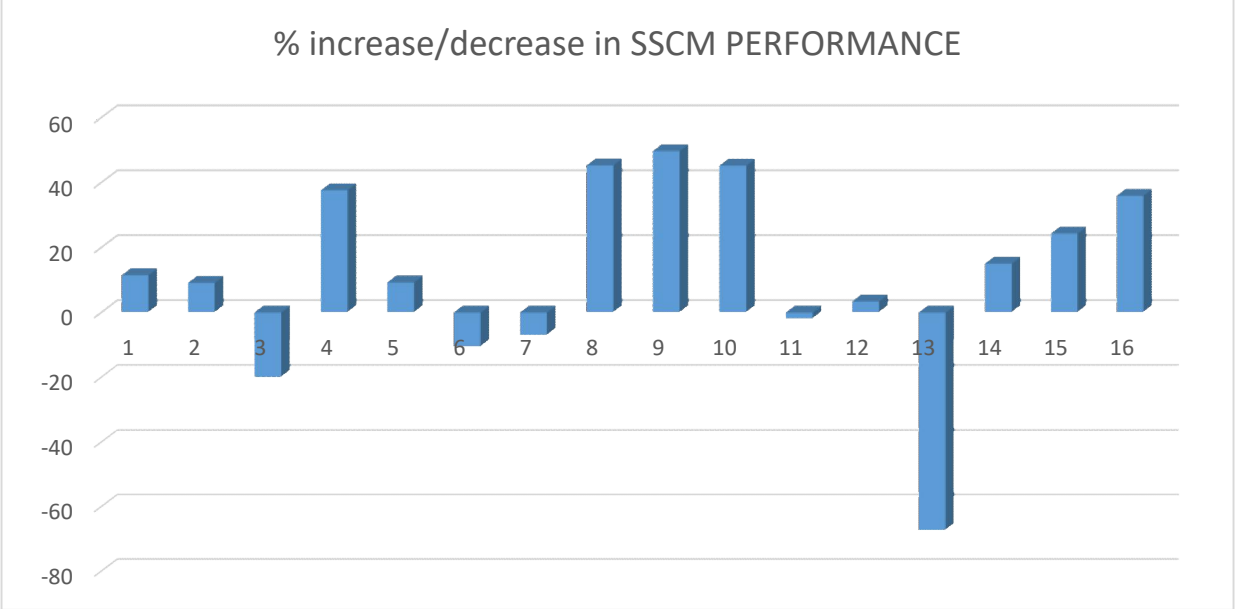
6. Cost of expired perishables	Kes	894800	990000	-95200	-10.63%
7. Penalties for incorrectly filled or late orders	%	20.2	21.6	-1.4	-6.93%
8. Total credits for incorrectly filled or late deliveries	Kes	800000	438000	362000	45.25%
9. Total cost of goods returned by customers	Kes	122000	61400	60600	49.67%
10. Total credits for goods returned to suppliers	Kes	202800	111200	91600	45.16%
11. Percentage of suppliers screened for child labor	%	86	84.4	-1.6	-1.86%
12. Percentage of suppliers screened for compulsory labor	%	82.6	85.4	2.8	3.38%
13. Value of CSR initiatives	Kes	3300000	5520000	-2220000	-67.27%
14. Percentage of suppliers with ISO 14001 certification	%	69.2	79.6	10.4	15.02%
15. Percentage of suppliers with recycled input materials	%	28	34.8	6.8	24.28%
16. Total direct (scope 1&2) and indirect (scope 3) greenhouse gas emission	Gig tons of Carbon(GtC)	2.0	1.282	0.718	35.90%

Source: Author (2021)

