INFLUENCE OF BANKING PRACTICES ON DEVELOPMENT GREEN FINANCE IN KENYA

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DECLARATION

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

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ABSTRACT

The pressure for the government and private institutions to play a role in reducing the carbon-print has been on the rise in recent years. taking various steps, the Kenyan financial industry has been lagging behind in the adoption and development of green finance initiatives. This study sought after the influence of banking institutions on the development of green finance initiatives. The specific goal was to assess how banking regulations, green banking policies and banking institutions incentives impact the development of green finance initiatives. The institutional theory, stakeholder theory and resource dependence theory formed the study's basis. A positivism research philosophy with a cross-sectional research design were adopted. The study's unit of analysis was 41 commercial banks operating in Kenya, with the unit of observation being 3-senior level managers within the banks. The respondents were sampled through census sampling. The drop and pick method were adopted in collecting questionnaires which were the study's main data collection tools. Analysis involved use of descriptive and inferential analysis techniques and presentation was in the form of charts and tables. A 72% response rate was obtained with findings showing that most respondents were either branch managers or strategy managers, with most being male staffers with considerable experience in the banking industry. The analysis showed that commercial banks have witnessed improvement in green credit, green mortgages, green bancassurance products and green project financing. The correlation tests showed that banking regulations and green policies positively affect the development of green finance while banking incentives only moderately improved green finance development. Regression analysis revealed that 76.3% of changes in the development of green finance development are results of initiatives started by banking institutions. Conclusions were that while green banking policies and banking regulations have significant positive effects on development of green finance, banking incentives haven't had a strong positive influence. Recommendations were for the government to become more proactive in their incentive programs and tax exemptions since this would help to increase investment towards green finance. Further, banks are recommended to form strategic alliances with development agencies since this would improve the banks' capacity to push their partners to develop green finance initiatives.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

AIB	Africa Investment Bank
ANOVA	Analysis of Variance
ATM	Automated Teller Machine
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
ESG	Environmental, Social and Governance
IFC	International Finance Corporation
NSE	Nairobi Securities Exchange
ROE	Return on Equity
SDG	Sustainable Development Goals
SPSS	Statistical Packages for Social Sciences
UN	United Nations
VIF	Variance Inflation Factor

TERMS AND DEFINITION

Banking regulations	These are the various requirements and prudential guidelines advanced to the commercial banks by regulators to ensure their operations are guided by the law (Dupas, Green, Keats, & Robinson, 2012).
Commercial banks	This refers to institutions that offer the all-important services of providing deposit and credit facilities for personal and corporate customers, making credit and liquidity available in adverse market conditions, and providing access to the nation's payments systems (Mahmud, Biswas, & Islam, 2017).
Green banking policies	This refers to the various policies and guidelines developed by commercial banks to guide development of green banking initiatives (Jaggi, 2014).
Green finance	These are operations and products by commercial banks that endorse environment-friendly practices and sought to reduce carbon footprint (Drexhage & Murphy, 2010).

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Governments, policymakers, advocacy groups, business firms, and the general public have all placed a high value on raising awareness of environmental issues in recent decades all around the world (Islam et al., 2014). Due to the increasing concern about environmental performance, most developmental discussions focus on climate change, social responsibility, environmental degradation, ethics, marginalisation and the development of powerful voices through empowerment of human rights groups, anti-capitalist protests, among other topics (Mahmud, Biswas, & Islam, 2017). On a global scale (Julia & Kassim, 2020) Based on their research, Julia and Kassim (2020) believe that commercial banks have taken an initiative to be among the key contributors to environmental preservation through the implementation of green banking initiatives. Observed by the researchers, both conventional and Islamic banks have promoted environmental stewardship in their banking and finance operations, which is in accordance with the Sustainable Development Goals.

Eco-friendly banking and finance is focused on the provision of environmentally friendly services as well as the development of green initiatives that may aid in the reduction of carbon footprint on a worldwide scale (Ngong & Thaddeus, 2020). According to Zabawa and Kozyra (2020), there has been widespread awareness among commercial banks in the European Union of the need of adopting Eco-banking practises as well as engaging in sustainable banking activities. As reported by the International Green Sustainable Loans and Green Bonds Association (GIIN), global green sustainable loans have reached US $17 billion and green bonds have reached US $500 billion, with potential growth expected to reach a 32 percent increase in 2018.

As noted by Campiglio (2016), a number of countries, including Canada and the United States as well as Japan, Turkey and Kenya, as well as the United Kingdom and China, have taken the lead in developing sustainable development finance policies that are transforming their national economies into more climate-resilient ones. Although most countries have made progress toward achieving ecologically sustainable finance choices, implementing a green economy, and becoming low-carbon economies, the vast majority of them have fallen short of the minimum yearly investment needed to achieve these goals (Julia & Kassim, 2020). The banking sector is also under increased pressure to improve aspects of transparency and sustainability in their operations, with associated parties realizing that they play a key role in financing and promoting environmental, social, and governance practices (Otterström, 2019).

In this regard, the United Nations developed responsible banking-related activities which are expected to provide a blueprint that the banking sector can adopt to enhance green financing efforts (Zabawa & Kozyra, 2020). Kariuki (2015) affirms that is essential for all possible stakeholders such as the Central Bank of Kenya- CBK, the Capital Markets Authority- CMA, the Kenya Bankers Association- KBA, the Nairobi Securities Exchange- NSE, and sustainability experts to be engaged in exploring the eco-system to facilitate the adoption of sustainable banking practices.

Commercial banks are essential financial intermediaries in the economy, performing the fundamental tasks of taking deposits, lending money, and providing money transfer services to their customers. These institutions play a crucial role in the execution of governments economic policies, especially monetary policy, by connecting them to the rest of the economy and providing a connection between them (Ongore & Kusa, 2013). In Kenya, the commercial banking sector is characterised by fierce rivalry among its players. Because of the emergence of new technology-driven goods that are more customer-friendly, this issue has become even worse. The growing alignment of the global economy towards sustainable goods

such as green financing has also raised the amount of pressure that local commercial banks are experiencing (Cytonn Investments, 2016).

1.1.1 The Development of Green Finance

Green Financing, according to its definition, encourages environmentally friendly practises and aims to reduce carbon footprint through banking activities. Green Financing is a practical tool that can help preserve the environment by reducing pollution (Krishna & Srinivas, 2014). Environmental Policy and Green Banking are intertwined and work in tandem to create a pollution-free environment for everyone (Bahl, 2012). Global warming and environmental degradation are considered to be the most serious dangers confronting the planet at the moment (Ahuja, 2015).

Regarding environmental management, damage to natural resources, environmental degradation through firm activities and global warming are at the forefront of world leaders' and activist's minds and plans (Bahl, 2012). Terms such as "green finance" and "green banking" have emerged in this relation and are usually used interchangeably within the finance sector to refer to environmentally friendly financial practises. Green decorating the workplace, green bank products, green mortgages, electronic transactions, green lending policies, green money market instruments, paperless banking, online banking, institution of environmentally friendly activities while reducing carbon footprint and ensuring sustainable growth and development are also key words in this topic (Islam & Das, 2013).

The idea of green finance has triggered the development of the necessary instruments to assist the bank in carrying out its operations without damaging the environment. It helps to guarantee that the bank is more accountable for its operational operations, thus allowing the bank to be free of both internal and external responsibility for environmental contamination (Drexhage & Murphy, 2010). Furthermore, green finance encompasses the goals of sustainable

development, from which stakeholders get benefits from a more balanced approach to development. Worldwide, governments are attempting to achieve a balanced development whereby national growth is realized but not at the expense of the environment or with significant costs to the quality of human life (Chowdhury et al., 2013).

It is necessary to have a fundamental understanding of appropriate environmental management and knowledge of green banking methods and regulations to adopt green finance practices effectively (Bahl, 2012). Environmental management explains exactly what should be expected of us and how our environment should be handled in the first place (Mihaela, Liliana, & Niculae, 2014). In order to develop green finance strategies and policies, it is necessary to include the broad framework of environmental management in their formulation (Helleiner, 2011). Green Banking is a practise that integrates environmental management with banking activities with the goal of reducing carbon footprints. Before implementing green financing, commercial bank managements must be able to have an accurate description of environmental management, the managerial process, and tools necessary to adequately implement environmental management guidelines. This knowledge will be useful in developing green banking strategies and policies (Rao, 2015).

For banks to be classified as ‘green banks’, they have to formulate and implement environmentally friendly functional units and operations that have a positive effect on the environment. This procedure necessitates the use of highly trained personnel who have sufficient understanding of environmental management and green banking practises (Jha & Bhome, 2013). However, since banks are internally responsible for their own activities, some banks carry out internal green decorating to evade liability. Furthermore, the external responsibility of banks is derived from the funding of various businesses by the banks (Chowdhury & Dey, 2016).

According to Beck, Demirgüç-Kunt and Levine (2010) opine that green banking involves increasing investment in green initiatives through provision of green financing funds to firms seeking to advance green developments and have passed the bank's social feasibility test. Green banking is a term that refers to finance that is environmentally friendly. It may make a positive contribution to the environment by guaranteeing ecologically friendly investment and financing that has been properly assessed (Weber & Feltmate, 2016). It was determined whether or not the above-mentioned green finance goods and services were being used by the Kenyan banking industry in the course of the research.

1.1.2 Role of Commercial Banks in Green Finance Development

Among the many services provided by commercial banks, according to Obamuyi (2013), are the provision of deposit and credit facilities for both personal and corporate customers, the availability of credit and liquidity in adverse market conditions, and the provision of access to the nation's payment systems. Daniel (2011) argues that banks are more than just financial intermediaries; they are also part of a fast evolving sector that necessitates the development of more specialised financial services for their clients. A recent study by the University of Mugi (2015) found that banks play an extremely essential role in the economic development of countries since they have significant influence over the amount of money in circulation and are the primary stimulants of economic growth.

According to Beck, Demirgüç-Kunt, and Levine (2010), banks play an important role in determining the rate of economic growth and the distribution of income in societies. Financial institutions and financial markets, in which banks play a major role, have the potential to have a significant effect on economies, communities, and sustainable development, and they do so on a regular basis (Helleiner, 2011; Weber, 2014). Regulatory reforms in the financial sector have recently expanded beyond the traditional responsibilities of maintaining price stability, ensuring adherence to prudential guidelines, and, specifically in the case of

banks, ensuring the provision of an efficient banking sector, and are now addressing sustainability issues that had not previously been a major concern for the financial sector (Drexhage & Murphy, 2010).

Although banks usually play an intermediary role, banking operations have been noted to have a significant influence on industry wide operations, and they have been reported to have an important influence on sustainable development. This influence can be exercised through promoting financial inclusion to institutions with developments that seek promote sustainable development. Institutionally, banks can contribute to sustainable development through institutions of practices that promote efficient use of resources such as energy, water, and paper, as well as the adoption of resource-conserving technologies. Additionally, through corporate social responsibility measures, banks can significantly contribute to social sustainability by promoting gender equality and advocating for human rights, as well as economic sustainability through provision of adequate wages and salaries to employees (Helleiner & Thistlethwaite, 2009).

In a study Weber (2012) remarks that initially, sustainability measures were strategies that banks could adopt to reduce resources costs and improve efficiency. They were also implemented to reduce the environmental impacts of bank operations, and environmental reporting mechanisms were thus developed. However there have been significant developments in recent years which have seen banks adopt green banking practises as a major component of their product and service offerings (Mahmud, Biswas, & Islam, 2017).

Accordingly, researchers affirm that the banking industry can have a direct impact on the promotion of environmentally friendly practises and the reduction of carbon footprint. This assertion was made after it was realized that banks play a key role in environmental degradation by financing operations of organizations which contribute to environmental degradation and

pollution, thereby making an indirect impact on the global issue. As a result, efforts by the banking industry addressing green lending policies have the potential to significantly decrease environmental pollution while also allowing them to avoid incurring external responsibility (Choudhury et al., 2013).

