

**EFFECTS OF GREEN SUPPLY CHAIN MANAGEMENT ON ORGANIZATIONAL
PRODUCTIVITY: A SURVEY OF TEXTILE INDUSTRIES IN ELDORET**

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DEDICATION

This project is dedicated to my parents Mr and Mrs kebenei, my brothers Erick, Moses, Felix and my daughter Michelle for their encouragement and understanding during my time of this study. May God bless them abundantly.

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I wish to acknowledge the almighty God who gave me the courage and strength to face the challenges in the project writing. I thank my supervisors Dr. Geoffrey Kimutai and Dr. Caroline Ayuma for their valuable advice which was of great help to me. God bless and keep you.

ABSTRACT

Green Supply Chain Management practice is a multi-dimensional concept which can be measured from different perspectives. The study purpose was to assess effects of green supply chain management on organizational productivity: a survey of Textile Industries in Eldoret. Its objectives were; to analyze the effects of green procurement, green manufacturing and the effects of operations and reverse logistics on organizational productivity in Textile Industries in Eldoret Town. The study was guided by public value theory and institutional theory; the study adopted descriptive survey research design. The research was carried out in all the departments of Textile Industries in Eldoret Town. For the purpose of getting a representative sample, the researchers used a census of the target population. Questionnaires were used as data collection instruments. The data was analyzed using both descriptive statistics (frequencies, percentages, mean and standard deviation and inferential statistics (multiple linear regression model) the findings was presented in tables. The study findings indicate that all the three predictor variables; green procurement $p=0.000$, green manufacturing $p=0.000$ and operations and reverse logistics $p=0.000$ showed a strong relationship with the dependent variable organizational productivity. The study thus mechanisms should be put in place by the textile industries to address the challenges that are hampering the implementation of green procurement. It should consider the environmental aspects to performance criteria when making purchasing decisions, also, organizations should adopt production processes which use inputs with relatively low environmental impacts, which are highly efficient, and which will generate little or no waste or pollution, this can lead to lower raw material costs, production efficiency gains, reduced environmental and occupational safety expenses, and improved corporate image, further, textile industries should adopt reverse logistics practices in order to conform to set environmental regulations, this should includes all activities of the flows of products, information and services between the point of origin and the point of consumption. Lastly the study recommends that organizations should increase diversity and dynamics, environmental issues which are important in ensuring organizational productivity. This will ensure organizations reduce the impact on the environment on the procurement process and to develop sustainable transport and supply chain strategies. This research that a research of the same kind since the study only focused on the effects of green procurement, green manufacturing and operations and reverse logistics of textile industries in Eldoret Town, a comparative research is suggested with other regions of the same characteristics. Further owing to the limitations of the study it is suggested that same study be done but in other sectors as the results on the current study may not be generalized to other institutions, also, as more reliable data becomes available on green procurement and organizational productivity, it may also be useful to determine whether or not the relationships examined in this study hold over time.

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LIST OF ABBREVIATIONS

EACC	Ethics and Anti-Corruption Commission
ERP	Enterprise Resource Planning.
GSCM	Green Supply Chain Management
SCM	Supply Chain Management
JIT	Just-In-Time
ERP	Enterprise Resource Planning
TQM	Total Quality Management
SKU	Stock keeping Unit

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Green Supply Chain Management practice is a multi-dimensional concept which may be measured from different views. Srivastava (2007) defines green supply Chain management as a method of integrating environmental thinking into supply chain management, together with product design, material sourcing and selection, manufacturing processes, delivery of the ultimate product to the consumers, and end-of-life management of the merchandise after its helpful life

According to Ninlawan., Seksan , Tossapol, and Pilada, (2010), green manufacturing, green distribution and green logistics vital dimensions of green supply chain management practices required by manufacturing sectors to attain increased sustainability performance. Green, Pamela, Meacham and Bhadauria (2012), Suggested that GSCM practices ought to embrace internal environmental management, green information systems, inexperienced edgitting, cooperation with customers, eco-design and investment recovery. Lee (2012) noted that GSCM practices are composed of company and operational ways to enhance environmental sustainability including environmental management, cooperation with customers and eco-design. Laosirihongthong, Adebajo and Tan (2013) investigated the impacts of pro-active and re-active practices of GSCM on economic, environmental and intangible performance in Thailand processing companies. Taken along, these studies are representative of efforts to deal with the diversity of interesting dimensions of GSCM practices. Green supply Chain Management is a method that converts inputs into output by reducing hazardous substances, increasing potency in lighting and minimizing waste by actively planning and redesigning green processes.

According to Zhang and Zheng (2010), green supply chain management needs organizations to design products that facilitate the use, recycle and recovery of components and material components; avoid or cut back the utilization of hazardous product among production process; minimize consumption of materials. Green supply chain management consists of green packaging that aims to downsize packaging, use green packaging materials, encourage recycling and re-use of organizational programs, work with vendor to standardize packaging, encourage

and adopt revertible packaging ways, minimize material uses and time to take , use reusable pallet system and finally, save energy in warehouses. As for green logistics/transportation, it'sconcerning delivering producton to user site, using alternative fuel vehicles and grouping orders along, instead of smaller batches ,investing in vehicles that are designed to cut back environmental impacts, and designing vehicle routes Laosirihongthong, Adebajo and Tan (2013) green logisticsconcerns reverse logisticsthat featurescollecting used products and packaging from customers for reuse, returning packaging ofproducts to suppliers for reprocessing and requiring suppliers to collect their packaging materials.

Global aggressiveness is that driver of GSCM that states the existence of competition among various organizations that serve international customers. An index of the competitiveness of the countries within the world is compiled once a year by World Economic Forum Economic Forum. International competition is employedto explain the worldwide market, and the struggle of variouscorporations or businesses to prevail over the other. International competition can help with providing GSCM practices concerning suppliers and customers and are involved with the organizational supply chain management. Greening the supply chain has variedadvantages for a corporation, starting fromvalue reduction, to integration of suppliers in a very participative decision making process that promotes environmental innovation .A larger part of the GSCM functionprimarilycontains of green purchasingways adopted by organizations in response to increasing internationalconsiderations of environmental sustainability (Bin and Jun 2009).

Within the developing nations global green supply chain management is taken into account to possess numerous benefits that a company can revel in. Green SCM enables to enhance agility by way of mitigating risks and dashing improvements. It additionally will increase adaptability thru revolutionary strategies and continuous enhancements.Green SCM includes negotiating guidelines with suppliers and clients, which ends up in higher alignment of enterprise methods and principles. Alternativeadvantages of GSCM areit ensures organizational financial performance; resource sustainability, low costs in procurement process, product differentiation and competitive advantage, adapting to regulation and reducing risks and improved quality and product. All theseresult into alignment of supply chain (Lyons, Emmet and Sood, 2010).

Green supply chain practice normally is believed to represent the environmentally friendly image of product, process, systems and technologies, and the way the business is conducted. Most corporations in developing nations have adopted the green solutions into their organization and tries to reduce negative environmental effects instead of adopting a proactive approach to cut back the sources of waste or pollution. Therefore, there's need to place additional interest in finding out the adoption and implementation of GSCM in developing countries (Tan, 2013)

In the developing countries particularly in Africa, stress has been made on corporations to run their business responsibly (Van Hock, & Erasmus, 2000). Welford (1998) emphasize that majority of businesses that answer environmental problems does so solely in marginal ways. With the increasing awareness on environmental sustainability problems, producing companies these days begin to think and act green. There are many organizational difficulties in measuring performance among organizations which arise in inter-organizational environmental performance measuring visage with rising pressures to develop additional environmental and social responsibility, organizations are developing new communication approaches in conjunction with attempt to include sustainability measures into strategic performance measuring systems. Sustainable supply chain performance measuring is aimed toward addressing environmental, social and economic aspects of sustainable supply chain management.

In Kenya, there has been conscious awareness in several companies to undertake vital efforts towards establishing effective organizational green supply chain Management initiatives, (Srivastava, 2008; Zhu et al 2007; Tarig and Suhaiza, 2010). This encompasses environmental initiatives in inbound logistics which includes green purchasing, eco-design and production as outbound which has reverse logistics because the name implies, these initiatives involve the relevant stakeholders like materials suppliers, service contractors, vendors, distributors and end users whom work cohesively to eliminate adverse environmental impacts which may presumably produce attributable activities (Vachon and Klassen, 2006; Tarig and Suhaiza, 2010).

1.2 Statement of the Problem

According to Srivastava (2007) environmental sustainability is a very important issue to business practice. Waste and emissions caused by the supply chain production are the major sources of environmental issues together with global warming and air pollution. In Kenya Green supply chain management (GSCM) is gaining growing hobby amongst researchers and supply chain control practitioners. The growing significance of GSCM is pushed particularly through the escalating deterioration of the surroundings, like diminishing raw material sources, overflowing waste websites and increasing level of pollution, textile industries are faced with diverse challenges which encompass: lack of appropriate technology to aid organizations and their efforts to go green and enterprise techniques needed to capture the suitable information in the supply chain and therefore make great use of their current existing technology; the change-off among green requirement supply chain optimization efforts with green supply chain efforts.

Supply Chain Performance Measure SCM focuses on how organizations control their suppliers' processes, technology and capability to improve competitive advantage (Farley 1997) Supply chain performance measurement system needs to be enhanced by developing metrics and an assessment of implementation barriers to overcome in implementing the existing measurement system. The existing supply chain performance measurement systems are problematic because they commonly use cost as the primary measure and they do not reflect the strategic goals of the organization nor consider the effect of supply chain disruption due to uncertainty

There are various studies done on the effects of green supply chain management, these studies come up with various demanding situations dealing with groups at the same time as trying to implement green deliver chain. Murray, (2000). recognized five challenges of implementing GSC. These are lack of standards, consciousness, organizational business case development, organizational sustainability implementation programs and communication planning in organizations. Dunn, & Jones (2010) found out that human activities had unwittingly contributed to global warming and decrease in the ozone layer. Barney, (2002) argue that the widespread practices of capitalism for commercialization of commodities in organizations to complement modernized routine has slightly ruined the environmental exploitation of resources. Therefore the knowledge gap exists in these studies as to whether green procurement, green

manufacturing and operations and reverse logistics affects organizational productivity in Textile Industries in Eldoret Town

1.3 Objectives of the Study

1.3.1 Objectives of the Study

The overall objective of this study was to determine the effects of green supply chain management on organizational productivity a survey of Textile Industries in Eldoret Town.

1.3.2 Specific Objective

- i. To analyze the effects of Green procurement on organizational productivity in Textile Industries in Eldoret Town
- ii. To determine the effects Green manufacturing on organizational productivity in Textile Industries in Eldoret Town
- iii. To assess the effects of operations and reverse logistics on organizational productivity in Textile Industries in Eldoret Town

1.4. Research Hypothesis

The study was guided by the following research hypotheses

H₀₁: There is no significant relationship between green procurement and organizational productivity in Textile Industries in Eldoret Town

H₀₂: There is no significant association between green manufacturing and organizational productivity in Textile Industries in Eldoret Town

H₀₃: There is no significant relationship between operations and reverse logistics and organizational productivity in Textile Industries in Eldoret Town

1.5 Significance of the study

Green supply chain is a very important concept in supply chain management. Many organizations are becoming more demanding and aware of the need for environmentally friendly business practices. The findings of the study will enable organizations to understand the benefits and challenges of Green Supply Chain Management. This will motivate the organizations to give serious attention to this concept.

Data from this study will be used by the Kenya Government, other countries in Africa, and the developing world who largely share the same experiences in public procurement. Besides, the results of this study are expected to ignite debate among other interested stakeholders and policy reformers in Green Supply Chain Management. This will help to initiate further positive reforms in the sector.

Lastly academicians who are interested in conducting studies in the area of Green Supply Chain Management will also benefit from the study as they will get a source of reference from the findings of this study. They will also be able to find more information on areas that may need further research under this topic.

1.6 Scope of the study

The study was carried out in Textile Industries in Eldoret Town, and it covered a period between June 2015 and August, 2016. The study was conducted in various departments in Textile Industries in Eldoret Town. The study focused on the effects of green procurement, green manufacturing and operations and reverse logistics on organizational productivity in Textile Industries in Eldoret Town.

