

**EFFECT OF GREEN OPERATIONS PRACTICES ON FINANCIAL  
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

**BY**

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## **DECLARATION**

This research project report is my original work and has not been submitted for any award in any other university.

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## **DEDICATION**

I dedicate this research project and my work to my mum Sofia you have been there for me through it all and who have supported me over the years. It goes to my siblings, Amina, Rabia and Maryam you have guided and supported me well.

To my late dad Ali Sheikh, it is an honor for the foundation you laid for my siblings and me.

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## **ABSTRACT**

Green operations relates to all aspects related to product manufacturing, usage, handling, logistics and waste management. Environmental protection and economic burden on industry is leading organizations toward re-evaluation of their corporate strategies including operations and business performance. Environmental operations management is the integration of environmental management principles with the decision making process for converting resources into usable products. The implementation of this management programmes has an impact on the environmental financial and operational performance of the firm. This study therefore sought to determine the adoption of green operations practices and their influence on the financial performance of commercial banks in Kenya. The objectives of the study were: to find out the extent to which commercial banks in Kenya have adopted green operations practices, to determine the influence of green operations practices on financial performance of commercial banks in Kenya and to find out challenges commercial banks in Kenya face in adopting green operations practices. The study adopted a correlational descriptive design. It targeted all the 44 commercial banks in Kenya. Data was collected from both primary and secondary sources. Secondary data on ROI was obtained from published financial reports of the Kenyan banks. Primary data was collected using a structured questionnaire that was administered through the 'drop and pick later' method. The study established that banks have adopted different green operations practices such as environmental policies and goals, green lending, green processes and procedures and green products and services. It also determined that poorly defined objectives, inadequate infrastructure to support the initiatives, limited training and certification for practitioners in operating and Minimal or ineffective enforcement and inspection procedures for green operations practices were the challenges faced by banks in the adoption of green operations practices. Finally, the study found out an insignificant positive relationship between green operations practices adoption and financial performance. In conclusion the study recommends that all banks carry out green operations practices.

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## **ABBREVIATIONS AND ACRONYMS**

ATM	Automated Teller Machine
CBK	Central Bank of Kenya
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CSR	Corporate Social Responsibility
EMS	Environmental Management System
EOM	Environmental Operations Management
GDP	Gross Domestic Product
GSCM	Green Supply Chain Management
KBA	Kenya Bankers Association
KNBS	Kenya National Bureau of Statistics
NFMP	Non-Financial Manufacturing Performance
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
SEM	Structural Equation Model
USA	United States of America

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# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the study

Environmental perspectives on operations lead to different terminologies with varying scope. 'Green operations' is a term that emerges from the literature and it relates to all aspects related to product manufacturing, usage, handling, logistics and waste management. Today, environmental protection and economic burden on industry is leading organizations toward re-evaluation of their corporate strategies including operations and business performance. This is reflected in literature by the growing number of recent papers that explore the relationship between environmental operations and business performance (Ngniatedema & Li, 2014).

Stakeholder and institutional theories share a conceptualization of organizations being embedded within a wider social system that shapes their behavior. An organizations relationship with institutions and stakeholders are assumed to play a significant role in both definition and determination of success. Effective management of relationships with key stakeholders can contribute to enhanced financial performance through the creation, development or maintenance of ties that provide important resources to companies (Jose, Azorin, Cortes, Gamero & Tari, 2009). Interest in the resource-based view of the firm continues to grow in the field of business policy and strategy. Most of this interest seems to have been focused on understanding the empirical implications of this theory and especially on how a firm's resources and capabilities can affect its performance (Barney, 1996).

Green operations by Commercial Banks are not just another corporate social responsibility (CSR) activity: it is about going beyond to conserve the environment and make the world a better livable place. Banks can do much more to help the environment by building more efficient branches, implementing energy-efficient operational procedures, promote sustainable banking and increasing their lending in environmental sensitive industries.

### **1.1.1 Green Operations**

Green operations can be defined as using resources and capabilities of an organization to produce a product or service in most efficient and effective manner by integrating sustainability into operations. Sustainable business practice is about maximizing business potential without degrading the environment and working harmoniously with society (Sloan, Legrand, Tooman & Fendt, 2009). Environmental management evolved from pollution control and risk management in the 1970's to pollution prevention in the 1980's to the subsequent implementation of systematic product and process management. Further evolution has led to its recognition as a key area for companies wanting to be competitive in the modern global economy. (Nunes & Benet, 2010).

Since its beginning, green operations have adopted mainly a process based approach. Environmental operations management (EOM) is the integration of environmental management principles with the decision making process for converting resources into usable products. EOM is positioned at the strategic level of operations management since its primary concern is product and process design. The operations function of a company encounters environmental protection issues directly because it is the main source of

harmful emissions, and thus environmental management programmes and policies should be carefully developed to strengthen its operations strategy (Nunes & Benet, 2010)

Green operations management should be an integral part of business but integration will be favored when decision makers in the firms realize that the implementation of proactive environmental strategies and pollution prevention initiatives may help firms to reach a situation in which both the company's financial performance and the environment will benefit. Some authors suggest that environmental management may be a tool, which helps organizations to improve their competitiveness (Jose et al, 2009). Business organizations should adopt green operations so that they can set a positive example by employees that help boost morale and company loyalty and Gaining competitive advantage by differentiating the business from its competitors, improving efficiency and lowering operating costs and providing a cleaner and healthier work environment (Bose & Luo, 2012)

Going green is not a term that managers can avoid any longer. For years environmental responsibility has been increasing in importance not only with managers but also consumers who grow more aware as well as other stakeholders affected by unsustainable business (Nunes & Benet, 2010). Businesses are progressing towards environmental sustainable solutions for their operations. Government and Non Governmental organizations attend to this topic of resources through legislations and restrictions regarding carbon credits and waste emission (Menzel, Smagin & David, 2010).

### **1.1.2 Financial Performance**

Traditionally, financial performance of banks and other financial institutions has been measured using a combination of conventional accounting measures and risk and return measures. Further analysis of financial performance has used methodologies such as financial ratio analysis, benchmarking, measuring performance against budget or a combination of these (Duncan & Elliot, 2004). Profit is the ultimate goal of commercial banks hence all the strategies designed and activities performed thereof are meant to realize this grand objective. To measure the profitability of commercial banks, there are variety of ratios used of which return on asset (ROA), return on equity (ROE) and net interest margin are the major ones. The accounting based financial measures are direct indicators of a firm's financial condition from different perspective. ROA and ROE are usually used to examine a firm's asset and capital utilization, while profit margin, cost of goods sold and economic value added are common measures of a firm's capability to make profits. A few studies therefore propose financial measures based on cash flow to directly evaluate a firms profit and liquidity (Shi & Yu, 2013).

Users of financial statements evaluate the financial statements of companies to determine liquidity, leverage, asset activity, profitability, and performance. Users of financial statements use traditional balance sheet and income statement ratios for performance evaluation (Jooste, 2006). Operating activities are defined as the principal revenue-producing activities of a company. Therefore, along with traditional ratios operating cash flow is also important when evaluating a company's performance. Relative performance evaluation proceeds from the assumption that with the comparison of a company's performance to a norm, general uncertainties are eliminated and only specific

performances with regard to the company remain. The performance of other companies or the industry then provides information regarding a specific company's performance (Jooste, 2006).

### **1.1.3 Green Operations and Financial Performance**

Managers are confronted with environmental issues in their decisions, not only to take into account ethics and social values that should be promoted by companies, but also to ensure sustainable economic success. In fact commitment to the natural environment has become strategic issue within the current competitive scenarios. Some authors suggest that environmental management may be a tool which helps organizations to improve their competitiveness (Jose et al, 2009).

Wong (2012) using 'the porter hypotheses' assert that stringent environmental regulations can spur efficiency and induce innovations that help the economic performance of a firm. Studies have found that firms invest in green practices because going green helps businesses develop new market opportunities and increase their competitive advantage. Successful green practices helps firms to achieve greater efficiency, establish and strengthen their core competencies enhance their green image, all of these may eventually combine to contribute to firm profitability (Wong, 2012). The influence exerted by environmental management on firm performance, may result from the positive impact on firm costs and differentiation levels. Preventing pollution may enable the firm to save costs, input, and energy consumption, and to reuse materials through recycling. Thus, eco-efficiency involves producing and delivering goods while simultaneously reducing the ecological impact and use of resources (Jose et al. 2009).

A review of the literature on environment issues indicates that a significant correlation exists between green practices and corporate profitability within any organization. Companies having higher scores on environmental criteria realize stronger financial returns than the overall market, whereas companies with poor scores have weaker returns (Ngniatedema & Li, 2014). Empirical studies have analyzed the relationship between environmental operations and practices and financial performance at the firm level are fragmented across industries. Widely cited research results relate environmental operations and practices to a firm's stock market performance, market valuation and competitive advantage. Most of these studies suggest that environmental performance is positively correlated with the intangible asset value of a firm. From a competitive perspective, environmental operations can improve firm level financial performance and overall competitiveness through green products or services (Ngniatedema & Li, 2014).

#### **1.1.4 Banking Industry in Kenya**

In an economy the financial sector is the engine that drives economic growth through efficient allocation of resources to productive units (Kamau, 2010). According to CBK Act, one of its primary roles is to foster liquidity, solvency and proper functioning stable financial system. This legislated function essentially implies a stable and efficient financial system that underpins intermediation process for economic growth and development. The Kenya financial system comprises of banks, insurance companies, microfinance institutions, stock brokerage firms, fund managers (Kamau, 2010).

The banking sector is regulated by CBK Act (Cap 491), and the Banking Act (Cap 488). These Acts are intended primarily to facilitate the development and maintenance of a sound monetary policy. According to CBK report 2014, the Kenyan banking sector comprises of 43 commercial banks, 1 mortgage finance company, 9 deposit taking microfinance institutions, 7 representative offices of foreign banks, 97 foreign exchange bureaus, 3 money remittance providers and 2 credit reference bureaus as at April 30, 2014. CBK further reports that the banking sector balance sheet expanded by 16.8 percent from Kshs. 2,460.7 billion in April 2013 to 2,873.1 billion in April 2014. The deposit base grew by 15.3 percent from Kshs 1,812.2 billion in April 2013 to Kshs 2,089.3 billion in April 2014 largely supported by aggressive mobilization of deposits by banks, remittances and receipts from exports.