The results show that there was a decrease in the average order cycle time from 14 in the previous year to 12 days in the current year representing 11.2% change. Average customer satisfaction ratings also improved from 68.2% in the previous year to 74.4% in the current year, a 9.09% increase. Average cost of raw materials in the previous year was Kes. 79000000 compared to Kes. 94800000 in the current year which is a 20% cost increase. Average total sales revenue in the previous year was Kes. 266000000 compared to Kes. 366000000 in the current year which is a 37.59% income increase. Average inventory holding costs in the previous year was Kes. 17700000 compared to Kes. 16070000 in the current year which is a 9.20% cost savings. Cost of expired/perishables in the previous year was Kes. 894800 compared to Kes. 990000 in the current year

representing a 10.63% costs escalation. Credits for late deliveries in the previous year was Kes. 800000 compared to Kes. 438000 in the current year which is a 45.25% savings in cost. Cost of goods returned by customers in the previous year was Kes. 122000 compared to Kes. 61400 in the current year resulting in a 49.67% saving in cost. Credits for goods returned to suppliers in the previous year was Kes. 202800 compared to Kes. 111200 in the current year resulting in a 45.16% saving in cost.

The results further indicate that these manufacturing firms intensified their CSR activities with an outlay of Kes. 3300000 in the previous year to Kes. 5520000 in the current year which is a 67.27% increase in expenditure. Penalties for late orders increased from 20.2% in the previous year to 21.60 % in the current year, a 6.93% increase in costs. Percentage of suppliers screened for child labour declined from 86% in the previous year to 84.4 % in the current year, a 1.86% increase in potential fines. Percentage of suppliers screened for compulsory labour improved from 82.6% in the previous year to 85.4 % in the current year, a 3.38% decrease in potential fines. Percentage of suppliers screened with ISO 4001 certification improved from 69.2% in the previous year to 79.6% in the current year, a 15.02% decrease in potential environmental costs. Percentage of suppliers screened with recycled input materials also improved from 28% in the previous year to 34.8% in the current year, a 15.02% cost of raw materials savings. Finally yet importantly, the findings reveal that the manufacturing firms registered a 35.9% decrease in the greenhouse gas emission in one year as a result of SRM practices with their suppliers. These results are summarized in the graph shown below.



The results show that the targeted manufacturing firms' SRM has simultaneously pursued and incorporated the three dimensions of sustainability: economic, social and environmental goals into their supply chain management practices. The results are in congruence with those of previous studies. Asefeso (2015), posits that sustainable supply chain management is a holistic viewing of procurement and supply chain management processes that focus on and incorporates environmental, social and economic consequences as a result of supply chain management activities. According to Hsu et al., (2016), the building blocks of sustainable development, society, economy and environment, are equivalent to John Elkington's triple bottom line theory comprising of people, planet and profit.

4.7. The relationship between SRM and SSCM Performance

4.7.1. Correlation and Regression Coefficients

TABLE 9

Regression Coefficients

	R	R^2	Adjusted R^2	Standard Error of the Estimate	Change Statistics		
					R^2 Change	F Change	Sig. F Change
1	.933[a]	.871	.764	2.215	.871	8.832	.004[b]

Correlation coefficient

Regression results show that there is a very strong positive relationship of 93.3% between SRM variables and SSCM Performance. This is reflected by a correlation coefficient, R-value of 0.933. This means that a combined unit change in the SRM variables leads to 93.3% increase in SSCM performance of the studied firms.

Regression coefficient

The regression coefficient, R^2 value of 0.871 shows that the independent variables (Supplier Appraisal Criteria, Supplier Collaboration and Supplier Development) affected 87.1 % of the variations in SSCM Performance of the studied Manufacturing firms in Kenya.

4.7.2. Regression Equation

TABLE 10

Regression Equation

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	48.15	28.833		.832	.335		
	SUPPLIER APPRAISAL CRITERIA	2.214	.781	.495	.290	.633	.914	1.094
	SUPPLIER COLLABORATION PRACTICES	.840	.976	.520	-1.114	.995	.945	1.059
	SD	1.213	.970	.394	.112	.719	.895	1.117

a. Dependent Variable: SSCMP

As per SPSS, the following regression equation was generated to show the effect of SRM components on SSCM Performance of the selected firms in Kenya.

SSCMP= 48.15+ 2.214 SAC + 0.840 SCP + 1.213 SD

Where:

SSCMP= Sustainable Supply Chain Management Performance

SAC= Supplier Appraisal Criteria

SCP= Supplier Collaboration Practices

SD= Supplier Development.