1.7 Limitations of the study.

The study findings were limited to textile industries in Eldoret town although its results were generalized to cover all other textile industries. Another limitation of the study was the refusal by some of the respondents to voluntarily offer information on the questionnaires for fear of reprisal by the authority. However, the researcher assured the respondents that the information given was treated with confidentiality.

1.8 Operational Definitions of Terms

Green manufacturing refers to the production processes which use inputs with relatively low environmental impacts, which are highly efficient, and which generate little or no waste or pollution

Green procurement refers to the selection and acquisition of products and services that most effectively minimize negative environmental impacts

Green supply chain management refers to the method of integrating environmental thinking into supply chain management, together with product design, material sourcing and selection, manufacturing processes, delivery of the ultimate product to the consumers, and end-of-life management of the merchandise after its helpful life

Productivity refers to a measure of the efficiency of an organization in converting inputs into useful outputs. It is measured in terms of Organizational output, Organizational sales turn over, Labour productivity and Capital productivity i.e. effectiveness and efficiency

Reverse logistics refers to the process where a manufacturer accepts previously shipped products from the point of consumption for possible recycling and remanufacturing

Supply chain management refers to the coordination and management of a complex network of activities involved in delivering a finished product to the end-user or customer.

CHAPTER TWO

LITERATURE REVIEW

2.1. Review of Theories

2.1.1 Public Value Theory

Public value theory was developed by Moore in 1995 to provide public sector managers with a larger understanding of the challenges and opportunities available in the environment within which they work, and therefore the challenge to form publicly valuable outcomes. Public value theory describes the value that a corporation contributes to society. The term changed into at first coined with the aid of Harvard academician Mark H. Moore who saw it because the equal of stockholder value in public management. Public value is supposed to offer managers with a belief of the way activities will contribute to the common good.

Public values are those providing normative accord concerning the rights and benefits to which citizens ought to and are entitled; the obligations of citizens to society, the state and one another; and therefore the principles on that governments and policies ought to be based mostly. Public value is value for the general public (Srivastava, 2007) Value for the general public may be as a result of evaluations concerning however basic desires of people, teams and therefore the society as a full and are influenced in relationships involving the general public. Public value then is additional value from the public, drawn from the expertise of the general public. The general public is an imperative operational fiction of society. Public value creation is placed in relationships between the individual and society, supported in people, brought about by subjective evaluations against basic needs, activated by and realized in emotional-motivational states, and created and reproduced in experience-intense practices (Green et al, 2012)

Moore (2010), argue that Public value theory envisages a manager's purpose as going on beyond implementation of policy and adherence to institutional values and norms. The theory seeks out opportunities to form vital enhancements to the lives of the public, According to constable, (Srivastava, 2007) in contrast to private enterprise, organizations providing public services are directly responsible to citizens and their democratic representatives. The public value theory is relevant to the current study because it determines the extent to which green supply chain

management contribute to improvement of organization productivity in terms of provision of better services, organizational output, quality product and organizational sales turn over.

2.1.2. Institutional Theory

According to Scott (2004) Institutional theory is a widely prevalent theoretical posture that emphasizes rational mythology and legitimacy Institutional concept specializes in the deeper and further resilient factors of social structures. It considers the processes that structures, together with organizational culture and become established as authoritative strategies for social behavior (Scott, 2004). Different components of institutional theory justify that these parts are created, diffused, adopted, and tailored over space and time; and the way they fall into decline and disuse. According to Dunn, (2010) Institutional theory adopts a social science perspective to elucidate organizational structures and behavior. It attracts attention to the societal factors that influence organizational planning processes and above all how rationalized activities are adopted by organizations (Scott, 2001). The institutional theory is the ancient approach that's used to examine components of public procurement (Obanda, 2010).

Scott, (2004) identified three pillars of institutions as regulative pillar, normative pillar and cultural cognitive organizational pillar. The regulative pillar emphasizes the utilization of rules and regulations as social control mechanism which ensures expedience as basis for supply chain management. The normative pillar is the organizational norms and values within the social institutions obligation as the basis of supply chain management. The cultural-cognitive organizations pillar rests on shared understanding on institutions common beliefs, symbols, and shared understanding.

Critics of institutionalism have maintained that the thought of institution is so central as a consequence, the meaning of institution has resulted in a never ending dispute which scholars are institutionalists or not and an identical confusion concerning what's purported to be the core of the theory. In alternative words, institutional economics have become well-known as a result of it means all things to all individuals, which in the end of the day is meaning of nothing. The institutional theory is relevant to the current study because it is used to examine the elements of green supply chain management.

2.1.3 Resource Dependency Theory

The study was guided by the resource dependency theory; the idea of this theory focuses on the idea of costly-to-copy attributes of the firm to comprehend superior performance and competitive advantage (Conner, 1991). The speculation argues that sustained competitive benefit is generated by means of the unique package deal of assets on the core of the company in which enterprise owners build their agencies from the resources and abilities that they presently own or none transmitted. In preferred, the RBV principle addresses the critical difficulty of ways superior performance is attained relative to numerous companies in an equal market and posits that superior overall performance outcomes from effort and exploiting extraordinary assets of the firm

According to useful resource dependence concept (RDT), businesses get uncertainties and manipulate dependence with the aid of intentionally structuring their change relationships, establishing formal and semi-formal linkages with opportunity agencies. thru interdependency, organizations will synergistically blend their own resource units with the complementary resources in their companions and consequently broaden a aid bundle this is distinct and arduous to mimic .By cultivating such relationship-specific capabilities that become superior to what the organizations could possess on their own corporations (Sambharya&Banerji, 2006; Paulraj&Chen, 2007).

The resource dependence theory may be a relevant theory to SCM as a result of its facilitation on organizational-environmentalscanning spanning activities, which imply that one firm will hardly deliver the goodsproperty growth. Therefore, corporationsought todepend upon the buyer-supplier relationship that helps improve cooperation and coordination among supply chain members. In the context of GSCM, inter-organizational collaboration is necessary for managing the inner and external coordination and cooperation to possess the system with successenforced throughout the entireoffer chains (Zhu et al., 2010). Srivastava, (2007), developed a call model to live environmental observe of suppliers employing a multi-attribute utility theory approach. Kainuma and Tawara (2006) projected the multiple attribute utility theory methodology for assessing supply chain as well as re-use and utilization throughout the life cycle of product and services.

The Resource Dependency Theory has been criticized because of rarity is obsolete: though conspicuously gift in Wernerfelt's original articulation of the resource-based view (1984) and Barney's sequent framework (Barney, 1991) the conception that resources have to be compelled to be rare to be ready to cooperate as a potential supply of a sustained competitive advantage is senseless Walker, Sisto., & McBain, (2008). As a result of the implications of the opposite ideas (e.g. valuable, unreplicable and non substitutability)

Although the resource-based view (RBV) has emerged jointly of the substantial theories of strategic management, it's aforementioned that it's over-looked the role of entrepreneurial methods and entrepreneurial skills jointly of the crucial sources of the competitive advantage of a firm. Even today, once entrepreneurship analysis is in demand, most economic analysis, and consequently abundant of strategic management analysis, views entrepreneurship because the specter that haunts economic model.

Many students have tried to research into the mechanism of property competitive advantage of a firm through the RBV with original ideas like 'core' VRIO framework (Barney, 2002), and routine and skills (e.g., Viscount Nelson & Winter, 1982), however, very little add RBV has been created to understand the role of entrepreneurship because the crucial supply of competitive advantage, despite the skills of the enterpriser are without doubt the principal human resource possessed by a firm (Alvarez & Barney, 2000).

2.1.4 Sustainability Theory

The study was additionally guided by sustainable theory, sustainability suggests that meeting the requirements of this generations while not compromising the power of future generations to satisfy theirs. It seeks to market acceptable development so as to alleviate economic condition whereas still conserving the ecological health of the landscape. Sustainability works to know the connections between environments, economy and also the society.

Theories of sustainability commit to rank and integrate social responses to environmental and cultural issues. An economic model appearance to sustain natural and money capital; ecological model *diversity* to biological diversity and ecological integrity; political model *diversity* to social systems that understand human dignity. Religion has entered the talk with symbolic, critical, and psychological feature resources for cultural modification. On a international scale the political

project of sustainability increases a set of simple troubles and comprehensive dreams. by that specialize in the ecological dependency of within your means and societal systems; sustainability concept illuminates the mutual effects among environmental degradation caused by human activities and additionally the perils to human systems bestowed by international environmental issues. The idea of sustainability therefore increases a starkly basic question: will human motion with fulfillment hold itself and its dreams even as not laborious the sources on that it depends

At local and worldwide degrees, then, sustainability directs practical interest to the superior mutuality of human and ecological systems. economic fitness, ecological integrity, social justice, and responsibility to the long term should be included to deal with more than one worldwide troubles inner a coherent, long lasting, and ethical social imaginative and prescient. That inclusive scope and potential vision makes property ideologically sponge like and politically massive. Sustainability is used to argue for and in opposition to weather treaties, for and against loose markets, for and towards social outlay, and for and towards environmental protection. According to a research report from the Economist Intelligence Unit by ExxonMobil (2011), there's growing importance of companysustainability in sanctioningcorporations to vie and to draw in customers. Business each impacts and depends on the availability and health of our natural resources. In recognizing this association and protectivelifesurrounding corporations and diverseness in and around their operations the survey claims that the adoption of sustainable practices doesn't cause companies' share costs to rise. It may well be that corporations with a powerfulfinancial performance merely have a lot of resources to devote to sustainability. What the findings do show, however, is that it'spotentialto require a proactive position on social and environmental problemswhereas still delivering strongfinancial growth. Understanding the total life cycle of their operations is vital to operative in an environmentally sustainable manner and which involves assessing the organizational surroundings; strategic planning facilitating operations with integrity and Restoring the environment.

Sustainability theory has been criticized because it needs humans to acknowledge the straightforward facts of ecological dependency; it provokes reflection on organizational values and most basic beliefs, and organizations habits, and our overarching worldviews. In conclusion, in its current kind, sustainable green procurement represents an altogether imprecise, intrinsically contradictory procedure to mediating the bottlenecks to development. Three main critiques for

example sustainable development is Western construct, perpetuating the philosophic underpinnings of former approaches, it focuses its efforts on the unsustainable growth of economic process, and its broad nature creates dangerous opportunities. Most basically, the longer term of sustainable development as a technique of overcoming the impasse should a lot of meaningfully conceive to amendment world production processes so as to render a a lot of evenhanded, just, and sustainable world order into the rights and interests of all organizations incorporated.

2.2. Empirical Review

According to Barney, (2002) green supply chain came into context in 2002. Barney, (2002) articles were the first scholars of this literature that developed an best prognostication system for organizations to use to forecast product that may be probably be reused. This prognostication system, however, was extremely contentious as a result of returning individual containers isn't sometimes proverbial with certainty, therefore, their findings could otherwise be incoherent. GSCM has gained quality with both scholars and practitioners to aim in reducing waste and conserving the standard of product-life and also the natural resources. Eco-efficiency and remanufacturing processes as currently necessary assets to attain best practice (Ashley, 1993; Srivastava, 2007). International market demands and governmental pressures and pushing businesses to become a lot of more sustainable (Guide & Srivastava, 1998; Gungor & Gupta, 1999)

Sarkis et al (2011) discuss however in developed countries like the USA, powerful pressures through laws and rules improved awareness and therefore drove environmental management practices. Large prosperous corporations in a business sometimes face intense scrutiny from competitors and external environmental activists (Zhu and Sarkis, 2007). Hence, several organizations work in an environment that features pressures from their competitors that induce organizations to adopt inexperienced initiatives to combat competition and gain competitive advantage (Canning and Hammer –Lloyd, 2001)

The concept of supply chain management has been ascertained as a recent and novel tool and therefore the literature on organizational green procurement has been grown tremendously. Ninlawan et al (2010) conducted an empirical survey of US purchasing managers with reference

to green procurement and have found that primary driving force to green purchasing is an urge to meet laws instead of environmental monitoring or partnerships. The effectiveness of green purchasing also depends on whether or not the firm has centralized or decentralized decision making that determines the extent of flexibility within the green purchasing process. In a survey conducted by the PPOA, (2007), purchasing managers listed the impact of environmental laws on purchasing activities as their second most vital future concern.