The banking sector registered an increase of 15.0 percent growth in pre-tax profits, from Kshs. 38.1 billion in April 2013 to Kshs 43.8 billion as at end of April 2014. The annualized return on assets declined from 3.7 percent to 3.5 percent over the same period. Similarly, return on equity declined from 29.9 percent to 28.5 percent over the same period (CBK, 2014). According to the Kenya National Bureau of Statistics (2014) KNBS, Gross Domestic Product (GDP) at constant 2001 prices of financial intermediation increased from Kshs.18.49 billion in March 2013 to Kshs 20.015 billion in March 2014. However the annual growth rates of financial intermediation shows a decrease from 12.09 percent in March 2013 to 8.28 in March 2014.

Internally, banks are a relatively clean sector. The environmental burden of their energy, water and paper use is not comparable to many other sectors of the economy. However,

the size of the banking sector overall is large enough to make the environmental impact significant. Contrary to other sectors in the economy, the products of the banks themselves do not pollute. Rather, it is the users of these products who impact on the environment. This makes it very hard to estimate the environmental impact of banks' external activities (Jeucken & Bouma, 1999). Through the portfolios of their customers, banks are exposed to a more diverse set of social and environmental issues than the average business and, to a certain extent, than other financial institutions. Accordingly, banks and other financial institutions are shifting their focus and reorienting their activities. They are increasingly moving from avoiding risks to creating opportunities: from defensive banking, where environmental management is seen as an additional cost, to sustainable banking, where sustainable development is seen as an advantage and an opportunity for growth (South Indian Bank, 2007).

## **1.2 Research Problem**

The environmental damage that commercial activities bring about has garnered much importance amongst government, practitioners and academics (Sarmiento & Thomas, 2010). These concerns prompted people from all spheres of the society to take a more active stand with the respect to the promotion and implementation of practices that can help businesses reduce their negative impact on the environment. Structured approaches can aid decision makers understand the potential ramifications of adopting greener practices, designs and initiatives for example packaging, production systems and employee training (Sarmiento & Thomas, 2010). Sustainable development and preservation of environment are now recognized globally as a serious issue to protect the

planet (Laxman, 2014). Stakeholders press companies to reduce their negative impact on natural environment (Jose, et al., 2009). Further research and discovery is needed to gain and enhanced perspective and insight into environmental issues as they are becoming increasingly relevant to almost any organizational stakeholder (Ngniatedema & Li, 2014).

The banking sector is generally considered as environmental friendly in terms of emissions and pollutions. The external and internal impact of the banking sector in terms of energy, paper and materials are significantly low. But the latest global environment studies have found that by and large the banking industry all over the world are epicenter for producing large amount of E-waste every year. E-waste encompasses ever growing range of obsolete electronic devices, recording devices and automobile electronic devices (Balasubramaniyan, 2009). In addition, to date, banks feel that external environmental care would require interference in their clients' activities. This is one reason why banks have been reluctant to promote environmental care on the external side of their business even when they are likely to be exposed to risk. However, in recent years, by developing a selection of products from which a client can choose, banks have tried to cope with this dilemma (Jeucken & Bouma, 1999).

Several studies have been done on green practices in Kenya for instance Mwaengo (2013) did a study on green supply chain management practices and environmental performance in Bamburi Cement limited where he investigated the extent to which GSCM is practiced at Bamburi Cement limited. This study was based on the manufacturing industry and its influence on the environmental performance. Omonge (2013), studied green supply chain management practices and competitiveness of commercial banks in Kenya. The study sought to establish the role of GSCM practices on

an organizational competitiveness among commercial banks in Kenya. This study sought to find out the effect of green operations on financial performance of commercial banks in Kenya. It therefore investigates how green lending, green processes, products, services, community activities and adherence to environmental policies and goals affects the financial performance of commercial banks.

From the foregoing discussion, it is evident that many studies have been done on green operations and their influence on environmental, operational and financial performances. This study was an extension of the existing literature on green operations in service industry. This Study sought to answer the following three questions: To what extent have commercial banks in Kenya adopted green operations practices? What is the influence of green operations practices on financial performance of commercial banks in Kenya? What are the challenges that commercial banks in Kenya are facing in adopting green operations practices?

### **1.3 Research Objectives**

The general objective of this study was to determine the relationship between adoption of green operations practices and financial performance of a firm. The specific objectives were:

- i) To find out the extent to which commercial banks in Kenya have adopted green operations practices.
- ii) To determine the influence of green operations practices on financial performance of commercial banks in Kenya.

iii) To find out challenges commercial banks in Kenya face in adopting green operations practices.

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

This study contributes to the existing knowledge, provide and address the background information to individual researchers, scholars and research organizations who want to carry out further research in this area. This study can help researchers and academicians to expand their research on the effect of green operations on financial performance of banks as literature review and reference material.

The banks can be able to identify and adopt green operations and sustainable practices to conserve the environment and improve their financial performance. Organizations can be able to sustain the environment by using natural and renewable resources, recycle-reuse manufactured products, reduce waste and pollution by changing patterns of production and consumption and use ongoing innovation of standards to utilize resources that are not damaging people's health or environment at the same time reducing costs and increasing returns.

This study is also important to the Government of Kenya through the Central Bank of Kenya in the development of policies and regulations governing the environmental friendly operations in Kenyan banks for a healthy banking and economic sector. Through the findings of this study, the policy makers may be in a position to know what needs to be done to improve green operations in the banking industry. This study therefore

provides the necessary knowledge and better understanding of the effect of green operations practices on the financial performance of commercial banks in Kenya.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter aims at reviewing existing publications on green, environmental and sustainable operations practices in organizations. It starts by exploring three theories on organizations that underpin this study. It also explains the green operations practices and the challenges faced by organizations in adopting the concept. It further gives an empirical connection with existing studies on green operations. Finally, it concludes by reviewing existing studies on green operations and financial performance in Kenya.

### **2.2 Theoretical Foundation of the Study**

This study is anchored on three organizational theories: Resource based view, stakeholder's theory and institutional theory. This is because theories explain the relationship between an organization and the factors that contribute to its performance.

#### **2.2.1 Resource Based View**

A resource could be thought of as a strength or weakness of a given firm. It can also be defined as tangible and intangible assets which are tied semi- permanently to the firm for example brand names, capital, in house knowledge of technology, efficient procedures, trade contacts, machinery and hiring skilled personnel. Technological leads, Production/process experience, customer loyalty and machine capacity are also resources of the firm (Wernerfelt, 1984). Wernerfelt (1984) further states that resources and products are two sides of the same coin for a firm. By specifying the size of the firm's activity in different product markets, it is possible to infer the minimum necessary resource commitments. Conversely by specifying a resource profile for a firm, it is

possible to find the optimal product-market activities. To address key issues in the formulation of strategy for diversified firms by Wernerfelt (1984) propose that firms should look at its resources rather than the traditional product perspective so as to achieve different immediate insights.

Firms can also be able to identify types of resources which can lead to high profits. Adopting and implementing green operations practices while striking a balance between exploitation of existing resources, development of new strategies and purchase of a bundle of resources in a highly imperfect market by basing the purchase on rare resources can maximize this imperfection increasing chances of buying cheap and getting good returns.

### **2.2.2 Stakeholders Theory**

Gibson (2000) describes stakeholders as any group or individual who can affect or is affected by the actions, decisions, policies, practices or goals of the organization. Freeman (1994) describes stakeholders as any group or individual who can affect or is affected by the achievement of the organizations objectives. Stakeholder theory has been presented both within the framework of organization theories and within that of business ethics. As a step beyond the neo classical theory where the company's goal is profit maximization and benefiting the shareholders only (Rasi, Abdekhodae & Nagarajah, 2014).

When employing stakeholder's theory any group internal and external of the organisation is a stakeholder. This relationship ensures that any decision made by an organisation takes into account the interest of stakeholders. Strategically the central idea of

stakeholder theory is to manage and incorporate the relationship and welfare of shareholders, customers, suppliers, employees and other groups in a way that guarantees the organizations long term success. (Freeman et al, 2007). People are more aware of the environmental impact of human activities and are more willing to make behavioral changes for environmental reasons, consumers and producers have realized that acting together, and they can make a big difference in protecting and preserving the environment (Wong, 2012).

### **2.2.3 Institutional Theory**

Institutional theory is about organizations conforming to the institutional environment simultaneously increasing positive evaluation; resource flows and therefore reduces efficiency (Scott, 1987). Institutional theories of organizations provide a rich, complex view of organizations. In these theories, organizations are influenced by normative pressures, sometimes arising from external sources such as the state, other times arising from within the organization itself. Under some conditions, these pressures lead the organization to be guided by legitimated elements, from standard operating procedures to professional certification and state requirement, which often have the effect of directing attention away from task performance. Adoption of these legitimated elements, leading to isomorphism with the institutional environment, increases the probability of survival (Scott, 1987). Institutional theory is inherently difficult to explicate, because it taps taken for-granted assumptions at the core of social action (Zucker, 1987).

In a rapidly changing global economy where the role of markets has intensified the competition, the industries and firms are vulnerable to stringent public policies, severe law suits or consumer laws. This in turn would affect the various financial institutions to

recover their return from investment. Hence, banks should play a pro-active role to take green operations practices as part of their lending principle which would force industries to go for mandated investment for environmental management, use of appropriate technologies and management system (Balasubramaniyan, 2009).

### **2.3 Green Operations Practices**

Studies on research and practice have indicated that three different yet critical areas need organizations involvement including asset management, energy efficiency and enabling green practices (Bose & Luo, 2012). Green business practices are the adoption of environmentally sustainable and eco-friendly policies and practices. The concept started off as an ethical initiative to mitigate the effects of drawing from the Earth's resources, and since then, provide companies with many advantages such as economic viability, low cost of ownership or computing devices, improved system performance and use, and compliance with social, ethical and even legal responsibilities (Nayab, 2011). Green operations practices can be considered as those practices that contribute to the enhancement of environmental performance in companies operations (Nunes & Benet, 2010).