Banks can also contribute to sustainable environmental practices adoption through the incorporation of green policies into internal operations. This can be achieved through promotion of online/mobile banking, paperless banking, and inhouse green decorating (Islam & Das, 2013). Since this is a new idea, it is necessary for banks to parry out promotion campaigns where customers can be informed and educated about the concept, its essence and value to ease adoption and use. The banking industry has a social responsibility to encourage the use of green banking practises. These promotional efforts may include updating the bank's website on a regular basis, interacting with customers, doing road shows, and running green advertisements in traditional media and the internet among other avenues of communication (Mahmud, Biswas, & Islam, 2017).

The present research aimed to determine how banking regulations, green banking policies, banking incentives influence the development of green banking products in Kenya’s banking sector.

1.1.3 Kenyan Commercial Banks and the Development of Green Financing

According to a study Kariuki (2015) conducted on the long-term viability of the Kenyan banking system. According to the study, commercial banks have moved to more environmentally aware operations in recent years, which has resulted in the expansion of the green finance idea in the local community. According to the findings of the study, a number of commercial banks have implemented environmental management systems, paperless banking, green financing, internet banking, and the use of environmentally friendly lighting. According

to Cytonn Investments (2016), the implementation of responsible banking methods is critical to boosting reputation, reducing portfolio risks, increasing market positioning, and generating risk-adjusted profits for financial institutions. According to the study, most commercial banks have failed to adopt responsible banking and environmental, social, and governance principles owing to a lack of internal resources, inadequate management competency, the development of new standards, and a lack of ESG data to check performance.

According to the Central Bank of Kenya (2014), the banking industry has experienced significant transformations in recent years. Among them include a rise in the number of branches, the introduction of agency banking, the exchange of credit information, an increase in interest from international financial institutions, and the conducting of market surveys. These changes are anticipated to have a significant impact on the future growth prospects and direction of the industry. Several efforts in accordance with Kenya's Vision 2030 economic growth blueprint, which was supported by the Kenyan government, provided the impetus for these achievements.

Previously, according to the AIB Capital Banking Update (2017), Kenya's banking industry had been considered to be extremely lucrative and robust previous to the year 2015. The sector has been enjoying an average return on investment of 22 percent. Between 2011 and 2015, the industry saw remarkable growth of 16 percent. In addition, the industry was marked by growing use of technology and utilisation of alternative channels, which enabled aggressive banks to more effectively reach the unbanked population, thus increasing profitability.

In their report, PriceWaterhouse Coopers (2015) points out that competition in the banking sector has increased in recent years. Following the financial crisis, consumers' confidence in conventional banks has been weakened, and many have resorted to alternative

lending and investing institutions to fulfil their borrowing and investment requirements. Some of these groups have been embraced as a source of financing for the economy by governments and regulatory bodies. As a result, banks must react to this change in order to maintain their competitive positions and ensure their existence. Because of this, commercial banks have been able to increase their capacity for innovation, which has resulted in the introduction of new products such as green financing and derivatives into their product in Nairobi, Kenya.

The Central Bank of Kenya (CBK, 2017) reports that 42 banks controlled the vast majority of the country's financial services sector. Twenty-five of the privately held banks were controlled by local investors, while fifteen were owned by international investors. Three of them were held by the government. Commercial banks are financial organisations that have been authorised by the Central Bank of Kenya to offer financial services. The Central Bank of Kenya (CBK) said that the performance of the banking industry has improved significantly, owing mainly to the assistance it provided to other sectors of the economy. As a result of the changes in the legislative and regulatory environment as well as supervisory reforms, it has progressed in terms of inclusivity, efficiency, and stability, among other things.

1.2 Statement of the Problem

The world has seen an increase in the demand for better environmental management especially among corporations from interest groups, practitioners and policymakers who note that corporations have the power to influence the development of green finance initiatives as a means of mitigating the effects of climate (Oyegunle & Weber, 2015). Recently, increased support from world leaders has seen many independent nations formulating different policies and regulations which are geared towards providing conditions for a formal approach to incorporation of green finance programs instead of relying on banks to voluntarily make the effort to tackle sustainability issues (Dikau & Volz, 2019). Sudhalakshmi and Chinnadorai (2014) anticipate that integrating sustainability aspects within the banking industry is key to

improving the banks' bottom-line and improving the pace of transition to a green economy. Despite increased focus on the practical aspects, the role of commercial banks in developing countries in green finance development is still relatively unappreciated, as reflected by the limited literature material available. This study seeks to make a contribution on this topic.

Empirical study by Mahmud, Biswas and Islam (2017) has indicated that adoption of sustainability practices within commercial banks and implementing regulations towards environmental awareness will foster the development of green finance. David and Shameem (2017) assessed whether the level of commitment and support from the management has any impact on bank's intention to adopt green practices. The findings indicate a strong correlation between management support, commitment and the adoption of green banking practices. Findings further show increased product innovation and regulatory support can be instrumental in adoption of green banking practices. None of the above studies has been conducted locally thus opening up an empirical gap that the current study sought to review.

Locally, the concept of green finance development is still at its development stages. Batsukh, et al. (2019) (Batsukh, et al., 2019)conducted a study on green financing in developing countries with focus on Kenya and Nigeria. The researchers indicated that succcessful green finance development was essential for attainment of SDGs within the developing countries. However, the countries have not achieved the goals due to lack of collaboration between public and private institutions. The study however does not address what role commercial banks play in expanding green finance initiatives. Ochieng (2019) examined the impact of green business practices and found out that implementation of environmentally friendly practices, green supply chains, green products, green bonds, green offices and sustainability practices have enhanced organization performance of Safaricom Kenya. The above studies has focussed on a telecommunication firms with minimal analysis of how banks develop green financing programs. Furthermore, according to Kariuki (2015), Kenyan banks have demonstrated that it

is possible to implement sustainable (green) banking practices. The available empirical literature has not conclusively established whether banks and other financial institutions can influence development of green finance in Kenya. The current study filled this empirical gap.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of the study was to examine the Influence of Banking Practices on Development Green Finance in Kenya.

1.3.2 Specific Objectives

i. To examine the influence of banking regulations on development of green finance in Kenya
ii. To determine the effect of green banking policies on development of green finance in Kenya.
iii. To examine the influence of banking institutions incentives on development of green finance in Kenya.

1.4 Research Questions

i. How do banking regulations influence the development of green finance in Kenya?
ii. What is the effect of green banking policies on development of green finance in Kenya?
iii. What is the influence of banking institutions incentives on development of green finance in Kenya?

1.5 Justification of the Study

According to Weber and Feltmate (2016), with a few exceptions, most of the banks and financial institutions generally do not invest in sustainable development. In fact, they stated that most financial institutions go ahead and deny any responsibility for the indirect impact on the environment and society that may have been caused by their clients' activities. This has led to most policymakers and environmentalist calling for regulations to be introduced that will ensure that commercial banks are environmentally conscious (Shaumya & Arulrajah, 2016).

Despite not having any prudential requirements to foster sustainable practices the local banks have gone the extra mile by coming up with internal guidelines and policies geared towards promoting green banking and financing practices. However, despite this there is inconclusive evidence on how role commercial banks have played towards development of green finance. The current study is of special interest not only to the academic field but it was integral in supporting policy development, managerial practice and institutional decision making.

To the central bank of Kenya, the findings of this study was key in guiding the policy development with regard to green finance. The results of the study can help the board of the regulatory authority in formulating their macroeconomic stability in the current era where sustainability and environmental awareness is instrumental towards shifting to green banking practices. To the management of the commercial banks the results of the research helped in managerial decision making with regard to adoption of green finance. The findings also helped the banks in linking their key operations or policies that can be leveraged in introducing green financing. The findings of the research are also expected to play a key role as future source material for examination of green finance within developing economies.

1.6 Scope of the Study

The contextual scope of the study focussed on the examination of the role commercial banks institutions have played towards the development of green finance in Kenya. The geographical scope of the study was limited to a review of all the commercial banks operating in Kenya. The theoretical scope of the study was limited to the institutional theory, the stakeholder theory and the resource dependency theory. The sample scope of the study was focussed on the senior personnel working within the registered commercial banks in the country. The research was conducted between November 2020 and February 2021.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The second chapter of the study focused on the review of the related review of literature on the study constructs. The chapter presented the theoretical review and the empirical review in line with the research variables. The chapter further presented a conceptual framework showing the interaction between the variables as well as the operationalization of the study variables.

2.2 Theoretical Review

A theory is a generalization that is used to explain how and why certain phenomena occurs (Avolio, Yammarino, & Bass, 2009). It establishes a link between the researcher and current knowledge (Creswell, 2017). This study will be guided by the Institutional theory, the Stakeholders theory and the Resource Dependency theory.

2.2.1 Institutional Theory

Institutional theory is concerned with how organisations adapt to the surrounding environment while simultaneously boosting positive evaluation and resource flow, thus improving efficiency (Scott, 1987). Institutional theories of organisations offer a comprehensive and complicated picture of how organisations are structured and function. Organizations, according to these ideas, are affected by normative pressures, which may come from external sources such as the government or from inside the organisation itself at times (Hutchinson, 1996). Occasionally, these pressures cause the organisation to be led by legitimized components such as standard operating procedures, professional certification, and governmental requirements, which can either improve performance or divert focus away from improving internal operations (Theyel, 2000).

Increased survival probability is achieved via the adoption of these legitimated components, which results in isomorphism with the institutional context (Scott, 1987). As a result, institutional theory is intrinsically difficult to explain since it relies on assumptions that

socially, are taken for granted (Zucker, 1987). The modern business environment is now more connected than ever, and the intensity of competition, customer and regulation demands have been on the rise. As such, companies are more susceptible to strict governmental policies, severe legal actions, and consumer protection legislation, among other things (Theyel, 2000). This has a significant impact on how financial institutions seek to recoup their investment. Banks should take a proactive role in adopting green finance methods as part of their lending principles, which would compel businesses to make required investments in environmental management, the use of suitable technology, and the implementation of a sustainable management system (Balasu & Bramaniyan, 2009). As part of our research, we investigated the role that commercial banks can play in developing environmental policies and products that support growth of green finance practices not only within the banks but across firms dealing with or seeking for financial assistance from the banks.

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 organization's 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, Abdekhodaee, & Nagarajah, 2014).

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). 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 (Balasubramaniyan, 2009). This theory was integral in the study in examining how the regulations within the financial institutions and collaboration with stakeholders in the banking industry promote green finance development in Kenya

2.2.3 Resource Dependence Theory

Pfeiffer and Salancik (2003) were the main proponents of this theory and they used it to argue that there exists a direct and influential relationship between a firm and the environment in which they exist. The theory's main assumption is that institutions' actions are influenced by their reliance on essential and critical resources, and that depending on the relative essence of the resources to realizing organizational goals determines organizational decisions and actions (Hillman, Withers, & Collins, 2009). It is argued by Nienhüser (2008) that organisations are incapable of producing all of the resources they require in order to function properly, and as such, have to rely on aspects of the environment and through exchanges, obtain a means to realize their mission, generate output and survive. When attempting to explain organisational behaviour and impact, the theory emphasises the importance of including the pressures from the environment in which the organisation operates (Pfeffer & Salancik, 2003). The ability of most organisations to attract the resources necessary to support their operations is critical to their long-term survival (Hillman, Withers, & Collins, 2009).

This theory goes into greater detail about the utility of an organization's environmental linkages and the external resources, and asserts that since organizations have different resource capabilities, the way they execute their operations can be a source of competitive advantage (Biermann & Harsch, 2017). External resources should be linked to organisations so that uncertainty can be reduced. This promotes effective management of resources which enhances

the firm’s ability to meet its main goals and objectives (Singh, Power, & Chuong, 2011). Furthermore, it was emphasised that when a company has a strategic resource, it can develop a competitive advantage over its competitors and achieve success. As a result of these competitive advantages, these organisations can generate substantial profits, according to Mwai, Kiplang'at, and Gichoya (2014).