The equation above shows that each of the independent variables (Supplier Appraisal Criteria, Supplier Collaboration and Supplier Development) affected the dependent variable (SSCM Performance). Results further indicate that Supplier Collaboration has the biggest effect on SSCM performance with a standardized coefficient of 0.520, followed by Supplier Appraisal Criteria with a standardized coefficient of 0.495, and having the lowest effect on SSCM performance, though positive, is Supplier Development at 0.394 standardized coefficient.

However, the fact that all the independent variables (Supplier Appraisal Criteria, sig=0.633: Supplier

Collaboration, sig=0.995: and Supplier Development, sig=0.719) posted sig values greater than 0.05 infer that none of the variables make statistically significant unique contribution to SSCM performance in the studied firms. This is due to the interdependence among the independent variables, that is, though distinct activities, selection of the right supplier will determine the joint supplier collaboration activities to undertake with a particular supplier. Ultimately, supplier development will set in depending on the lessons learnt and developmental areas identified based on supplier collaboration review outcomes.

4.8. Model specification test results

Multicollinearity: For multicollinearity test, all the independent variables posted VIF values of <10, thus showing quite low correlations between the independent variables.

Normality test: The p value of 0.004 recorded is less than 0.05; therefore, we can conclude that there is a statistically significant effect for the independent variables to predict the dependent variable.

Heteroscedasticity test: The shape of the cluster in the scatter plots for this model was even from one end to the other (rectangular), showing very low or zero violations of the assumption of homoscedasticity.

Goodness of fit: P-P plots for this model did not show any evidence of non-linearity between independent and dependent variables; therefore, the researcher's assumption of linearity is satisfied.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter 5 summarizes the findings of the study. Key findings of the study are used to draw conclusion and make necessary recommendations. Future study areas related to the current study are also proposed.

5.2 Summary of the Findings

The study investigated the effect of SRM components on SSCM performance of large essential goods and manufacturing firms in Kenya. The study objects were as follows: to establish the effect of supplier appraisal criteria on sustainable supply chain management performance of manufacturing firms in Kenya: to find out the effect of supplier collaboration on sustainable supply chain management performance of manufacturing firms in Kenya: and, to determine the effect of supplier development on sustainable supply chain management performance of manufacturing firms in Kenya.

5.2.1. Supplier Appraisal Criteria and its Effect on SSCM Performance of Large Essential Goods Manufacturing firms in Kenya.

The first study object sought to establish the effect of supplier appraisal criteria on SSCM performance of manufacturing firms in Kenya. Results reveal that respondents consistently agreed that there exist supplier appraisal criteria in the targeted manufacturing firms. The findings further revealed that these firms have identified and initiated supplier relationships with their strategic suppliers based on appraisal criteria of price, delivery, quality, human right policy, worker's health and safety policy, information disclosure policy, waste management policy, environmental compliance, pollution control policy and technical capabilities of a supplier to a large extent. The results established that overall, the extent of use of the identified supplier appraisal criteria had increased SSCM performance in the targeted manufacturing firms in Kenya.

5.2.2. Supplier Collaboration and its Effect on SSCM Performance of Large Essential Goods Manufacturing firms in Kenya

The second study object wanted to find out the effect of supplier collaboration on SSCM performance of

manufacturing firms in Kenya. The results indicate that respondents consistently agreed that their organizations participate in joint decision making with suppliers, ensure timely and regular communication with suppliers on canceled orders and customer returns, maintain honest and candid conversations with suppliers on sustainability performance, have a clear business understanding on minimum requirements for product quality and industry standards, have suppliers who are committed towards achieving joint sustainability efforts, frequently share relevant information with suppliers to aid in requirements planning, relay information of product sustainability to suppliers, and share industry learnings on sustainable practices with suppliers to a large extent. Overall, the results showed that the degree of implementation of supplier collaboration activities by manufacturing firms in Kenya had led to improved SSCM performance.