Organizations can adopt green operations practices and make simple changes that will save energy, costs and natural resources. These changes may include improving waste management, adopting environmentally sound business practices and investing in renewable energy (The U.S Small Business Administration, 2014). Organizations can also install eco-friendly equipment and systems, have periodic energy audits, digitize their operations to reduce paperwork, adopting recycling as a company policy,

telecommuting and teleconferencing, adopting green offices by using eco-friendly materials and continuous learning and developing initiatives (Nayab, 2011).

Environment is no longer the exclusive concern of the government and the direct polluters, but also the other partners and stakeholders in the business like the financial institutions can play a very important role in fostering linkages between economic development and environmental protection. Banking industry cannot be counted as polluters themselves but they could have a kind of relationship with certain companies or investment projects that are polluters or may be in future (Balasubramaniyan, 2009). A truly green bank will reduce their carbon footprint by building more efficient branches, implementing energy efficient operational procedures and increasing their lending in environment sensitive industries (Laxman, 2014). Banks have established environmental policies, goals and practices that help guide their activities inside and out. Environmentally-oriented thinking is incorporated into a range of bank operations, lending, products and services and community activities (Canadian Bankers Association, 2014).

### **2.3.1 Environmental Policies and Goals**

Firms are adopting environmental management practices in reaction to the rise in environmental legislation, concern over liability, and the direct and indirect costs of regulatory compliance, concern about overall firm competitiveness and public concern about environmental degradation. These management practices include environmental audits, total quality management, pollution prevention plans, environmental training for employees, total cost accounting, life cycle analysis, hiring a designated environmental

manager, research and development, environmental standards for suppliers and employee incentive programs for environmental suggestions (Theyel, 2000).

Banks and financial institutions are not directly affected by environmental degradation such as air, water and noise pollutions on the economy, however there are indirect costs involved which are sometimes hidden to banks. Due to strict environmental disciplines imposed by the competent authorities across the countries, the industries would have to follow certain environmental standards to run their business. Failure to adhere to these rules leads to a likelihood of default to the bank. For instance, the enactment of Comprehensive Environmental Response Compensation and Liability Act in 1980 (CERCLA) in the US resulted in huge loss to the banks in the US as banks were held directly responsible for the environmental pollution of their clients and made to pay remediation cost (Balasubramaniyan, 2009).

### **2.3.2 Green Lending**

Banks take environmental protection into account when making lending decisions in commercial and wholesale banking. They incorporate environmental due diligence into the lending process which may include site visits, assessment of a clients environmental record, or third party reporting on proposals. To attain this objective, the Canadian bankers association has come up with the following three innovations in sustainable lending. First is developing guidelines for transactions that have implications for forest based diversity, secondly working with clients to minimize the climate change effects of their operations and lastly partnering with sustainable industries to enhance Canada green economy (Canadian Bankers Association, 2014).

Credit risk may arise indirectly where banks are lending to customers whose businesses are adversely affected by the cost of cleaning up pollution or due to changes in environmental regulations. The cost of meeting new requirements on emission levels may be sufficient to put some companies out of business. In Philippines, the Land Bank and also Development Bank of the Philippines have set up a specific environmental unit to analyze environmental aspects of project financing, to finance waste and water projects and to incorporate environmental factors into its lending operations. They also expanded their environmental units for technical evaluation of each project (Balasubramaniyan, 2009).

### **2.3.3 Green Products and Services**

Banks are developing new products and services that respond to consumer demands for sustainable choices. The green products and services include paperless statements, bills and annual statements, investment in electronic and telephone banking so that customers can bank anytime anywhere and easy automatic payments to reduce the need to write and send cheques by mail. Some banks offer credit cards co-branded with environmental charities, mutual funds that focus investment in “green” companies and donating to conservation charities as an incentive for choosing green products or paperless statements (Canadian Bankers Association, 2014). With increasing concern about global warming and conserving environment, banks in India are introducing new initiatives like green products development just like their western counterparts. These green products include online banking, mobile banking, green deposits, ATM, green reward checking accounts, green marketing, green indices, green insurance, green fiscal funds, green mortgages and loans (Laxman, 2014).

### **2.3.4 Green Processes and Procedures**

From recycling programs to energy conservation in offices and branches, banks are now adopting environmental operations so as to reduce their operational foot print on the environment. These initiatives include purchasing green power, setting up new systems to encourage the re-use of surplus office equipment, reducing energy consumption in branches and offices by using programmable thermostats, economizing heating and air conditioning systems and energy efficient lighting systems, using photo cell technology that power lights and exterior signage only when necessary, making choices to reduce the amount of paper used in bank operations and using post consumer recycled paper more often (Canadian Bankers association, 2014).

Instituting environmental best practices can help organizations reduce energy, waste, pollution and costs. The end result a firmer standing in the community, a cleaner environment in which to operate and thrive and a stronger organization poised to reap the rewards of increased cost savings and profit potential (University of Vermont ,2014 ). The banking operation and investment by financial institution should take care of environmental management (Balasubramaniyan, 2009).

### **2.4 Challenges of Green Operations Adoption**

Despite the many benefits of green business, adoption of green practices comes with a challenge to some organizations. The likelihood that companies will successfully adopt green initiatives depends on several organizational and environmental factors as well (Bose & Luo, 2012). The primary factor is the Champion Support. Having the support of Champion is critical to success of any project but, particularly for green operations

practices adoptions as they require education and a shift in attitude and behavior. Lack of implementation barriers is another important factor among others. Companies adopting green initiatives may face barriers that inhibit the successful approval and implementation of these initiatives. Some of these potential barriers could be: lack of buy-in from all levels of an organization; inadequate funding; inadequate skill sets to execute the initiatives; unclear or poorly defined objective; undefined linkage between the adoption objective to business objective; unknown impact of the adoption initiatives on the overall business; and inadequate infrastructure to support the technical requirements of the initiatives (Bose & Luo, 2012).

American Rivers and Green for all (2014) discusses some of the challenges faced by The Chesapeake Bay Watershed in adopting green operations and infrastructure. Financing and maintenance is one of the primary challenges for effective operations and it involves identifying appropriate funding mechanisms to set up and maintain the green practices. Lack of awareness and poor public perception is another factor. Limited training and certification for practitioners in operating and maintaining green infrastructure and minimal or ineffective enforcement and inspection procedures for green operations and infrastructure practices.

The prevailing view is that incorporating environmental variables into firms activities often impacts costs because additional requirements have to be met to this end. This in turn impacts firm level financial performance (Ngniatedema & Li, 2014). Some studies suggest that firms trying to enhance environmental performance draw resources and management effort away from core areas of the business, resulting in lower profits. In this view, managers cannot make both environmental and competitive improvements.

Agency perspectives on corporate social and environmental performance argue that absent strong control from shareholders, managers can opportunistically use corporate resources to pursue goals that enhance their own utility in ways that are unlikely to provide significant returns to companies. Consequently, good social and environmental performance come at the expense of good financial performance because social and environmental performance make use of firm resources in ways that confer significant managerial benefits rather than devoting those resources to alternative investment projects or returning them to shareholders (Jose et al., 2009).

## **2.5 Empirical Review**

Ngniatedema and Li (2014) carried out a study on the relationship between green operations and organizational performance in top 500 publicly traded companies in the United States of America. Based on metrics for environmental impact and green reputation, manufacturing companies scored lower on the environmental impact metric and higher on the green reputation metric than companies in the service industries. The overall impact of green operations was found to be different between the manufacturing and service firms studied. For manufacturing firm's environmental impact score and green policies and performance score were found to have an impact on organizational performance; while green reputation plays a more important role in impacting the organizational performance of service firms.

Jose et al. (2009) did a literature review of the quantitative studies that have analyzed the impact of green management on financial performance. A total of 32 studies were identified, examining the environmental variables used, the financial performance variables, the statistical analyses, and the main findings obtained by the studies. Some of

the studies quoted in the literature are Hutchinson (1996) analyzed the integration of environmental policy with business strategy studying several firms (Procter and Gamble, Rank Xerox and The Cooperative Bank). Marcus and Geffen (1998) studied the processes by which distinctive competencies are acquired based on the case of pollution prevention in electric generation. Enz and Siguaw (1999) examined four hotels that agreed that cost savings, operating efficiencies and excellent marketing opportunities derived from their environmental initiatives. The Findings were mixed, but studies where a positive impact of environment on financial performance is obtained were predominant. In addition, the findings show that the set of firms, industries and countries are varied. Some studies use environmental management variables and other works employ environmental performance variables, and regression analysis prevails. The study however does not consider studies that analyze the influence of environmental management on environmental performance.

The study offers interesting implications for managers, pointing out that a real commitment to green management may result in a positive influence on financial performance.

Nunes and Benet (2010) did an environmental report analysis and benchmarking study on green operations initiatives in the automotive industry. They focused on investigating and benchmarking green operations in the automotive industry documented in the environmental reports of selected companies. The investigation road mapped the main environmental initiatives taken by the worlds three major manufacturers and benchmarked them against each other. The results show that the world's three major car

manufactures are pursuing various environmental initiatives involving the following green operations practices: green buildings, eco-design, green supply chain, green manufacturing, reverse logistics and innovation.

Menzel et al. (2010) did a study to investigate the trend and effect of environmentally friendly manufacturing on the financial performance of companies in the European automotive and pharmaceutical industries specific attention given to resource utilization. The method of research was a survey of annual and sustainability reports published by companies and recording the change in resource usage as well as the financial performance of the companies. The study showed no significant relationship between greener manufacturing and corporate performance. However a trend in decreasing resources, specifically electricity was found. Furthermore a trend in reducing carbon dioxide was found.

## **2.6 Related Studies in Kenya**

Mugabe (2013) did a descriptive study to establish the relationship between green supply chain management practices and supply chain performance among pharmaceutical companies in Kenya. The objectives of the study were to determine the; extent to which green supply chain management (GSCM) is practiced in pharmaceutical industry in Nairobi, relationship between GSCM and supply chain performance and to establish challenges faced in implementing GSCM. The study revealed a significant relationship between green supply management practices and supply chain performance. The study further recommended proper utilization of materials by customers and practice of waste

reduction, re-use and recycling approaches in order to enhance effectiveness in supply chain.