According to Green et al, (2012) the association between green supply chain management and organizational performance has been investigated however the results haven't been conclusive. There exist two contrastive views concerning the relationship between environmental practices and organizational productivity. Green et al, (2012) argued that organizational management believe that environmental management consists merely of compliance with regulations, which a trade-off exists where increased level of environmental management results in increased cost, they stated that the relationship would possibly exist partly because of the high costs in relation to the transference of externalities, like the value of polluted air, back to the firm. Dheeraj and Vishal (2012), studied the consequences of environmental regulation on the value of operations within the electricity utilities industry and located an identical effect. Environmental regulations were related to a decline in industry productivity.

Rao and Holt (2005) argue that environmentally proactive corporations are progressively managing their suppliers' environmental performance to make sure that purchased materials are environmentally friendly and are created by environmentally acutely aware processes. Green procurement revolves around analysis of suppliers' environmental performance and providing recommendation to suppliers to boost their performance. Environmentally proactive organizations typically encourage their suppliers to get environmental management certification like the ISO 14001. Hines and Jones (2001) recommend that the mentoring role inside green offer chain management in an rising idea that may give a big relationship between the client and provider.

2.2.1 Green procurement and organizational productivity

According to the European journal of business and management, (2013) green procurement is the selection and acquisition of product and services that most effectively minimize negative environmental impacts, it involves the subsequent environmental friendly activities: manufacturing, transportation, use and recycling or disposal. Green procurement considers environmental aspects to performance criteria on making purchase decisions. Eventual goal is to cut back environmental impacts of sourcing and to extend resource efficiency.

Green procurement provides a greening image in several organizations where a manufactured product is to be used. Its most vital driver of green supply Chain Management to adoption of GSCM in several institutions. Organizational output is that driver of GSCM which states that the method of conveyance of a final product or service, with the hopes of reaching international promoting community. Green supply chain management has the ability of taking a company to successive level by, implementing several strategies. Green supply chain management is the activity of buying and selling of products and services in all countries of the globe through the thought of environmental laws. The concept of GSCM has been extremely enabled by the advance of internet connectivity between nations where individuals are recurrently able to buy and sell product from one nation to another through the web. International marketing is marketing through the internet take advantage of international business and the international variations, opportunities and likeness in operating so as to improve organizational output (Choi and Kraus, 2006).

Global aggressiveness is that driver of GSCM that states the existence of competition among various organizations that serve international customers. An index of the competitiveness of the countries within the world is compiled once a year by World Economic Forum Economic Forum. International competition is employed to explain the worldwide market, and the struggle of various corporations or businesses to prevail over the other. International competition can help with providing GSCM practices concerning suppliers and customers and are involved with the organizational supply chain management. Greening the supply chain has varied advantages for a corporation, starting from value reduction, to integration of suppliers in a very participative decision making process that promotes environmental innovation. A larger part of the GSCM function primarily contains of green purchasing ways adopted by organizations in response to increasing international considerations of environmental sustainability (Bin and Jun 2009).

According to a study by Walton et al (2006) the integration of suppliers into environmental management processes ends up into two evolving trends. Foremost they suggest that environmental problems are becoming an intrinsic part of strategic planning in organizations attributable to stricter laws and therefore the demands of environmental answerability. They conjointly observe a second trend amongst their case examples, that organizations are integrating their supply chains to cut back operational prices and improve their client service. Green purchasing strategies arguably resolve around two key parts, the analysis of providers' environmental performance and mentoring to help suppliers to enhance their performance has elaborated the range of processes put in place to evaluate the suppliers behavior in ensuring the recruitment of the best suppliers. Additionally, organizations urge suppliers to develop their own internal environmental management system, and many requests that a supplier puts to an environmental management standard

Further green *et al* (2012) states that green supply chain, green marketing, green packaging and environmental friendly distribution are all initiatives which may improve the organizations output. Packaging performs variety of functions together with containment, protection, preservation, packaging, unitization and presentation. So as to deal with the environmental impact of packaging, several countries currently have programs that aim to attenuate the number of packaging that enters the waste stream. The re use of packaging can be found in reusable, collapsible shipping containers. Green marketing has a very important role to play within the link between environmental innovation and competitive advantage. Encouraging suppliers to takeback packaging may be asort of reverse supply that may be a very important thought in greening the out-bound function. Reference argued that standardized reusable containers, good merchandise layouts, and straightforward information access reduce storage and retrieval delays that end up in value saving and being environmentally friendly. Environmentally conscious product and process design might by choice incorporate variety of ideas (Green *et al*, 2012).

2.2.2 Green manufacturing and organizational productivity

Ogola and Mburu (2014) defines green manufacturing as a production processes that use inputs with comparatively low environmental impacts, that are extremely economical, and that generate

very little or no waste or pollution. Green manufacturing will result in lower material costs, production efficiency gains, reduced environmental and activity safety expenses, and improved company image (Ninlawan *et al.*, 2010). To adopt additional proactive strategic supply chain management, it's essential for manufacturers to create cooperative efforts with both the first- and the second-tier suppliers to ascertain green systems and comply with environmental regulations in manufacturing components and parts.

According to Dheeraj and Vishal (2012), Green manufacturing enhances productivity and environmental performance for overall socio-economic development that ends up in sustained improvement within the quality of organizations product. Dheeraj and Vishal (2012) further states that green manufacturing is the combined application of acceptable productivity and environmental monitoring and evaluation tools as well as the processes that reduce the environmental impact of an organization's activities, product and services whereas enhancing profitability and competitive advantage on the other hand Al-Odeh, and Smallhood (2012) defines green manufacturing as a dynamic strategy to harmonize economic process and environmental protection for sustainable development they state that it offers small and medium businesses ways to achieve a competitive advantage thus increasing productivity

The concept of green manufacturing assures profitability and resource productivity. Businesses and communities get multiple returns within the sort of bottom-line savings, value added products and services, and environmental protection. Having a decent green productivity program will increase profitability, improves health and safety, makes quality product, promotes environmental protection, ensures regulative compliance, enhances company image, raises morale and ends up in property development (Toke *et al.*, 2012)

According to Ninlawan, Seksan, Tossapol, and Pilada, (2010), green manufacturing, green distribution and green logistics vital dimensions of green supply chain management practices required by manufacturing sectors to attain increased sustainability performance. Green, Pamela, Meacham and Bhaduria (2012), Suggested that GSCM practices ought to embrace internal environmental management, green information systems, inexperienced getting, cooperation with customers, eco-design and investment recovery. Lee (2012) noted that GSCM practices are composed of company and operational ways to enhance environmental sustainability including

environmental management, cooperation with customers and eco-design. Laosirihongthong, Adebajo and Tan (2013) investigated the impacts of pro-active and re-active practices of GSCM on economic, environmental and intangible performance in Thailand processing companies. Taken along, these studies are representative of efforts to deal with the diversity of interesting dimensions of GSCM practices. Green supply Chain Management is a method that converts inputs into output by reducing hazardous substances, increasing potency in lighting and minimizing waste by actively planning and redesigning green processes.

Demand for quality products is that driver of green supply Chain Management that is most vital to adoption of GSCM in several organizations within the world. According to Medu, (2002), increase in environmental concern by organizations has become a part of the general company culture and successively, has helped to re-engineer the organizational processes. Sarki and Tamarkin (2005) determined that environmental performance comes from economic process instead of localization attributable to economic process there has been an avenue for a lot of opportunities and then are the threats. International corporations are crossing borders and fitting subsidiaries therefore threatening native corporations through large capital investments, trendy technologies, and also the capability to supply product at competitive rates. This had placed pressure on most enterprises to enhance their environmental performance (Zhu & Sarki, 2006). According to Mohan and Sahay, (2000) the preparation and also the deliverables for the aggressiveness of host industries translate to strategic and operation needs that embrace value Quality improvement that use some aspects of provide chain management like Just-In-Time (JIT), Enterprise Resource designing (ERP), Total Quality Management (TQM). Alternative needs are a unit like Shortening Time-to-Order and quicker Speed-to-Market, that entails employs ways like Stock keeping Unit (SKU) rationalization, mass customization, method integration and globally coordinated analysis and development.

2.2.3 Operations and reverse logistics and organizational productivity

According to Muttimos (2014) Reverse logistics is a method where a manufacturer accepts previously shipped product from the consumption point. It's the method of retrieving the merchandise from the end user for the purposes of capturing value or correct disposal. Activities include assortment, and combined product inspection/selection/sorting, distribution, and disposal (Ninlawan, Seksan, Tossapol&Pilada, 2010).

According to Pietro *et al* (2012) green logistics describes all attempts to measure and minimize the logistical activities impact on organizational productivity. This includes all activities of the flows of product, information and services between the point of origin and the point of consumption. It's the aim to form a sustainable company value through environmental efficiency. Green logistics have its origin within the middle of Nineteen Eighties and was an idea to characterize logistics systems and procedures through advanced technology to minimize environmental damage throughout operations (Choi and Krause, 2006).

The issue of sustainable business processes and activities is turning into everyone's business within the current business surroundings. There's mounting pressure from the non-governmental organizations, international environmental bodies and additionally the general public on the difficulty of business and environmental management. Price Water House Coopers (2008) points out that company governance, social responsibility and environmental management became areas of interest that each organization that must contend should think about in their daily operations. They additionally reveal that these 3 variables have a transparent link with operational performance of a corporation. due to the attention given to production and operation prices, property and environmental conservation, organizations adopt initiatives and techniques to confirm prices are reduced to the bottom level attainable and productivity is increased to the very best level attainable. These ways are adopted in the operations of business. to confirm prices related to supply chain operations are reduced and productivity property increased, organizations resort to sustainable supply chain management practices like green purchasing, green production, and green distribution (Testa&Iraldo, 2010).

In recent years Reverse logistics has become a significant issue for scholars and firms (Lambert & Burduroglu, 2000; Yangtze et al., 2005; Srivastava & Srivastava, 2006; Banomyong et al., 2008; Chan & Chan, 2008). In line with Muttimos (2014) reverse logistics is a method where a manufacturer accepts antecedently shipped product from the purpose of consumption for utilisation and remanufacturing. It's the technique of retrieving the merchandise from the tip user for the needs of capturing price or correct disposal. Activities include assortment, combined inspection/selection/sorting, re processing/direct recovery, distribution, and disposal (Ninlawan, Seksan, Tossapol & Pilada, 2010).

Organizations give importance to reverse logistics aspect mainly due to three reasons (Srivastava & Srivastava, 2006) the growing importance of environmental issues and their impact on public opinion (De Brito, Dekker & Flapper 2005), the benefits that the company gains by ensuring efficiency in their organizational return processes such as image development, improved market share, it allows getting new profits and the new and growing environmental regulations (Stokes & Clegg, 2002; De Brito *et al.*, 2005).

According to Eltayeb, Zailani & Ramayan (2011), several organizations in the globe are forced to adopt reverse logistics practices so as to evolve and conform to set environmental regulations. Recently, many voluntary reverse logistics programs are adopted by organizations so as to reduce the pressure for brand new or expanded legislation. Several organizations have tried to enhance their own performance and others by having their industry association impose more tight requirements on its entire membership. This is often in a bid to avoid the results of non-compliance that embrace financial penalties and withdrawal of licenses

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Globally several companies should face ever-converting instances for many years in addition to increasing variety and dynamics, environmental issues turn out to be extra vital. Social, political and monetary trends to reduce the effect on the surroundings at the procurement method and to increase sustainable delivery and deliver chain techniques. There are strong interactions between opposite logistics, surroundings and natural sources (Rao and Holt, 2005).

According to studies done by Wu *et al* (2012). reverse logistics is a key element to compete. SMEs which creates an disorganized logistics system. Small entrepreneurs do not have awareness of this: they do not know how the cost of transport in pacts on the final price of their product. Additionally the county governments do not have efficient and effective policies and instruments curb the negative external problems caused by an unproductive transport management. Without awareness and appropriate tools it is difficult to break up this system (Dheeraj and Visha, 2012).