5.2.3. Supplier Development and its Effect on SSCM Performance of Large Essential Goods Manufacturing firms in Kenya

The third study object investigated the effect of supplier development on sustainable supply chain management performance of manufacturing firms in Kenya. The results showed that respondents consistently agreed that their organizations provide suppliers with direct financial support for sustainable raw materials procurement, transfer competent employees to help suppliers with quality inspection, send industry experts to support suppliers during new product launches, maintain a training calendar for suppliers on environmental and societal best practices, provide suppliers with advance payment for requirements, provide key certification support to suppliers i.e., ISO 14001 certification on environment, provide technological support to suppliers, support suppliers with key process redesign i.e., production processes, engage in onsite supplier deliberations and consultation to, and work closely with suppliers during new product development to a large extent. Overall, the results showed that the level of supplier development initiatives in the manufacturing firms in Kenya had led to improved SSCM performance.

5.3. Conclusion

Conclusively, study results reveal that there is a very strong positive relationship between SRM elements of supplier appraisal criteria, supplier collaboration, and supplier development and SSCM performance selected firms. Therefore, increasing the three aspects of SRM results in improved SSCM performance of the

manufacturing firms in Kenya. Moreover, by establishing the effect of SRM components on SSCM performance of manufacturing firms in Kenya, it can be said that the research achieved its objectives.

5.4. Recommendations

5.4.1. Recommendations on research findings

To this end, the study recommends to procurement staff in manufacturing firms that adopting supplier appraisal criteria is a pre-requisite to setting up effective supplier collaboration programs in sustainable supply chain management. Selecting the right supply partner looks beyond strategic fit and financial fit and considers other critical factors such as the prevailing risks and differences in corporate culture, business practices and sustainability goals.

The study also recommends that management of the manufacturing firms in Kenya need to do more with regards to sharing relevant information with suppliers to aid in requirements planning, relaying information of product sustainability to suppliers, and sharing industry learnings on sustainable practices with suppliers considering that there was a significant difference in opinion among the respondents on these elements of supplier collaboration practices. The ultimate goal of engaging with suppliers is to develop a shared mindset about sustainability issues, to build supplier ownership of their sustainability vision, strategy and performance and to work more closely with suppliers with shared priorities.

The study further recommends to the management of the manufacturing firms in Kenya that they should intensify their support to suppliers in key process redesign, engage more frequently in onsite supplier deliberations and consultations, and work more closely with suppliers during new product development. This is premised on the fact that there was a significant difference in opinion among the respondents on these elements of supplier development.

Lastly, the study recommends to policy makers and regulators to demand that management of the manufacturing firms in Kenya incorporate sustainability issues in their supply chain management goals. By managing and seeking to improve environmental, social and economic performance throughout supply chains, manufacturing firms act in their own interests, the interests of their stakeholders and the interests of society.

5.4.2. Recommendations for further research

This study investigated only three SRM components, that is, Supplier Appraisal Criteria, Supplier Collaboration and Supplier Development. According to the findings, these components jointly affected 87.1% of SSCM performance of the firms under study. Therefore, besides these three components of SRM under study, there are other factors such as supplier performance management that may be accounting for 12.9% with an influence on SSCM performance and hence an area to be explored by future studies.

The present study was conducted in manufacturing firms in Kenya. The study recommends that this research be replicated in other businesses such as chain stores dealing in food and drug, and fast moving consumer goods (FMCG) in Kenya to compare possible synergies in SRM practices adopted in manufacturing vis-à-vis those used by chain stores in the pursuit of sustainable supply chain management performance.

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APPENDICES
APPENDIX I: LETTER OF INTRODUCTION

PETER ODUOR SIBUOR
P.O. BOX 14591-00800,
NAIROBI.

Dear Sir,

RE: Request for Research Data

I am a graduate student at KCA University pursuing MBA (Corporate Management). I am undertaking a research project on "Effect of Supplier Relationship Management on Sustainable Supply Chain Management Performance of Large Essential Goods Manufacturing firms in Kenya".

I have chosen your organization to form part of this study and I would really appreciate your help with filing in the attached questionnaire. The information and data collected will be exclusively used for this study and will be confidentially handled. Thank you in advance.

Yours Sincerely

PETER ODUOR SIBUOR

18/04449.

APPENDIX II: QUESTIONNAIRE

Introduction

This questionnaire has been put together for the exclusive purpose of collecting data on the effect of Supplier Relationship Management on Sustainable Supply Chain Management Performance of Manufacturing firms in Kenya. The data collected through this research instrument will be handled with utmost level of care and confidentiality, and will be used for academic purposes exclusively.