According to Pfeffer and Salancik (2003), a tactical resource is a venture that is rare, valuable, difficult to duplicate, and cannot be replicated. It can assist businesses in developing strategies to capitalise on opportunities. Strategic resources provide an organisation with a competitive advantage over competitors by aligning resources, skills, and expertise in core competence with core competencies. It is the organization's core competence that places it in a better position than its competitors in this instance (Sommerfeldt, 2018). Furthermore, according to the theory, management is a critical link between a company and its most important resources when it comes to optimising the company's performance (Yeager, et al., 2014).

Top management is thus considered as an essential resource for interactions with the external environment, such as access to funds, customers, suppliers, and people, and for interactions with the internal environment. This is dependent on the capabilities of the management and the networks they have in place (Bhatt & Bhattacharya, 2015). As a result, the management makes its networks, knowledge, and other assets available to the public. It also promotes the inward flow of information and cooperative efforts as a result (Bryant & Davis, 2013). Moreover, this theory explains why resources are valuable and how they are linked to a financial organisation, which may successfully give the bank with a competitive edge in the marketplace.

When it comes to promoting green finance growth inside commercial banks in Kenya, this theory demonstrates that relying on the different resources at an organization's disposal may be essential to success. Accordingly, the theory was essential in this study in order to determine how the different incentives offered to banking institutions, as well as accessible bank product development efforts, may assist in expanding the idea of green financing across the nation.

2.3 Empirical Review

2.3.1 Banking Regulations on Development of Green Finance in Kenya

Green growth: the road to sustainable development" was a study published by the World Bank in 2012 that investigated the effect of green growth on economic policy, as well as its implications for human well-being and environmental sustainability. In addition, the study examines how infrastructural investment determines the creation of improved green growth policies, as well as the implications of such policies. further, it was determined that providing sustainable growth is necessary for all the nations in the world to realize equitable growth. There is a pressing need for green development that is both efficient and cheap, as well as for improving environmental conditions in impoverished nations via improved laws and practises, given that one billion people are living in poverty worldwide. Slow greening development was further exacerbated by social and political issues, as well as a scarcity of funding mechanisms, all of which played a role. The study, on the other hand, was performed in a worldwide setting, while the present research was conducted exclusively in the context of Kenyan commercial banks.

A recent study by Volz (2017) looked at the role of central banks in promoting green financing. It was discovered by the researchers in the study that central banks, in their regulatory capacity, may advocate for the inclusion of climate change risk into prudential rules. Central banks may do much more to promote green finance and investment possibilities by

establishing green finance and investment funds. The research also recommends that additional factors, such as tax breaks, subsidies, and penalties for environmental externalities, be implemented in order to put pressure on financial institutions to promote green finance development and growth.

It has been observed that, especially in the banking industry, ineffective regulatory management results in undesired consequences and, eventually, institution insolvency, which contributes to the financial crisis (Bryant & Davis, 2013). As a consequence, the significance of treasury management techniques, which assist in the anticipation, control, and avoidance of potentially expensive risks, has been elevated as a result (Jaggi, 2014). But despite the presence of different treasury management techniques, banks in both developed and developing markets have continued to underperform and struggle to maintain profitability (Oyegunle & Weber, 2015). Dikau and Volz (2019) affirm that monitoring and reacting to changes in the environment are critical today, more than ever, and should be prioritised. Increased recognition of the importance of regulatory management in organisations has resulted as a result of this, with organisations recognising the importance of regulatory management in order to mitigate these uncertainties, prevent insolvency and illiquidity, and improve the performance of their organisations.

According to Hossain and Kalince (2014), who performed research involving six financial factors, pursuing green banking results in increased profits for the banks. The authors asserted that bringing green banking practises into the mainstream would be more lucrative in the long term, and that this would ultimately lead to more sustainable development. Furthermore, if all banks began supporting green banking practises, the country's economy would experience an increase in long-term, sustainable growth quite quickly. However, just promoting sustainable banking practises is not enough in and of itself. In order for this to be successful, large resources are needed, a fact emphasised by Chowdhury and Dey (2016), who

point out that the central bank's budget allocation to commercial banks with regard to green projects is significant. They did, however, note that the banks' use of such funds for a variety of initiatives is increasing at a modest pace, which they described as "slow growth." They suggested that specific financing packages for green projects might help to expedite the progress of existing efforts.

Nabi e al., (2016) opine that the Bank of Bangladesh has been busy in developing green finance products, registering more than 50 products and services that are eligible for financing under the refinancing programme in order to promote sustainable banking. Being the country's main bank, other banks and financial institutions in the country have been slowly integrating some of these practices into their operations as way of showing solidarity and commitment to promoting green banking initiatives. They are also implementing integrational strategies including the institution of in-house environmental management, introduction of online/internet or mobile banking, reduction in use of paper and ink through digitization of banking operations, implementation of the automated clearing system, and adopting practices that reduce their carbon footprint by promoting on-line communication. This study focussed on sustainable banking in Bangladesh and not on green finance development.

Weber and Oni (2015) conducted an investigation on the effect of sustainability laws on the financial sectors of three different countries (namely, China, Nigeria, and Bangladesh). The study used an explanatory research approach, and collected data from representatives of the country's financial sectors as part of the investigation. Because evidence was discovered showing the implementation of obligatory rules improved the sustainability performance of banks in all instances studied, the study concluded that mandatory legal requirements significantly impact bank's decisions to adopt practices that enhance long-term sustainability performance. The findings of the research also indicate that the inclusion of the banking sector in the formulation of the sustainability rules improved the likelihood of the regulations being

implemented successfully. The previous study was performed across a number of Asian nations, while the present study was undertaken specifically in the Kenyan banking sector.

Rahman and Perves (2016) carried out a case study of Bangladeshi banks to investigate green banking operations in the country's banking sector. Several policymakers and strategic thinkers recognised the significance of sustainable laws, according to the findings of the study, and they had already begun to make significant changes in the financial services sector. According to the findings of the study, bank strategists had recognised the significance of green policies and as a result had begun instituting changes in their strategies through measures such as making changes to the banks' mission and vision, organisational structures, and business practises to ensure that they reflect the banks adherence to corporate sustainability goals. The previous research focused on the impact of mandates on overall performance, while the present study will focus on green finance development.

Perez (2017) emphasized on self-regulation to investigate performance of green finance initiatives. A review of the existing governance frameworks and civil law that are influencing the adoption of green financing is presented in this article. In the course of the investigation, the researchers used a review of the literature. According to the findings, green finance legislation is focused on project financing, ethical-green investment, and environmental reporting. Specifically, the research finds that government policies as well as participation of international organisations including the United Nations and World Bank have a significant impact on firm's intention to meet green finance development goals, while also improving environmental sustainability overall. This study did not use secondary data in its analysis making its findings more inadequate than the current study which will incorporate quantitative information in its analysis.

A major emphasis of Volz's (2018) research was on initiatives aimed at promoting green financing for sustainable development in Asia. The research approach used in this study was a case study, with qualitative analytic methods being used throughout. Findings showed that financial institutions have a critical role to play to advance green finance initiatives in the Asian market. The study noted that banks can help in the establishment of financial governance policies, practice of green lending and investment, and encouragement of people and other firms to participate in green finance practices. The study ought after Asia's development while the current will focus on the role played by banks in promoting green financial projects.

Through a study of current rules and practises, Oyegunle and Weber (2015) investigated the evolution of sustainability and green banking laws in the banking industry. The study was focused on China, Brazil, Bangladesh, and Nigeria, all of which have previously adopted regulatory measures in their respective countries. According to the results, in order for green finance to be more widely adopted in emerging countries, financial rules must be established both locally and globally with the goal of improving a sustainable environment in order for the sector to grow more quickly. Individual banks should also establish voluntary codes of behaviour that will aid in the integration of financial rules, as previously said. However, while the previous research was performed across several nations, the present study is focused only on the Kenyan banking sector.

The International Finance Corporation – IFC (2015) focused their study on integrating Kenya's financial system with inclusive green growth in order to achieve sustainable development. Specifically, the policy paper emphasised the mobilisation of capital in the direction of a green and inclusive economy. According to the findings, the Capital Markets Authority (CMA) has included environmental, social, and governance (ESG) guidelines in their code of corporate governance that should be adhered to in financial reporting and responsibilities; however, only Kenya Commercial Bank and Safaricom Ltd were able to

adhere to the guidelines. The study also demonstrates that a lack of adequate rules and incentives has resulted in a lacklustre push for investment in a sustainable finance model. To make matters worse, there are no rules or requirements for ESG reporting, which results in a lack of green growth in the economy. The research, on the other hand, was not focused on a particular business, as is the case with the present study, which is focused on the banking sector.

Osano and Gekara (2018) conducted a study to determine the impact of government restrictions on the profitability of Kenyan commercial banks. Using secondary data and qualitative data, the research examined 42 commercial banks in Kenya and concluded that the study was successful. According to the findings of the research, the forex exposure limit has a detrimental impact on the profitability of commercial banks in Kenya. Commercial banks' profitability was shown to be enhanced as a consequence of liquidity control, interest limit regulation, and capital adequacy requirements, according to the findings. The research, on the other hand, did not look into how laws affect the growth of green financing in commercial banks, which was the study's primary goal in the first place.

2.3.2 Green Banking Policies on Development of Green Finance in Kenya

In their study, Oyegunle and Weber (2015) investigated the Bank in England to determine the evolution of sustainability and green banking rules, which they found to be a mixed bag. According to the researchers, the most important factors that encourage commercial banks to incorporate sustainability considerations into their operations are internal social pressures from the general public, internal bank policies geared toward increasing profitability, external pressure from international financial organisations and development agencies, as well as formal regulatory requirements from the Central Bank.

Using data from a research study conducted by Sahitya and Lalwani (2014), the authors were able to identify the initiatives taken by top banks to support the objectives of Green

Banking, and the study also assisted them in understanding the impact of green initiatives on sustainable banking and environmental protection. The research methodology was based on a case study approach, with secondary sources such as bank websites and reports being used to gather information. Following the study's findings, it was discovered that banks are putting forth significant efforts to promote Green Banking, with initiatives such as paperless banking and the use of solar energy sources in ATMs being two examples. The findings also suggest that the adoption of environmentally friendly policies and practises has contributed to the long-term viability of Indian commercial banks' operations. The current study, on the other hand, utilised a descriptive research design, with primary data serving as the basis for the findings.

According to the findings of their research paper, Tara, Sing and Kumar (2014) demonstrated how the green marketing concept can be used effectively in popularising Green Banking ideas and concepts among the general public, as well as how such an approach contributes to the protection of the environment. According to the findings of the research paper, green marketing, green banking, and green environment are all intertwined with one another. The study went on to conclude that effective green marketing can raise consumer awareness of the importance of environmental protection, and that effective green banking will undoubtedly leave a positive impression of what a bank can accomplish for the community with the support of its customers. This study sought after the effect of banking initiatives on citizen’s awareness and adoption of green banking initiatives; the current will assess the concept in terms of banks’ adoption of green finance initiatives.

Dikau and Volz (2019) performed a study on central bank reuirements, sustainability goals, and green finance development, and their findings were published in the journal Ecological Economics. After conducting a review of a number of central banks around the world, the researchers concluded that central banks should incorporate Physical and mitigation risk linked to climate into their fundamental regulatory frameworks to achieve macroeconomic

stability effectively and successfully objectives. Furthermore, the implementation of new rules has guaranteed that commercial banks remain at the forefront of the development of green financing products and services.

Bihari (2010) examined the green banking-towards socially responsible banking in India. The research team performed a case study to examine the efforts that are being implemented to promote ethical and environmentally friendly banking. According to the findings, the majority of ethical banks take the environmental impact of a project or development effort into consideration before providing any loans. Furthermore, most banks have developed rules to encourage their social responsibility in the banking sector in order to increase their emphasis on non-traditional banking services and products. Commercial banks are also implementing corporate social responsibility initiatives that are aimed on enhancing long-term viability and sustainability. The previous research concentrated on Indian commercial banks, while the current study focused on Kenyan commercial banks, resulting in an empirical gap.