According to Rao and Holt (2005), green supply chain offer companies competitive advantage and also result in raised economic performance. They ascertained that the image of product of companies that practiced reverse logistics in Philippines had been positively affected giving such companies a competitive advantage. Their study mainly centered on the financial outcomes of organizational performance. Additionally Eltayeb *et al.* (2011) in their study looked into the

outcomes of green supply chain initiatives among certified companies in Malaysia and environmental sustainability. Among the four doable outcomes they investigated, including environmental, economic, cost reductions and intangible outcomes,. This study tests the hypothesis that reverse logistics practices have a positive result on each the financial and marketing performance of an organization.

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In Kenya, a lot of importance of the Reverse provision programs the a lot of necessary is for the organization to face the uncertainty in these activities that'smore and more high (Barad&Sapirb, 2003). During this case it will increase the requirement for flexibility of data distribution as a result of it helps to reduce this uncertainty (Swafford, 2003). Reverse logisticsallows the organization to enhancehandiness of choices, reducing uncertainty and risingdecisions (Swafford,2003). In Reverse logistics programs are used for systems improvement, processing operations that facilitate or assist organizationsbuildhigherselections (Swafford, 2003), reducing response times and raising the liabilityof data distribution (Lau & Lee, 2000).

2.3 Critique of existing literature

Supply chain management has historically been viewed as a methodwhere raw materials are converted into final product, then delivered to the end-consumer. This method involves extraction and exploitation of the natural resources (Srivastava, 2007). It'svitalto notice that we tend tolive a decade where environmental sustainability has been a very important issue to business practice.

Many supply chain organizations have initiated GSCM practices like investment healing, and internal environmental control. but, investment restoration and development of recycled material markets in the developing nations have not received plenty of attention. This suggests that manufacturing industries are nevertheless progressing and are but to form a important mass to be economically worthy for improvement of environmentally sustainable manufacturing practices. The environmental sustainability guarantees that manufacturers contemplate environmental results within the complete life cycle, and thus supplying motivation for organizations to pursue GSCM practices and closing the producing supply chain loop (Zhu and Sarki, 2006).

2.4. Research Gaps

A number of studies have been done on green supply chain management and gaps have been identified which this study seeks to fill: for example Muhammad IntiazSubhani (2012) did a study on the factors that promote the use of a green supply chain approach in SMEs of Pakistan, he identified that presence of robust regulations stipulated by the Pakistan government and also the pressure exerted by the customer promotes the employment of green supply chain in SMEs. Further, lack of awareness relating to green supply and its advantages impedes the employment of green supply chain in SMEs. Therefore the knowledge gap exists on the impact of green supply chain management on organizational productivity.

White, Masanet, Rosen, and Beckman (2003) explored ways in which green supply chain management influences environmental management and the consequences associated with the environmental their results showed that the link between operational management and superior performance practices.

Sarkis *et al* (2011) did a study on how laws and regulations improved awareness on green supply chain management and thus drove environmental management practices. His results indicated that, many organizations work in an environment that induce organizations to adopt green supply chain process which enables them gain competitive advantages

It is thus clear that there is need for further research exploration on this area of green supply chain management so as to bridge the existing gaps. This study aimed to bridge such gaps by exploring the impact of green supply chain management on organizational productiveness. It will bring out an in-depth understanding of the effect of green supply chain management on

organizational output, quality of products and organizational turn over with specific interest to textile industries in Eldoret town.

2.5. Summary

Green supply chain management is vital in influencing the overall environmental impact of any organizations involved in supply chain activities it ensures improved organizational output, improves quality of product and at same time improves the organizational sales turn over, more significantly, GSCM can contribute sustainable performance enhancement (Zhu and Sarki, 2006).

The main focus of supply chain management is to provide right product to the right customers at their convenience. Additionally, the short-term strategic goal of SCM is reduce cycle time and inventory and so increasing productivity, whereas the long-term goal is to reinforce profits through market share and client satisfaction.

In today's international environmental demands, the main target of firm performance has been modified. Previously, it centered on the creation of wealth through superior organizational economic performance, however currently it focuses on environmental and social performance whereas achieving the high economic performance so as to achieve best levels of sustainable performance that embrace improved sales turn over, production of quality product and increased organizational output. According to Bin and Jun (2009), the organization, environment and society are the triads that are reciprocally dependent for a shared value or a win-win solution. So as to attain a long-lived competitive advantage, organizational sustainability needs the intersection of economic, environmental and society superiority; this suggests that businesses ought to concentrate on long-term profitability that would reduce the environmental and social risks. Therefore, GSCM practice is in a very prime position to leverage sustainable performance in terms of economic, environmental and social perspective (Srivastava, 2007)

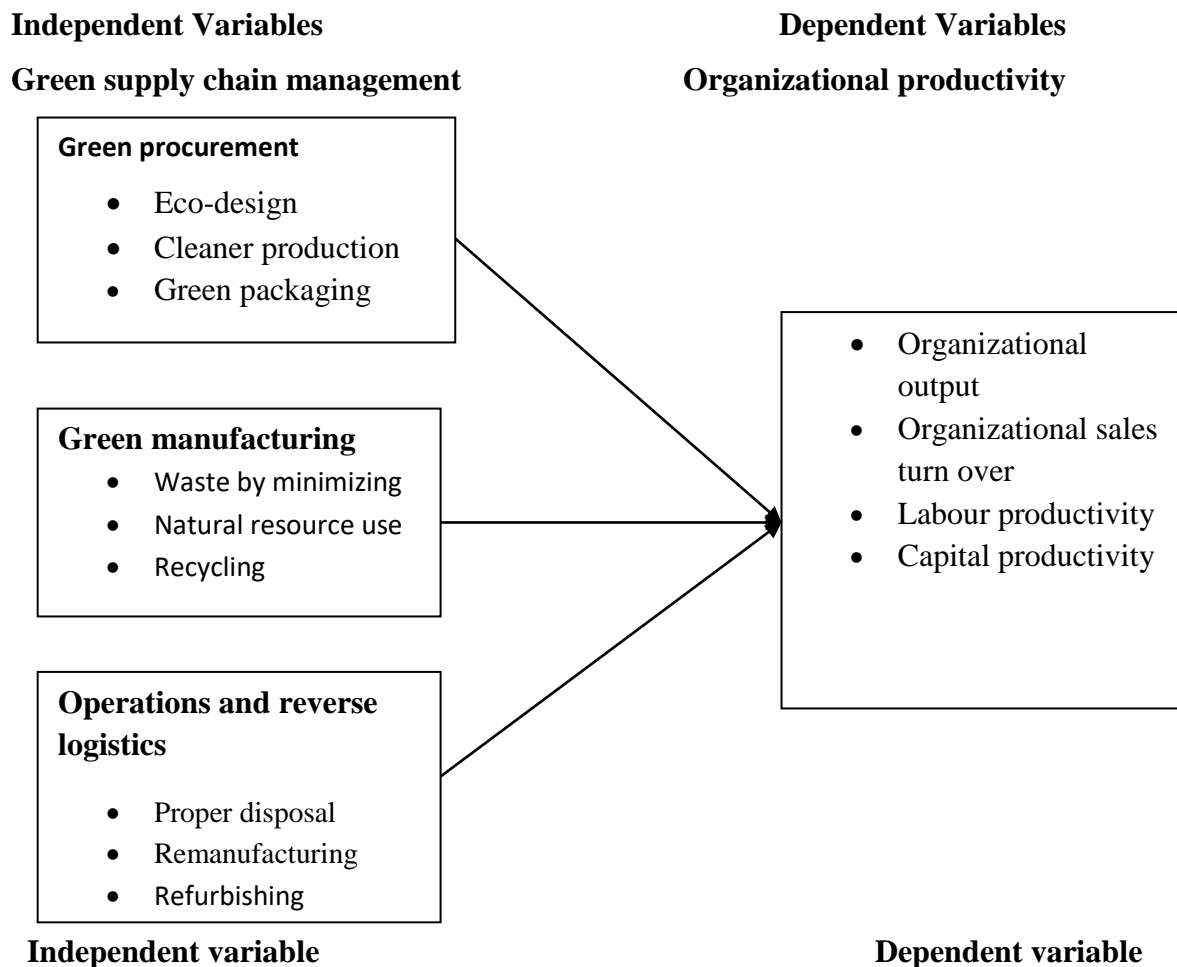
Rao (2002) states that supply chain management coordinate the raw materials and parts flow with efficiency from varied suppliers to manufacturing corporations for the needs of changing raw materials into finished product and fulfilling the worth expectation of consumers. Suppliers' capabilities are directly linked to the firm's ability to provide a product with higher quality and lower costs whereas meeting the delivery promise. So as to attain organizational sustainability,

companies have to be compelled to list environmental practices. Roa (2002) further argued that GSCM should involve collaboration with suppliers in planning green product, providing awareness seminars, and helping suppliers to create their own environmental program.

2.6 Conceptual Framework

According to Orodho (2009) a conceptual framework assists in simplifying relationships between variables in a study and allows the variables to be depicted diagrammatically.

Figure 2.1 Conceptual Framework



Source (Author, 2015)

The conceptual framework of this study is composed of the independent variable which is green supply chain management (Operations and reverse logistics, Green manufacturing and Green procurement) while dependent variables organizational output, quality of products and organizational sales turn over.

Green procurement considers environmental aspects to performance criteria oncemaking purchase decisions. Eventual goal is to cut back environmental impacts of sourcing and to extend resource efficiency

Green manufacturingwillresult in lower material costs, production efficiency gains, reduced environmental and activity safety expenses, and improved company image

Operations and reverse logisticsdescribe all attemptsto measure and minimize the logistical activities impact on organizational productivity. This includes all activities of the flows of product, information and services between the point of origin and the point of consumption. It's the aim to form a sustainable company value through environmental efficiency

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research design

Orodho (2003) defines research design as the scheme, outline or plan that is used to generate answers to research problems. It can be regarded as an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with the study purpose. It constitutes the blue print for the collection, measurement and analysis of data. According to Mugenda and Mugenda (2003) its objective is to know the characteristics of the population in terms of population frame, sample size, sample selection and estimation methods.

The study adopted a descriptive survey research design. This design attempts to determine the cause or reason for pre-existing differences in groups of individuals. It is treated as a type of descriptive researcher since it describes conditions that already exist. The study design was used to finalize the outcomes from the selected subjects used in the study.

3.2 Target population

A population refers to a group of people or study subject who are similar in one or similar ways and which form the subject of study in a particular study. The target population of this study comprised of employees from different departments of textile industries in Eldoret town. Who included the procurement staff, finance department staff, the human resource, marketing staff and production staff, making a total of 135 respondents.

Table 3.1 Target Population

Industry	Manager	Departmental Heads	supervisors	Other employees	Total
Rivatex company limited	1	5	8	37	51
Ken Knit company limited	1	8	15	60	84
Totals	2	13	23	97	135

3.3 Census Inquiry

A census is a study of every unit, everyone or everything, in a population. It is known as a complete enumeration, which means a complete count. A census provides a true measure of the population (no sampling error), benchmark data may be obtained for future studies and detailed information about small sub-groups within the population is more likely to be available. Since the population of the study was small (135), census was used to collect information from the entire population (Kothari, 2004).

3.4 Administration of Data Collection Instruments

The researcher secured a research authority letter from the National Commission for Science, Technology and Innovation (NACOSTI) the permit obtained was used to obtain permission from the managers of the selected textile industries before data collection. The researcher personally administered the questionnaires to the employees leaving them individual employees to fill then collected them after a period of one week.

3.5 Data Collection Instrument

The data collection instruments are tools used to collect information from the intended target population (sample size). The data collection instruments used in this study was developed by the researcher. The study used questionnaires; this is a collection of items to which a respondent

is expected to react in a written form. The designed questions or items in word format were distributed to the respondents. This method collected a lot of information over a short period of time. The method is suitable when the information needed can be easily described in writing and if time is limited. In this study, the respondents were given enough time to complete the copies of the questionnaire before returning them for analysis. The questionnaire included both structured and semi-structured questions. This allowed the respondents to give their own views.

3.6 Pilot Study

The purpose of the pilot study was to prepare for the main study in the following aspects. Gaining more practice in the use of research equipment, responses and scoring. Determining the appropriateness and effectiveness of the research equipment and tools and gaining more experience in the field organization skills. The instruments were piloted in ken knit textile industry a month before the actual study. The pilot sample consisted of the manager, 3 departmental heads, 5 supervisors and 10 employees randomly selected. The purpose of piloting the instruments was to assess its clarity and the suitability of the items and language used.

