SUPPLY CHAIN STRATEGIES AND GREEN LOGISTICS PERFORMANCE AT UNILEVER IN KENYA

By

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DECLARATION

STUDENT'S DECLARATION

I declare that this project is my original work and has never been submitted for a degree in any other university or college for examination/academic purposes.

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SUPERVISOR'S DECLARATION

This research project has been submitted for examination with my approval as the university supervisor.

Signature: _____ Date:_____

Prof Gituro Wainaina

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DEDICATION

This research will be dedicated to my Son Alvan Tony Walukaya and my dear wife Maureen Mahero Chiteri. I would also like to dedicate it to my parents for their prayers and moral support. Last and least to my supervisor Prof. Gituro Wainaina.

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ABSTRACT

The climate change is being recognized as one of the greatest challenges of this century, carbon emissions, the main contributor to climate change, are increasingly becoming the centre of attention and also in supply chains. Due to growing public awareness, consumers are increasingly including environmental criteria in their purchasing trends. The purpose of the study was to analyze the effects of supply chain strategies and green logistics performance at Unilever in Kenya. For this study, the target population was employees of Unilever Kenya, which is a global organization, with branches worldwide with one of the branches in Kenya along Commercial Street in industrial area. The study used 62 employees as a sample case that consisted of personnel who were logistics managers, transportation managers, and procurement officers or their equivalents at Unilever in Kenya.

To achieve the research objectives, both primary and secondary data was used. Primary data was collected through a questionnaire and interviews. Secondary data was obtained through documents review that is procurement manuals, newsletters and magazines. Qualitative data was analyzed through regression analysis, mean and standard deviation. Quantitative data was analyzed using descriptive statistics. Data collected was analyzed by use of correlation and regression analyses.Further, it was established that Unilever has a good Information, Communication and Technology (ICT) framework though it needs to improve on some aspects including coordination of technology with customers and efficiency in information quality. Communication was rated average, with timeliness of communication on change and development of integrated communications plan being specific areas that need immediate attention. Further, it was found that the organizational culture at Unilever was supportive only to a moderate extent towards the adoption of green supply chain strategies. The study recommended that Unilever should improve its communications by strengthening timeliness of communications on change and building an integrated communications plan. The company should re-engineer its corporate culture.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Green logistics describes all attempts to measure and minimize the ecological impact of logistics activities. This includes all activities of the forward and reverse flows of products, information and services between the point of origin and the point of consumption. It is the aim to create a sustainable company value using a balance of economic and environmental efficiency .Green logistics have its origin in the mid 1980s and was a concept to characterize logistics systems and approaches that use advanced technology and equipment to minimize environmental damage during operations (Zhu & Sarkis 2004).

Green logistics has emerged as one of the areas of enhancing efficiency in an organization, meeting higher customer expectation, environmental changes, globalization and rapid technological changes, companies have to re-engineer their ways of doing business in order to remain competitive. This calls for development of best practices in all organizational functions in order to ensure that organizations are in line with current business trends. Green logistics in supply chain management is not an exception (Christopher & Lee, 2004).

Green logistics has recently received a worldwide recognition as a key business process through which suppliers are able to provide products, services and information that add value to customers and other shareholders (Chan & Qi, 2003). It should be a proactive approach through which the buyers decide to relate and collaborate with sellers willingly or unwillingly for mutual benefit because each party needs the other for survival.

1.1.1 Supply Chain Strategies

Unilever has adopted various strategies to achieve its objectives; hence supply chain strategies like those that lean management has been put in place. The theory of lean thinking has evolved with time. The term lean production was first used to describe the

process of minimization of waste in automotive industry (Womack et al., 1990). Jones et al (1997) say lean thinking has a natural starting point with value for the customer looking at the whole rather than the individual processes. However, leanness means developing a value stream to eliminate all waste, including time and to ensure a level schedule (Naylor et al, 1999). More recently, Hines et al (2004) stated that lean exists at two levels strategic and operational. The customer value creation strategic applies everywhere, the shop floor techniques do not, but value creation is only equal to quality, cost and delivery. However, lean thinking is not a supply chain strategy that can be adapted to all sorts of products. Developing a supply chain strategy consists of matching market characteristics with supply.

Unilever operates in a market that is volatile due to many emerging factors, it has implemented agile strategy. Agility has come a new paradigm under the current market conditions in several sectors. Naylor et al (1999) defined agility as using market knowledge and a virtual corporation to exploit profitable opportunities in a volatile place. Christopher and Towil (2000) stated that agility is a business wide capability that embraces organizational structures, information systems, logistics process and in particular markets.

According to Ansoff (1987) supply chain strategy is an interactive process that evaluates the cost benefit trade-offs of operational components. Business strategy involves leveraging the core competencies of the organization to achieve a defined high-level goal or objective. It also includes the analytic and decision making process surrounding what to offer, when to offer and where to offer as a competitive plan.

While the business strategy constitutes the direction that an organization wishes to go, the supply chain strategy constitutes the actual operation of the organization and the extended supply chain to meet a specific supply chain objective (Naylor 1999). The supply chain strategy is important in that it focuses on driving down operational costs and maximizing efficiency, for example an organization can choose a strategy directed at supplier management as a way to remain competitive. Supply chain strategies define how the supply chain should operate in order to compete.

A supply chain strategy provides a clear purpose because the organization keeps sight of the strategy and is able to devise tactical steps to achieve its goals (Johnson, Coles and Whittinston (2009). Another reason for having a supply chain strategy is to establish how to work with supply chain partners including the external and internal partners in relation to the organization. Stanford Graduate School of Business states that companies can make money while operating in socially responsible and environmentally friendly ways. It just takes what supply chain expert Hau Lee calls the triple A approach-having agility, adaptability and alignment According to Hines et al (2004),in developing a supply chain strategy, the first step is for supply chain executives to clearly understand how the enterprise chooses to compete, for example if the business strategy is to be low cost provider, the supply chain strategy should support this. Assessing the extended supply chain, conducting a detailed, realistic assessment of the capabilities that exist within the organization and even the extended supply chain, closely scrutinizing organization's assets and evaluate how well they support the overall strategy of the organization.

Developing an implementation plan is critical, for the success of the supply chain strategies to achieve the business strategy (Naylor, 1999), as it lays a road map on how to realize the stated objectives. Executing supply chain strategies, involves closely following the implementation plan and applying good project governance. Tracking performance allows organization to measure how successful it is in realizing the goals of the strategy. Executing a supply chain strategy means dealing with many different entities, both internally and externally and different stakeholders need to be informed.

1.1.2 Green Logistics Performance

Green logistics performance is a form of logistics, which is calculated to be environmentally and often socially friendly in addition to economically functional (Ganesha R., Harrison T., 1995). As early as the 1980s, several companies were concerned with developing green logistics and interest in the concept soared with increased consumer concerns about how products were manufactured and delivered in the 21st century. Many modern companies pride themselves on their environmentally friendly policies and practices, and companies, which are interested in adopting green logistics.

The term green businesses is defined by Smith (2003) and Friend (2009) as businesses and practices that are viewed as environmentally sound, including the use of organic and natural products to build factories, tighter protection against emissions and environmentally friendly sourcing of materials. Zsonai (2001) defines a green business as a business that has adopted the concept of environmentalism across the various functions of the business.