Rajput, Kaura, and Khanna (2013) investigated the paradigm change that the Indian banking industry has undergone in order to achieve long-term development. The study focused on green banking acceptance, awareness, drivers, obstacles, and gaps within the banking sector, and it utilised structured questionnaires in conjunction with secondary data and other published studies to accomplish its goals. According to the findings of the research, the majority of small and medium-sized banks are leading the industry in terms of combating climate change, mapping carbon footprints both internally and externally, and implementing specialised bank policies. In addition, the establishment of regulatory regulations and internal bank policies will aid in the training of staff on sustainable banking practises that may be incorporated into the core operations of commercial banks. While the study used structured questionnaires in data collection, the previous research used a mixed research method.

Rahman and Barua (2016) investigated the design and implementation of a green banking framework for the preservation of the environment in Bangladesh. Adopting an explanatory research methodology, 42 out of 54 banks formed the unit of analysis. Findings revealed that despite development of a comprehensive Green Banking Guideline which directed adoption through three phases, the policy had only been implemented by a small number of institutions. According to the findings of the research, just three of the 19 essential policies relating to green banking have been implemented by all banks in their entirety. The previous research concentrated on the main recommendations presented by the central bank in the direction of green banking, while the current study investigated the role performed by individual banks in the direction of green financing development.

Nhamo (2013) investigated the green economy preparedness in South Africa, with a particular emphasis on the national realm of government, as part of his research. The study team conducted an exploratory examination of the different sectors of the South African economy as part of their investigation. The findings show that the nation has made significant progress in addressing critical preparedness criteria for the transition to a green economy. The research also reveals that addressing a lack of human and institutional ability, boosting financing, and the proliferation of regulations are still major roadblocks to the fulfilment of green economy implementation goals. A focus of the previous research was an economic examination, while the present research examined the banking sector in Kenya.

Using a descriptive survey design, Kirimi (2014) investigated the relationship between the effect of green marketing mix tactics and the performance of fast-moving consumer goods companies in Nairobi. The findings of the research showed that companies are increasingly embracing green product strategies, and that goods that satisfy specifications as required by law have a significant impact on the competitiveness of an organization's overall performance.

The study did not look to investigate green finance in commercial banks, intead focussing on adoption within Kenya's fast moving goods' companies.

2.3.3 Banking Institutions Incentive on Development of Green Finance in Kenya

Jaggi Jaggi (2014) emphasized the green banking idea and highlighted how the ICICI Bank, a public bank such as the State Bank of India and private banks, established some high examples of green efforts. Banks like ICICI Bank encourage the adoption of energy-saving vehicles such as civic and electric automobiles by waiving 50% of the processing cost. Other banks lend to businesses and invest in guidelines linked to green projects or environmental conservation. The author's most important conclusion was that the operations of banks are strongly motivated by a three-fold strategy which encompasses people, planets and profits. The study carried out an investigative review of public and private sector banks whereas the current study will not discern adoption between public and private banks.

Nath, Nayak, and Goel (2004) carried out an Indian study to examine green banking practices in the region's banks. Findings showed that Indian banks were ahead of the curve and had adopted online banking, paperless banking, green building, green cards and were adopting environmental lending requirements, financing and investment decisions. The study investigated the adoption of products and adherence to regulatory frameworks that have not been instituted in the Kenyan market. As a result, the study's findings cannot be replicated in the current study.

In their research work, Reshmi and Johnson (2014), investigated the purchasing behaviour of the green product across different income categories. This research aimed to get insight into the green buying intentions of customers and analyses the variables affecting green goods and non-green items. To this end, a sample poll of 90 respondents in Calicut City was undertaken. The respondents were either high income earners, middle income earners and low-

income earners. The results showed no significant difference between purchasing behaviour and income level. Further, there was also no difference in purchasing behavior between workers in government and private sector. Results indicate that health has been seen as a major element influencing green goods and costs as the main factor driving the purchase of non-green items. The research looked into customers' purchasing behaviour, whereas the present study sought after the drivers of green finance adoption.

Aizawa and Yang (2010) reviewed green credit, green incentives, green revolution, and Chinese governments' efforts to mobilize environmental clean-up within banks. The research used an experimental design with market-based mechanisms to monitor environmental sustainability. It was revealed that the Chinese government had opted to adopt green tax policies, green procurement, green credit, insurance and security regulations as incentives for the development of green banking practises. Conclusions were that if governments provide adequate financial incentives, commercial banks will be more likely to adopt environmental goals. The research focuses on the Chinese Government's involvement in green banking adoption, whereas the project now examines how commercial banks impact green financing in Kenya.

The impact of stakeholders on the development of Bangladeshi green banking products was examined by the Chudhury et al. (2013). The research used a quantitative approach using both descriptive and inferential analysis. The results show that banks should become green and play a pro-active role in taking environmental factors into account for functional improvements and customer behaviours in banking. The use of suitable environmental technology and management systems will not only improve the environment but will also offer such like better operational efficiency. The study focuses on a multi-stakeholder approach to green banking, although current research focuses on the role of commercial banks in Kenya.

Campiglio (2016) sought after the function of the financial and monetary policies to finance the transition to a low carbon economy. Despite the advantages of implementing carbon price, the author contends that it has not had a significant positive impact on banks adoption of sustainable growth strategies. The research shows that pricing regulations and incentives have already been commissioned to encourage banks to reject businesses that emit unsustainable levels of carbon gas. Research findings further indicate that changing the incentives and limitations faced by banks in determining their credit strategy will assist promote their efforts to reduce carbon emissions. However, the research was carried out in a developed economy, thus results may not be reflective of the present study setting.

Kariuki (2015) conducted research on the financial sector sustainability in Kenya. According to the study, sustainability can be used to indicate a country's economic development, and that it involves all social and environmental considerations of the nation. The study highlights that the efforts and actions taken to promote environmental awareness are varied and uncoordinated, resulting in social and environmental goals not being achieved. The research suggests a methodology that seeks to include participants in the financial industry in the creation of voluntary rules and standards while the regulator has been charged with monitoring, regulation and compliance control. However, the research did not show if such firm-led incentives had any impact on the country's green finance development.

2.4 Conceptual Framework

Kothari (2014) suggests that either visually or narratively a conceptual framework describes the principal items to be investigated; the major variables and the alleged connection between them. The conceptual framework below hypothesises the interplay between the bank factors that affect the growth of green financing in the nation (Johannesburg, 2014).

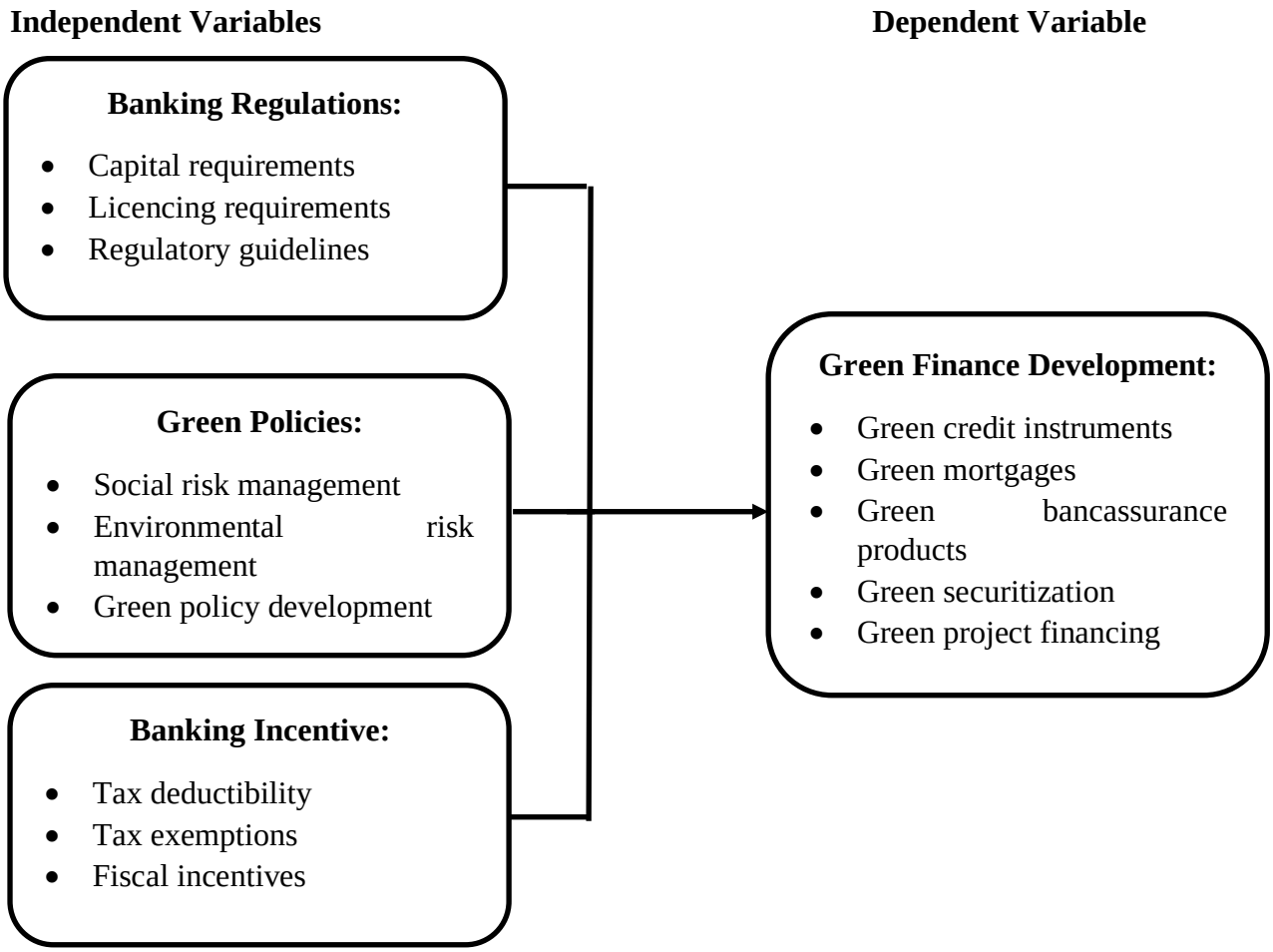

Figure 2.1 Conceptual Framework
Source: Researcher (2020)

2.5 Operationalization of Variables

The study objectives were operationalized as follows based on the conceptualization of the study constructs as shown below;

Table 2.1 Operationalization of Variables

Variable	Indicators	Measurement	Data collection tool	Data analysis
Financial regulations	• Capital requirements • Licencing requirements • Regulatory guidelines	Indicates the level of financial regulations guiding green finance	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis
Green policies	• Social risk management • Environmental risk management • Green policy development	The level of green policies within the bank	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis
Banking incentive	• Tax deductibility • Tax exemptions • Fiscal incentives	The availability of green-oriented bank incentives	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis
Green finance development	• Green innovations • Research and development • Sustainable products offering	The level of green finance development in banks	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a summary of the study approach, precisely, the methods and procedures that were used in the research. These include the research philosophy, paradigm, the sample size and the target population of the study, the sample design, collection of data, collection instruments of data, research procedure, ethics and the data analysis approach that was taken.

3.2 Research Design

A research design is the approach that the researcher adopted to guide in data collection, analysis and presentation. This section presents the study's research philosophy and design.

3.2.1 Research Philosophy

According to the Cooper and Schindler (2007) research philosophy is a method for gathering, evaluating, and applying facts regarding theory, and it is defined as follows: In other words, philosophy is described as the goal of how an investigator explains the growth of faulty information in order to reach a conclusion that is correct. The philosophy of research that was selected for this thesis was one that was encouraging. According to Bryman and Bell (2007), positivism entails a study of social reality via the integration of techniques drawn from natural science. As a result of this investigation, the hypothesis based on the existing systems of the positive philosophy approach was approved. Statistical or quantitative techniques have been used to verify and evaluate the assumptions in order to achieve the goals of the study and achieve the objectives of the research. The positivist method, as proposed by Remenyi, Williams, Money, and Swartz (2005) may be utilised to get the final results. The positivist philosophy was ideal for the study as it supported the utilization of quantitative techniques in the determination of the relationship between the study variables.