3.6.1 Reliability of Research Instruments

An instrument is considered reliable when it is able to elicit the same responses each time it is administered (Orodho 2003). Since, in quantitative research, reliability is a synonym for consistency and replicability over time, over instruments and over groups of respondents (Cohen et al, 2000).

Any random influence that tends to make the measurement different from occasions to occasion is a source of error unless the differences are such that they maximize systematic variance. Reliability is concerned with precision and accuracy. For research to be reliable it must demonstrate that if it is to be carried out on a similar group of respondents in a similar context (however defined), then, similar results would be found. Poor reliability degrades the precision of a single measurement and reduces ability to track (Orodho, 2003). A pilot study was conducted in Ken Knit Limited Eldoret a month before the actual study. Split half method was carried out to calculate cronbach alpha. A cronbach alpha of 0.755 for green

procurement, 0.723 for green manufacturing and 0.670 for operations and reverse logistics was obtained which was above the expected value of 0.6 thus confirming the reliability of the research instruments. These results are in line to Creswell (2003) who asserts that a reliability value above 0.6 is considered to be adequate test of reliability of a research instrument, also Mugenda and Mugenda (2003) states that that any value above 0.6 is considered appropriate threshold.

3.6.2 Validity of Research Instruments

According to Mugenda and Mugenda (2003) validity of an instrument is the success of the scale in measuring what it sets out to measure so that, the differences in individual scores can be taken as representing true differences in the characteristic under study. The instruments for data collection were sub-divided as per the variables and objectives to ascertain whether the content comprehensive and representative of the behavior domains to be measured. Content validity of the instrument was determined through expert judgment which involved discussing the items in the instruments with the Supervisors, Lecturers and Colleagues. Their suggestions for improvement were incorporated in the final instruments used in the study.

3.7 Data Analysis and Presentation

After data collection the researcher edited the completed questionnaires for completeness and consistency. The data was then analyzed using descriptive statistics. The descriptive statistical tool (SPSS) was used to help the researcher to describe the data. Likert scale was also used to analyze the mean score and standard deviation. The findings were presented using tables and graphs for further analysis and to facilitate comparison. This generated quantitative reports through tabulations, percentages, and measure of central tendency.

The researcher further employed multivariate regression model to study the effects of green supply chain management on organizational productivity: a survey of Textile Industries in Eldoret. The research used regression method because of its ability to test the nature of influence of independent variables on a dependent variable. Pearson correlation analysis (r) and descriptive statistics were conducted to determine the collinearity problem and the usefulness of the data set. Regression was able to estimate the coefficients of the linear equation, involving one or more independent variables, which best predicted the value of the dependent variable. Therefore, the

researcher used linear regression analysis to analyze the data. The multivariate regression model for this study was;

$$Y = \alpha + B_1X_1 + B_2X_2 + B_3X_3 + \varepsilon$$

Where Y was organizational productivity and

X₁= Green procurement

X₂= Green manufacturing

X₃= Operations and reverse logistics

α=constant value

ε =error term

3.8 Ethical Consideration

According to Mugenda and Mugenda (2003), the researchers are people genuinely concerned with other people's quality of life. They must be people of integrity who do not undertake research for personal gain or research that has a negative effect on others. The research therefore took into consideration ethical issues of life. Explaining to the respondents openly and kept true facts about the research in order to take informed decisions about participating. The researcher kept the information given with confidentiality so that the respondents could not feel threatened and free to respond.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Data Preparation and Cleaning

Data preparation and cleaning was done to ensure that data collected is a true reflection of the participants' responses and also to ensure that all items are accounted for. This is shown in the section that follows.

4.1.1 Response Rate

Response rate is the proportion of sample that participated as intended in all the research procedures. In this study 135 respondents were sampled who included (the procurement staff, finance department staff, the human resource, marketing staff and production staff) questionnaires were administered to each of them. The response rate of the questionnaires from respondents was 114(84.4%). The response rate was favorable for data analysis since the number of questionnaires returned marked 84.4% of the number issued to the respondents. Mugenda and Mugenda (2003) propose a questionnaire return rate of 50 percent as suitable for a study. This was achieved through use of personal administration of the questionnaires.

Table 4.1 Response Rate

Questionnaires	No.	%
Issued	135	100
Returned	114	84.4

4.2 Demographic characteristics of the respondents

The study investigated the background of the respondents on the basis of their gender, work experience, education qualifications, departments that they were working in, period in years the respondents had worked in their current departments and their positions.

4.2.1 Gender of the Respondents

The gender of the respondents was a key factor in determining extent to which the various gender variables influence organizational productivity in the textile industry. The researcher was able to tell whether the gender has any effect on the various variables used on the study. The response was as shown on Table 4.3.

Table 4.3 Gender of Respondents

Gender	F	%
Male	59	51.8
Female	55	48.2
Total	114	100.0

From the findings on gender the results indicated that, male respondents were the majority with 51.8%, whereas female were represented by 48.2%. These findings show that there was gender equality in the textile industries within Eldoret town at. See table 4.3

4.2.2 Working experience of respondents

It's important to know how long the respondents have worked in the Textile industry because the longer they have worked the more experience they have especially on issues related to effects of green supply chain management on organizational productivity. The findings are as elaborated in Table 4.4.

Table 4.4: Working experience of respondents

Working Experience in years	Frequency	Percent
0-5 years	68	59.6
6-10 years	25	21.9
11-15 years	16	14.0
16-20 years	4	3.5
Over 20 years	1	.9
Total	114	100.0

The findings revealed that 59.6% of the respondents had work experience of between less than five years, 21.9% of the respondent had work experience of between 6-10 years, 14.0% had worked for a period of between 11-15 years, 3.5% of the respondent had work experience of more than 16-20 years and 1% had worked for over 20 years. This implies that majority of the respondents had work experience of between 11-15 years. This shows that most respondents had experience on green procurement and its effect on organizational productivity.

4.2.2 Level of Education

Table 4.3 presents the level of education of the respondents of the study.

Table 4.3 Level of education

Educational level	Frequency	Percentage %
O – Level	5	4.3
Certificate	30	26.3
Diploma	32	28.1
Degree	37	32.5
others specify	10	8.8
Total	114	100

The findings indicated that 4.3% respondents had o-level qualifications, 26.3% had certificate qualification, 28.1% had a diploma, 32.5% were degree holders and lastly 8.8% of the respondents stated that they had other qualifications which were indicated as, primary level doctor of philosophy and CPA qualification. Based on the results majority of the respondents are university and diploma graduates. That is satisfactory level of education that can comfortably facilitate proper understanding of the research questionnaire and respond from a point of knowledge.

4.3. Descriptive Statistics

The section below describes the descriptive statistics of the study it was done using a five point likert scale. The range was Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. The scores of disagree and strongly disagree represent a variable which has a mean score of 0 to 2.5; Neutral represent a variable with a mean score of 2.5 to 3.4 and the score of both Strongly agree and agree represent a variable which a mean score of 3.5 to 5.0 on a continuous Likertscale.

4.3.1 Green procurement and organizational productivity

According to the European journal of business and management, (2013) green procurement is the selection and acquisition of product and services that most effectively minimize negative environmental impacts, it involves the subsequent environmental friendly activities: manufacturing, transportation, use and recycling or disposal. The study sought to establish the extent that green procurement influence organizational productivity in textile industries in Eldoret Town.

Table 4.4: Green procurement and organizational productivity

Variables	M	S D
Green procurement leads to successful implementation of procurement plans	3.88	1.235
Green procurement leads to sustainability of organizational productivity	3.91	1.102
Green procurement leads to compliance with customers' requirements related to the implementation of environmental management systems	4.17	.995
Green procurement ensures evaluation of the amount of waste flowing into business systems	3.77	1.297
Green procurement leads to decrease of consumption for hazardous/harmful/toxic materials	3.76	1.278
Green procurement leads to decrease of frequency for environmental accidents	4.12	1.130

Regarding the extent that green procurement influence organizational productivity in textile industries in Eldoret Town, as shown on Table 4.4, Green procurement leads to successful implementation of procurement plans was supported by a mean of 3.88 and a standard deviation of 1.235, regarding the issue that green procurement leads to sustainability of organizational productivity majority of the respondents agreed with a mean of 3.91 and a standard deviation of 1.102, on whether green procurement leads to compliance with customers' requirements related to the implementation of environmental management systems the respondents agreed with a mean 4.17 and a standard deviation of 0.995, on whether green procurement ensures evaluation of the amount of waste flowing into business systems the respondents agreed with a mean of 3.77 and a standard deviation of 1.297, on Green procurement leads to decrease of consumption for hazardous/harmful/toxic materials was supported by a mean of 4.12 and a standard deviation of 1.130.

It can therefore be shown that the effects of Green procurement on organizational productivity include the fact that green procurement leads to successful implementation of procurement plans, green procurement leads to sustainability of organizational productivity, green procurement leads to compliance with customers' requirements related to the implementation of environmental management systems it ensures evaluation of the amount of waste flowing into business systems, leads to decrease of consumption for hazardous/harmful/toxic materials and lastly leads to decrease of frequency for environmental accidents, this was supported by an average mean of 4.605. These findings indicate that majority of the respondents had positive perceptions that green procurement on organizational productivity.

Choi and Kraus (2006) supports these results and states that green procurement provides a greening image in several organizations where a manufactured product is to be used. It's most vital driver of green supply Chain Management to adoption of GSCM in several institutions. Organizational output is that driver of GSCM which states that the method of conveyance of a final product or service, with the hopes of reaching international promoting community. Green supply chain management has the ability of taking a company to successive level by, implementing several strategies.

Further green *et al* (2012) states that green supply chain, green marketing, green packaging and environmental friendly distribution are all initiatives which may improve the

organization's output. Packaging performs a variety of functions together with containment, protection, preservation, packaging, unitization and presentation. So as to deal with the environmental impact of packaging, several countries currently have programs that aim to attenuate the number of packaging that enters the waste stream.

Lastly these findings are supported by public value theory that envisages a manager's purpose as going beyond implementation of policy and adherence to institutional norms. It includes seeking out opportunities to make significant improvements to the lives of the public. Thus it determines the extent to which green supply chain management contributes to improvement of organization productivity in terms of provision of better services, organizational output, quality products and organizational sales turn

4.3.2 Green manufacturing and organizational productivity

According to Ogola and Mburu (2014) defines green manufacturing as a production processes that use inputs with comparatively low environmental impacts, that are extremely economical, and that generate very little or no waste or pollution. Green manufacturing will result in lower material costs, production efficiency gains, reduced environmental and activity safety expenses, and improved company image. The second objective of this study was to find out the effects of green manufacturing and organizational productivity to achieve this objective, the participants were asked to respond to items in the questionnaire on a likert scale of 1-5, the results are presented in Table 4.5 below

Table 4.5: Green manufacturing and organizational productivity

Variables	M	S D
Green manufacturing has led to lower raw material costs	3.77	1.297
Green manufacturing generate little or no waste or pollution.	3.76	1.278
Green manufacturing promotes reuse of raw materials	4.23	.912
Green manufacturing has led to reduced environmental and occupational safety expenses,	4.10	.968
Green manufacturing leads to compliance with environmental regulations in producing parts and components	3.73	1.314
Green manufacturing ensures greening of production to cleaner production	3.76	1.429

On the extent that aspects of green manufacturing affect organizational productivity, the respondents indicated that the aspects of green manufacturing in the textile industry to a great extent include the fact that green manufacturing has led to lower raw material costs as shown by a mean score of 3.77, Green manufacturing generate little or no waste or pollution is supported by a mean score of 3.76, Green manufacturing promotes reuse of raw materials with a mean of 4.23, Green manufacturing has led to reduced environmental and occupational safety expenses with a mean score of 4.10, Green manufacturing leads to compliance with environmental regulations in producing parts and components with a mean of 3.73 and green manufacturing ensures greening of production to cleaner production was supported by a mean score of 3.76 The results indicate that the textile industries consider the consider green manufacturing which will enable them to maintain their customers loyalty and achieve the intended objective of organizational productivity.

These findings are supported by Dheeraj and Vishal (2012) who postulated that green manufacturing enhances productivity and environmental performance for overall socio-economic development that ends up in sustained improvement within the quality of organizations product.