The main objective of logistics is to co-ordinate the movement of products through the supply chain in a way that meets customer requirements at minimum cost. In the past, this cost has been defined purely on monetary terms Zsonai (2001). As concern for the environment rises, companies must take more account of the external costs of logistics associated mainly with climate change, air pollution, noise, vibration and accident. Green logistics analyses the environmental consequences of logistics and how to deal with them.

Logistics involves the movement of products from every step between raw materials and end consumer of a finished product. One of the key focuses of logistics is delivering a product, which will satisfy consumers at the lowest possible cost, and a variety of creative measures can be used to cut costs and reduce overall costs. Supply chain management, warehousing, retailing, manufacturing and safety inspections are all part of logistics.

In green logistics, all issues, which pertain to regular logistics, still apply, with the added factor of environmental friendliness. Sometimes making products environmentally friendly also happens to play into economic concerns. For example, a beverage manufacturer could reduce the use of plastics by making thinner bottles, thereby cutting down on shipping costs. In other instances, making a product environmentally friendly may cost more causing it to come to conflict with traditional logistics.

Social issues may also be considered because consumers are sometimes concerned about the social impact of a product. For example, if a cut flower company grows flowers organically but underpays its workers and refuses to allow them to unionize, consumers might boycott the company even though the manufacturing process is green. Companies

may actively promote worker and community welfare to emphasize that they believe in community responsibility as well as environmental responsibility, so that their products are more appealing to consumers.

Consumers are sometimes willing to pay more for products bearing labeling which indicates that the parent company practiced environmental and social responsibility when making the product, which makes green logistics appealing from a business standpoint as well as an ethical one.

1.1.3 An Overview of Unilever

Unilever is a manufacturing firm, founded in 1930 out of a merger between Lever Brothers (UK) and Uni-margarine (Netherlands). It existed in the 19th century, Unilever (Uni+Lever) is today one of the world's leading Fast Moving Consumer Goods (FMCG) company with a turnover of more than 4.3 billion Euros, With corporate offices in London and Rotterdam, it operates in 100 countries and employs 250,000 people globally. The company spends 2.5 percent of its turnover on research and development and 1.5 percent on Corporate Social Responsibility (CSR). Everyday 150 million people choose Unilever brands to feed their families and clean themselves and their homes. It manufacturers some of the world's leading foods, home and personal care products such as Blue band and Flora margarines, knorr and royco, ice cream, lipton tea; and omo; lux, dove, lifebuoy, geisha, sunlight ; vaseline, lady gay and close up tooth paste.

In addition, Unilever is involved in the growing, buying, manufacturing and marketing of tea. This is done alongside, fuel wood production, sustainable agriculture, research and development. Unilever East and Southern Africa (ESA) is a Unilever subsidiary operating in Kenya, Uganda, Tanzania, Zimbabwe, Zambia, Mozambique and Malawi. Unilever cover a market of 19 countries with a population of 150 million people and operates two businesses, the consumer business dealing with FMCG and the tea plantations business in Kenya and Tanzania. The plantations business is the biggest employer in Unilever with a workforce of 25,000 (10 percent of Unilever workforce) with a staff of 625 at the Unilever-Nairobi. The consumer business employs over 1,500

people directly. In addition, there are 120 distributors spread across the seven countries reaching more than 100,000 retail outlets each week.

Unilever mission is to add vitality to life and to meet everyday needs for nutrition, hygiene and personal care with brands that help people feel good, look good and get more out of life. Because Unilever vitality mission is rooted in the intimate understanding of people's needs and aspirations, it inspires new ways at Unilever ESA to reach consumers with quality products that care for their families and help them get more out of life. To achieve this aim, it maintains the highest standards of corporate behavior towards its employees, consumers, customers and indeed its operating environment.

Unilever subscribes to the highest standard of corporate behavior by being transparent in its dealings, fair in competition and law abiding. The company is a socially responsible and responsive organization that takes strategic actions for the improvement of the communities within which it operates. Through the Unilever CSR programme, the company is involved in the provision of support to the region's communities in the fields of health, education, water, hygiene, nutrition and environment.

Unilever plantations worldwide are leading centers of agricultural research, innovation and sustainable agronomic practices. Its quest for excellence is explained by the fact that it spends more then one billion Euros a year, 2.5 percent of turnover on research and development. The 114 of global manufacturing sites are certified by the International Management Standards, International Organization for Standardization (ISO 14001). In addition, it spends over 66 million Euros (15 percent of turnover) on a range of community projects.

1.2 Statement of the Problem

The successful implementation of a supply chain strategy is the most pressing issues facing many organizations in the world today. Noble, (1999) states that well formulated strategies only produce superior performance for the firm when they are successfully implemented. Mintzberg and Quinn, (1991) state that 90 percent of well-formulated strategies fail at implementation stage, while David (1991) claims that only 10 percent of

formulated strategies are successfully implemented. The reasons that have been advanced for success or failure of the strategies revolve around the fit between the structure and strategy, the allocation of resources, the organizational culture, leadership, rewards as well as nature of the strategy.

Business environment has become very competitive due to pressures originating from different areas for example regulatory and community pressures. Furthermore, there is pressure for environmental sustainability, which requires strategies to be put in place to reduce the environmental impacts caused by the products and services offered. Clem (2008) adds that going green reflects a social consciousness around saving and advancing the Earth's natural resources, preserving and protecting them for the sake of civilization. When customers become more aware of environmental issues, there is an increase in the demand for ecological products. This increased awareness of and sensitive towards environmental issues places certain demands on business functions to become greener.

Organizations have made significant progress with environmental management in the last decade by implementing laws and strategies that focus on sustainable development and green issues (Engel, 2009). In spite of this notion, most businesses still do not recognize the need to become green. Previously, businesses assumed that incorporating green into their business would cost money, but they now realize that ignoring negative impacts on the environment will be costly in the future (Van der Zee 2008). The purpose of going green is to use products and methods that would not negatively affect the environment through pollution or depleting natural resources (Robinson 2008).

The importance of supplier relationship management of procurement performance (Ratemo, 2012) states that Nakumatt Supermarkets during the year 2007 had implemented the use of green bags to replace the use of plastic paper bags but the concept died along the way. This raises research questions, is it that many organizations are using green logistics concept for public relations or as a CSR to achieve its goals.

It has become a challenge for Unilever to use eco-friendly materials, procedures and processes to ensure optimal raw material usage, recycle waste products, for example,

plastic paper and glass hence increasing operating income resulting to rising dumpsites like Dandora that poses a health hazard. Carbon emissions linked to the movement of goods, transit packaging used for distribution, the operation of distribution facilities and damage or wastage has been on the increase, yet Unilever has adopted a strategy to seek suppliers with green production processes to offset financial and environmental risk and use of e-procurement to offer green products at cheaper prices yet the prices have been on a steady increase.