3.2.2 Research Design

In their definition of research design, Cooper and Schindler (2007) define it as the strategy and structure of inquiry that is intended to provide answers to research questions. As a result, it relates to how data collection and analysis are organised in order to fulfil the study goals via empirical evidence while being cost-effective. A research design is a method of doing research as well as the strategy through which the method was implemented. A research strategy is a plan for how a research project will go from the formulation of research questions through the completion of the project. To conduct this study, a cross-sectional research approach was used. The cross-sectional study method was appropriate for detecting distinct events that occurred during a given period of time (Saunders, Lewis, & Thornhill, 2012). Moreover, since the research issue in question has not been extensively investigated, the research strategy was chosen because it was appropriate for directing the investigation Invalid source provided. This assisted in identifying the connection between commercial banking institutions and the growth of green finance in the country of Kenya.

3.3 Target Population

In this study, the target population is made up of a hypothetical or real group of people, objects, or events that an investigator needs in order to simplify the findings of their study, whereas the reachable population is made up of people who are more realistically expected to be included in the study sample (Gall, Gall, & Borg, 2007). The 41 commercial banks in Kenya that are currently in business and are registered with the government served as the study's unit of analysis. The following individuals were chosen from among the employees of registered commercial banks to serve as the research's units of observation:

Table 3.1 Target Population

Unit of Observation	Number of Respondents
Branch Managers	41
Finance Manager	41
Strategy Manager	41
Total Respondents	**123**

3.4 Sampling and Sampling Procedure

When sampling, certain components are chosen from the real population to serve as a representation, but the sample size should be big enough to detect a statistically significant difference (Kothari, 2004). When a sample frame is created, it contains a list of population elements from which a sample is selected to reflect the target population (Saunders, Lewis, & Thornhill, 2009). For this research, the sample frame consisted of legally registered banking companies in the Nairobi City County. A sample is a subset of the participants of research that is used to represent the whole population of interest (Cooper & Schindler, 2007). The research used a census survey to gather information from all of the participants. In this study, a total of 123 people participated in the survey.

3.5 Research Instrument

The technique covers the methods for gathering raw and untreated data that may be transformed into meaningful data using scientifically established analytical procedures of data collection and transformation (Gall, Gall, & Borg, 2007). Raw data were obtained from a source that was gathered either by the organisation or by people who were in possession of first-hand knowledge. The questionnaire used in the research was a semi-structured one that was based on a five-point Likert scale.

3.6 Validity and Reliability of the Instrument

3.6.1 Validity of Research Instrument

A validity test may be used to determine whether or not a questionnaire captures the information that it claims to collect (Newing, 2011). It describes the discrepancies or similarities between reality and the theories that explain it. The authenticity of the material was established by soliciting the views of specialists who are familiar with the role of commercial banks in the development of green financing. The experts will provide their opinions on whether or not the questionnaire was effective in measuring the information it was intended to collect. They evaluated the meaning, clarity/ambiguity, and offensiveness of the text. Prior to implementing the questionnaire in the main survey, the views sort was developed and tailored to the questionnaire in order to improve content validity of the results.

3.6.2 Reliability of Research Instrument

When addressing research questions, Jack and Clarke (1998) define reliability as consistency in the answers. When assessing reliability, the Cronbach's Alpha coefficient is often used, which runs from 0 to 1 on a scale of 0 to 1. Having a number that is closer to one than it is to zero denotes a high level of reliability. The research, on the other hand, used a threshold of 0.7 as the criterion of reliability, which meant that a coefficient below 0.7 showed that the sub-constructs were unreliable in capturing the variable. The findings revealed that banking regulations had a Cronbach Alpha score of. 715, green banking policies received a score of. 780, banking incentives received a score of. 830, and green finance development received a score of. 880. This showed that the variables in the research were able to satisfy the internal consistency requirement.

3.7 Data Collection Procedure

The research questionnaires were created in accordance with the study goals, and their appropriateness was determined via pre-testing prior to their distribution to the participants.

Pre-testing was carried out on a sample of 10 percent of the respondents to the survey. In the pilot study, 12 study participants who were not engaged in the main research took part in it. Drop and pick methods were used in the data gathering process, and Google forms were used wherever feasible in the data collection process, according to the findings. Before beginning the data collecting procedure, the researchers obtained permission from the institution, as well as from any other authorities that may be required.

3.8 Data Processing and Analysis

In this study, quantitative data were analysed using descriptive and inferential analytic methods, which were carried out with the use of Statistical Packages for Social Sciences (SPSS Version 23). An study of percentages, frequencies, means, standard deviations, and Z-scores was carried out, as well as Prior to doing inferential analysis, the researchers performed a second round of factor analysis. When estimating the degree of connection between study variables, inferential statistics were used, such as multiple regression analysis and correlation coefficients. The data that was examined was presented in the form of charts and tables, as well as additional infographics that were considered suitable. The regression equation is as follows:

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where;

Y = Dependent variable (green finance development)

α = the model intercept

$\beta_{1\text{-}4}$ = Coefficient of independent variables

$\mathbf{X_1}$ – banking regulations

$\mathbf{X_2}$ – green banking policies

$\mathbf{X_3}$ – banking institution incentives

ε = Error Term

3.8.1 Diagnostic Testing

3.8.1.1 Multicollinearity Tests

In statistical terms, multicollinearity refers to a scenario in which the predictor variables are strongly linked to one another, with Pearson Correlation values above 0.8. (Field, 2009). Because of this, both the standard errors and the coefficients are inflated, resulting in an incorrect forecast. The present research relied extensively on modelling to determine the type and degree of connections between various roles played by commercial banks and green finance development in order to arrive at its conclusions. The VIF and Tolerance values were used in the research to determine the collinearity (Cooper & Schindler, 2007).

3.8.1.2 Normality Tests

Normality tests are used to determine whether or not a data (set) is properly represented by a normal distribution, as well as to compute the likelihood that a random variable controlling the data set would be normally distributed, among other things (Park, 2015). A normality test was performed in order to determine whether or not the shape of the sample distribution matched the shape of the normal curve (see Figure 1). If the sample is normally distributed, it is likely that the population from which it was drawn was similarly distributed, and it is reasonable to expect normalcy in the study results. Both the standard p-p plot curve and the inverse p-p plot curve were used in this research.

3.8.1.3 Heteroscedasticity Tests

The study conducted heteroscedasticity tests which help in indicates whether the random error term from a multiple linear regression must have constant variances (Rosopa, Schaffer, & Schroeder, 2013). The study employed the Breusch-Pagan Lagrange multiplier (LM) tests. The tests indicated that if P-value< 0.05, presence of non-uniform variance.

3.8.1.4 Autocorrelation Tests

The study further conducted autocorrelation tests to check if the residuals of the models are not auto correlated (in other terms it checks for the independence of error terms, which implies that observations are independent). The research applied the Durbin Watson (DW) test (Akter, 2014). The study employed the criteria where Scores between 1.5 and 2.5 indicate independent observations.

CHAPTER 4: FINDINGS AND DISCUSSION

4.1 Introduction

The fourth chapter is utilized in the presentation of the study results. The collected research data was analyzed using a mix of descriptive, correlation and regression techniques. The results were presented in five main sections; the response rate, the background information, the descriptive results, the diagnostic tests, the correlation and regression analysis.

4.2 Response Rate

The research collected data from a sample of 123 senior bank managers drawn from the participating commercial banks in Nairobi County. The data was collected between November 2020 and February 2021 to allow for adequate response time for respondents who were working remotely due to the pandemic. Cooper and Schindler (2007) affirm that a 60% response rate is sufficient for quantitative analysis. 88 responses were received signifying a 72% response rate and deeming the rate acceptable for analysis.

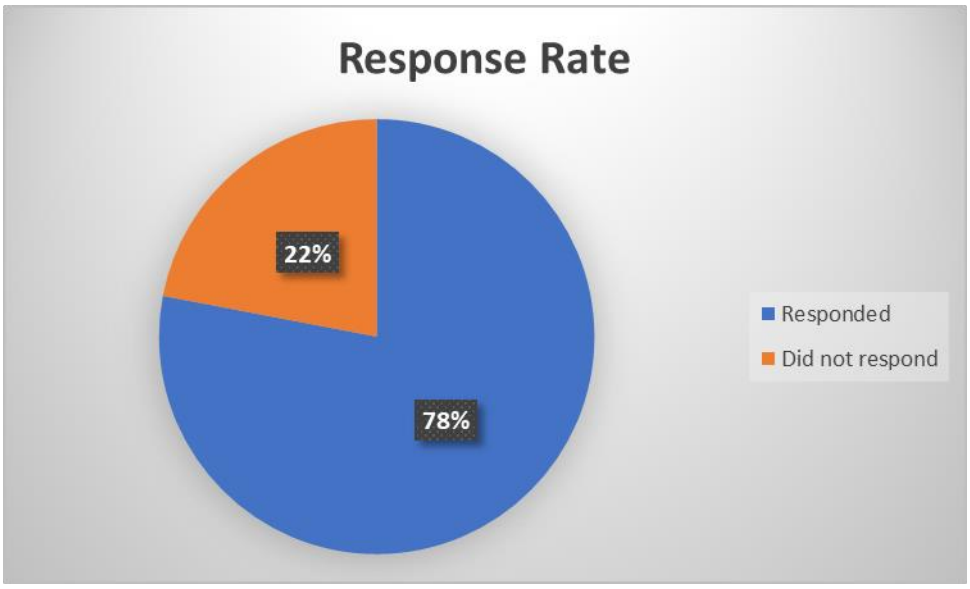

Figure 4.1 Response Rate

4.3 Background Information

This section presents an overview of the participant's demographic information such as their gender, age profile, years of work experience, education level and position held within the commercial bank.

4.3.1 Age of Respondent

The study reviewed the participant's age profile and the results indicated that most of the respondents 43% (n=38) were aged 36-45 years, 42% (n=37) were between the age 46-55, 14% (n=12) were between 18-35 years while only 1% were above 56 years of age. These findings are an indication there is age diversity within the top management team in Kenyan commercial banks sampled.

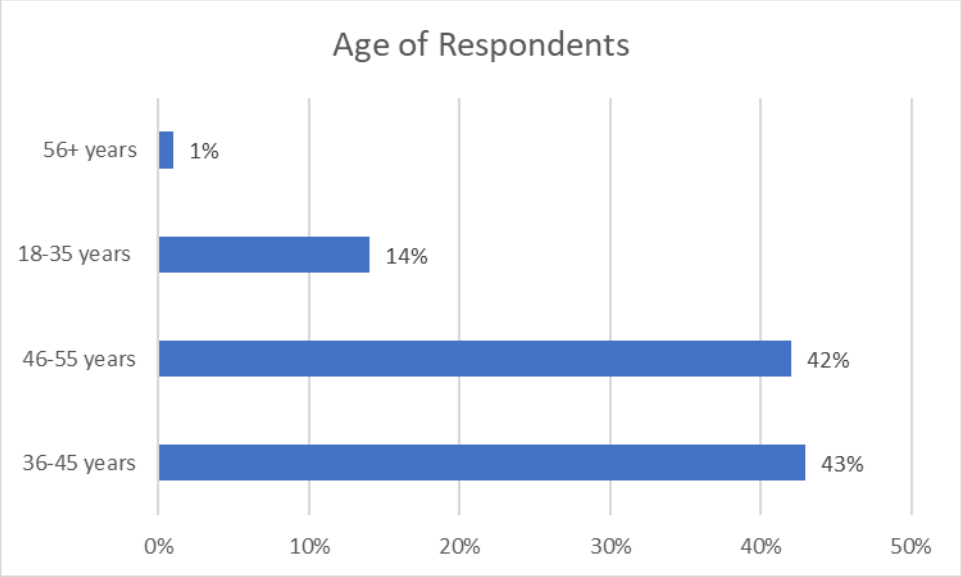

Figure 4.2 Age of Respondent

4.3.2 Gender of Respondents

The study further reviewed the gender distribution among the study participants and the findings showed that 58% (n=51) were male employees while 42% (n=37) of the participants were female managers within the commercial banks. The results implied there is a slight disparity in the gender distribution within the banking management team.