Section A: General Information

1. Name of the firm _____

2. Manufacturing subcategory of the firm _____

3. Number of years in operation (check where appropriate below)

   a. Less than 1 ☐

   b. 1-5 ☐

   c. 5-10 ☐

   d. Over 10 years ☐

4. How many suppliers do you engage for your firm needs in a year (check where appropriate below)?

   a. Less than 5 ☐

   b. 5-10 ☐

   c. More than 10 ☐

5. When was SRM implemented in your organization? (Check where appropriate)

   a. Never implemented ☐

   b. More than 10 years ago ☐

   c. Less than 10 years ☐

Section B: Supplier appraisal criteria adopted by your organization

Please indicate to what extent you agree that your company has implemented the following supplier appraisal criteria.

The scale shared below will be applicable;

1. To a very large extent **2.** Large extent **3.** Moderate extent **4.** Small extent **5.** Very small extent

No.	Supplier appraisal criteria	1	2	3	4	5
1.	The organization uses price as a supplier appraisal criterion?					
2.	The organization uses delivery as a supplier appraisal criterion?					
3.	The organization uses quality as a supplier appraisal criterion?					
4.	The organization uses human rights policy as a supplier appraisal criterion?					
5.	The organization uses workers health and safety policy as a supplier appraisal criterion?					
6.	The organization uses information disclosure policy as a supplier appraisal criterion?					
7.	The organization uses waste management policy as a supplier appraisal criterion?					
8.	The organization uses environmental compliance as a supplier appraisal criterion?					
9.	The organization uses pollution control policy as a supplier appraisal criterion?					
10.	The organization uses technical capabilities as supplier appraisal criterion?					

Section C: The extent of adoption of supplier collaboration practices

No.	Supplier collaboration practices	1	2	3	4	5
1.	The organization frequently shares relevant information with suppliers to aide in requirements planning?					
2.	The organization participate in joint decision making with suppliers on strategic materials					
3.	The organization ensures timely communication with suppliers on canceled orders					
4.	The organization maintains regular communication with suppliers on customer returns					
5.	The organization relays information of products sustainability to suppliers					
6.	The organization shares industry learnings on sustainable practices with suppliers					
7.	The organization maintains honest and candid conversation with suppliers on sustainability performance					
8.	The organization suppliers have a clear business understanding on minimum requirements for products quality and industry standard					
9.	The organization suppliers are committed towards achieving joint sustainability efforts?					
10.	The organization is committed towards maintaining relationship with suppliers and offers benefits such as prompt payments					

Section D: The extent of adoption of supplier development practices

No.	Supplier development practices	1	2	3	4	5
1.	The organization provide suppliers with direct financial support for sustainable raw materials procurement					
2.	The organization transfers competent employees to help suppliers with quality inspection					
3.	The organization sends industry experts to support suppliers during new product launches					
4.	The organization maintains a training calendar for suppliers on environmental and societal best practices					
5.	The organization support suppliers with key process redesign i.e., production processes					
6.	The organization provides suppliers with advance payment for requirements					
7.	The organization provides key certification support to suppliers i.e., ISO 14001 certification on environment					
8.	The organization provides technological support to suppliers					
9.	The organization engages in onsite supplier deliberations and consultation					
10.	The organization works closely with suppliers during new product development					

Section E: Sustainable supply chain management performance

Sustainable supply chain management performance measures.	Previous Year	Current Year
Order cycle time		
Customer service level		
Cost of raw materials		
Revenue from goods sold		
Inventory holding costs		
Cost of expired perishables		
Penalties for incorrectly filled or late orders		
Credits for incorrectly filled or late deliveries		
Cost of goods returned by customers		
Credits for goods returned to suppliers		

Number of suppliers screened for child labor		
Number of suppliers screened for compulsory labor		
Value of CSR initiatives		
Number of suppliers with ISO 14001 certification		
Number of suppliers with recycled input materials		
Total direct (scope 1&2) and indirect (scope 3) greenhouse gas emission		