There is growing evidence that green logistics results in increased supply chain performance, particularly since greenness, particularly because it favors an integrated perspective about supply chains (Rodriguez, 2001). The actors involved in logistical operations have a strong bias to perceive green logistics as a mean to internalize cost savings, while avoiding the issue of external costs. The top environmental priority is commonly reducing packaging and waste. The rise in energy prices is conferring additional incentives for supply chain managers to improve upon logistics and will correspondingly push energy and emissions at the forefront. These observations support the paradoxical relationship between logistics and the environment that reducing costs does not necessarily reduce environmental impacts. By overlooking significant environmental issues, such as pollution, congestion, resource depletion, means that the logistics industry is still not very green. Green logistics remains an indirect outcome of policies and strategies aimed at improving the cost, efficiency and reliability of supply chains. A key aspect of more environmentally friendly freight distribution systems concerns city logistics where the “last mile” in freight distribution takes place as well as a large share of reverse logistics activities. Still, even in this context the driving force is not directly environmental issues, but factors linked with costs, time, reliability, warehousing and information technologies.

There is no study on supply chain strategies and green logistics performance done at Unilever. Similar studies on strategy implementation on performance done in Kenya by: (Kimeli, 2008; Aosa 1992; Kiprotich 2008) Gakenia, 2008; Mobisa , 2007; Ngumo, 2006). The researcher concluded that they are challenges in implementing strategies in

firms, but none of these studies addressed the issue of the Supply chain strategies and green logistics performance at Unilever-Kenya.

According to Green et al. (1997), in the context of the deteriorating environment, supply chain strategies on green logistics stands for innovations in supply chain management and industrial purchasing. Zhu and Sarkis (2004) suggest that these supply chain practices consist of four major dimensions: internal environmental management, external environmental management, investment recovery and eco design. Local studies on green logistics as well as supply chain strategies are very few. Mugambi (2010) studied an exploration of challenges faced in strategic implementation of green procurement in the hotel industry. Wasike (2010) studied the effects of Integrated Supply Chain (ISC) on the performance of Nairobi bottlers, providing evidence of a positive relationship between ISC and performance with a recommendation for similar study in other manufacturing firms. Awino (2011) did a study of supply chain management in large private manufacturing firms in Kenya, which showed some empirical evidence of competencies, strategy and capabilities on performance especially when conjoined. Based on this review, no study has been done to analyze supply chain strategies on green logistics performance and thus a research gap.

Further, conclusion from the studies carried out in other areas, it has came out clearly that, although organizations consider environmental management their own strategies, measuring supply chain strategies on green logistics performance based on practices implemented has attracted little attention. The existing measurement methods are insufficient to reflect critical characteristics such as the organization's strategic goals and interactions with partners (Beamon, 1999). The preceding discussion leads to research question to be addressed in this research project on how supply chain strategies affect green logistics performance at Unilever.

1.3 Objective of the Study

The general objective of the study was to analyze the effects of supply chain strategies on green logistics performance at Unilever in Kenya.

The specific objectives were to:

1. Determine the motivating factors influencing the adoption of supply chain strategies on green logistics at Unilever
2. Evaluate the relationship between the motivating factors and green logistics at Unilever.
3. Establish the challenges facing the implementation of supply chain strategies on green logistics at Unilever

1.4 Value of the Study

The study will be important to the policy makers as they would be able to know for certain what environmental factors play a bigger role in shaping their operations and how they affect performance and what supply chain strategies to use in order to increase green logistics performance. The results will contribute to a better understanding on how effective supply chain strategies employed by Unilever are responding to green logistics performance.

The study is also important to Unilever-Kenya management because they will be able to know the analysis of supply chain strategies on the green logistics performance, and how they can be environmental friendly in their operations. The study will be of great interest to the researcher and the supply chain management department. It will improve administration of various supply chain strategies to achieve the business strategy while putting into consideration the green issues. The study will enable the organization to be seen as the customer's choice, when it is able to put into place supply chain strategies to achieve green logistics performance, hence increment in revenue to increase customer's base.

The results of this study will also be invaluable to researchers and scholars, as it will form a basis for further research. The scholars will use this study as a basis of discussion on supply chain strategies adopted by Unilever towards green logistics performance. The study would be a source of reference material for future researchers on other related topics, and help other academicians who undertake the same topic in their studies.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The effect of green business practices requires an in depth knowledge of client requirements together with the ability to satisfy these requirements while contributing to environmental sustainability. Managers need to develop systems and structures within their business that satisfy the requirements of green business practices while achieving strategic business goals. Various authors (Bized 2010; Bosch, Tait &Venter 2006, Weinhardt & Schlottmann 2008) use different classifications for the business functions. These classifications assisted the researchers in grouping the functions into six logical groups to eliminate duplication of activities, as well as to simplify the analysis of the empirical results. The functions were grouped as follows manufacturing, information technology, operations, marketing; sales, purchasing and supply chain management, distribution/logistics, and finance.

2.2 Supply Chain Strategies

Lean supply chain based strategy is a pull system that aims to minimize inventory within the Supply chain management. It enables Goods to be ordered as and when needed, in order to satisfy a particular need. To achieve waste minimization, the pull system emphasizes the use of JIT delivery. McKinnon (1996) has suggested that JIT delivery cannot be a green solution; despite that, it has not greatly increased road volume. Zhua & Sarkis (2004) have stated that company-to-company relationships aspects of JIT and its focus on movement of materials may cause more detriment in terms of a moderating affect on the relationships between practices where existence of such programmes may supersede finding environmental efficiencies for the sake of improved operational performance.

An agile strategy enables a manufacture to be able to withstand variations and disturbances and indeed to be in a position to take advantage of these fluctuations to maximize profits. According to Christopher and Towill (2002), agile supply means reserving capacity to cope with volatile demand. Whereas information transparency is

desirable in lean regime, it is obligatory for agility. This means that the agile supply chain needs spare capacity to respond to rapid changes in the market demand, where these changes are usually unpredictable. However, there are alternative ways to mitigate this negative effect of having spare capacity, freight consolidation improves vehicle efficiency and allow logistics providers to achieve robustness without having a negative impact on transport costs and the environment (Wu & Dunn 1995). Therefore, the impact of robustness on green logistics performance under agility should holistically be assessed.

A good supplier management strategy not only includes working with suppliers to improve their performance, but also integrating with sourcing processes and communicating the strategy's value to the organization. Sherry Gordon, the president of the Value Chain Group, a consulting firm that specializes in supplier management process design and development. A firm should make sure that people doing the sourcing have access to performance information about current suppliers. Successful supplier relationships require two-way information, recommendations, metrics and incentives, says Pat Leemputte, director of consulting firm Bridge Strategy Group. He suggests manufacturers adopt different strategies to manage suppliers throughout a contract's life, (Jeremy F. Shapiro ,2001).

Emphasize the need to understand the cost and value of the entire supply chain. Sunil Chopra and Peter Meindel (2002) without a thorough understanding of all costs, from raw materials through the product or service, and the value provided by each supplier in the process, a supplier could not be evaluated. Realize that supplier strategies go two ways. Most companies focus on what suppliers can do for them rather than on what they can do with the supplier to lower costs. A true partnership leverages the total production cost to both parties' advantage.

Information is the grease that makes an integrated supply chain work. According to ,Sunil Chopra and Peter Meindel (2002) waiting to share critical volume and timing information with suppliers can create lost business for the company or excess inventory and added costs for suppliers. Sharing information constantly, with appropriate security and confidentiality, is critical for successfully managing a supplier relationship.