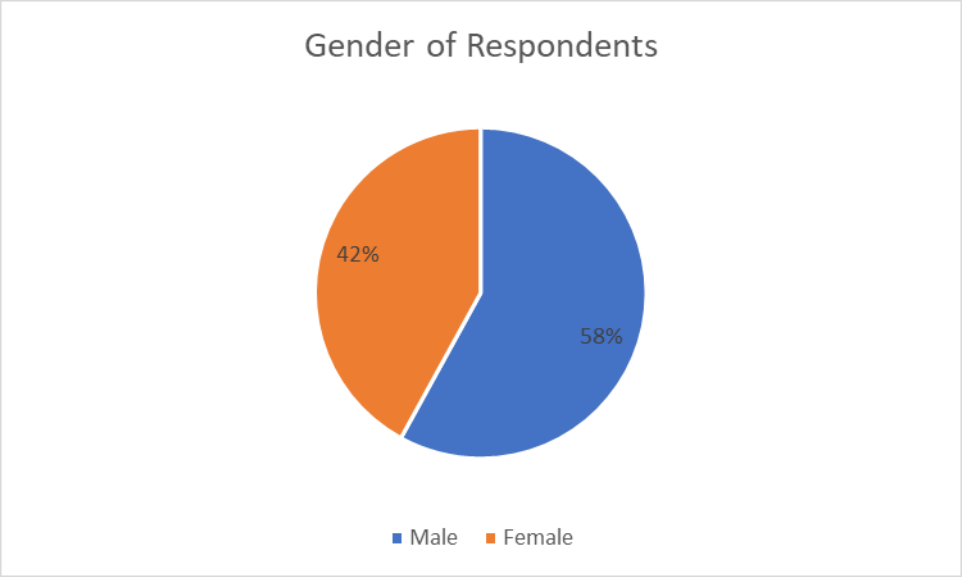

Figure 4.3 Gender of Respondents

4.3.3 Higher Level of Education

The study sought to explore the education qualification distribution among the sample respondents and the analysis is presented in Table 4.1 below.

Table 4.1 Highest Education Level

		Frequency	Percent
	College Diploma	1	1.1
	Undergraduate Degree	22	25.0
	Graduate Degree	65	73.9
	Total	88	100.0

The findings showed that the majority of the respondents 74% (n=65) had attained a graduate degree, 25% (n=22) had attained an undergraduate degree while only 1% of the participants had a college diploma. The results attest to improved educational attainment within the top management team which can be an indicator of higher professionalism and competency.

4.3.4 Length of Work Experience

The research further reviewed how long the respondents have been working within the commercial banking industry and the findings are shown below.

Table 4.2 Work Experience

	Frequency	Percent
1-3 years	6	6.8
4-6 years	34	38.6
7-9 years	21	23.9
Over 10 years	27	30.7
Total	88	100.0

The analysis indicated that most of the respondents 38% (n=34) have worked within the commercial bank for at least 4-6 years, 31% (n=27) had worked for over 10 years while only 7% (n=6) have worked for between 1-3 years. The findings indicated that the research participants have varying experience in the industry which offers them more knowledge on the workings of the industry.

4.3.5 Position held in Bank

The study analyzed the position held by respondents in the bank and findings indicated that most of the respondents 35% (n=31) were branch managers and strategy managers while 30% (n=26) of the respondents were finance managers. The divergent positions held by the respondents shows that the study was able to obtain information from respondents with various knowledge on green finance development in commercial banks.

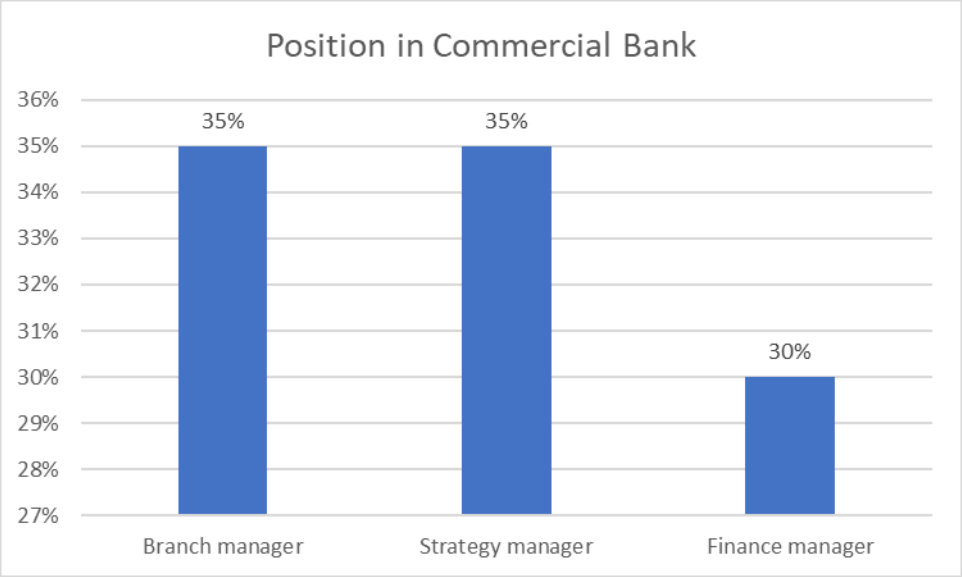

Figure 4.4 Position in the Bank

4.4 Descriptive Statistics

The study applied descriptive analysis in the tabulation and summarizing of the responses obtained from the Likert scale statements. The study relied on sums, mean and standard deviation in the analysis. The results are presented in order of the research instrument.

4.4.1 Development of Green Finance

The dependent variable for the research was the development of green finance within the banking industry. The study analysis is presented in this section.

Table 4.3 Development of Green Finance

	N	Sum	Mean	Std. Deviation
The bank has witnessed a growth in the green credit instruments	88	366.00	4.1591	.84263
The bank offers green mortgages both to individual and institutional customers	88	348.00	3.9545	.92113
The bank has introduced green bancassurance products in its portfolio	88	356.00	4.0455	1.00469
There are channels for green securitization within the bank	88	319.00	3.6250	1.11739
The bank undertakes green project financing within the various sectors	88	336.00	3.8182	.98897
The bank has adopted green banking operations in its core functions	88	338.00	3.8409	.84263

The respondents were in strong agreement that commercial banks have witnessed a growth in the green credit instruments with moderate deviation (mean = 4.1591, dev = .8426). Findings also denoted agreement that commercial banks have introduced green bancassurance products in their portfolio with strong deviation in responses (mean = 4.0455, dev = 1.0047). The analysis also showed agreement that the bank offers green mortgages both to individual and institutional customers as noted by a mean of 3.9545 and deviation of .9211. The respondents also agreed that there are channels for green securitization within the bank as indicated by a mean of 3.625.

4.4.2 Banking Regulations

The first independent variable reviewed how various banking regulations within the industry influence development of green finance and the results are as presented.

Table 4.4 Banking Regulations

	N	Sum	Mean	Std. Deviation
The central bank has put in place prudential guidelines to guide green finance development	88	330.00	3.7500	.96192
There are capital requirements guidelines in place to foster the adoption of green finance	88	323.00	3.6705	.84038
The licencing requirements within the commercial bank promoted green finance	88	334.00	3.7955	.71373
The regulatory guidelines from the capital markets promote the adoption of green finance	88	315.00	3.5795	.86731
The bank continuously researches the new green practices to introduce in the bank	88	335.00	3.8068	.75594

The analysis showed agreement that the commercial bank continuously researches the new green practices to introduce as denoted by a mean of 3.8068 and moderate deviation of .7559. The respondents agreed that the licencing requirements within the commercial bank promoted green finance (mean = 3.7955, dev = .71373). The study indicated agreement that the regulatory guidelines from the capital markets promote the adoption of green finance as indicated by a mean of 3.5795.

4.4.3 Green Banking Policies

The second variable examined in the study was green banking policies with the managers presented with various statements and the analyzed data is as presented.

Table 4.5 Green Banking Policies

	N	Sum	Mean	Std. Deviation
There are risk management policies in place to enhance green finance	88	344.00	3.9091	.83922
The bank has put in place social regulations to promote green finance	88	308.00	3.5000	.98261
The bank has adopted environmental sustainability goals in its business policies	88	330.00	3.7500	.86103
The bank has a clear green policy development guideline in place	88	329.00	3.7386	.90331
The bank constantly reviews the green finance regulations in place within the firm	88	316.00	3.5909	.87935
The bank has developed a charter to direct the adoption of sustainable products and services	88	304.00	3.4545	.96976
The bank has adopted green innovations to foster green finance development	88	312.00	3.5455	1.00469

The study showed moderate agreement among respondents that the bank has developed a charter to direct the adoption of sustainable products and services as indicated by a mean of 3.4545. The analysis also noted agreement among respondents that the bank has put in place social regulations to promote green finance (mean = 3.50, dev = .9826). The respondent agreed that there are risk management policies in place to enhance green finance (mean = 3.9091, dev = .8392). The study also showed agreement (mean = 3.5909, dev = .87935) that the commercial bank constantly reviews the green finance regulations in place within the firm.

4.4.4 Banking Institution Incentives

The third objective reviewed the banking institution incentives advanced to the development of green finance and the results are shown in Table 4.6 below.

Table 4.6 Banking Institution Incentives

	N	Sum	Mean	Std. Deviation
Tax incentives are offered to commercial banks adopting green finance products	88	266.00	3.0227	1.25924
The government has put in place subsidy systems to support green finance adoption	88	275.00	3.1250	1.07010
The government has put in place tax exemptions to promote green finance development	88	275.00	3.1250	.91993
International financial institutions have offered technical and financial support in the development of green finance products	88	237.00	2.6932	1.20686
The fiscal policies in place support the development of green finance products	88	296.00	3.3636	.89932
Customer-centric product and service demands direct adoption of green finance	88	294.00	3.3409	1.10262
The bank has formulated professional development across personnel on the concept of green finance	88	316.00	3.5909	.90511

The participants agreed the bank has formulated professional development across personnel on the concept of green finance (mean = 3.5909, dev = .905). The results showed moderate agreement that customer-centric product and service demands direct adoption of green finance as indicated by a mean of 3.3409 and a high deviation of 1.10262. The study pointed to the moderate agreement that the tax incentives are offered to commercial banks adopting green finance products (mean = 3.0227, dev = 1.2592). The research pointed to the moderate agreement that international financial institutions have offered technical and financial support in the development of green finance products as indicated by a mean of 2.6932 and deviation of 1.2068. Findings also showed moderate agreement that the government has put in place subsidy systems to support green finance adoption (mean = 3.125, dev = 1.0701).

4.5 Factor Analysis

Confirmatory factor analysis is a statistical technique used to verify the fact of the structure of a set of observed variables (Brown & Moore, Confirmatory factor analysis., 2012). Factor analysis was therefore expected to aid the researcher with the only items within the questionnaire that corresponded to the subject, dependent on their factor loading and ensure the fit of items (Brown, Confirmatory factor analysis for applied research., 2015). The study adopted Kaiser-Meyer-Olkin - KMO bartlett sphericity test, Eigenvalues and varimax rotation where more than one factor was loaded (Gatignon, 2010).

4.5.1 Factor Analysis for Development of Green Finance

The study adopted the KMO and Bartlett's Test to analyze development of green finance suitability for factor analysis.

Table 4.7 KMO and Bartlett's Test for Development of Green Finance

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.859
Bartlett's Test of Sphericity	Approx. Chi-Square	306.225
	df	15
	Sig.	.000

The results above indicate a KMO value of .859>0.05, thus indicating there is sampling adequacy for factor loading to be considered. Bartlett’s test of sphericity yielded a significance value = 0.000<0.05, thus indicating a correlation between the variables. This indicates that factor analysis can be utilized for the variable development of green finance.

Table 4.8 Exploratory Factor Analysis for Development of Green Finance

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.939	65.650	65.650	3.939	65.650	65.650
2	.703	11.718	77.368			
3	.529	8.813	86.180			
4	.402	6.697	92.877			
5	.245	4.079	96.957			
6	.183	3.043	100.000			

Extraction Method: Principal Component Analysis.