APPENDIX III: LIST OF MANUFACTURING COMPANIES IN KENYA

Energy Sector		
Virtual City Limited	Pioneer Electrical Systems Ltd	Kenwest Cables Limited
Synergy Pro	Digitech East Africa Limited	Technik Limited
Specialized Power Systems Limited	Aucma Digital Technology	Pentagon Agencies Limited
Tea Machinery Ltd	AssaAbloy East Africa Limited	PCTL Automation Limited
Sollatek Electronics Kenya Ltd	Amedo Centre Kenya Limited	Eveready East Africa Limited
Sanyo Armo Limited	A.I Records Kenya Limited	Holman Brothers East Africa Limited
Reliable Electricals Engineers Limited	Baumann Engineering Ltd	Power Engineering International Limited
Socabelec East Africa Limited	Centurion Systems Ltd	Mustek East Africa Limited
Libya Oil Kenya Ltd	Marshall Fowler Engineers Limited	Frigorex East Africa Limited
Shell Kenya Limited	Metlex Industries Limited	Optimum Lubricants Limited
Avery East Africa Limited	Mecer East Africa Limited	Nationwide Electrical Industries Limited
Power Technic Limited	Metsec Limited	Module Engineering Systems Limited
Kenwestfal Works Limited	Asl Limited	Ibera Africa Power East Africa Ltd
Kenya Power& Lighting Company	Sneider Electric Limited	
Timber Sector		
Economic Housing Group Limited	Rosewood Office Systems Limited	Woodtex Kenya Limited
Newline Limited	Slumberland Kenya Limited	United Bags Manufacturers Limited
PG Bison Limited	Twiga Stationers & Printer Limited	
Bhachu Industries Limited	Transpaper Kenya Limited	
Chui Auto Spring Industries Limited	Timsales Limited	
Toyota East Africa Limited	Shamco Industries Limited	
Hwan Sung Industries Kenya Limited	Shah Timber Mart Limited	
Furniture International Limited	Uchumi Quick Suppliers Limited	
Fine Wood Works Limited	Tetra Pak Limited	
Varsani Brakelining Limited	Taws Limited	
Unifilters Kenya Limited	Statpack Industries Limited	
Eldama Kenya Limited	Wood Makers Kenya Limited	
Chemical Sector		
Bayer East Africa Limited	Henkel Kenya Limited	Vitafoam Products Ltd

Anffi Kenya Limited	Grand Paints Limited	Tri-Clover Industries Kenya Limited
Basco Product Kenya Limited	Galaxy Paints & Coating Co. Limited	Twiga Chemical Industries Ltd
Beiersdorf East Africa Limited	European Perfumes & Cosmetics Limited	Syngenta East Africa Limited
Continental Products Limited	Deluxe Inks Limited	Murphy Chemical East Africa Limited
Cooper K- Brands Limited	E. Africa Heavy Chemicals Limited	Synressins Limited
Cooper Kenya Limited	Elex Products Limited	Soilex Chemical Limited
BOC Kenya Ltd	Desbro Kenya Ltd	Unilever Kenya Limited
Carbacid(CO2)Ltd	Crown Berger Kenya Limited	SupaBrite Limited
Blue Ring Products Limited	Decase Chemical Limited	Strategic Industries Ltd
Buyline Industries Limited	Crown Gases Limited	Royal Trading Company Limited
Coates Brothers East Africa Ltd	Sadolin Paints East Africa Limited	Revolution Stores Company Limited
Chemicals and Solvents East Africa Limited	Super Foam Limited	Reckitts Benckiser East Africa Limited
Johnson Diversity E.A Limited	Saroc Limited	Osho Chemicals Industries Limited
Kemia International Limited	Sara Lee Kenya Ltd	PZ Cussions Limited
Coil Products Kenya Ltd	Oasis Limited	Procter & Gamble East Africa Limited
Colgate Palmolive East Africa Limited	Rumorth East Africa Limited	Polychain East Africa Limited
Magadi Soda Company Limited	Maroo Polymers Limited	Imaging Solutions Kenya Limited
Ken Nat Ink &Chemical Limited	Match Masters Limited	Odex Chemicals Limited
	United Chemical Industries Limited	Interconsumer Products Limited
Food Sector		
Alpine Coolers Limited	Patco Industries Ltd	Smash Industries Limited
Alliance One Tobacco Kenya Limited	Kenya Nut Company Limited	Re-suns spice Ltd
Alpha Fine Foods Limited	Palmhouse Diaries Limited	Softa Bottling Co. Limited
Global Fresh Limited	Kenya Sweets Limited	Nairobi Flour Mills Limited
Hail & Cotton Distillers Limited	Nicola Farms Limited	Razco Limited
Gonas Best Limited	Nestle Kenya Limited	NAS Airport Services Limited
AI. Mahra Industries Limited	Kenya Breweries Limited	Rafiki Millers Limited
Glacier Products Limited	Jetlak Foods Limited	Nairobi Bottlers Limited
Global Beverages Limited	Kenblest Ltd	Mini Bakeries Limited
Global Allied Industries Limited	Karirana Estate Limited	Mount Kenya Bottlers Limited
Farmers Choice Limited	Kenafric Industries Ltd	Manji Food Industries Ltd
Giloil Company Ltd	Jambo Biscuits Kenya Limited	Kenya Tea Development Agency Limited
Frigoken Limited	Highlands Canner Limited	Melvine Marsh International Ltd