Dheeraj and Vishal (2012).further states that green manufacturing is the combined application of acceptable productivity and environmental management tools, techniques and technologies that reduce the environmental impact of an organization's activities, product and services whereas enhancing profitableness and competitive advantage on the other hand.

Toke *et al* (2012) indicates that the concept of green manufacturing assures profitableness and resource productivity. Businesses and communities get multiple returns within the sort of bottom-line savings; value added products and services, and environmental protection. Having a decent green productivity programme will increase profitableness, improves health and safety, makes quality product, promotes environmental protection, ensures regulative compliance, enhances company image, raises morale and ends up in property development .

Lastly these findings are supported by institutional theory that identifies three pillars of institutions including: regulatory, normative and cultural cognitive pillars. The regulatory pillar emphasizes on the use of rules, laws and sanctions in an organization that is related to green manufacturing. The normative pillar deals with the norms and values in an organization to ensure green procurement, green production, green distribution and green logistics. The cultural cognitive pillar rests on shared understanding, that is, common beliefs, symbols and shared understanding on the importance of green supply chain management.

4.3.3 Operations and reverse logistics and organizational productivity

According to Muttimos (2014) Reverse logistics is a method where a manufacturer accepts previously shipped product from the point of consumption for recycling and remanufacturing. It's the method of retrieving the merchandise from the end user for the purposes of capturing value or correct disposal. The third objective of this study was to find out the effects of Operations and reverse logistics on organizational productivity, to achieve this objective, the participants were asked to respond to items in the questionnaire on a likert scale of 1-5. The results are presented in Table 4.6. below

Table 4.6: Operations and reverse logistics and organizational productivity

Variables	M	S D
operations and reverse logistics recovers materials that are harmful to environment	4.05	1.189
operations and reverse logistics ensures launching of recycle system in our organization	4.36	.951
Setting internal material recycling system	4.10	1.056
operations and reverse logistics leads to implementation of recycle system in our organization	3.73	1.314
operations and reverse logistics leads to implementation of reused package system	3.63	1.397
operations and reverse logistics ensures use of packaging materials that can be reused for other purposes in our organization	3.81	1.204

The results in table 4.6 indicate that the respondents were in agreement that operations and reverse logistics recover materials that are harmful to environment(mean 4.05). The respondents further agreed that operations and reverse logistics ensures launching of recycle system in our organization (mean 4.36), they also agreed that operations and reverse logistics ensures setting internal material recycling system, this had a mean score of 4.10,they also agreed that operations and reverse logistics leads to implementation of recycle system in our organization with a mean of 3.73, further they agreed that operations and reverse logistics leads to implementation of reused package system with a mean of 3.63and operations and reverse logistics ensures use of packaging materials that can be reused for other purposes in our organization with a mean score of 3.81,this implies that operations and reverse logistics is effective in organizational productivity

This result concurs with Pietroet al (2012) who indicated that green logisticsdescribes all attemptsto measure and minimize the logistical activities impact on organizational productivity. This includes all activities of the flows of product, information and services between the point of origin and the point of consumption. It's the aim to form a sustainable company value through

environmental efficiency. Further Eltayeb, Zailani&Ramayan (2011), states that several organizations in the globe are forced to adopt reverse logistics practices so as to evolve and conform to set environmental regulations. Recently, many voluntary reverse logistics programs are adopted by organizations so as to reduce the pressure for brand new or expanded legislation. Several organizations have tried to enhance their own performance and others by having their industry association impose more tight requirements on its entire membership. This is often in a bid to avoid the results of non-compliance that embrace financial penalties and withdrawal of licenses. Further these results are supported by institutional theory that emphasizes on the use of norms and values in an organization to ensure green distribution and green logistics.

4.3.4. Organizational Productivity

This study sought to determine the effects of green supply chain management on organizational productivity. The participants were asked to respond to items in the questionnaire on a likert scale of 1-5

Table 4.7: Organizational Productivity

Variables	M	S D
Green supply chain management leads to improved organizational output	4.20	.970
Green supply chain management leads to organizational sales turn over	4.05	1.029
Green supply chain management leads to quality of products	3.75	1.400
Green supply chain management leads to effective waste control	4.01	1.125
Green supply chain management leads to compliance with environmental regulations	4.38	.876

According to the findings on Table 4.7, majority of the respondents indicated that the aspects of green supply chain management that influence organizational output. The aspect that green supply chain management leads to improved organizational output with a mean score of 4.20, green supply chain management leads to organizational sales turn over with a mean score of 4.05,

green supply chain management leads to quality of products with a mean score of 3.75, Green procurement leads to effective waste control with a mean score of 4.01 and green supply chain management leads to compliance with environmental regulations with a mean score of 4.38. This implies that green supply chain management in the textile industry is a significant factor in ensuring quality of products, effective waste control, compliance with environmental regulations, organizational sales turn over and improved organizational output.

This study results are similar to that of Lyons, Emmet and Sood, (2010) who indicated that green SCM involves negotiating policies with suppliers and customers, which ends up in higher alignment of business processes and principles. Alternative advantages of GSCM are financial performance; sustainability of resources, lowered costs/increased efficiency, product differentiation and competitive advantage, adapting to regulation and reducing risks and improved quality and product. All these result into alignment of supply chain.

Further Tan (2013) Green supply chain practice normally is believed to represent the environmentally friendly image of product, process, systems and technologies, and the way the business is conducted. Most corporations in developing countries adopted the green solutions into their business and tries to cut back the negative environmental effects instead of adopting a proactive approach to cut back the sources of waste or pollution. Therefore, there's need to place additional interest in finding out the adoption and implementation of GSCM in developing countries further these results are supported by public value theory that provide public sector managers with a greater understanding of the constraints and opportunities within which they work, and the challenge to create publically valuable outcomes hence determines the extent to which green supply chain management contribute to improvement of organization productivity.

4.4. Inferential Statistics

4.4.1 Correlation analysis

Pearson correlation analysis was conducted to examine the relationship between the variables. The measures were constructed using summated scales from both the independent and dependent variables. As cited in Wong and Hiew (2005) the correlation coefficient value (r) range from 0.10 to 0.29 is considered weak, from 0.30 to 0.49 is considered medium and from 0.50 to 1.0 is considered strong. However, according to Field (2005), correlation coefficient should not go

beyond 0.9, to avoid multicollinearity. Since the highest correlation coefficient is 0.835 which is less than 0.9 as proposed by Hair *et al.*, (1998) there is no multicollinearity problem in this research (Table 4.8).

Table 4.8 Correlation Coefficients

		Green procurement	Green manufacturing	Operations logistics	Organizational productivity
Green procurement	Pearson Correlation	1			**
	Sig. (2-tailed)				
Green manufacturing	Pearson Correlation	.801**	1	**	**
	Sig. (2-tailed)	.000			
Operations logistics	Pearson Correlation	.832**	.849**	1	
	Sig. (2-tailed)	.000	.000		
Organizational productivity	Pearson Correlation	.807**	.815**	.835**	1
	Sig. (2-tailed)	.000	.000	.000	

From the results in table 4.8 above, it is indicated that all the independent variables (green procurement, green manufacturing and operations and reverse logistics) had a strong positive correlation with the dependent variable (organizational productivity) with operations and reverse logistics having the highest correlation of ($r=0.835$, $p=0.000$) followed by green manufacturing with a correlation of ($r=0.815$, $p=0.000$) and then operations and reverse logistics with a correlation of ($r=0.807$, $p=0.000$). This indicates that all the variables are statistically significant at the 99% confidence interval level 2-tailed. This shows that all the variables under consideration have a positive and statistically significant relationship with the dependent variable.

It should be noted, the above table was at 99% level of confidence, since a unit change in green procurement leads 80.7 % change in organizational productivity, also a unit change in green manufacturing leads to 81.5% change in organizational productivity, and lastly a unit change in operations and reverse logistics leads to 83.5% change in organizational productivity.

4.4.1 Regression analysis

The research used multiple linear regression analysis to determine the linear statistical relationship between the independent and dependent variables for this study.

Table 4 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871 ^a	.758	.752	.34446

a. Predictors: (Constant), operations. and reverse logistics, green...procurement, green management

The model summary in table 4.8 above shows that the model is significant at 0.05, the value of r is 0.871 indicating a strong linear relationship between the independent variables (green manufacturing, green procurement and operations and reverse logistics) and the dependent variable (organizational productivity). The model further indicates that the R-Square is 0.758 meaning that at least 75.8% percent of all variations in the dependent variable can be explained by the independent variables leaving only 24.2 percent of variations which are as a result of other factors therefore we conclude that the model is a good predictor of the dependent variable

Table 4 9: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	40.906	3	13.635	114.919	.000 ^b
1	Residual	13.052	110	.119		
	Total	53.957	113			

a. Dependent Variable: org..productivity

b. Predictors: (Constant), operations...logistics, green...procurement, green manufacturing

The significance of the regression model was tested using Analysis of Variance (ANOVA). Table 4.9 above presents the results of this test. The regression model also indicated that it was significant ($p = .000$) to mean that it had not been computed by chance, this was because the significance value is 0.000 which is less than 0.05. This made the results of the regression model credible and reliable.

4.4.2 Test of hypothesis

All the three null hypotheses were tested using the multiple regression models. For each hypothesis, the regression equations were first obtained using the beta coefficients on the line of best fit. The decision rule was to reject hypothesis if: $p \geq 0.05$ if the regression coefficients are significantly equal to or greater than 0.5 and consequently accept the alternate hypothesis if $p \leq 0.05$. The results were illustrated in the following regression output tables;

H₀₁; There is no significant relationship between green procurement and organizational productivity in Textile Industries in Eldoret Town

A regression model containing the independent variables (green procurement) was run to predict its effect on the dependent variable organizational productivity. As shown in table 4.10 below

Table 4.10: Regression Results on the Relationship between green procurement and organizational productivity

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	1.310	.196		6.681	.000
1 green...procurement	.705	.049	.807	14.446	.000

a. Dependent Variable: .org..productivity

Results from the regression model above indicated that there was a significant relationship ($p = 0.000$) between green procurement and organizational productivity. This was interpreted to mean that green procurement can influence organizational productivity. These findings concur to *green et al* (2012) who stated that green supply chain, green marketing, green packaging and environmental friendly distribution are all initiatives which may improve the

organizational output. Packaging performs variety of functions together with containment, protection, preservation, packaging, unitization and presentation. So as to deal with the environmental impact of packaging, several countries currently have programs that aim to attenuate the number of packaging that enters the waste stream. The re use of packaging can be found in reusable, collapsible shipping containers. Choi and Kraus (2006) supports these results and states that green procurement provides a greening image in several organizations where a manufactured product is to be used. It's most vital driver of green supply Chain Management to adoption of GSCM in several institutions. Organizational output is that driver of GSCM which states that the method of conveyance of a final product or service, with the hopes of reaching international promoting community. Green supply chain management has the ability of taking a company to successive level by, implementing several strategies.

Institutional theory supports these findings as Scott, (2004) identifies three pillars of institutions as regulative, normative and cultural cognitive. The regulative pillar emphasizes the utilization of rules, laws and sanctions as social control mechanism, with expedience as basis for supply chain management. The normative pillar refers to norms and values with social obligation as the basis of supply chain management

H02; There is no significant association between green manufacturing and organizational productivity in Textile Industries in Eldoret Town

Table 4.11: Regression Results on the Relationship between green procurement and organizational productivity

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	1.606	.171		9.403	.000
1 Green manufacturi ng	.645	.043	.815	14.881	.000

a. Dependent Variable: organizational productivity

Results from the regression model table 4.11 indicated that there was a significant relationship ($p = 0.000$) between green manufacturing and organizational productivity. This was interpreted to mean that green manufacturing is a factor to be considered in ensuring effective organizational productivity. This concurs with the studies of Dheeraj and Vishal (2012) who stated that green manufacturing enhances productivity and environmental performance for overall socio-economic development that ends up in sustained improvement within the quality of organizations product. Also Dheeraj and Vishal (2012) stated that green manufacturing is the combined application of acceptable productivity and environmental management tools, techniques and technologies that reduce the environmental impact of an organization's activities, product and services whereas enhancing profitability and competitive advantage on the other hand Further Al-Odeh, and Smallhood (2012) defines green manufacturing as a dynamic strategy to harmonize economic process and environmental protection for sustainable development they state that it offers small and medium businesses ways to achieve a competitive advantage thus increasing productivity.