Unavoidable events that stress the supply chain should be planned and practiced. Some industries, such as utilities implement plans for natural disasters. Every supply chain strategy requires similar foresight and joint planning so that disruptive events can be managed smoothly.

2.3 Green Logistics Performance

According to Tanguchi et al (1999) provide a useful presentation of the objectives of green logistics performance. According to their paper, three guiding pillars for the future development of a green city logistics are sustainability, mobility and accessibility. Although government and the general public influence corporate policy, logistics companies make final decision which directly affect pollutant releases with their market contact. According to them developing green logistics strategies and environmental externalities, the industry must be considered. Fortunately, the goal of logistics providers often conflict with the aims of green logistics Rodrigue et al (2000) discuss these conflicts labeling them as the paradoxes of green logistics.

Planning and research related to green logistics has primarily been focused towards the objectives of increasing the efficiency of industry activities with respect to timing and profits. However, with the last 15 years growing concern over environmental impacts has spawned the concept of green logistics as a stimulus for developing supply chain strategies, which can reduce environmental impacts on firms. Multiple papers on the state corporate environmental management and green logistics, do not provide a particular comprehensive summary of potential green logistics schemes, but does give insight into industry perspective regarding attitudes and current accepted options (Murphy and Poist, 2007). Pressure might be brought about in the form of government policies, litigation threats or public perception.

2.4 Review of Relevant Studies

Leanness characteristics as use of market knowledge, value stream and integrated supply chain, lead time compression, eliminate of waste and level schedule, said that if market knowledge is not exploited, a mismatch can be produced where demand is not synchronized with supply (Naylor et al., 1999). Lean thinking is value creation for

customers (Jones et al 1997), Hines et al 2004). However, what is actually value creation is effective market research and development (R&D) that is essential to determine the impact of effective use of market knowledge on green logistics performance.

In value, chain with the integrated supply chains both information and material flows will be simplified, streamlined and optimized, reducing waste and lead times' (Naylor et al 1999). Likewise, several authors have included integrated supply chain as one of the strategic requirements of lean thinking (Ohno 1988, Jones et al 1997, Mason-Jones et al 2000, Abernathy 2000, Bruce et al 2004). However, the impact of vertical integrations on green logistics performance should be determined. In addition, it is essential to establish whether vertical integration is enough to achieve economic supply chain effectiveness, and the negative impact of transport on the environment.

Lean is elimination of all types of wastes including waste time, so time compression is essential for lean manufacturing (Naylor et al 1999). Other authors emphasize this position (Aitken et al 2003, Hines et al 2004). However, looking at the waste minimization thinking only in terms of lead-time can have secondary effects on supply chain performance. Moreover, lead-time can be compressed by increasing the speed of delivery, but this could have a negative effect on green logistics performance. More importantly, in a very stable market where most of products are commodities, time compression could be balanced with accurate forecast.

Boeing pursued a lean manufacturing strategy without taking into account the variability of demand in the aerospace industry and level scheduling the market demand (Naylor et al 1999). Many authors also emphasize that level schedule is one of the key of a lean thinking initiative (Jones et al 1997, Mason-Jones et al 2000, Aitken et al 2003, Bruce et al 2004, Hines et al 2004). This could represent a weakness if a company applies this without being flexible to change in market demand, so under transition periods level, schedule could lead to obsoletes or redundant stocks, and in consequences, to unnecessary transport movements (forward and reverse). However, it is important to

determine under which situations level schedule works and add value to green logistics performance.

The more Just in Time (JIT) strategies are applied, the further the negative environmental consequences of the traffic it creates (Rodriguez et al 2001). Moreover, the least polluting modes are generally regarded as being the least reliable in terms of on-time delivery and lack of breakage and safety. Ships and railways have inherited a reputation for poor customer satisfaction. Stank and Crum (1997) concluded that firms that have successfully implemented a JIT system have high level of performance in inbound replenishment and customer order cycle time reductions, and on the green logistics side, are in better position to achieve routing and scheduling consolidation for both inbound and outbound shipments. However, that depends on how integrated they are with their suppliers and how well they integrate with their key party logistics providers, in the JIT process. Waters fuller (1995) emphasized that lack of support of suppliers and carriers are two major causes of failure of a JIT implementation.

There are alternative ways to achieve high level of green logistics performance under JIT delivery system. Information sharing within supply chain including transport providers is essential to achieve JIT delivery and keep high level of delivery performance. As manufacturers improve their forecasting accuracy, water modes become more feasible under a JIT system (Helms and Dileepan, 2005). Dalsey, Hillblom and Lynn (DHL) has endeavored to reduce the number of vehicles they use and shorten the distance they travel by optimizing transport routes based on forecasts of cargo volume and transport time to improve collection/delivery efficiency (DHL Report 2005). However, it is necessary to test this hypothesis in a more robust manner to determine the feasibility of using alternative transport modes to road under JIT system and determine how that can improve green logistics performance.

According to Childerhouse et al (2002), focus is required to ensure demand chains are engineered to match customer requirements. Such focus is enabled via segmentation based on each product characteristics. According to Christopher and Towill (2000), a customer can order on line 24 hours a day or by phone from early morning until late in

the evening from Dell. A Dell representative is available to make suggestions and help customers determine what systems will best meet their needs. From a green logistics perspective, it is necessary to undertake a holistic analysis of the effects of such a system. One of the potential effects of this strategy is that the manufacturer needs to postpone activities and have excess capacity to respond to change in demand, so that they can potentially decrease the total transportation costs. However, if the supply network is re-engineered, inventory and transport consolidation can mitigate this effect.

Dell broke into big time developing a business strategy and supply chain strategy that worked together. In the late 1980s and 1990s, Dell's business strategy was differentiation through cost and speed of delivery and customer's service. The major channel for sales was from customers to call centres as the issue of environment and public awareness had risen steadily. However, the emergence of the internet called for more differentiation and fundamental change, with a well-understood business strategy. Dell began to formally integrate operational components, for example logistics, manufacturing, distribution and inventory management.

According to Chief executive officer, Dell "manages the value chain better than anyone else on the planet and who might come close to us might be Wal-Mart .To meet these goals and changing business environment, green issues are a major concern to Dell. As supply chains moved from a cost focus and now currently to a strategic focus, the need to think strategically about the supply chain has never been more important. The success of a strategy is only good as the company's ability to fully and properly execute it a great supply chain strategy, linked with operational excellence, can provide success for not only the company in question but also its partners and customers.

2.5 Summary of Research Gaps

Although various authors (for example, Chan 2000); Frooman 2005 and Peattie 2001) have attempted to investigate green business performance implementation and the role played by business strategies, contradictory results have been reported. Ferraro (2009) is of the opinion that being green concerns extremely diverse that not all environmentally responsible businesses are the same. This often makes it difficult to define green

businesses and consumers. However, certain variables could assist in explaining what constitute a green business or consumer. Gilg, Barr and Ford (2005) concur that putting aside the arguments relating to the definition of green limited research has been done to assess the influence of business strategies on green practice implementation. D'Souza, Taghian and Khosla (2007) investigated consumer's intention to purchase green products and business purchasing systems and found that business strategies could play an important role. Chitra (2007) states that due to increased awareness of green business practices, there is a need to implement green elements in their product profile and recommend that the influence of business strategies should be investigated. Williams (2005) argues that there is little evidence that business strategies influence green business.