Eastern Produce Kenya Limited	Insta Products(EPZ) Limited	Koba Waters Limited
Del Monte Kenya Limited	Super Bakery Limited	Mafuko Industries Limited
East Africa Sea Food Limited	Highlands Mineral Water Co. Limited	Kwality Candies & Sweets Limited
East Africa Breweries Limited	Sunny Processor Limited	London Distillers Kenya Limited
Deepa Industries Limited	Spin Knit Dairy Limited	Lari Dairies Alliance Limited
Crown Foods Limited	Kenya Wine Agency Ltd	Unga Group Limited
Cut Tobacco Kenya Limited	Capwell Industries Limited	Kevian Kenya Limited
Confec Industries East Africa Limited	Excel Chemical Limited	Usafi Services Limited
Corn Products Kenya Limited	Carlton Products (EA) Limited	W.E Tilley Limited
Bio Foods Products Ltd	Edermann Co. Kenya Limited	Uzuri Foods Limited
Coca Cola East Africa Limited	Chirag Kenya Ltd	ValuePark Foods Limited
Breakfast Cereal Company Limited	E&A industries limited	Trufoods Limited
Centrofood Industries Limited	Kakuzi Limited	Proctor & Allan (E.A.) Limited
British American Tobacco Kenya Limited	Candy Kenya Limited	UDV Kenya Limited
Broadway Bakery Limited	Annum Trading Company Ltd	Promasider Limited
Africa Spirits Limited	Brookside Dairy Limited	Premier Food Industries Ltd
Bidco Oil Refineries Limited	Aquamist Limited	Premier Flour Mills Limited
Agrinerer Agriculture Development Limited	Pearl Industries Ltd	
Belfast Millers Limited	Pembe Flour Mills Limited	
Plastics and Rubber		
Premier Industries Limited	General Plastics Ltd	Springbox Kenya Limited
Betatrad Kenya Limited	Prestige Packaging Limited	Haco Industries Kenya Limited
Polythene Industries Limited	Five Star Industries Limited	Solvochem East Africa Limited
Blowplast Limited	Prosel Limited	Hi-Plast Limited
Polyflex Industries Limited	Eslon Plastics Kenya Limited	Silpack Industries Ltd
Bobmil Industries Limited	Oplast Industries Ltd	Jamlam Industries Limited
Polyblend Ltd	Elgon Kenya Limited	Sanpac Africa Limited
Complast Industries Ltd	Sumaria Industries Limited	Kamba manufacturing Limited
Plastics & Rubber Industries Limited	Elgitread Kenya Limited	Sameer Africa Limited
Kenpoly Manufacturers Limited	Super Manufacturers Limited	Keci Rubber Industries Limited
Packaging Industries Limited	Dune Packaging Limited	Safepak Ltd
Kentainers Limited	Techpak Industries Limited	Nairobi Plastics Industries Ltd
Ombi Rubber Rollers Limited	Alankar Industries Limited	Rubber Products Limited
KingPlastic Industries Limited	Treadsetters Tyres Limited	Nav Plastics Ltd