Mwaengo (2013) studied green supply management practices and environmental performance at Bamburi Cement Limited. The study aimed at investigating the extent to which GSCM is practiced at Bamburi Cement Limited and whether these practices result to improved environmental performance. Primary data was collected through interviews with management while secondary data was collected from historical data captured from the cement kiln emission monitor and data from emission audits conducted by independent audit firms. Findings indicated that the supply chain process at Bamburi cement limited takes into account environmental considerations. These practices were found to be influenced by both government regulation and a culture of conservation from the parent company Lafarge. Mwaengo (2013) further found out that the materials and processes used in the manufacture of cement undergo strict environmental checks and the installation of an emission filter had greatly reduced emission of toxic gases to a level below the Kenya draft emission standard. The practices however were found to involve a heavy financial investment and are challenging to sustain since the upstream and downstream supply chain processes were handled by independent entities.

Omonge (2013) looked at green supply chain management practices and competitiveness of commercial banks in Kenya. The study sought to establish the role of GSCM practices on competitiveness of commercial banks in Kenya. The study adopted a descriptive research design. The study established that most of the banks' green supply chain practices involved environmental collaboration, monitoring, purchasing and the greening of the production phase. It was also found out that the competitiveness to the banks

resulting from the green supply chain practices includes improved operational efficiency, increased customer base, offering superior services, reduction in waste level and all these leads to improved financial performance. The study concluded that incorporation of green practices in the operations of organizations should form part of long term strategy of the organizations to gain competitive advantage over its competitors.

Omondi (2012) investigated the effect of green technology on building maintenance costs, on commercial buildings in Nairobi. The study was set out as a comparative case study between conventional technology and green building technology so as to establish the relationship between green building technology used and the costs of operations and maintenance of buildings. The findings show that using green technology in the design and maintenance of buildings significantly reduces the cost of buildings operations and maintenance. Higher costs are incurred in the design, cost of materials and retrofitting conventional building with green fixtures and finishes above the conventional construction costs, usually called green premium. The relatively lower costs of green building technology however recover the costs incurred in the initial installation or retrofitting. It was further observed that the major costs of maintenance which green buildings reduce are energy consumption costs, water, sewerage, durability of the building materials and fixtures and internal air conditioning costs.

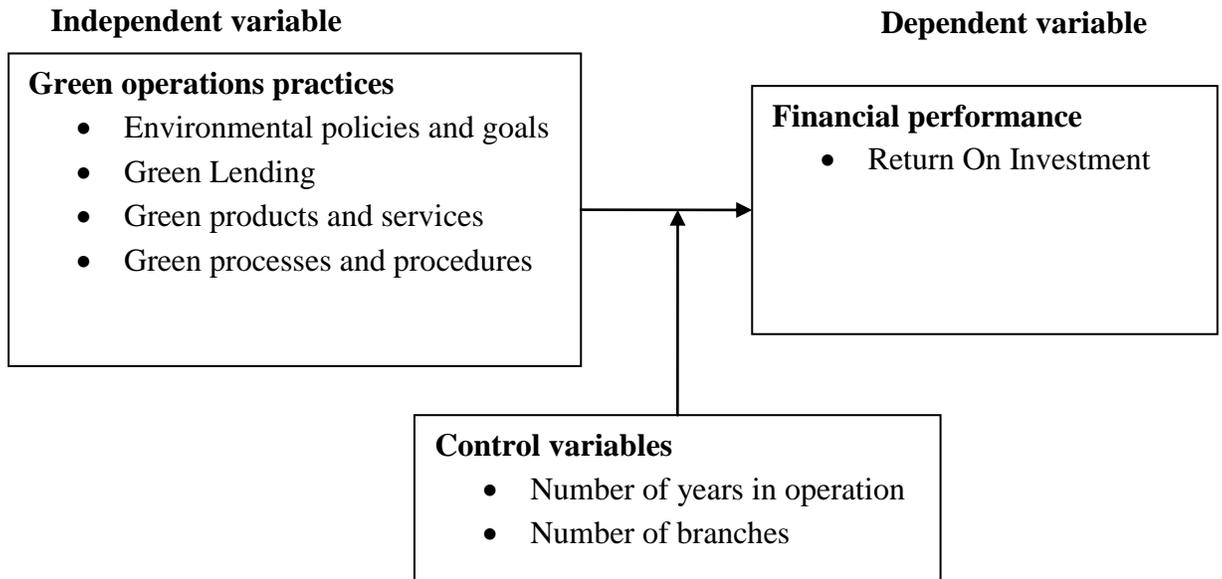
## **2.7 Summary**

This chapter has reviewed the various theories that explain the study. It has reviewed green operations practices which include green lending, environmental policies, green processes, products, services and operations. The study also reviewed empirical studies

that looked at green operations on financial performance of different manufacturing and service organizations. Another study investigated the trend and effect of environmentally friendly manufacturing on the financial performance of automotive and pharmaceutical industries in Europe. A review of these studies revealed that there is hardly any study that has concentrated on the effect of green operations practices on financial performance of commercial banks in Kenya. This study therefore sought to fill this research gap by extending the existing knowledge.

Environmental operations and practices have been shown to be an important and upcoming component of service firms operations. Despite this recognition, research on environmental issues in the context of service industry especially financial institutions is limited. The need for further empirical work to assess the relationship between environmental practices and firm- level performance in the service industry specifically banking institutions (Ngniatedema & Li, 2014). This study was therefore guided by the following conceptual framework.

**Figure 2.1: Conceptual Framework**



## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter describes the research methodology that was to be adopted in undertaking this study. It highlights the procedures and techniques that were used while collecting, processing and analyzing data. It therefore describes the research design, population of the study, data collection instruments, procedures and analysis techniques that the study used.

### **3.2 Research Design**

A descriptive correlational research design was adopted for this study. A descriptive survey demonstrates relationships by assessing samples at one point without trying to make inferences or causal statements. A correlation design was adopted because the key objective of this study was to establish the relationship between Green Operations practices and financial performance of commercial banks in Kenya while the descriptive survey will show an in-depth investigation on not only the significance of green operations on the performance of the Kenyan Commercial banks but it will also explore the challenges of adopting and possible strategies that can be used to improve the performance of green operations in the Kenyan banking industry.

### **3.3 Population of Study**

The target population of the study was all the commercial banks in Kenya which currently totals to 43 as at April 2014 (CBK, 2014). Since this number is small, all the 43 banks were considered making this a census study.

### **3.4 Data Collection**

The study used both primary and secondary data. Secondary data which is Return on Investment (ROI) was obtained from published financial reports of the Kenyan banks. Primary data was collected using a structured questionnaire that was administered through the 'drop and pick later' method. The structured questions will be used in an effort to conserve time and money as well as to facilitate in easier analysis as they are in immediate usable form.

The questionnaire consisted of three sections. Section A sought demographic information. Section B sought information on green operations practices while section C gathered data on the challenges experienced by the banks in adopting green operations practices. The study targeted bank employees particularly management. One respondent was target per bank.

### **3.5 Data Analysis**

Once the raw data was collected it was cleaned and then edited for completeness, consistency and accuracy. It was then systematically organized to confirm if it represented the target population and to facilitate objective analysis. The data analysis tools of Statistical Package for Social Scientists will be used to analyze quantitative data, to give a deeper insight into the responses from the respondents into the subject of the research. Financial ratios will be used to present the findings of the quantitative data. Data on the performance of commercial banks will be collected from secondary data while the independent variables data was collected from primary data.

Regression analysis was used to test the influence of green operations practices on the financial performance of the 43 commercial Banks in Kenya. Regression analysis was conducted to identify how green operations practices impact financial performance measures such ROI.

### **Regression Model**

$$Y = \beta + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon_i,$$

Where:

Y = financial performance of commercial banks

X<sub>1</sub> = Environmental policies and goals

X<sub>2</sub> = Green lending

X<sub>3</sub> = green products and services

X<sub>4</sub> = green processes and procedures

X<sub>5</sub>, X<sub>6</sub> are control variables

X<sub>5</sub> = Number of years in operations

X<sub>6</sub> = Number of branches

$\epsilon_i$  = random errors.

## **3.6 Operationalization of Research Variables**

The green operations variables that were used to test the relationship between green practices and financial performance are as per Table 3.1 below.

### **3.6.1 Operationalization of Independent Variable**

The independent variable was the green operations practices that has been broken into four components namely Environmental policies and goals, green lending, green products

and services and green processes and procedures. These components have been operationalized in table 3.1

**Table 3.1: Operationalization of the Independent Variable.**

Independent variable	Indicators
Environmental policies and goals	Environmental audits
	Pollution prevention plans
	Environmental training for employees
	Hiring a designated environmental manager
	Research and development
	Environmental standards for suppliers
	Employee incentive programs for environmental suggestions
Green lending	Site visits
	Assessment of a clients environmental record
	Third party reporting on proposals.
Green products and services	Green partnerships
	Investment in electronic and Online banking
	Mobile banking
	Green deposits
	ATM
	Green insurance
	Green fiscal funds
	Green mortgages and loans
Green processes and procedures	Recycling- Re using and waste management.
	Energy saving

	Reducing paperwork
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### 3.6.2 Operationalization of Dependent Variable

The dependent variable was financial performance that was represented by the ROI and was obtained from secondary sources. This is shown in table 3.2

**Table 3.2: Operationalization of the Dependent Variable**

<b>Dependent Variable</b>	<b>Indicator</b>
Financial Performance	Return on Investment

### 3.6.3 Operationalization of Control Variables

The study also considered two control variables that are believed to have a significant influence on financial performance. These are shown in table 3.3

**Table 3.3: Operationalization of the Control Variable**

<b>Control variable</b>	<b>Indicator</b>
Bank's age	Number of years of operation
Bank's size	Number of branches