The findings of the research show that one the factor had eigenvalue, which was higher than 1. The main factor was responsible for 65.650% of the total variability in the dependent variable. Since only one factor was loaded there was no need for Varimax rotation to be adopted for the variable.

Table 4.9 Component Matrix for Development of Green Finance

	Component
	1
The bank has witnessed a growth in the green credit instruments	.765
The bank offers green mortgages both to individual and institutional customers	.633
The bank has introduced green bancassurance products in its portfolio	.874
There are channels for green securitization within the bank	.825
The bank undertakes green project financing within the various sectors	.895
The bank has adopted green banking operations in its core functions	.841

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Factor loading is the correlation between the observed score and the latent score; Brown and Moore (2013) indicated that the minimum threshold for the factor rotation should be 0.4. All the factor fitted into component 1 since all the factor loadings were above 0.4, as presented in the table above.

4.5.2 Factor Analysis for Banking Regulations

The study adopted the KMO and Bartlett's Test to analyze the banking regulations suitability for factor analysis.

Table 4.10 KMO and Bartlett's Test for Banking Regulations

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.865
Bartlett's Test of Sphericity	Approx. Chi-Square	185.093
	df	10
	Sig.	.000

The results above indicate a KMO value of .865>0.05, thus indicating there is sampling adequacy for factor loading to be considered. Bartlett’s test of sphericity yielded a significance value = 0.000<0.05, thus indicating a correlation between the variables. This indicates that factor analysis can be utilized for the first independent variable banking regulations.

Table 4.11 Exploratory Factor Analysis for Banking Regulations

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.248	64.967	64.967	3.248	64.967	64.967
2	.548	10.955	75.922			
3	.445	8.892	84.814			
4	.432	8.636	93.450			
5	.327	6.550	100.000			

Extraction Method: Principal Component Analysis.

The results of the exploratory factor analysis show that one the factor had eigenvalue, which was higher than 1. The main factor was responsible for 64.967% of the total variability in the dependent variable. Since only one factor was loaded there was no need for Varimax rotation to be adopted for the variable.

Table 4.12 Component Matrix for Banking Regulations

	Component 1
The central bank has put in place prudential guidelines to guide green finance development	.857
There are capital requirements guidelines in place to foster adoption of green finance	.786
The licencing requirements within the commercial bank promoted green finance	.810
The regulatory guidelines from the capital markets promote adoption of green finance	.804
The bank continuously undertakes research on the new green practices to introduce in the bank	.771

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Brown and Moore (2013) indicated that the minimum threshold for the factor rotation should be 0.4. All the factor fitted into component 1 since all the factor loadings were above 0.4, as presented in the table above.

4.5.3 Factor Analysis for Green Banking Policies

The research employed the KMO and Bartlett's Test to analyze the suitability of the green banking policies for inclusion in the factor analysis.

Table 4.13 KMO and Bartlett's Test for Green Banking Policies

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.903
Bartlett's Test of Sphericity	Approx. Chi-Square	357.793
	df	21
	Sig.	.000

The findings above showed a Kaiser-Meyer-Olkin Measure of Sampling Adequacy value of .903>0.05, thus indicating there is sampling adequacy for factor loading to be considered. Bartlett's test of sphericity yielded a significance value = 0.000<0.05, thus indicating a correlation between the variables. This indicates that factor analysis can be utilized for the variable green banking policies.

Table 4.14 Exploratory Factor Analysis for Green Banking Policies

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.565	65.210	65.210	4.565	65.210	65.210
2	.654	9.340	74.550			
3	.496	7.087	81.637			
4	.446	6.365	88.002			
5	.328	4.688	92.690			
6	.283	4.041	96.731			
7	.229	3.269	100.000			

Extraction Method: Principal Component Analysis.

The results of the exploratory factor analysis show that one the factor had eigenvalue, which was higher than 1. The main factor was responsible for 65.120% of the total variability in the dependent variable. Since only one factor was loaded there was no need for Varimax rotation to be adopted for the variable.

Table 4.15 Component Matrix for Green Banking Policies

Component Matrix[a]	
	Component 1
There are risk management policies in place to enhance green finance	.850
The bank has put in place social regulations to promote green finance	.752
The bank has adopted environmental sustainability goals in its business policies	.788
The bank has a clear green policy development guideline in place	.784
The bank constantly reviews the green finance regulations in place within the firm	.786
The bank has developed a charter to direct adoption of sustainable products and services	.824
The bank has adopted green innovations to foster green finance development	.862

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Brown and Moore (2013) indicated that the minimum threshold for the factor rotation should be 0.4. All the factor fitted into component 1 since all the factor loadings were above 0.4, as presented in the table above.

4.5.4 Factor Analysis for Banking Institution Incentives

The research employed the KMO and Bartlett's Test to analyze the suitability of the banking institution incentives for inclusion in the factor analysis.

Table 4.16 KMO and Bartlett's Test for Banking Institution Incentives

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.865
Bartlett's Test of Sphericity	Approx. Chi-Square	373.403
	df	21
	Sig.	.000

The findings above showed a Kaiser-Meyer-Olkin Measure of Sampling Adequacy value of .865>0.05, thus indicating there is sampling adequacy for factor loading to be considered. Bartlett's test of sphericity yielded a significance value = 0.000<0.05, thus indicating a correlation between the variables. This indicates that factor analysis can be utilized for the variable banking institution incentives.

Table 4.17 Exploratory Factor Analysis for Banking Institution Incentives

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.407	62.959	62.959	4.407	62.959	62.959
2	.959	13.696	76.655			
3	.541	7.735	84.390			
4	.370	5.282	89.672			
5	.269	3.849	93.521			
6	.247	3.522	97.043			
7	.207	2.957	100.000			

Extraction Method: Principal Component Analysis.

The results of the exploratory factor analysis show that one the factor had eigenvalue, which was higher than 1. The main factor was responsible for 62.959% of the total variability in the dependent variable. Since only one factor was loaded there was no need for Varimax rotation to be adopted for the variable.

Table 4.18 Component Matrix for Banking Institution Incentives

Component Matrix[a]	
	Component 1
Tax incentives are offered to commercial banks adopting green finance products	.802
The government has put in place subsidy systems to support green finance adoption	.849
The government has put in place tax exemptions to promote green finance development	.748
International financial institutions have offer technical and financial support in development of green finance products	.758
The fiscal policies in place support the development of green finance products	.803
Customer-centric product and service demands direct adoption of green finance	.805
The bank has formulated professional development across personnel on the concept of green finance	.785

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Brown and Moore (2013) indicated that the minimum threshold for the factor rotation should be 0.4. All the factor fitted into component 1 since all the factor loadings were above 0.4, as presented in the table above.

4.6 Diagnostic Tests

The study aimed at applying multiple linear regression analysis to determine the relationship between the study variables. As a requirement for applying the technique, the research is expected to meet the standard linear regression assumptions. The findings of the diagnostic tests are presented in this section.

4.6.1 Collinearity Tests

Multicollinearity reduces the efficiency of the estimates for the parameter; as Multicollinearity increases, the impact of every independent variable on the dependent variable decreases (Cooper & Schindler, 2007). To determine whether Multicollinearity levels would pose a challenge to the study, regression analysis was done to generate the Variance Inflation Factor (VIF) value. The study employed VIF and Tolerance values to access the collinearity between the research variables and the analysis are shown in the table below.

Table 4.19 Collinearity Results

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Banking Regulations	.565	1.770
	Green Policies	.533	1.878
	Banking Incentives	.577	1.732

a. Dependent Variable: Development Green Finance

The above results indicated that the research variables had the following VIF values; banking regulations (1.77), green policies (1.878) and banking incentives (1.732) denoting that all the values were below the critical value of 10 showing no collinearity. Further, the results indicated tolerance values that were above 0.1 which was an indication of no collinearity problems.

4.6.2 Normality Tests

The function of a normality test is to find out if a data (set) is well modelled by a normal distribution and to calculate the probability of random variables controlling the data set (Park, 2015). A normally distributed sample portrays a normally shaped distribution in the population that was used for data collection, and an assumption of normality can easily be deduced from the research model (Cooper & Schindler, 2007). The research further sought to determine if the research data was from a normal distribution. To this end, the study tested the normality of the research using the normal p-p plot. The figure below shows that the observations from the regression analysis fit along the normal curve with minimal disturbances which indicated the research data was from a normal distribution.

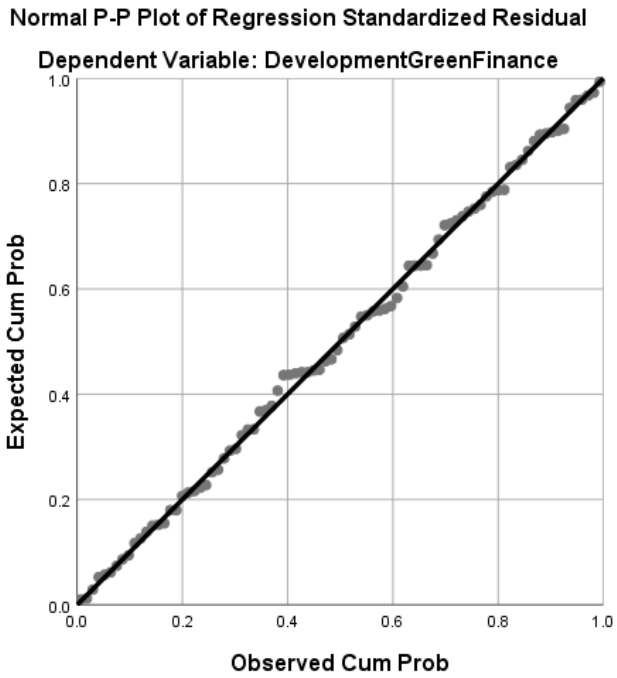

Figure 4.5 Normal P-P Plot

4.6.3 Autocorrelation Tests

The study further conducted autocorrelation tests to check if the residuals of the models are not autocorrelated. The research applied the Durbin Watson (DW) test.

Table 4.20 Autocorrelation Tests

Model	Durbin-Watson
1	2.215

a. Predictors: (Constant), Banking Incentives, Banking Regulations, Green Policies

b. Dependent Variable: Development Green Finance

The study employed the criteria where Scores between 1.5 and 2.5 indicate independent observations. The analysis indicated a D-W score of 2.215 which indicated there was no serial correlation problem within the research model.

4.6.4 Heteroscedasticity Tests

The study performed heteroscedasticity tests which help in indicates whether the random error term from a multiple linear regression must have constant variances. The study employed the Breusch-Pagan Lagrange multiplier (LM) tests.

Table 4.21 Heteroscedasticity Tests

Test	Chi2(df=87)	P-value
Breusch-Pagan	5.268	0.259

H_O: Homoscedasticity presence

The tests indicated that if P-value< 0.05, presence of non-uniform variance. The above results showed a P-value that was above .05 indicating the presence of constant variances in the residuals of the regression model.

4.7 Correlation Analysis

The correlation tests are performed in the study to establish the type of association that exists between the independent variables and the dependent variable. The correlation score ranges from -1 to +1 indicating the association levels.

Table 4.22 Correlation Matrix

		Development Green Finance	Banking Regulations	Green Policies	Banking Incentives
Development Green Finance	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	88			
Banking Regulations	Pearson Correlation	.650**	1		
	Sig. (2-tailed)	.000			
	N	88	88		
Green Policies	Pearson Correlation	.847**	.610**	1	
	Sig. (2-tailed)	.000	.000		
	N	88	88	88	
Banking Incentives	Pearson Correlation	.448**	.566**	.599**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	88	88	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

The first goal examined the impact of bank regulations on the development of green finance. Analysis revealed that bank regulations had a substantial positive and statistically significant impact on the development of green finance (P=.650, Sig =.000.05) on the development of green finance. Nabi, Khan, Islam, and Uddin (2016) also noted that regulatory policy changes, the advancement of environmental management practises, and the digitalization of bank operations have significantly improved the rate of incorporation of environmentally friendly products. In addition, Weber and Oni (2015) discovered that required rules and laws have prompted banks to develop environmentally friendly banking operations.