Metro Plastics Kenya Limited	Afro Plastics Kenya Limited	Raffia Bags Kenya Limited
Kingway Tyres & Automart Limited	Uni-Plastics Limited	Ombi Rubber Ltd
Laneeb Plastics Industries Limited	ACME Containers Limited	Plastic Electricons Limited
L.G. Harris & Co. Limited	Wonderpac Industries Limited	Packaging Master Ltd
Building Sector		
KarsanMurji & Company Ltd	Mombasa Cement Limited	Kenya Builders & Concrete Limited
Central Glass Industries Limited	Bamburi Cement Limited	Kenbro Industries Limited
East Africa Portland Cement Limited	Manson Hart Kenya Limited	
Paper Sector		
Paper Converters Kenya Limited	English Press Ltd	Regal Press Kenya Limited
Ajit Clothing Factory Limited	Paper House of Kenya Limited	General Printers Limited
Kim- Fay East Africa Limited	Ellams Products Limited	Ramco Printing Works Limited
Associated Papers & Stationery Limited	Paperbags Ltd	Graphics & Allied Limited
Kenya Stationers Limited	Elite Offset Limited	Pan African Paper Mills East Africa Limited
Autolitho Limited	Primex Printers Limited	Guaca Stationers Limited
Colour Print Limited	East Africa Packaging Industries Limited	Modern Lithographic Kenya Limited
Bag and Envelope Converters Limited	Print Exchange Limited	Icons Printers Limited
Colour Packaging Limited	Dodhia Packaging Ltd	Label Converters Limited
Bags & Bales Manufacturers Kenya Limited	Printpak Multi Packaging Limited	Interlabels Africa Limited
Colour Labels Limited	D.L. Patel Press Kenya Limited	Kul Graphics Limited
Brand Printers Ltd	Printwell Industries Limited	Jomo Kenyatta Foundation Ltd
Chandaria Industries Limited	Creative Print House Kenya Limited	Kitabu Industries Limited
Business Forms & Systems Limited	Prudential Printers Limited	Kartasi Industries Limited
Compack Limited	Friers- Kolbe Press Ltd	Kenafric Diaries Manufacturers Limited
Carton Manufacturers Limited	Punchline Limited	
Textile Sector		
J.A.R Kenya Limited	Silver Star Manufacturers Limited	YU-UN Kenya Company Limited
Africa Apparels Limited	Kenya Trading Limited	Spinners&Spinners Limited
Embalishments Limited	Rolex Garments Limited	Yoohan Kenya Company Limited
FulchandManek & Bros Limited	Kikoy Company Limited	Storm Apparel Manufacturers Company Limited
Brother Shirts Factory	Riziki Manufacturers	Vaja Manufacturers Limited

Limited	Limited	
Image Apparels Limited	Lee-stud Limited	Straightline Enterprises Limited
Bogani Industries Limited	Protex Kenya Limited	Upan Wasana Limited
Alltex Limited	Metro Impex Limited	Sunflag Textiles & Knitwear Mills Limited
Blue Plus Limited	Premier Knitwear Limited	United Aryan Limited
Alpha Knits Limited	Midco Textiles East Africa Limited	Tarpo Industries Ltd
Bhupco Textile Mills Ltd	Ngecha Industries Limited	Thika Cloth Mills Limited
Apex Apparels Limited	Mirage Fashionwear Limited	Teita Estate Limited
	MRC Nairobi Limited	
Motor Vehicle Assembly and Accessories		
Unifilters Kenya Limited	Mann Manufacturing Company Limited	Theevan Enterprises Limited
Auto Ancillaries Limited	General Motor East Africa Ltd	Megh Cushion Industries Limited
Toyota East Africa Limited	Labh Singh Harnam Singh Limited	Sohansons Limited
VarsaniBrakelining Limited	Impala Glass Industries Limited	Mutsimoto Motor Company Limited
Chui Auto Spring Industries Limited	Kenya Vehicle Manufacturers Ltd	Pipe Manufacturers Limited
Bhachu Industries Limited	Kenya Grange Vehicle Industries Limited	

Source: Kenya Association of Manufacturers (KAM) Directory. June, 2014