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

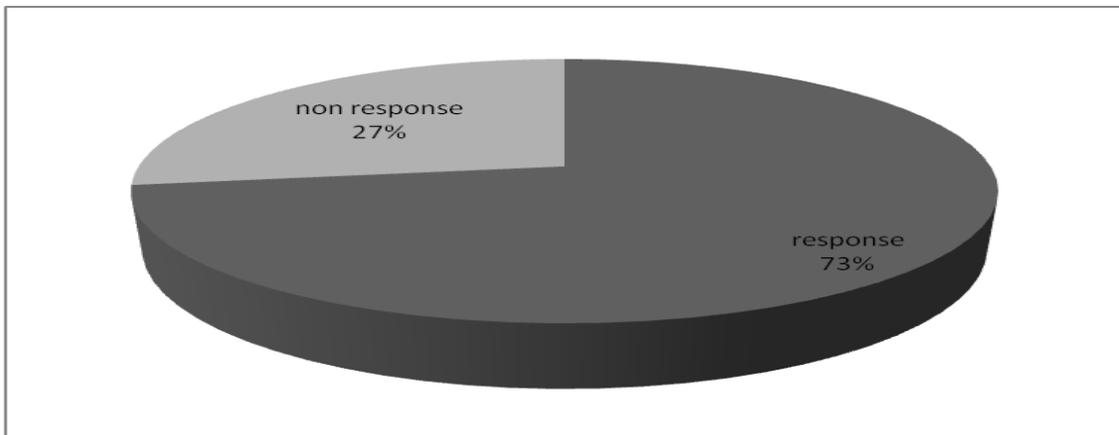
### 4.1 Introduction

This chapter presents analysis, findings and discussion of the study. The objectives of the study were to find out the extent of adoption and the influence of green operations practices on financial performance of commercial banks in Kenya and to find out challenges that commercial banks in Kenya face in adopting green operations practices. Data was collected using a questionnaire.

### 4.2 Response Rate

The study targeted all the 44 commercial banks in Kenya. Out of the 44 targeted banks, 32 filled and returned their questionnaires. This translated to a response rate of 73%. According to Mugenda and Mugenda (2003) the statistically significant response rate for a study should be at least 50%.

**Figure 4.1: Response rate**



### **4.3 Demographic Information**

This study comprised of 32 out of the 44 commercial banks in Kenya. This section presents the ownerships of the banks, years of operation in Kenya, number of branches and number of employees in these banks.

#### **4.3.1 Ownership of the Bank**

The study sought to establish the ownership of the bank. The responses are shown in Table 4.1

**Table 4.1: Ownership of the Bank**

	Frequency	Percentage
Foreign	11	34
Private	12	38
Both Government and Public	6	19
Government	3	9
Total	32	100

From table 4.1, 34% of the banks are foreign, 38% are private while 19% were both government and public while 9% are government owned. Most of the banks were observed to be private owned and government owned was the least represented. Private Banks due to their large number could be the controller of the banking sector in Kenya.

#### **4.3.2 Years of Operation in Kenya**

The study sought to establish the number of years the bank has operated in Kenya. The findings showed that majority of the banks had operated for more than 10 years with the

oldest being in operation for 118 years and the youngest had been in operation for 6 years as presented in table 4.2. This shows that a bank that has been operational for a long time has a competitive advantage on operational experience and therefore more deeper penetration into many markets.

**Table 4.2: Years of operation and Number of branches**

<b>Banks In Kenya</b>	<b>Years of operation</b>	<b>Number of</b>
Kenya Commercial Bank Limited	118	182
Equity Bank Limited.	10	153
Co-Operative Bank Of Kenya Limited.	46	138
Standard Chartered Bank Kenya	104	39
Barclays Bank Of Kenya Limited	98	107
CFC Stanbic Bank Limited.	6	24
Commercial Bank Of Africa Limited	47	23
Diamond Trust Bank Kenya Limited.	20	50
I & M Bank Limited	18	29
NIC Bank Limited	19	27
National Bank Of Kenya Limited	46	71
Citibank N.A Kenya	40	3
Chase Bank (K) Limited.	23	28
Bank Of Baroda	61	11
Bank Of Africa Kenya Limited.	10	31
Prime Bank Limited	22	18
Family Bank Limited.	7	71
Imperial Bank Limited	20	26
Housing Finance	49	12
Bank Of India	61	5
Eco Bank Kenya Limited.	6	27
Guaranty Trust Bank	19	15

African Banking Corporation Limited.	20	11
Gulf African Bank Limited	7	16
Equatorial Commercial Bank Limited.	19	13
Giro Commercial Bank Limited	22	7
Victoria Commercial Bank Limited	18	3
Consolidated Bank Of Kenya Limited	25	17
Development Bank Of Kenya Limited.	18	3
K-Rep Bank	15	13
Guardian Bank Limited	19	9
Fidelity Commercial Bank Limited.	18	11

#### **4.3.3 Numbers of Branches**

The study also sought to establish the number of branches the banks have. Table 4.2 reveals that majority of the banks had over 60 branches with the highest having 182 branches and the lowest having 3 branches. The banks that have been operational for a longer period had more branches than those that have been operational for a shorter period.

#### **4.3.4 Number of Employees**

The study sought to establish the number of employees in the bank network. The findings showed that majority of the bank had between 1500-3000 employees with the highest being 4200 and the lowest being 960 employees.

#### **4.4 Extent of Adoption of Green Operations Practices**

The study, also sought to establish the extent of adoption of green operations by commercial banks in Kenya. The respondents were asked to rate the extent to which green operations practices had been adopted in their banks. A 5-point Likert scale was

used to rate the various indicators whereby 1 was accorded to ‘no extent’, 2 to ‘ little extent’, 3 to ‘moderate extent’, 4 to ‘great extent’ and 5 to ‘very great extent’. The following subsection discusses the results.

#### 4.4.1 Environmental Policies and Goals

The first green operations practice to be assessed was environmental policies and goals.

The findings are as shown in Table 4.3

**Table 4.3: Extent of Adoption of Environmental Policies and Goals**

	Mean	Std. Dev	Rank
Environmental audit is done regularly	3.875	0.003	4
Pollution prevention plans are in place	3.654	0.231	6
Environmental training for employees is done regularly	3.821	0.254	5
The organization has hired a designated environmental manager	4.021	0.124	3
Research and development is continuous on environmental issues	4.211	0.441	1
Environmental standards for suppliers are set	3.564	0.634	7
Employee incentive programs for environmental suggestions are in place	4.029	0.862	2
<b>Grand mean</b>	<b>3.882</b>	<b>0.364</b>	

From table 4.3, it can be observed that the most commonly adopted environmental policy and goal practice is research and development on environmental issues with a mean of 4.211 this is followed by employee incentive programs for environmental suggestion with a mean of 4.029. It was further observed that the organizations hired designated environmental managers by a mean of 4.021 and environmental audits done with a mean of 3.875. It was also established that environmental training for employees was done with

a mean of 3.821, pollution prevention plans are in place with a mean of 3.654 and environmental standards for suppliers are set with a mean of 3.564.

Theyel (2000) established that Firms are adopting environmental management practices in reaction to the rise in environmental legislation such as constant environmental audits. There is need for organizations to train their employees on environmental practices as well as hire environmental managers that will oversee the trainings implementation and assessment of the environmental programmes. The new environmental legislations have brought about the need for organizations to adopt environmental management practices. Among practices that have been adopted by firms include setting environmental standards for suppliers and employee incentive programs for environmental suggestions (Theyel, 2000).

#### **4.4.2 Green Lending**

Green lending as an aspect of green operations practices was also assessed. Table 4.4 presents an analysis of the ranking of the extent of adoption of green lending as hypothesized by the respondents.

**Table 4.4: Extent of Adoption of Green Lending**

	<b>Mean</b>	<b>Std.</b>	<b>Rank</b>
Site visits are done before lending	4.321	0.354	1
Assessment of a clients environmental record	4.021	0.448	3
Third party reporting on proposal	4.114	0.451	2
<b>Grand mean</b>	<b>4.152</b>	<b>0.417</b>	

The results show that the respondents rated as highest site visits before lending with a mean of 4.321 followed by third party reporting on proposal with a mean of 4.114 and lastly the assessment of a clients environmental record with a mean of 4.021 as aspects of green lending employed by the commercial banks. Canadian Bankers Association (2014) cited that banks take environmental protection into account when making lending decisions by site visits or assessment of a client’s environmental record. Canadian Bankers Association (2014) that also listed third party reporting on proposals as an environmental protection precaution taken by banks.

#### 4.4.3 Green Products and Services

Green products and services were also assessed to determine the extent of its adoption. The findings were as is recorded in Table 4.5

**Table 4.5: Extent of Adoption of Green Products and Services**

	<b>Mean</b>	<b>Std.</b>	<b>Rank</b>
Green partnerships by donating to conservation charities as an	3.451	0.458	8
Investment in electronic and online banking	3.521	0.468	7
Investment in mobile banking	3.987	0.399	4
Green deposits- Does the bank offer higher rates on accounts,	4.031	0.254	1
ATM machines in branches and off side	4.001	0.361	2
Green insurance premiums on the basis of environmentally	3.992	0.449	3
Green fiscal funds where Customers exempted from paying	3.652	0.421	6
Advancing mortgages and loans to environmental sensitive	3.924	0.892	5
<b>Grand mean</b>	<b>3.819</b>	<b>0.462</b>	

From table 4.5, it can be observed that the most commonly adopted green product was green deposits with a mean of 4.031, followed by ATM machines with a mean of 4.001, then green insurance premiums with a mean of 3.992 then mobile banking with a mean of 3.987 then green mortgages and loan with a mean of 3.924 followed by green fiscal funds with a mean of 3.652 then electronic and online banking with a mean of 3.521 and lastly green partnerships with a mean of 3.451.

According to the Canadian Bankers Association (2014) Banks are developing green products and services such as paperless statements. Practices such as the use of bills and annual statements, investment in electronic and telephone banking so that customers can bank anytime anywhere and easy automatic payments to reduce the need to write and send cheques by mail have been taken up by banks so as new green products and services (Canadian Bankers Association, 2014). Banks are introducing new initiatives like green products development just like their western counterparts.

#### **4.4.4 Green Processes and Procedures**

Green processes and procedures were also assessed to determine the extent of its adoption. Table 4.6 presents an analysis of the extent of adoption of green processes and procedures as hypothesized by the respondents.