The World Commission on Environment and Development Report (1987), with its establishment of environmental sustainability as a goal for international action, gave green issues a significant boost in political and economic arenas. The transportation industry was recognized as a major contributor to environmental issues through its modes, infrastructures and flows. Yet, environmental perspectives and transportation sustainability issues remain predominantly focused on passenger transportation Studies have been done in relation to green logistics with the goal of a conceptual designing of green logistics in the field of transport. These case studies allow a wide coverage of all relevant logistics systems in the transport area. The studies are carried out, parallel to the other work, both under temporal as well as functional aspects and for buildings, intra-logistics and processes closely coordinated for a holistic consideration. In the course of the seven case studies, optimization approaches for green transports are developed and alternative strategies assessed both economically and ecologically. The review illustrates the importance of road movements in goods distribution in urban areas. It highlights the major economic, environmental and social impacts associated with this freight activity and reviews policy options available to those responsible for regulation. A wide range of possible solutions to problems posed by urban freight operations are also covered including approaches related to consolidation, facilities, vehicle design, information capture and utilization as well as non-road modes (Michael et al 2007).

Table 1: Summary of Literature Review

Study	Objectives	Methodology	Findings	Recommendation
Strategic environmental management in organizations Engel (2008)	The extent to which organizations are implementing strategic environmental management	Survey	Organizations have made significant progress with environmental management in the last decade by implementing laws and strategies that focus on sustainable development and green issues.	Most businesses still do not recognize the need to become green.
Organizations' environmental management Beamon, 1999.	Determine whether strategic environmental management has influence on organizations	Survey	The existing measurement methods are insufficient to reflect critical characteristics such as the organization's	Recommended further studies on measuring supply chain strategies on green logistics performance

	operations		strategic goals and interactions with partners	
Effects of integrated supply performance of Nairobi bottlers Wasike (2010)	Determine whether supply chain has an impact on the overall performance of Nairobi Bottlers	Case Study	A positive relationship between integrated supply chain and performance	A recommendation for similar study in other manufacturing firms and identifying the specific variables in relation to supply chain management performance
Green business practices in organizations Chitra (2007)	To what extent are organizations adopting green business practices	Survey	Green business practices influences performance	There is a need to implement green elements in their product profile and recommends that the influence of business strategies should be investigated.

Source: Author, 2013

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the approaches that were used, to gather the data that was used to achieve the solutions to the objectives of the study. It outlines how the research was designed, how data was collected and analyzed.

3.2 Research Design

The research was conducted via a case study; a case study allows the researcher to reveal the multiplicity factors, which have interacted to produce the unique character of the entity subject of the study (Yin, 2009). This means that the case study placed more emphasis on a full contextual analysis of fewer event or conditions. The case study provided the benefit to observe and record non-verbal as well as verbal behavior (Cooper and Schindler, 2003). The role of strategy implementation and evaluation is vested in the heads of various departments/divisions of Unilever. Twelve heads of departments and staff from operation areas from various divisions were interviewed using the questionnaire and interview guide.

3.3 Data Collection

The researcher bracketed his thoughts, perceptions about the research topic (Polit et al, 2001) describe bracketing in phenomenological research as the process of identifying, and holding in abeyance any preconceived beliefs and opinions about the phenomenon under study. It was essential to allow the participants to describe their experience openly and freely. The researcher remained interested, attentive and non-judgmental and did not lead the participants on responding to the questionnaire and interview. The participants honoured the appointment. The researcher explained the purpose of the study and the participants' rights including confidentiality, anonymity and to withdraw from the study at any time they so wish, Informed consent was obtained from each participant.

Both primary and secondary data were collected; primary data was collected through personal interviews. An interview guide was used to guide the interviewer in collecting the data from the respondents, which was closed and open-end questions .Structural

interviews are best suited in engaging in respondent or focus group studied which was beneficial to compare/contrast participant response in order to answer a research question (Lindlof & Taylor, 2002).

Although Unilever has its products throughout the country, all the logistics are linked to divisions/departments at the headquarters and it is in the headquarters where strategies are managed, resources allocated and general management. The target group was divisional heads, managers bringing the total number of potential interviewees to twelve.

These were officers responsible for seeing the strategic plan implemented in their own dimensions and they were capable of providing the information necessary of this study. Secondary data was also collected from the supply chain management manuals, policies, records and performance contract reports.

The interview guide was pre-tested before administering it to the respondents. The interview guide was divided into three parts. Part A covered the respondent's profile, Part B sought to establish factors motivating the adoption of supply chain strategies on green logistics performance and Part C covered the challenges faced during the implementation of supply chain strategies.

3.4 Data Analysis

Data collected from the respondents was compared and contrasted to get a deeper insight what motivates a supply chain strategy and the associated challenges in association of green logistics performance at Unilever.

Regression analysis was consisting of measurement of the values of the two variables X and Y to develop a model that was useful for predicting the value of the dependent variable Y for given values of X. Data obtained from the study was in quantitative form and qualitative analyses based on the experience of individual participants. In numerical form, descriptive statistics to summarize the pattern of findings was used.Descrptive statitistics included measure of central tendency that is the mean.

Table 2: Summary of Methodology

Objectives	Data and /or Information to be Collected	Method	Analyses Done
Determine the motivating factors influencing the adoption of supply chain strategies on green logistics at unilever	Primary data from the interviewees. Secondary data from supply management manuals, records and reports	Interview /questionnaire	Regression analysis to assess the association between two variables supply chain strategies and green logistics performance
Evaluate the relationship between the motivating factors and green logistics at Unilever	Primary data from the interviewees. Secondary data from supply management manuals, records and reports	Interview/observation	Regression analysis Mean Standard Deviation
Establish the Challenges facing the implementation of supply chain strategies	Primary data from the interviewees. Secondary data from supply management manuals, records and reports	Interview/observation	Regression analysis Mean Standard Deviation

CHAPTER FOUR
DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis results, interpretation and discussions. Data analysis was done using Statistical Package for Social Science (SPSS) with the main analysis tools being descriptive statistics (mean and standard deviation) as well as regression analysis.

4.2 Response Rate, Background Information and Educational Level

The study targeted 12 management and operational staff at Unilever. The response rate was as shown in Table 3 below.

Table 3: Response Rate

	Target	Achieved	Percent
Management level	9	9	100
Operational level	3	3	100
Total	12	12	100

From the Table 3 above, there was a hundred percent response rate with the majority 75 percent being managerial level staff and 25 percent being operational level staff.

The respondents were asked to indicate their gender and Table 4 below shows the distribution of respondents by gender.

Table 4: Distribution of Respondents by Gender

	Frequency	Percent
Male	7	58.3
Female	5	41.7
Total	12	100

From Table 4 above, majority (58.3 percent) of the respondents were males while only 41.7 percent were females. This indicates an even distribution of respondents by gender.

In addition, the study sought to find out the highest levels of education of the respondents. The results are as shown in Table 5 below.