The institutional theory supports these findings as Scott (2004) identifies three pillars of organizations as regulative, normative and cultural cognitive. The regulative pillar emphasizes on the utilization of rules, laws and sanctions in a corporation that's associated with green supply chain management. The normative pillar deals with the norms and values in a corporation to confirm green procurement, green production, green distribution and green logistics. The cultural cognitive pillar rests on shared understanding, that is, common beliefs, symbols and shared understanding on the importance of green supply chain management

H03: There is no significant relationship between operations and reverse logistics and organizational productivity in Textile Industries in Eldoret Town

Table 4.12: Regression Results on the Relationship between operations and reverse logistics and organizational productivity

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	.742	.212		3.504	.001
1	Operations and reverse logistics	.847	.053	.835	16.033	.000

a. Dependent Variable: organizational productivity

Lastly the results in table 4.12 indicated that there was a significant relationship ($p= 0.000$) between operations and reverse logistics and organizational productivity, this was interpreted to mean that green logistics describes all attempts to measure and minimize the logistical activities impact on organizational productivity. These results are supported by Wu *et al* (2012) who postulated that reverse logistics is a key element to compete in the global competitive market. They say that operations and reverse logistics create an inefficient logistics system.

Similarly, Rao and Holt (2005), stated that reverse logistics chain offer companies competitive advantage and also result in raised economic performance. They ascertained that the image of product of companies that practiced reverse logistics have positively affected giving such companies a competitive advantage. Further Eltayeb, Zailani & Ramayan (2011), stated that several organizations in the globe are forced to adopt reverse logistics practices so as to evolve and conform to set environmental regulations. Recently, many voluntary reverse logistics programs are adopted by organizations so as to reduce the pressure for brand new or expanded legislation.

Lastly the Public value theory supports these findings as it envisages a manager's purpose as going on beyond implementation of policy and adherence to institutional norms. It includes

seeking out opportunities to form vital enhancements to the lives of the public as indicated by Moore (2010).

Table 4.13: Summary of Results for Hypotheses Testing

Hypotheses	Result (Accepted or Rejected)
H ₀₁ : There is no significant relationship between green procurement and organizational productivity in Textile Industries in Eldoret Town	Null hypothesis rejected (p=0.000).
H ₀₂ ; There is no significant association between green manufacturing and organizational productivity in Textile Industries in Eldoret Town	Null hypothesis rejected (p =0.000).
H ₀₃ : There is no significant relationship between operations and reverse logistics and organizational productivity in Textile Industries in Eldoret Town	Null hypothesis rejected (p=0.000).

From the results in table 4.13, it is indicated that all the three predictor variables (green procurement, green manufacturing and operations and reverse logistics) showed a strong relationship with the dependent variable (organizational productivity). These findings are supported by Dheeraj and Vishal (2012) who postulated that green manufacturing enhances productivity and environmental performance for overall socio-economic development that ends up in sustained improvement within the quality of organizations product. Dheeraj and Vishal (2012).further states that green manufacturing is the combined application of acceptable productivity and environmental management tools, techniques and technologies that reduce the environmental impact of an organization's activities, product and services whereas enhancing profitableness and competitive advantage on the other hand.

Choi and Kraus (2006) supports these results and states that green procurement provides a greening image in several organizations where a manufactured product is to be used. It's most vital driver of green supply Chain Management to adoption of GSCM in several institutions. Organizational output is that driver of GSCM which states that the method of conveyance of a

final product or service, with the hopes of reaching international promoting community. Green supply chain management has the ability of taking a company to successive level by, implementing several strategies.

Pietro *et al* (2012) who indicated that green logistics describes all attempts to measure and minimize the logistical activities impact on organizational productivity. This includes all activities of the flows of product, information and services between the point of origin and the point of consumption. It's the aim to form a sustainable company value through environmental efficiency. Lyons, Emmet and Sood, (2010) who indicated that green SCM involves negotiating policies with suppliers and customers, which ends up in higher alignment of business processes and principles. Alternative advantages of GSCM are financial performance; sustainability of resources, lowered costs/increased efficiency, product differentiation and competitive advantage, adapting to regulation and reducing risks and improved quality and product. All these result into alignment of supply chain.

Further Tan (2013) Green supply chain practice normally is believed to represent the environmentally friendly image of product, process, systems and technologies, and the way the business is conducted. Most corporations in developing countries adopted the green solutions into their business and tries to cut back the negative environmental effects instead of adopting a proactive approach to cut back the sources of waste or pollution. Therefore, there's need to place additional interest in finding out the adoption and implementation of GSCM in developing countries further these results are supported by public value theory that provide public sector managers with a greater understanding of the constraints and opportunities within which they work, and the challenge to create publically valuable outcomes hence determines the extent to which green supply chain management contribute to improvement of organization productivity.

Table 4.14 Regression coefficients of the relationship between green procurement, green manufacturing, operations and reverse logistics and organizational productivity

Model	Unstandardized		Standardized Coefficients Beta	t	Sig.
	Coefficients				
	B	Std. Error			
(Constant)	.815	.194		4.195	.000
Green procurement	.242	.078	.277	3.100	.002
1 Green manufacturing	.227	.074	.287	3.065	.003
Operations and reverse logistics	.366	.103	.360	3.556	.001

a. Dependent Variable: organizational productivity

From finding on Table 4.13, reverse and operations logistics was ranked the highest predictor variable for organizational productivity with a value of 0.366 indicating that a percentage increase in the dependent variable (organizational productivity) will cause a 36.6% this was followed by green procurement with a B value of 0.242 which indicates a percentage increase in the dependent variable will result to a 24.2% increase in the independent variable green procurement and lastly green manufacturing with a B value of a 0.227 indicating that an increase in green procurement will lead to 22.7% change in the dependent variable. Therefore all the three predictor variables excluding green manufacturing showed a strong relationship with the dependent variable. This results are consistent to that of Ninlawan, Seksan, Tossapol, and Pilada, (2010), who stated that green manufacturing, green distribution and green logistics vital dimensions of green supply chain management practices required by manufacturing sectors to attain increased sustainability performance. Further Zhang and Zheng (2010), stated that green supply chain management needs organizations to design products that facilitate the use, recycle and recovery of components and material components; avoid or cut back the utilization of hazardous product among production process; minimize consumption of materials. Lastly these are consistent to the public value theory which determines the extent to which green supply chain

management contribute to improvement of organization productivity in terms of provision of better services, organizational output, quality product and organizational sales turn over.

Thus the regression equation becomes;

$$Y = 0.815 + 0.242X_1 + 0.227X_2 + 0.366X_3$$

Where Y will be organizational productivity

β_0 -The regression model constant (Y-intercept) and

X_1 = Green procurement

X_2 = Green manufacturing

X_3 = Operations and reverse logistics

α =constant value

ε =error term

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.2 Summary of Findings

5.2.1 Green procurement and organizational productivity

The study findings indicated that green procurement had significant relationship with organizational productivity in textile industries in Eldoret Town..This indicates that all of the variables on green procurement are instrumental in ensuring organizational productivity. Choi and Kraus (2006) supports these results and states that green procurement provides a greening image in several organizations where a manufactured product is to be used. It's most vital driver of green supply Chain Management to adoption of GSCM in several institutions. Organizational output is that driver of GSCM which states that the method of conveyance of a final product or service, with the hopes of reaching international promoting community. Green supply chain management has the ability of taking a company to successive level by, implementing several strategies.

Further *greenet al* (2012) states that green supply chain, green marketing, green packaging and environmental friendly distribution are all initiatives which may improve the organizations output. Packaging performs variety of functions together with containment, protection, preservation, packaging, unitization and presentation. So as to deal with the environmental impact of packaging, several countries currently have programs that aim to attenuate the number of packaging that enters the waste stream.

Lastly these findings are supported by public value theory that envisages a manager's purpose as going beyond implementation of policy and adherence to institutional norms. It includes seeking out opportunities to make significant improvements to the lives of the public. Thus it determines the extent to which green supply chain management contribute to improvement of organization productivity in terms of provision of better services, organizational output, quality products and organizational sales turn.

5.2.2 Green manufacturing and organizational productivity

The second objective of this study was to find out the effects of green manufacturing and organizational productivity, the study findings indicated that there exists a significant relationship between green procurement and organizational productivity; this was supported by a p value of 0.000. These findings indicate that the textile industries consider the green manufacturing which will enable them to maintain their customers loyalty and achieve the intended objective of organizational productivity. These findings are supported by Dheeraj and Vishal (2012) who postulated that green manufacturing enhances productivity and environmental performance for overall socio-economic development that ends up in sustained improvement within the quality of organizations product. Dheeraj and Vishal (2012) further states that green manufacturing is the combined application of acceptable productivity and environmental management tools, techniques and technologies that reduce the environmental impact of an organization's activities, product and services whereas enhancing profitability and competitive advantage on the other hand.

Lastly these findings are supported by institutional theory that identifies three pillars of institutions including: regulatory, normative and cultural cognitive pillars. The regulatory pillar emphasizes on the use of rules, laws and sanctions in an organization that is related to green manufacturing. The normative pillar deals with the norms and values in an organization to ensure green procurement, green production, green distribution and green logistics. The cultural cognitive pillar rests on shared understanding, that is, common beliefs, symbols and shared understanding on the importance of green supply chain management.

5.2.3 Operations and reverse logistics and organizational productivity

The third objective of this study was to find out the effects of Operations and reverse logistics on organizational productivity, the study indicated that there exists a significant relation between operations and reverse logistics and organizational productivity, this is supported by a p value of 0.000, this implies that operations and reverse logistics is effective in organizational productivity

This finding concurs with Pietro *et al* (2012) who indicated that green logistics describes all attempts to measure and minimize the logistical activities impact on organizational productivity. This includes all activities of the flows of product, information and services between the point of

origin and the point of consumption. It's the aim to form a sustainable company value through environmental efficiency. Further Eltayeb, Zailani & Ramayan (2011), states that several organizations in the globe are forced to adopt reverse logistics practices so as to evolve and conform to set environmental regulations. Recently, many voluntary reverse logistics programs are adopted by organizations so as to reduce the pressure for brand new or expanded legislation. Several organizations have tried to enhance their own performance and others by having their industry association impose more tight requirements on its entire membership. This is often in a bid to avoid the results of non-compliance that embrace financial penalties and withdrawal of licenses. Further these results are supported by institutional theory that emphasizes on the use norms and values in an organization to ensure green distribution and green logistics.

5.2.4. Organizational Productivity

Lastly on the effects of green supply chain management on organizational productivity., majority of the respondents indicated that the aspects of green supply chain management that influence organizational output. The aspect that green supply chain management leads to improved organizational productivity. This implies that green supply chain management in the textile industry is a significant factor in ensuring quality of products, effective waste control, compliance with environmental regulations, organizational sales turn over and improved organizational output.

This study findings are similar to that of Lyons, Emmet and Sood, (2010) who indicated that green SCM involves negotiating policies with suppliers and customers, which ends up in higher alignment of business processes and principles. Alternative advantages of GSCM are financial performance; sustainability of resources, lowered costs/increased efficiency, product differentiation and competitive advantage, adapting to regulation and reducing risks and improved quality and product. All these result into alignment of supply chain.

Further Tan (2013) Green supply chain practice normally is believed to represent the environmentally friendly image of product, process, systems and technologies, and the way the business is conducted. Most corporations in developing countries adopted the green solutions into their business and tries to cut back the negative environmental effects instead of adopting a proactive approach to cut back the sources of waste or pollution. Therefore, there's need to place additional interest in finding out the adoption and implementation of GSCM in developing

countries further these results are supported by public value theory that provide public sector managers with a greater understanding of the constraints and opportunities within which they work, and the challenge to create publically valuable outcomes hence determines the extent to which green supply chain management contribute to improvement of organization productivity.