**Table 4.6: Extent of Adoption of Green Processes and Procedures**

	<b>Mean</b>	<b>Std.</b>	<b>Rank</b>
Recycling-re using and waste management practices	3.314	0.331	2
Energy saving practices	4.114	0.421	1
Reducing paperwork by using alternative means e.g. emails.	3.214	0.627	3
<b>Grand mean</b>	<b>3.547</b>	<b>0.417</b>	

It was observed that Energy saving practices was the highly adopted practice with a mean of 4.114 followed by recycling and waste management practices with a mean of 3.314 and lastly reducing paperwork with a mean of 3.214. From Recycling and re using of programs to energy conservation in offices and branches, banks are now adopting environmental operations so as to reduce their operational foot print on the environment (Laxman, 2014).

#### **4.5 Summary of Adoption of Green Operations Practices**

Green operations practices were analyzed and ranked. Table 4.7 presents an analysis of the summary of adoption of green operations practices as hypothesized by the respondents

**Table 4.7: Summary of Adoption of Green Operations Practices**

	<b>Mean</b>	<b>Std.</b>	<b>Rank</b>
Environmental policies and goals	3.882	0.364	3
Green Lending	4.152	0.417	2
Green Products and Services	3.819	0.462	4
Green Processes and Procedures	4.199	0.391	1
<b>Grand mean</b>	<b>4.013</b>	<b>0.4085</b>	

From table 4.7, it was observed that green processes and procedures was the highly adopted green operations practice variable by commercial banks in Kenya with a mean of 4.199 followed by green lending practices with a mean of 4.152 then environmental policies and goals with a mean of 3.882 and lastly green products and services with a mean of 3.819.

#### **4.6 Challenges of Green Operations Practices Adoption**

The study also sought to establish the challenges that commercial banks experience while adopting and implementing green operations practices. The findings were as is shown in table 4.8.

**Table 4.8: Challenges of Green Operations Practices Adoption**

<b>Challenges of green operations practices adoption</b>	<b>Mean</b>	<b>Std.</b>	<b>Rank</b>
Management and champion support	3.221	0.002	6
Lack of awareness and poor employee/ management	4.351	0.125	4
Unclear or poorly defined objectives	3.998	0.634	5
Inadequate infrastructure to support requirements of the	4.552	0.251	2
Limited training and certification for practitioners in	4.452	0.441	3
Minimal or ineffective enforcement and inspection	4.621	0.892	1
<b>Grand mean</b>	<b>4.199</b>	<b>0.391</b>	

From table 4.7 it was observed that the biggest challenge to adoption of green operations practices was minimal or ineffective enforcement procedures for green operations practices with a mean of 4.621 followed by inadequate infrastructure with a mean of 4.552 then limited training with a mean of 4.452 then lack of awareness and poor perception with a mean of 4.351 then unclear and poorly defined objectives with a mean of 3.998 and lastly management support with a mean of 3.221. Bose & Luo (2012) stated that the successful adoption of green practices depends on management and environmental factors key among them being champion support.

#### **4.7 Relationship between Green Operations Practices and Financial Performance**

To facilitate an analysis of the relationship between the green operations practices and financial performance, the respondents were requested to indicate the extent of adoption of the independent variables and the average ROI over five years for the commercial banks obtained. Table 4.9 contains a summary of their responses

**Table 4.9: Average Values for Each Bank for the Variables**

<b>Banks In Kenya</b>	<b>Y</b>	<b>X<sub>1</sub></b>	<b>X<sub>2</sub></b>	<b>X<sub>3</sub></b>	<b>X<sub>4</sub></b>	<b>X<sub>5</sub></b>	<b>X<sub>6</sub></b>
Kenya Commercial Bank Ltd	0.32	3.984	4.223	3.229	3.335	118	182
Equity Bank Ltd	0.36	4.021	4.612	3.765	3.214	10	153
Co-Operative Bank Of Kenya Ltd	0.3	4.552	3.985	4.022	3.935	46	138
Standard Chartered Bank Kenya	0.49	3.705	3.996	4.228	3.621	104	39
Barclays Bank Of Kenya Ltd	0.38	3.925	4.012	3.768	3.762	98	107
CFC Stanbic Bank Limited.	0.25	3.924	4.225	3.162	3.219	6	24
Commercial Bank Of Africa Ltd	0.36	3.821	4.182	3.884	3.452	47	23
Diamond Trust Bank Kenya Ltd	0.32	3.951	4.013	3.927	3.624	20	50
I & M Bank Ltd	0.3	4.011	4.322	4.035	3.925	18	29
NIC Bank Ltd	0.31	3.741	3.988	4.102	4.009	19	27
National Bank Of Kenya Ltd	0.22	3.785	3.765	3.325	3.441	46	71

Citibank N.A Kenya	0.31	4.024	3.892	3.884	3.613	40	3
Chase Bank (K) Ltd	0.24	4.124	3.685	4.025	3.924	23	28
Bank Of Baroda	0.37	3.691	4.704	3.785	3.334	61	11
Bank Of Africa Kenya Ltd	0.16	3.776	4.521	3.962	3.564	10	31
Prime Bank Ltd	0.31	3.775	3.997	4.241	3.412	22	18
Family Bank Ltd	0.2	3.652	4.064	3.088	3.441	7	71
Imperial Bank Ltd	0.45	3.789	4.192	4.015	3.962	20	26
Housing Finance	0.24	3.641	3.965	4.187	3.114	49	12
Bank Of India	0.27	3.942	4.917	4.334	3.613	61	5
Eco Bank Kenya Ltd	-0.35	3.884	4.605	4.115	3.021	6	27
Guaranty Trust Bank	-0.21	4.005	4.765	3.224	4.117	19	15
African Banking Corporation Ltd	0.28	4.235	4.491	3.985	3.602	20	11
Gulf African Bank Limited	0.08	4.14	3.882	3.895	3.412	7	16
Equatorial Commercial Bank Ltd	-0.14	3.852	3.824	3.638	3.208	19	13
Giro Commercial Bank Ltd	0.24	3.682	4.015	3.485	3.446	22	7
Victoria Commercial Bank Ltd	0.25	3.988	3.675	3.924	3.564	18	3
Consolidated Bank Of Kenya Ltd	0.12	3.632	4.002	3.754	3.352	25	17
Development Bank Of Kenya Ltd	0.13	3.774	4.183	3.887	3.409	18	3
K-Rep Bank	0.11	3.862	3.984	3.963	3.642	15	13
Guardian Bank Ltd	0.16	3.467	3.964	3.475	3.856	19	9
Fidelity Commercial Bank Ltd	0.24	3.883	4.22	3.882	3.355	18	11

Where Y is ROI; X<sub>1</sub> is environmental policies and goals; X<sub>2</sub> is green lending; X<sub>3</sub> is green products and services and X<sub>4</sub> is green processes and processes.

A regression analysis was carried out to establish the effect of green operations practices on financial performance. The findings are shown in the table 4.10

**Table 4.10: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.586 <sup>a</sup>	.343	.185	.16021

From table 4.9 R-Square (coefficient of determination) is a commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted R<sup>2</sup>, also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. 18.5 % of the changes in the financial performance could be attributed to the combined effect of the predictor variables. This shows that further study should be done on other factors not included in this study contributing 81.5% of the changes in the financial performance.

**Table 4.11: ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.335	6	.056	2.174	.080 <sup>b</sup>
Residual	.642	25	.026		
Total	.976	31			

a. Dependent Variable: Y

b. Predictors: (Constant), X<sub>6</sub>, X<sub>4</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>5</sub>, and X<sub>1</sub>

The probability value of 0.80 indicates that the regression relationship was not significant in predicting how the independent variables influenced the financial performance of the banks. The F critical at 5% level of significance was 2.5252 since F calculated is lower than the F critical (value = 2.174), this shows that the overall model was not significant.

**Table 4.12: Green Operations Practices and Financial Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.007	.738		-.009	.993
1 X1	-.161	.167	-.188	-.960	.346
X2	-.085	.091	-.153	-.935	.359
X3	.156	.099	.291	1.588	.125
X4	.143	.109	.223	1.312	.202
X5	.002	.001	.302	1.566	.130
X6	.001	.001	.288	1.295	.207

From the table 4.12 the regression model can be written as:

$$Y = -0.007 - 0.161 X_1 - 0.085 X_2 + 0.156 X_3 + 0.143 X_4 + 0.002 X_5 + 0.001 X_6$$

The regression equation above has established that taking all factors into account constant at zero, the financial performance of the bank will be at -0.007.

The findings presented also show that taking all other independent variables at zero, a unit increase in the policies and goals of green operations practices would lead to a 0.161 reduction in the financial performance of the banks. A unit increase in green lending operations practices would lead to a 0.085 decrease in the financial performance of the banks. A unit increase in products and services would lead to a 0.156 increment in the financial performance of the bank and a unit increase in processes and procedures would lead to a 0.143 increase in the financial performance of the bank. All the variables were

insignificant as the P-values were more than 0.05. This indicates that it would not be appropriate to use this model for prediction purposes.

**Table 4.13: R Values for Y and individual X<sub>i</sub> Values and their Significance**

	<b>X<sub>1</sub></b>	<b>X<sub>2</sub></b>	<b>X<sub>3</sub></b>	<b>X<sub>4</sub></b>	<b>X<sub>5</sub></b>	<b>X<sub>6</sub></b>
Pearson Correlation (R)	.008	-.158	.207	.217	.448	.265
Sig. (1-tailed)	.482	.194	.128	.116	.005	.071
N	32	32	32	32	32	32

From the table there is a correlation between financial performance and the factors (policies and goals, green lending, products and services and processes and procedures) of magnitude 0.008 with policies, -0.158 with green lending, 0.207 with products and services and a magnitude of 0.217 with process and procedures respectively. The independent variables also had a significant correlation relationship with P-values of 0.482, 0.194, 0.128 and 0.116 respectively.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter presents the discussion of key research findings, discussion of the findings, conclusion drawn from the findings highlighted and recommendation made there to and suggestion for further research

### **5.2 Summary**

The purpose of this study was to establish the effect of green operations practices on financial performance of commercial banks in Kenya, The extent of adoption of the green practices and the challenges faced in adopting and implementing green operations practices. Data for analysis was obtained by use of questionnaires designed by the researcher for employees of commercial banks in Kenya particularly management. From data analysis in chapter four, the study isolated some issues relevant to the effect of green operations practices on financial performance of commercial banks. The findings relating to the objectives are summarized as follows.