Table 5: Distribution of Respondents by Education Level

	Frequency	Percent
Diploma	1	8.3
Degree	5	41.7
Masters	5	41.7
Doctorate	1	8.3
Total	12	100

From Table 5 above, majority of the respondents (82.4 percent) held either a masters or college degree with 41.7 percent having a degree and a similar percentage having a masters and 8.3 percent had a doctorate. These results indicate that Unilever Company has well educated employees who are proficient in supply chain strategies and green logistics operations within the company.

On the length of service, respondents were asked to indicate the number of years they had served Unilever. The responses were as shown in the Table 6 below.

Table 6: Distribution of Respondents by Length of Service

	Frequency	Percent
1 - 3 years	2	16.7
4 - 6 years	4	33.3
7 - 10 years	3	25.0
Over 10 years	3	25.0
Total	12	100.0

From the Table 6 majority of the respondents (83.3 percent) had served the firm for over four years while only 16.7 percent had served for less than four years. This indicates that majority of the respondents had sufficient experience in supply chain strategies and green logistics operations in the firm.

4.3 Factors Influencing the Adoption of Supply Chain Strategies

The study sought to examine the factors that influence adoption of supply chain strategies at Unilever. The respondents were asked to indicate their levels of agreement on a scale of 1 to 5 with various statements relating to top management support, Information Communication and Technology, communication and organizational culture. The means and standard deviations of these ratings were then computed and the results were as presented below. For purposes of interpretation, a mean rating between 1 and 2.5 represents disagree; between 2.51 and 3.5 represents, neither agree nor disagree; and rating between 3.51 and 5.0 represents agree. The respondents were asked to rate their levels of agreement with various questions regarding top management support. The mean ratings were computed and are as shown in Table 7 below.

Table 7: Descriptive Statistics of Top Management Support

	N	Min	Max	Mean
Top management is committed to the strategic direction	12	2.00	5.00	3.8333
Top managers demonstrate their willingness to give energy and loyalty to the adoption of supply chain strategies.	12	3.00	5.00	3.9167
Managers do not spare any effort to persuade the employees of their ideas during adoption of supply chain strategies.	12	2.00	5.00	4.1667
Top managers are committed to performing their roles which leads to the lower ranks of employees getting proper support and guidance	12	3.00	5.00	4.0833

From Table 7 above, all aspects of top management support were rated highly with persuasiveness of top managers being rated highest (mean, 4.17) and commitment to strategic direction being rated lowest (mean 3.83). This indicates that there is a high level of top management involvement and support towards the adoption of green logistics supply chain strategies. These findings support those of (Naylor, 1999) who found that

top management supports the overall strategy of the organization. However, it contradicts a purpose of a strategy, enables the organization to keep sight of the strategy and able to devise tactical steps to achieve these goals (Johnson, Coles and Whittinson, 2009).

Pearson's Correlation analysis was carried out to examine the relationship between top management support and green logistic performance and the results obtained are presented in Table 8 below.

Table 8: Pearson's Correlation Coefficient Matrix

		Green Logistics Performance
Green Logistics Performance	Pearson Correlation	1
	Sig. (2-tailed)	
	N	12
Top Management Support	Pearson Correlation	.645
	Sig. (2-tailed)	.024
	N	12

Results from Table 8 above reveal that there is a significant positive relationship between top management support and green logistics performance ($r = .645$, P-value < 0.05). This implies that top management support influences green logistics performance at Unilever Company. The top management support for green logistics performance was an encouraging factor to the lower cadre of staff and to the external stakeholders has this portrayed how Unilever was serious on the issues on green logististics in the supply chain management. The study sought to examine the influence of ICT in green logistics performance at Unilever Company. The respondents were asked to rate their levels of agreement with various questions regarding ICT at Unilever. The mean ratings were computed and are as shown in the Table 9 below.

Table 9: Descriptive Statistics of Information, Communication and Technology

	N	Min	Max	Mean
There is proper updating of organization's information	12	2.00	5.00	3.4167
Organization ensures proper reachable technology during adoption of supply chain strategies.	12	2.00	5.00	3.5833
There is efficient measuring and controlling of quantity and quality of information	12	2.00	5.00	3.5000
Organization enhances technology of direct relationship with customer	12	2.00	4.00	3.0000
ICT enables development of strategies	12	3.00	5.00	3.5913

From Table 9 above, all items were rated above average with the highest rated being ICT enables development of strategies (mean 3.59) and the lowest rated being coordination of technologies with customers (mean 3.0). This implies that while Unilever is doing well in some respects of ICT, it needs to improve on other aspects including coordination of technology with customers and efficiency controlling information quality. The ICT was highest rated because of the staff being well equipped with skills and knowledge in the application of the various systems. Regular training and refresher courses to equip the staff with relevant skills was carried out periodically. The involvement of all staff in participating in developing ICT application played a big role in making ICT being the highest rated.

Pearson's Correlation analysis was carried out to examine the relationship between Information, Communication and Technology and green logistic performance and the results obtained are presented in table 10 below. Results from Table 10 below reveal that there is a significant positive relationship between ICT and green logistics performance ($r = .636$, P-value < 0.05). This implies that Information, Communication and Technology influences green logistics performance at Unilever Company.

The study further examined the influence of communication on green logistics performance at Unilever Company. The respondents were asked to rate their levels of

agreement with various questions regarding communication at Unilever. The mean ratings were computed and were as shown in the Table 10 below.

Table 10: Pearson's Correlation Coefficient Matrix

		Green Logistics Performance
Green Logistics Performance	Pearson Correlation	1
	Sig. (2-tailed)	
	N	12
ICT	Pearson Correlation	.636
	Sig. (2-tailed)	.026
	N	12

Table 11: Descriptive Statistics of Communication

	N	Min	Max	Mean
Communicating with employees is frequently enhanced during adoption of supply chain strategies	12	1.00	4.00	2.6667
The organization has a two-way-communication program that permits and solicits questions from employees about issues regarding the adoption of supply chain strategies	12	2.00	4.00	2.9167
There is ready communication regarding organizational developments to all levels in a timely fashion both during and after an organizational change	12	2.00	3.00	2.5000
An integrated communications plan has been in place at the organization during adoption of supply chain strategies	12	1.00	3.00	2.5000

From Table 11 above, all aspects of communication were rated as applying to a moderate extent (means between 2.51 and 3.5). These aspects include two-way communication program on adoption of supply chain strategies (mean, 2.91); Continuous enhancement of communication with employees (mean, 2.67); Timeliness of communication on change

(mean, 2.50) and development of integrated communications plan (mean 2.50). This indicates that a lot still need to be done regarding communication at Unilever.

Pearson's Correlation analysis was carried out to examine the relationship between communication and green logistic performance and the results obtained are presented in Table 12 below.

Table 12: Pearson's Correlation Coefficient Matrix

		Green Logistics Performance
Green Logistics Performance	Pearson Correlation	1
	Sig. (2-tailed)	
	N	12
Communication	Pearson Correlation	-.476
	Sig. (2-tailed)	.118
	N	12

Results from Table 12 above reveal that there is a negative relationship between communication and green logistics performance ($r = -.476$, P-value > 0.05). This implies that communication negatively influences green logistics performance at Unilever Company. The green logistics issues were not well cascaded from the top to the bottom, due to lack of well defined communication channels were not into place, leading to a negative impact on communication to green logistics performance. The need to implement the green logistics performance was there, but how the communication was to be made effective had not been properly put in place.