5.3 Conclusions

The study concluded that that the effects of green procurement on organizational productivity include the fact that green procurement leads to successful implementation of procurement plans, green procurement leads to sustainability of organizational productivity, green procurement leads to compliance with customers' requirements related to the implementation of environmental management systems it ensures evaluation of the amount of waste flowing into business systems, leads to decrease of consumption for hazardous/harmful/toxic materials and lastly leads to decrease of frequency for environmental accidents. This is supported by Public value theory was developed by Moore in 1995 to provide public sector managers with a larger understanding of the constraints and opportunities within which they work, and therefore the challenge to form publically valuable outcomes, this is because it determines the extent to which green supply chain management contribute to improvement of organization productivity in terms of provision of better services, organizational output, quality product and organizational sales turn over. Bin and Jun (2009) also indicated that greening the supply chain has varied advantages for a corporation, starting from value reduction, to integration of suppliers in a very participative decision making process that promotes environmental innovation. A larger part of the GSCM function primarily contains of green purchasing ways adopted by organizations in response to increasing international considerations of environmental sustainability.

On the effects of green manufacturing and organizational productivity the study concluded that green manufacturing has led to lower raw material costs, it generates little or no waste or pollution, it promotes reuse of raw materials, it has led to reduced environmental and occupational safety expenses, green manufacturing leads to compliance with environmental regulations in producing parts and components and lastly green manufacturing ensures greening of production to cleaner production. This is supported by supported by institutional theory that identifies three pillars of institutions including: regulatory, normative and cultural cognitive pillars. The regulatory pillar emphasizes on the use of rules, laws and sanctions in an

organization that is related to green manufacturing. The normative pillar deals with the norms and values in an organization to ensure green procurement, green production, green distribution and green logistics. The cultural cognitive pillar rests on shared understanding, that is, common beliefs, symbols and shared understanding on the importance of green supply chain management. Further Lyson and Farrington, (2006) agreed that green manufacturing uses a collection of management tools, techniques and technologies to encourage innovation and endless cycle of productivity gains. The end result is aggressive enterprises, preservation of the natural resources.

On operations and reverse logistics it was concluded that operations and reverse logistics recovers materials that are harmful to environment, it ensures launching of recycle system in our organization , Sets internal material recycling system, it can lead to implementation of recycle system in our organization, it leads to implementation of reused package system and lastly operations and reverse logistics ensures use of packaging materials that can be reused for other purposes in our organization. Further these results are supported by institutional theory which is a widely accepted theoretical posture that emphasizes rational mythology and legitimacy; it also focuses on the deeper and additional resilient aspects of social structures. It considers the strategies that systems, collectively with schemes; rules, norms, and workouts, come to be set up as authoritative techniques for social behavior that emphasizes at the use norms and values in an enterprise to make sure green distribution and green logistics

It was also concluded that Green procurement leads to improved organizational output green procurement leads to organizational sales turn over, it leads to quality of products and effective waste control and also leads to compliance with environmental regulations. This indicates that green procurement in the textile industry is a significant factor in ensuring quality of products, effective waste control, compliance with environmental regulations, organizational sales turn over and improved organizational output. this was supported by Bin and Jun (2009) also indicated that greening the supply chain has varied advantages for a corporation, starting from value reduction, to integration of suppliers in a very participative decision making process that promotes environmental innovation .A larger part of the GSCM function primarily contains of green purchasing ways adopted by organizations in response to increasing international considerations of environmental sustainability.

Further it was concluded that The public value theory applies to this study because it determines the extent to which green supply chain management contribute to improvement of organization productivity in terms of provision of better services, organizational output, quality products and organizational sales turn over. Moore (2010) argued that Public Value theory envisages a manager's purpose as going beyond implementation of coverage and adherence to institutional norms. It consists of seeking out possibilities to make good sized upgrades to the lives of the general public.

Lastly it was concluded that the institutional theory applies to the study because the approach that is used to examine elements of green supply chain management. Scott (2004) identifies three pillars of institutions as regulatory, normative and cultural cognitive. The regulatory pillar emphasizes on the use of rules, laws and sanctions in an organization that is related to green supply chain management. The normative pillar deals with the norms and values in an organization to ensure green procurement, green production, green distribution and green logistics. The cultural cognitive pillar rests on shared understanding, that is, common beliefs, symbols and shared understanding on the importance of green supply chain management.

5.4 Recommendation of the Study

On green procurement the study recommends that mechanisms should be put in place by the textile industries to address the challenges that are hampering the implementation of green procurement. It should consider the environmental aspects to performance criteria when making purchasing decisions this will reduce environmental impacts of sourcing and to increase resource efficiency

Regarding green manufacturing practices used by textile industries, the study recommends, organization should adopt production processes which use inputs with relatively low environmental impacts, which are highly efficient, and which will generate little or no waste or pollution, this can lead to decrease raw material expenses, manufacturing efficiency profits, reduced environmental and occupational protection charges, and improved company image

The study further recommends that textiles industries should adopt reverse logistics practices in order to conform to set environmental regulations, this should includes all activities that ensures flows of products, information and services in an organization.

Lastly the study recommends that organizations should increase diversity and dynamics, environmental issues which are important in ensuring organizational productivity. This will ensure organizations reduce the impact on the environment on the procurement process and to develop sustainable transport and supply chain strategies.

5.5 Areas of further research

This research recommends further research to be conducted in the following areas

- i. A research of the same kind since the study only focused on the effects of green procurement, green manufacturing and operations and reverse logistics of textile industries in Eldoret Town, a comparative research is suggested with other regions of the same characteristics. Further owing to the limitations of the study it is suggested that same study be done but in other sectors as the results on the current study may not be generalized to other institutions
- ii. As more reliable data becomes available on green procurement and organizational productivity, it may also be useful to determine whether or not the relationships examined in this study hold over time.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

Dear Respondent,

The purpose of this study is to investigate the **EFFECTS OF GREEN SUPPLY CHAIN MANAGEMENT ON ORGANIZATIONAL PRODUCTIVITY: A SURVEY OF TEXTILE INDUSTRIES IN ELDORET**. You have been chosen as part of the target population. I would like to bring to your attention that the information will be treated with utmost confidentiality.

Do not write your name anywhere on this paper.

Thank you.

SECTION A: BACKGROUND INFORMATION OF THE RESPONDENTS

1. Your gender

a) Male ()

b) Female ()

2. How long have you been in the profession?

(a) 0-5 years ()

(b) 6-10 years ()

(c) 11-15 years ()

(d) 16-20 years ()

(e) Over 20 years ()

(3). Indicate your academic qualification

O – Level Certificate Diploma Degree others specify

SECTION B: GREEN PROCUREMENT AND ORGANIZATIONAL PRODUCTIVITY

This section deals with information on the effects of green procurement on organizational productivity. Please indicate the level of your agreement with the following statements by ticking the most appropriate box. Where strongly agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)

SN	Variables	SD	D	U	A	SA
		1	2	3	4	5
1	Green procurement leads to successful implementation of procurement plans					
2	Green procurement leads to sustainability of organizational productivity					
3	Green procurement leads to compliance with customers' requirements related to the implementation of environmental management systems					
4	Green procurement ensures evaluation of the amount of waste flowing into business systems					
5	Green procurement leads to decrease of consumption for hazardous/harmful/toxic materials					
6	Green procurement leads to decrease of frequency for environmental accidents					

SECTION C: GREEN MANUFACTURING AND ORGANIZATIONAL PRODUCTIVITY

This section deals with information pertaining green manufacturing and organizational productivity. Please indicate the level of your agreement with the following statements by ticking the most appropriate box. Where strongly agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)

SN	Variables	SD	D	U	A	SA
		1	2	3	4	5
1	Green manufacturing has led to lower raw material costs					
2	Green manufacturing generate little or no waste or pollution.					
3	Green manufacturing promotes reuse of raw materials					
4	Green manufacturing has led to reduced environmental and occupational safety expenses,					
5	Green manufacturing leads to compliance with environmental regulations in producing parts and components					
6	Green manufacturing ensures greening of production to cleaner production					

SECTION D: OPERATIONS AND REVERSE LOGISTICS AND ORGANIZATIONAL PRODUCTIVITY

This section deals with information pertaining operations and reverse logistics and organizational productivity. Please indicate the level of your agreement with the following statements by ticking the most appropriate box. Where: Strongly agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)

SN	Variables	SD	D	U	A	SA
		1	2	3	4	5
1	operations and reverse logistics recovers materials that are harmful to environment					
2	operations and reverse logistics ensures launching of recycle system in our organization					
3	Setting internal material recycling system					
4	operations and reverse logistics leads to implementation of recycle system in our organization					
5	operations and reverse logistics leads to implementation of reused package system					
6	operations and reverse logistics ensures use of packaging materials that can be reused for other purposes in our organization					

SECTION E; ORGANIZATIONAL PRODUCTIVITY

This section deals with the information pertaining green procurement and organizational productivity. Using the rating provided, Please indicate the level of your agreement with the following statements by ticking the most appropriate box. Where; strongly agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)

SN	Variables	SD	D	U	A	SA
		1	2	3	4	5
1	Green supply chain management leads to improved organizational output					
2	Green supply chain management leads to organizational sales turn over					
3	Green supply chain management leads to quality of products					
4	Green supply chain management leads to effective waste control					
5	Green supply chain management leads to compliance with environmental regulations					



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ELDORET-KENYA

4th March, 2016

TO WHOM IT MAY CONCERN

Dear Sir / Madam,

RE: PRUDENCE JEPKOECH KEBENI REG.NO:CBM15/10001/14

The above named is a bonafide student of Kisii university- Eldoret Campus pursuing a Master's Degree In Procurement Logistics & Supplies in the School of Business and Economics.

She is working on her research entitled "*The Effects of Green Supply Chain Management on Organizational Productivity: A Survey of Textile Industries in Eldoret*" in partial fulfilment for the requirement of the award of Master's Degree in Procurement Logistics & Supplies.

We are kindly requesting your office to provide her with the permit to proceed to the field for data collection and completion of her research.

Any assistance extended to her will be appreciated.

Yours faithfully,

Charles O. Ongiyo

DEPUTY DIRECTOR – ACADEMIC AFFAIRS





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Date:

21st April, 2

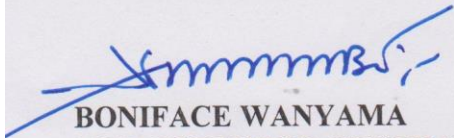
Jepkoech Prudence Kebenei
Kisii University
P.O. Box 402-40800
KISII.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Effectiveness of green supply chain management on organizational productivity: A survey of textile industries in Eldoret,*" I am pleased to inform you that you have been authorized to undertake research in **Uasin Gishu County** for the period ending **19th April, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Uasin Gishu County** before embarking on your research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


**BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner



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EFFECTS OF GREEN SUPPLY CHAIN MANAGEMENT ON ORGANIZATIONAL PRODUCTIVITY: A SURVEY OF TEXTILE INDUSTRIES IN ELDORET BY PRUDENCE JEPKOECH KEBENEI MT KENYA UNIVERSITY BBM (PROCUREMENT OPTION) RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENT FOR THE CONFEREMENT OF MASTERS DEGREE IN PROCUREMENT, LOGISTICS AND SUPPLY CHAIN MANAGEMENT KISII UNIVERSITY October , 2016
DECLARATION Declaration by the candidate I declare that this is my original work and has not been presented anywhere before for purposes of examination. No part of this project may be reproduced without prior permission of the author and or this University.

Sign... *Prudence*

Date... *15/12/2016* ... Name: PRUDENCE JEPKOECH KEBENEI ADM NO: CBM15/10001/14
Declaration by the Supervisors This project has been submitted for examination with our approval as University Supervisors Sign... *Geoffrey* Date... *15/12/2016* Dr.

GEOFFREY KIMUTAI Lecturer Kisii University School of Business and Economics
Sign... *Caroline Ayuma* Date... *15/12/2016* DR.

CAROLINE AYUMA Lecturer Kisii University School of Business and Economics
DEDICATION This project is dedicated to my parents Mr and Mrs kebenei, my brothers Erick, Moses, Felix and my daughter Michelle for their encouragement and understanding during my time of this study. May God bless them abundantly.

ACKNOWLEDGEMENT

I wish to acknowledge the almighty God who gave me the courage and strength to face the challenges in the project writing. I thank my supervisors Dr. Geoffrey Kimutai and Dr.