#### **5.2.1. Extent of Adoption of Green Operations Practices**

The study established that environmental audits are done regularly to a great extent and that banks had implemented pollution prevention plans to a great extent. The findings also revealed that environmental training for employees is done regularly and that the organization has hired a designated environmental manager to a great extent. The findings revealed that research and development is continuous on environmental issues to a great extent and that environmental standards for suppliers were set to a great extent.

The findings also showed that employee incentive programs for environmental suggestions were in place to a great extent. On green lending, the findings established that site visits are done before lending to a great extent and the assessment of a client's environmental record was also practiced to a great extent. Third party reporting on the proposal was practiced to a great extent.

The findings established that green partnerships by donating to conservation charities as an incentive for choosing green products or paperless statements was practiced to a moderate extent. The findings also showed that investment in electronic and online banking was practiced to a great extent and also that investment in mobile banking was practiced to a great extent. The findings show that the bank offered higher rates on accounts, if customers opt to conduct their banking activities online to a great extent. The practice on ATM machines in branches and off side is to a great extent and that of Green insurance premiums on the basis of environmentally related characteristics is to a great extent. On green fiscal funds where customers exempted from paying capital gains tax and receive discount on income tax when they purchase shares in a green fund or invest in a green bank, the findings established that it was practiced to a great extent and that advancing mortgages and loans to environmental sensitive individuals and companies was practiced to a great extent.

Recycling-reusing and waste management practices were practiced to a moderate extent and energy saving practices to a great extent. The findings also revealed that the extent to

which the banks practice reduction of paperwork by using alternative means e.g. emails is to a moderate extent.

### **5.2.2. Challenges of Adoption of Green Operations Practices**

On the challenges faced the study established that banks management and champion support was a challenge to the banks was to a moderate extent. Lack of awareness and poor employee/ management perception was also a challenge to a very great extent and lack of implementation barriers is another important factor among others. Unclear or poorly defined objectives were a challenge to a great extent and inadequate infrastructure to support requirements of the initiatives was a challenge to a very great extent. Limited training and certification for practitioners in operating were also challenges to a great extent and minimal or ineffective enforcement and inspection procedures for green operations practices was also a challenge to a very great extent.

### **5.2.3. Relationship between Green Operations Practices and Financial Performance**

It was established that 18.5 % of the variation in financial performance could be attributed to the combined effect of the predictor variables. The regression relationship was not significant in predicting how the independent variables influenced the financial performance of the banks. The regression equation established that taking all factors into account constant at zero, the financial performance of the bank will be at -0.007. All the variables were insignificant as the P-values were more than 0.05. There is a correlation between financial performance and the independent variables of magnitude 0.008. The independent variables also had a significant correlation relationship with P-values.

### **5.3 Conclusions**

The study concludes that banks have adopted different green operations practices. Among the practices adopted on environmental policies and goals are that environmental audits are done regularly, research and development is continuous on environmental issues and that employee incentives programs for environmental suggestions are in place. The study also concludes that on green lending banks are conducting site visits as well as assessment of client's environmental records. On green products and services the study concludes that banks are entering into green partnerships by donating to conservation charities as an incentive for choosing green products or paperless statements. The study also concludes that banks have adopted higher rates on accounts, if customers opt to conduct their banking activities online. On green processes and procedures, the study concluded that recycling, reusing and waste management practices have been adopted. The study also concludes that banks have adopted energy saving practices.

On the effect of green operations practices on financial performance, the study established that the relationship is insignificant. The findings were consistent with Menzel et al. (2010) in their study to investigate the trend and effect of environmentally friendly manufacturing on the financial performance of companies in the European automotive and pharmaceutical industries, the study showed no significant relationship between greener manufacturing and corporate performance. The findings were also consistent with that of Jose et al. (2009) in their literature review of the quantitative studies that have analyzed the impact of green management on financial performance, whose findings were mixed.

On the challenges of green operation practices adoption, the study established that management and champion support, lack of awareness and poor employee/ management perception were challenges faced in the adoption of green operations practices adoption. The study also concludes that unclear or poorly defined objectives, inadequate infrastructure to support requirements of the initiatives, limited training and certification for practitioners in operating and Minimal or ineffective enforcement and inspection procedures for green operations practices were also challenges faced by banks in the adoption of green operations practices. This findings are consistent with those of Bose and Luo (2012) who asserted that Some of the potential barriers adoption of green operations are: the successful ad lack of buy-in from all levels of an organization; inadequate funding; inadequate skill sets to execute the initiatives; unclear or poorly defined objective; undefined linkage between the adoption objective to business objective; unknown impact of the adoption initiatives on the overall business; and inadequate infrastructure to support the technical requirements of the initiatives

#### **5.4 Recommendations**

The study recommends that all banks carry out environmental audits on a regular basis so as to determine the effectiveness of the operations undertaken on the financial performance of the bank. The study also recommends that banks organize training workshops for their employees and managers on implementation of environmental policies and goals. The study also recommends that banks come up with incentive and subsidies for investors in environmental ventures.

The study recommends that the management of the banks come up with programs that will create awareness on the green operations practices adopted to the employees in the bank. The study also recommends that banks carry out inspection and assessments of the procedures for the green operations practices. The study also recommends that banks upgrade the needed infrastructure so as to ensure smooth implementation of the green operation practices initiatives.

### **5.5 Limitations of the Study**

Availability of data was limited to the head offices of the various banks hence there was a huge amount incurred in travelling to Nairobi to acquire this information from the respective banks. The results of the study may also be limited by time and financial constraints.

### **5.6 Suggestions for Further Studies**

This study was conducted in all the commercial banks in Kenya. A similar study may include all financial institutions in Kenya. This will be important in generalizing the findings on the effects of green operations practices adoption on the financial performance of the organizations.

This study concentrated on the effects of green operations practices adoption on the financial performance of the firm. A future study may also be conducted to establish the impact of green operations practices adoption on the environmental and operational performances of organizations.

Finally, the relationship between green operations practices and financial performance was found to be insignificant. This could be attributed to not including control variables

that are significant in determining the performance of a firm. A future study should include more control variables that have been found to significantly impact on financial performance.

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## **Appendix I: Questionnaire**

### **EFFECT OF GREEN OPERATIONS PRACTICES ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

Please take a few minutes of your time to complete this questionnaire. Your honest answers will be completely anonymous, but your views, in combination with those of others are extremely important in building knowledge on the effects of green operations practices on financial performance of commercial banks in Kenya. Kindly answer all questions.

#### **SECTION A: DEMOGRAPHIC INFORMATION**

1. Name of your Bank\_\_\_\_\_
2. Type of ownership of your bank  
Government [ ] Private [ ] Both Government and Public [ ] Foreign [ ]
3. Number of years your bank has operated in Kenya\_\_\_\_\_
4. Number of branches of the bank \_\_\_\_\_
5. Number of employees in the bank network\_\_\_\_\_

#### **SECTION B: GREEN OPERATIONS PRACTICES**

6. Please indicate to which extent the following green operations practices have been adopted by your organization (1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5 = very great extent).

<b>Environmental policies and goals</b>	1	2	3	4	5
Environmental audit is done regularly					
Pollution prevention plans are in place					
Environmental training for employees is done regularly					
The organization has hired a designated environmental manager					
Research and development is continuous on environmental issues					
Environmental standards for suppliers are set					
Employee incentive programs for environmental suggestions are in place					
<b>Green lending</b>					
Site visits are done to before lending					
Assessment of a clients environmental record					
Third party reporting on proposal					
<b>Green products and services</b>					
Green partnerships by donating to conservation charities as an incentive for choosing green products or paperless statements					
Investment in electronic and online banking					
Investment in mobile banking					
Green deposits- Does the bank offer higher rates on accounts, if customers opt to conduct their banking activities online.					
ATM machines in branches and off side					
Green insurance premiums on the basis of environmentally related characteristics					
Green fiscal funds where Customers exempted from paying capital gains tax and receive discount on income tax when they purchase shares in a green fund or invest in a green bank.					
Advancing mortgages and loans to environmental sensitive individuals and companies					
<b>Green processes and procedures</b>					
Recycling-re using and waste management practices					
Energy saving practices					
Reducing paperwork by using alternative means e.g. emails.					

**SECTION C: CHALLENGES OF GREEN OPERATIONS PRACTICES ADOPTION**

7. Please indicate the extent to which your organization has experienced the following challenges in adopting green operations practices.

(1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5 = very great extent).