The study sought to examine the influence of organizational culture on green logistics performance at Unilever Company. The respondents were asked to rate their levels of agreement with various questions regarding organizational culture. The mean ratings were computed and are as shown in the Table 13 below.

Table 13: Descriptive statistics of Organizational Culture

	N	Min	Max	Mean
Customers and staff fully appreciate adoption of supply chain strategies	12	2.00	4.00	3.0000
Leadership style of managers enhance adoption of supply chain strategies	12	3.00	4.00	3.4167
Managers make clear decisions on adoption of supply chain strategies	12	2.00	4.00	3.2500
There exist dominant values and beliefs, the norms	12	2.00	4.00	3.3333

From Table 13 the various indicators of organizational culture were said to apply to a moderate extent (mean between 2.51 and 3.50). The highest rated item was leadership of managers enhances adoption of supply chain strategies (mean, 3.41); followed by existence of dominant values, beliefs and norms (mean, 3.33) with the least rated being appreciation by customers and staff on the adoption of supply chain strategies (mean, 3.0). These findings imply that the organizational culture at Unilever is supportive only to a moderate extent towards the adoption of green supply chain strategies, thus the need for improved aspects of organizational culture within the company. Organizational culture were the values and behaviors that contributed to the unique social and psychological environment of Unilever. Organizational culture included Unilever's expectations, experiences, philosophy, and values that hold it together, and expressed in its self-image, inner workings, interactions with the outside world, and future expectations. It was based on shared attitudes, beliefs, customs, and written and unwritten rules that had been developed over time and are considered valid.

Pearson's Correlation analysis was carried out to examine the relationship between organizational culture and green logistic performance and the results obtained are presented in Table 14 below.

Table 14: Pearson's Correlation Coefficient Matrix

		Green Logistics Performance
Green Logistics Performance	Pearson Correlation	1
	Sig. (2-tailed)	
	N	12
Organizational Culture	Pearson Correlation	-.155
	Sig. (2-tailed)	.631
	N	12

Results from Table 14 above reveal that there is a negative relationship between organizational culture and green logistics performance (r = -.155, P-value > 0.05). This implies that organizational culture negatively influences green logistics performance at Unilever Company.

4.4 Relationship Between Hypothesized Factors and Green Logistics Performance

The study further sought to assess the joint relationship between the hypothesized factors and green logistics performance. The results are as displayed in the tables 15 and16 below.

Table 15: Model Summary for Regression Analysis Between the Four Hypothesized Factors and Green Logistics Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863	.745	.599	.36030

From the table above, the R-square .745 indicating that the four explanatory variables account for 74.5 per cent of the variability in green logistics performance. This represents a good fit, which depict a high significant influence of top management support, ICT, communication and organizational culture on green logistics performance.

Table 16: Coefficient Estimates for Regression Analysis Between the Four Hypothesized Factors and Green Logistics Performance

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2.597	2.122		-1.224	.261
	Top Management Support	.583	.235	.524	2.478	.042
	ICT	.816	.325	.540	2.511	.040
	Communication	-.315	.281	-.239	-1.119	.300
	Organizational Culture	.409	.277	.325	1.477	.183

Based on regression coefficients results the regression equation can be written as follows;

$Y = -2.597 + .583\ X_1 + .816\ X_2 - .315X_3 + .409\ X_4 e$

Regression analysis reveals the extent to which top management support, ICT, communication and organizational culture predict green logistics performance. In addition, ICT is a better predictor of green logistics performance (beta = 0.816) followed by top management support (beta = 0.583) and organizational culture (beta = .409). However, communication negatively influence green logistics performance (beta = -.315). The above results suggest that if Unilever Company is to achieve desired green logistics performance, it need to put more emphasis on ICT, management support and organizational culture. The findings also shows that, only top management support ICT were found to be statistically significant ($p<.05$). Communication and Organizational Culture did not have a statistically significant relationship with Green Logistics Performance.

The study also sought to establish the challenges that hindered implementation of green supply chain strategies. The respondents were asked to rate on a scale of 1 – 5 the level to which various challenges applied. The responses were as shown in the Table 17 below.

Table 17: Challenges Facing Implementation of Green Logistics Strategies

	N	Min	Max	Mean
Lack of Participation	12	1	3	1.83
Problems in educating stakeholders on the importance of green logistics	12	1	4	2.58
Estimating hidden costs	12	1	5	3.08
Changing the first cost mindset.	12	3	4	3.33
Cost for green products	12	3	5	3.92
Misinformed advocacy groups	12	1	3	2.00
Lack of clear definitions	12	1	4	2.17
Insufficient and incomparable environmental information.	12	3	4	3.33
Educating marketing and sales professionals.	12	1	3	2.50

From Table 17 above, the highest rated challenges were cost of green products (mean 3.92); changing first cost mindset and insufficient environmental information (mean, 3.33); and challenges in estimating hidden costs (mean 3.08). On the other hand, lack of participation, problems in educating stakeholders on the importance of green logistic, misinformed advocacy groups, lack of clear definitions, educating marketing and sales professionals rarely affects implementation of green logistics strategies at Unilever Company.

4.5 Discussion of Findings

The study found that Unilever has a high level of top management involvement and support towards the adoption of green logistics supply chain strategies. Further, it was established that Unilever has a good ICT framework though it needs to improve on some

aspects including coordination of technology with customers and efficiency in information quality. This is in agreement with Cognizant (2008) who states that information technology can make the supply chain greener by optimizing the resources required to support the business and enable more effective supply chain planning, execution and collaboration, thereby reducing resource requirements. Communication was rated average with timeliness of communication on change and development of integrated communications plan being specific areas that need immediate attention. This contrasts the findings by Charles, (2009) that communication is increasingly considered an integral part of business knowhow and an essential business tool, as well as a strategic tool of senior management of global companies (Hämäläinen & Maula, 2004). Further, it was found that the organizational culture at Unilever is supportive only to a moderate extent towards the adoption of green supply chain strategies. This coincides with studies by Clemons & Hann, (1999) who found that successful organizations might have established a corporate culture or a set of beliefs and behaviors that they use to explain a firm's success.

Top management support, ICT was found to have a statistically significant relationship with green logistics performance. On the other hand, communication and organizational culture did not significantly influence green logistics performance. The main challenges facing the implementation of green logistics strategies included cost of green products; changing first cost mindset and insufficient environmental information, estimating hidden costs and problems in educating stakeholders on the importance of green logistics. This corresponds with Angel del Brio and Junquera (2003) who summarized the factors influencing adoption of environmental innovation such as, lack of small and medium sized enterprises innovation with respect to environmental strategy ,limited financial resources, the type of organizational structure, little influence of the strategic adaptation competence against changes in the enterprises, managers' lack of environmental training and short-term orientation, staffs' lack of environmental awareness and training, the status of the environmental issues in the company, these enterprises' lower abilities to obtain innovations, and their lack of relationships with external stakeholders

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusions and recommendations. It is organized as follows: first summary of findings is presented as per research objectives, then the conclusions drawn from those findings and finally both policy recommendations and suggestions for further study.

5.2 Summary

The study sought to evaluate the relationship between supply chain strategies and green logistics performance. It was guided by three specific objectives, namely: to determine the motivating factors influencing the adoption of supply chain strategies on green logistics at Unilever; to evaluate the relationship between the motivating factors and green logistics performance at Unilever and to establish the challenges facing the implementation of supply chain strategies on green logistics at Unilever.

The study found that Unilever has a high level of top management involvement and support towards the adoption of green logistics supply chain strategies. Further, it was established that Unilever has a good ICT framework though it needs to improve on some aspects including coordination of technology with customers and efficiency in information quality. Communication was rated average with timeliness of communication on change and development of integrated communications plan being specific areas that need immediate attention. Further, it was found that the organizational culture at Unilever is supportive only to a moderate extent towards the adoption of green supply chain strategies.

Top management support and ICT were found to have a statistically significant relationship with green logistics performance. On the other hand, communication and organizational culture did not significantly influence green logistics performance. The main challenges facing the implementation of green logistics strategies included cost of green products; changing first cost mindset and insufficient environmental information,

estimating hidden costs and problems in educating stakeholders on the importance of green logistics.

5.3 Conclusion

From the above findings, the several conclusions were arrived at .The greatest enablers of supply chain strategies related to green logistics at Unilever are top management support and its ICT framework. Communication and organizational culture are also supportive to a moderate extent. Unilever is faced with a number of challenges in its quest to implement green logistics supply chain practices. These include changing first cost mindset and insufficient environmental information, challenges in estimating hidden costs and problems in educating stakeholders on the importance of green logistics.

5.4 Recommendations

For green supply chain implementation to be successful and sustainable; transparency collaboration and integration of systems between trading partners in the supply chain is required, senior management support is a must because not only will the senior management play an important function in influencing the business's attitude towards green initiative, they can also dedicate resources in terms of time, personnel and finances towards such initiatives, Green supply chain should closely align to customer needs which will give the supply chain on the green product design that is required of them by the customer.

Unilever should improve its communications by strengthening timeliness of communications on change and building an integrated communications plan. The company should re-engineer its corporate culture to be supportive of change. Specifically, broaden its norms to include embracing change, greater sharing of information and appreciation of innovations. The study focused only on Unilever, future studies should expand the scope by looking at more companies. Additionally, future studies should attempt to include quantitative measures of green logistics performance.

5.5 Limitation of the Study

The Study was limited in several aspects among them being the scope. The study was a case of supply chain strategies and green logistics performance at Unilever. The type of

research problem investigated dictated the sample size and the number of the units to be analyzed in the study, sample size was small, it was difficult to find significant relationships from the data, as statistical tests normally require a larger sample size to ensure a representative distribution of the population and to be considered representative of groups of people to whom results were generalized or transferred. The research focused only on Unilver-Kenya a manufacturing firm, could be more interesting to have a view on what happens in the other manufacturing firms dealing with different products. This could enable the researcher have a clear understanding on the effects of supply chain strategies and green logistics performance on the various sectors in the manufacturing.

Though confidentiality was assured to all and that the study was purely for academic purpose, some respondents did not feel free to give accurate information and non-availability of data from key stakeholders, the organizations' suppliers and customers to have an end-to-end perspective on the supply chain strategies and green logistics performance. Lastly, the questionnaire return rate was not 100 percent; higher return rate could have better informed the study.

5.6 Suggestions for Further Study

From the Study, further research is necessary to accurately determine the extent to which the supply chain strategies and green logistics performance affects the profitability of an organization. The areas of potential research include the influence the consumer plays in the adoption of supply chain strategies and green logistics performance in the different sectors of organizations in an economy. There is need for further research to determine whether organizations are adopting green logistics in their operations as a public relation tool or a way of realizing the importance of the effects on its environment.

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APPENDICES

Appendix 1: Research Questionnaire

Section A: Bio Data
Name of the Organization/Division/Department

……..

1. Name of respondent (Optional) ……
2. Gender, male { } Female { }
3. Position held in the organization ……..
4. How long have you worked with Unilever?
   a) 1-2 years { }
   b) 2-4 years { }
   c) 5 – 10 years { }
   d) Over 10 years { }

5. What is your academic level?
   a) College { }
   b) Degree { }
   c) Masters { }
   d) PhD { }

Section B: Factors Influencing the Adoption of Supply Chain Strategies on Green Logistics Performance.

6. To what extent do you agree with the following statements on a scale of 1 to 5? (5 being strongly agree) Kindly tick as appropriate.

Top management	1	2	3	4	5
The top management's commitment to the strategic direction itself is the most important factor.					
The top managers must demonstrate their willingness to give energy and loyalty to the adoption of supply chain strategies.					
The managers must not spare any effort to persuade the employees of their ideas during adoption of supply chain strategies.					
Lack of manager's commitment to performing their roles leads to the lower ranks of employees missing support and guidance					
ICT					
There is proper updating of organization's Information					
The organization ensures proper reachable technology during adoption of supply chain strategies.					
There is efficient measuring & controlling of quantity & quality of information					
The organization enhances technology of direct relationship with customer					
ICT enables development of strategies					
Communication					
Communicating with employees is frequently enhanced during adoption of supply chain strategies					
The organization has a two-way-communication program that permits and solicits questions from employees about issues regarding the adoption of supply chain strategies					
It is essential both during and after an organizational					

change to communicate information about organizational developments to all levels in a timely fashion					
An integrated communications plan must be developed at the organization to during adoption of supply chain strategies					
Organizational Culture					
Customers and staff fully appreciate adoption of supply chain strategies					
Leadership style of managers enhance adoption of supply chain strategies					
Managers make clear decisions on adoption of supply chain strategies					
There exist dominant values and beliefs, the norms					

Section C: Challenges Facing the Implementation of Supply Chain Strategies

7. Does your organization encounter strategic challenges during implementation of supply chain strategies on green logistics performance?

   Yes [ ]

   No [ ]

8. What are the effect/ impact of supply chain strategies on green logistics implementation on the management?
   Positive [ ] Negative [ ]

a) To what extent has the potential to trade been caused by the following challenges? Rate them using the likert scale of 1-5 with Very low =1, Low =2, Moderate =3, High= 4, Very high =5.

Challenges	1	2	3	4	5
The challenge of availability					
The challenge of substitute product					

b) Cost management challenges has been influences by the following; rate them using the scale of 1-5 with Very low =1, Low =2, Moderate =3, High =4, Very high =5.

Challenges	1	2	3	4	5
Estimating hidden costs					
Changing the first cost mindset.					
Cost for green products					

c) The challenge of green logistics integration into management systems has been influences by the following. Rate them using the scale of 1-5 with Very low =1, Low =2, Moderate =3, High =4, Very high =5.

Challenges	1	2	3	4	5
The challenge of lack of Participation					

The challenge in educating the importance of green logistics					

d) The challenge of lack of information has been influences by the following Rate them using the scale of 1-5 with Very low =1, Low =2, Moderate =3, High =4, Very high =5.

Challenges	1	2	3	4	5
Misinformed advocacy groups					
Lack of clear definitions					
Insufficient and incomparable environmental information.					
Educating marketing and sales professionals.					