<b>Challenges of green operations practices adoption</b>	1	2	3	4	5
Management and champion support					
Lack of awareness and poor employee/ management perception					
Unclear or poorly defined objectives					
Inadequate infrastructure to support requirements of the initiatives					
Limited training and certification for practitioners in operating					
Minimal or ineffective enforcement and inspection procedures for green operations practices.					
<b>Other (s) please specify</b>					

## Appendix II: Secondary Data Collection Form 1.

	BANK NAMES	2013			2012		
		total capital	PROFIT	ROI 2013	total capital	PROFIT	ROI 2012
1	Kenya Commercial Bank Limited	62391	17746	0.28	52926	15756	0.30
2	Equity Bank Limited.	50687	18233	0.36	42672	16060	0.38
3	Co-operative Bank of Kenya Limited.	35652	10705	0.30	28967	9574	0.33
4	Standard Chartered Bank Kenya	36030	13316	0.37	30603	11519	0.38
5	Barclays Bank of Kenya Limited	32371	11921	0.37	29583	13020	0.44
6	CFC Stanbic Bank Limited.	22353	7005	0.31	18101	4712	0.26
7	Commercial Bank of Africa Limited	13749	4464	0.32	11641	3998	0.34
8	Diamond Trust Bank Kenya Limited.	18568	5566	0.30	14878	4670	0.31
9	I & M Bank Limited	20525	6060	0.30	16591	4722	0.28
10	NIC Bank Limited	17631	5221	0.30	15065	4311	0.29
11	National Bank of Kenya Limited	11848	1779	0.15	10450	1147	0.11
12	Citibank N.A Kenya	15964	4984	0.31	17346	7229	0.42
13	Chase Bank (K) Limited.	7487	2251	0.30	51101	1316	0.03
14	Barclays Bank of Kenya Limited	7569	2505	0.33	5758	1667	0.29
15	Bank of Africa Kenya Limited.	6539	1028	0.16	5010	636	0.13
16	Prime Bank Limited	5816	1893	0.33	4175	1161	0.28
17	Family Bank Limited.	5968	1758	0.29	4860	843	0.17
18	Imperial Bank Limited	5719	2494	0.44	4554	1912	0.42
19	Housing Finance	5682	2859	0.50	5146	902	0.18
20	Bank of India	5087	1253	0.25	4063	607	0.15
21	Eco bank Kenya Limited.	3390	-1231	-0.36	1999	-1533	-0.77
22	Guaranty Trust Bank	6091	413	0.07	589	-2443	-4.15
23	African Banking Corporation Limited.	2450	578	0.24	2112	557	0.26
24	Gulf African Bank Limited	2686	434	0.16	1561	374	0.24
25	Equatorial Commercial Bank Limited.	1371	152	0.11	722	-656	-0.91
26	Giro Commercial Bank Limited	2087	383	0.18	1775	207	0.12
27	Victoria Commercial Bank Limited	2528	586	0.23	2036	491	0.24
28	Consolidated Bank of Kenya Limited	1242	-142	-0.11	1574	176	0.11
29	Development Bank of Kenya Limited.	1822	274	0.15	1634	104	0.06
30	K-Rep Bank	1868	557	0.30	1527	306	0.20
31	Guardian Bank Limited	1494	384	0.26	1219	223	0.18
32	Fidelity Commercial Bank Limited.	1411	316	0.22	1185	102	0.09

	BANK NAMES	2011			2010		
		total capital	PROFIT	ROI 2011	total capital	PROFIT	ROI 2010
1	Kenya Commercial Bank Limited	45163	14082	0.31	35221	11538	0.33
2	Equity Bank Limited.	35047	12104	0.35	19931	9312	0.47
3	Co-operative Bank of Kenya Limited.	20972	6168	0.29	17971	5559	0.31
4	Standard Chartered Bank Kenya	20571	8251	0.40	11394	7668	0.67
5	Barclays Bank of Kenya Limited	29223	12013	0.41	28424	10775	0.38
6	CFC Stanbic Bank Limited.	10150	3128	0.31	7915	2104	0.27
7	Commercial Bank of Africa Limited	9935	2984	0.30	5728	2695	0.47
8	Diamond Trust Bank Kenya Limited.	10366	3248	0.31	6637	2872	0.43
9	I & M Bank Limited	13856	4457	0.32	8467	3004	0.35
10	NIC Bank Limited	9900	3361	0.34	6874	2416	0.35
11	National Bank of Kenya Limited	10456	2444	0.23	9082	2698	0.30
12	Citibank N.A Kenya	15112	4802	0.32	12493	2879	0.23
13	Chase Bank (K) Limited.	2969	850	0.29	1586	535	0.34
14	Barclays Bank of Kenya Limited	4936	1676	0.34	3319	1828	0.55
15	Bank of Africa Kenya Limited.	4672	555	0.12	1899	484	0.25
16	Prime Bank Limited	3742	1081	0.29	2258	770	0.34
17	Family Bank Limited.	3324	523	0.16	2986	501	0.17
18	Imperial Bank Limited	3685	1632	0.44	2230	1248	0.56
19	Housing Finance	4782	976	0.20	2463	560	0.23
20	Bank of India	3378	975	0.29	2694	991	0.37
21	Eco bank Kenya Limited.	1726	121	0.07	2758	188	0.07
22	Guaranty Trust Bank	239	515	2.16	2822	432	0.15
23	African Banking Corporation Limited.	1702	515	0.30	1338	480	0.36
24	Gulf African Bank Limited	1319	155	0.12	1153	47	0.04
25	Equatorial Commercial Bank Limited.	1204	71	0.06	810	-34	-0.04
26	Giro Commercial Bank Limited	1579	330	0.21	1278	634	0.50
27	Victoria Commercial Bank Limited	1252	330	0.26	1065	311	0.29
28	Consolidated Bank of Kenya Limited	1435	257	0.18	896	258	0.29
29	Development Bank of Kenya Limited.	1562	157	0.10	1352	236	0.17
30	K-Rep Bank	1331	256	0.19	1097	111	0.10
31	Guardian Bank Limited	1065	170	0.16	948	112	0.12
32	Fidelity Commercial Bank Limited.	1017	302	0.30	753	377	0.50

	BANK NAMES	2009			
		total capital	PROFIT	ROI 2009	ROI MEAN 2009-2013
1	Kenya Commercial Bank Limited	17674	6426	0.36	0.32
2	Equity Bank Limited.	22488	5570	0.25	0.36
3	Co-operative Bank of Kenya Limited.	15319	3727	0.24	0.30
4	Standard Chartered Bank Kenya	10915	6726	0.62	0.49
5	Barclays Bank of Kenya Limited	27619	9002	0.33	0.38
6	CFC Stanbic Bank Limited.	10539	1333	0.13	0.25
7	Commercial Bank of Africa Limited	4821	1768	0.37	0.36
8	Diamond Trust Bank Kenya Limited.	6512	1634	0.25	0.32
9	I & M Bank Limited	6523	1752	0.27	0.30
10	NIC Bank Limited	5711	1529	0.27	0.31
11	National Bank of Kenya Limited	7396	2159	0.29	0.22
12	Citibank N.A Kenya	11007	3055	0.28	0.31
13	Chase Bank (K) Limited.	1241	318	0.26	0.24
14	Barclays Bank of Kenya Limited	2176	726	0.33	0.37
15	Bank of Africa Kenya Limited.	1790	260	0.15	0.16
16	Prime Bank Limited	1851	564	0.30	0.31
17	Family Bank Limited.	1744	343	0.20	0.20
18	Imperial Bank Limited	2158	802	0.37	0.45
19	Housing Finance	3163	354	0.11	0.24
20	Bank of India	2069	609	0.29	0.27
21	Eco bank Kenya Limited.	1524	-1151	-0.76	-0.35
22	Guaranty Trust Bank	2193	1567	0.71	-0.21
23	African Banking Corporation Limited.	1141	257	0.23	0.28
24	Gulf African Bank Limited	1150	-162	-0.14	0.08
25	Equatorial Commercial Bank Limited.	730	77	0.11	-0.14
26	Giro Commercial Bank Limited	854	185	0.22	0.24
27	Victoria Commercial Bank Limited	924	216	0.23	0.25
28	Consolidated Bank of Kenya Limited	811	117	0.14	0.12
29	Development Bank of Kenya Limited.	1363	188	0.14	0.13
30	K-Rep Bank	1090	-289	-0.27	0.11
31	Guardian Bank Limited	873	61	0.07	0.16
32	Fidelity Commercial Bank Limited.	490	52	0.11	0.24

**Appendix III: Secondary Data Collection Form 2.**

<b>Banks In Kenya</b>	<b>ROI (Y)</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>Years of operation</b>	<b>Number of branches</b>
Kenya Commercial Bank Limited							
Equity Bank Limited.							
Co-Operative Bank Of Kenya Limited.							
Standard Chartered Bank Kenya							
Barclays Bank Of Kenya Limited							
CFC Stanbic Bank Limited.							
Commercial Bank Of Africa Limited							
Diamond Trust Bank Kenya Limited.							
I & M Bank Limited							
NIC Bank Limited							
National Bank Of Kenya Limited							
Citibank N.A Kenya							
Chase Bank (K) Limited.							
Bank Of Baroda							
Bank Of Africa Kenya Limited.							
Prime Bank Limited							
Family Bank Limited.							
Imperial Bank Limited							
Housing Finance							
Bank Of India							
Eco Bank Kenya Limited.							
Guaranty Trust Bank							
African Banking Corporation Limited.							
Gulf African Bank Limited							
Equatorial Commercial Bank Limited.							
Giro Commercial Bank Limited							
Victoria Commercial Bank Limited							
Consolidated Bank Of Kenya Limited							
Development Bank Of Kenya Limited.							
K-Rep Bank							
Guardian Bank Limited							
Fidelity Commercial Bank Limited.							

## **Appendix IV: List of Commercial Banks and Mortgage Finance Companies in Kenya**

### **A. Commercial Banks**

1. African Banking Corporation Limited.
2. Bank of Africa Kenya Limited.
3. Bank of Baroda (K) Limited
4. Bank of India
5. Barclays Bank of Kenya Limited
6. CFC Stanbic Bank Limited.
7. Chase Bank (K) Limited.
8. Citibank N.A Kenya
9. Commercial Bank of Africa Limited
10. Consolidated Bank of Kenya Limited
11. Co-operative Bank of Kenya Limited.
12. Credit Bank Limited.
13. Development Bank of Kenya Limited.
14. Diamond Trust Bank Kenya Limited.
15. Dubai Bank Kenya Limited.

16. Eco bank Kenya Limited.
17. Equatorial Commercial Bank Limited.
18. Equity Bank Limited.
19. Family Bank Limited.
20. Fidelity Commercial Bank Limited.
21. First Community Bank Limited
22. Giro Commercial Bank Limited
23. Guaranty Trust Bank
24. Guardian Bank Limited
25. Gulf African Bank Limited
26. Habib Bank A.G.Zurich
27. Habib Bank Limited
28. Imperial Bank Limited
29. I & M Bank Limited
30. Jamii Bora Bank Limited
31. Kenya Commercial Bank Limited
32. K-Rep Bank

33. Middle East Bank (K) Limited
34. National Bank of Kenya Limited
35. NIC Bank Limited
36. Oriental Commercial Bank Limited
37. Paramount Universal Bank Limited
38. Prime Bank Limited
39. Standard Chartered Bank Kenya Limited
40. Trans National Bank Kenya Limited
41. United Bank for Africa (K) Limited
42. Victoria Commercial Bank Limited

**Mortgage Finance Companies**

1. Housing Finance Company of Kenya Limited