Objective two sought after the effect of green policies on the development of green finance with findings showing a strong positive and statistically significant impact of green policies on the development of green finance (P=.847, Sig =.000.05). In similar fashion, Sahitya and Lalwani (2014), reported that green initiatives and policies adopted by financial institutions has had an important impact in the advancement of green finance practices. Additionally, Tara, Sing, and Kumar (2014) noted in their research that green marketing activities, environmental solutions, and product development have all been used to complement green banking efforts inside financial organisations. According to Dikau and Volz (2019), the effective implementation of climate-related physical and mitigating risks has resulted in the successful development of green financial institutions.

For objective three, researchers attempted to evaluate the impact of bank incentives on the growth of green finance. They discovered that bank rules had a somewhat favourable and statistically significant impact on the development of green finance (P=.448, Sig =.00000.0005). Jaggi (2014) made similar observations and reported that incentives provided by banks have promoted investment in green banking. According to Aizawa and Yang (2010), the growth of stimulus, government incentives, and tax exemptions have all been critical to the development of green banking in the Chinese marketplace.

4.8 Regression Analysis

The research adopted a multiple linear regression analysis to determine the strength of the relationship between banking institutions and the development of green finance in Kenya. Findings are in Table 4.23 below.

Table 4.23 Regression Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873[a]	.763	.754	2.29294

a. Predictors: (Constant), Banking Incentives, Banking Regulations, Green Policies

b. Dependent Variable: Development Green Finance

The regression analysis that was conducted yielded a coefficient of determination (R2=.763). This attributes 76.3 percent of changes to the growth of green finance in Kenya to practices adopted by financial institutions. This revealed that variables that were not taken into account in the regression explained at least 23.7 percent of the differences in the growth of green financing in the country of Kenya.

Table 4.24 ANOVA Summary

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1420.081	3	473.360	90.034	.000[b]
	Residual	441.635	84	5.258		
	Total	1861.716	87			

a. Dependent Variable: Development Green Finance

b. Predictors: (Constant), Banking Incentives, Banking Regulations, Green Policies

Using ANOVA, the researchers were able to determine whether there is an interaction between the variables used in the regression analysis, and whether this interaction has statistical significance. The findings revealed that there is a positive and statistically significant connection between banking institutions and the growth of green finance in Kenya, with an F-calculated = 90.034 and Sig =.000.05, indicating that the relationship is both positive and statistically significant.

Table 4.25 Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.760	1.466		1.200	.233
	Banking Regulations	.370	.098	.268	3.787	.000
	Green Policies	.702	.065	.788	10.827	.000
	Banking Incentives	-.139	.055	-.175	-2.509	.014

a. Dependent Variable: Development Green Finance

The resulting regression output was;

$$\mathbf{Y = 1.760 + .370X_1 + .702X_2 + -.139X_3 + 1.466}$$

The coefficient of the regression analysis was 1.760, which was found to be non-significant since the Sig =.233 was more than.05. Using this analysis, we found that changes in banking regulations by one unit will result in an increase of one unit in the development of green finance in Kenya. The coefficient for the variable banking regulations was β1 =.370, Sig =.000<.05, which indicated that changes in banking regulations by one unit will result in an increase of one unit in the development of green finance in Kenya. These results are similar with those of Oyegunle and Weber (2015), who demonstrated that financial rules, voluntary codes of conduct, and recommendations may all contribute to the advancement of sustainable banking practises.

When the variable green policies was included, the coefficient for that variable was β2 =.702, with Sig =.000<.05, which showed that a unit change in green policies would result in a change of.702 in the growth of green financing in Kenya. The creation of regulatory rules as well as the evaluation of internal banking policies, according to Rajput, Kaura, and Khanna (2013), have been critical in the development of sustainable banking practises. A coefficient of

β3=-.139 was found for the third goal of the research, banking incentives, which suggested that changes in green policies by a unit would result in a -.139 change in the growth of green finance in Kenya, according to the study's findings. According to Kariuki (2015), uncoordinated incentives and methods of raising knowledge about sustainable practises have resulted in a limited achievement of green policies within the banking sector, which is consistent with the findings of this study.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The fifth chapter of the research presented the summary of the study findings, the conclusions drawn from the results and the recommendations of the study. The chapter further presented the limitations of the study and the areas for further research

5.2 Summary of Findings

In order to mitigate the effects of climate change, governments and commercial organisations across the world have been actively involved in the development of climate-friendly solutions that may help mitigate the effects of climate change. Sustainable banking and the development of green finance are among the methods being implemented by companies in the commercial banking sector, among others. It has not been forgotten about by the Kenyan banking sector, which has seen an increase in green banking practises as a result of lobbying efforts by advocacy organisations, partnerships with development partners, and backing from regulators.

Despite this, only a minority of commercial banks have been able to actively engage in the development of green financing, resulting in a restricted growth of the industry as a consequence. In order to get a better understanding of the industry's contribution, this study aimed to determine the impact that banking institutions have on the development of green finance. The research was focused on analysing the impact of banking regulations, banking institution incentives, and green banking policies on the growth of green finance in order to better understand the phenomenon. In accordance with the positivist ideology, the research issue was solved via quantitative investigation, which was the foundation of the research project.

During the data collecting phase of the investigation, a structured research instrument was used to gather information. The research was successful in obtaining a 72 percent response rate from the bank managers who were sampled. The results revealed that the vast majority of senior managers at the bank were male workers, with the vast majority of those who responded having worked in commercial banks for more than seven years on the average. The findings revealed that there is a positive and statistically significant connection between the growth of green finance in Kenya and the activities of financial institutions.

5.2.1 Banking Regulations and Development of Green Finance

The study participants acknowledged that the prudential regulations and capital requirements designed by the regulator have been supportive of the development of green finance. The results also showed that licencing requirements and regulatory guidelines from the capital markets have promoted the adoption of green finance. The study also pointed out that commercial banks have been continuously researching new green practices to roll out in the market. The correlation tests revealed that banking regulations have a strong positive and significant association with the development of green finance.

The regression results revealed there is a positive and significant contribution of banking regulations to the development of green finance ($\beta_1 = .370$). In their research, Rahman and Perves (2016) found that regulations within the banking sector have resulted in a significant improvement in the implementation of green banking activities. Perez (2017) and colleagues pointed out in their research that government regulations and requirements can help to promote the development of green finance while also improving environmental sustainability.

According to the findings of Oyegunle and Weber (2015), financial regulations are required in order to see any practical changes in the development of sustainable banking in developing countries. The International Finance Corporation (IFC) (2015) reported that,

following the adoption of ESG guidelines, commercial banks in the country have recognised the need to incorporate sustainable banking practises into their business operations.

5.2.2 Green Banking Policies and Development of Green Finance

The respondents agreed that commercial banks have designed risk management policies and social regulations that promote the development of green finance. The participants also noted that commercial banks have clear green policy guidelines and have adopted environmental sustainability goals in their business policies. The research also showed agreement that banks constantly review their green finance regulations and have adopted green innovations to drive green finance development. Respondents also moderately indicated that banks have the charter to direct the adoption of sustainable products and services. The correlation tests revealed that green policies have a strong positive and significant association with the development of green finance. The regression results revealed there is a positive and significant contribution of green policies to the development of green finance ($\beta_2 = .702$).

In parallel with these results, Rahman and Barua (2016) stated that incentivization provided in Bangladesh were essential to banks complying to the green banking standards which promoted the adoption of sustainable banking. Rajput, Kaura and Khanna (2013) demonstrated that with regulatory supports commercial banks may be able to change their basic activities into more sustainable practice/operations. Nhamo (2013), in research in South Africa stated that resolving institutional deficiencies and boosting financing would assist institutions acquire a stronger ability to promote the adoption of the green economy.

5.2.3 Banking Incentives and Development of Green Finance

The findings showed moderate agreement that tax incentives and subsidies are offered to support green finance adoption in commercial banks. The study also noted moderate agreement that the government has some form of tax exemptions and fiscal policies are in place

to support green finance development. The participants moderately agreed that international financial institutions have been offering technical and financial support in the development of green finance products. The findings also showed moderate agreement that customer-centric products and services are driving the adoption of green finance. The respondents did agree that the bank has formulated professional development across personnel on the concept of green finance. The correlation tests revealed that banking incentives have a moderate positive and significant association with the development of green finance. The regression results revealed there is a negative and significant contribution of banking incentives to the development of green finance (β_3 = -.139).

These findings are at odds with the findings of Aizawa and Yang (2010), who said that greater financial incentives to commercial banks may be critical to the growth of green banking projects. Green banking goods are becoming more popular, as shown by Choudhury et al. (2013) who demonstrated that the adoption of proactive environmental regulations by the government may herald a new age of development of green banking products. As Campiglio (2016) highlighted in research on the transition to low-carbon economies, the adjustment of incentive structures for financial institutions may assist them adopt policies aimed at reducing carbon emissions. Kariuki (2015) also found that strengthening incentives within the Kenyan financial industry would aid in the shift to more sustainable practises, according to his findings.

5.3 Conclusions

The study concluded that banking institutions have a positive and significant relationship with the development of green finance in Kenya. The research established that changes in the banking regulations, green policies and banking incentives positively lead to better development of green finance in Kenya. The results on the first objective established that banking regulations positively and significantly contribute to the development of green finance in Kenya. The research revealed that the prudential guidelines, capital requirements, licencing

requirements and regulatory guidelines advanced by the Central Bank of Kenya have been key to the adoption of green finance. The study also established that continuously researching new green practices is critical to the development of green finance in Kenya.

The findings of the second objective revealed there is a positive and significant effect of green banking practices on the development of green finance in Kenya. The study established that social guidelines and risk management policies formulated by the bank contributed to the development of green finance. The research further concluded that clear green policies, environmental sustainability goals, developing a clear charter, and routine review of green finance regulations are vital to promoting the development of green finance in Kenya. Concerning the third objective, the study concluded that banking institution incentives have a negative and significant effect on the development of green finance. The study concludes that tax incentives, subsidy systems, fiscal policies, customer demand and the technical/financial support from international financial institutions have contributed negatively to the development of green finance in Kenya.

5.4 Limitations of the Study

The study was conducted during a period where the country has been on an extended lockdown as a result of Covid-19. This greatly limited the ability of the study to conveniently access the study participants and end response rate. Further, the research only focussed on green finance development in the country and did not extend to capture the adoption of the United Nations sustainable banking practices. The study further considered responses from banking officials and did not consider views of the regulator and banking association hence further examination is advised in this area.

5.5 Recommendations

Theoretically, the study contributed to the application of the institutional theory in guiding research on how financial institutions such as banks can leverage on their environment to drive operational efficiency of the firm. The stakeholder theory also showed that government can play a key role in supporting the commercial banks development of green products by formulating relevant regulations and guidelines that can be key to stimulating the commercial banks capacity. Lastly, the resource dependency theory advocates that incentive given to banks can be used as resources that are at an organization's disposal and may be essential to success and green product development efforts in Kenya.

Policy-wise, the research suggests that the government consider pushing additional stimulus packages to encourage greater investments by commercial banks in the growth of green finance in the nation. The study also makes policy recommendations. Furthermore, in order to encourage sustainable behaviours among the general population, the research proposes that the government create new environmental standards and rules that would assist commercial banks in developing environmentally friendly goods and services. Furthermore, according to the findings of the research, the government should provide tax exemptions to financial institutions and reduce levies that have been preventing the development and use of green finance in the nation. As a result, commercial banks will be able to evaluate existing policies and increase their involvement in green financing projects.

According to the findings of the study, commercial banks should connect their operations with the regulatory environment in order to guarantee that the adoption of green financing is compatible with the rules proposed by the Central Bank of Kenya. Furthermore, according to the findings of the study, commercial banks should encourage internal innovation in order to enhance research and development in green finance products and services. Commercial banks should also evaluate their fundamental processes and standards, according

to the findings of the study, to ensure that their products and the green financing market are complementary in terms of strategy and execution.

According to the findings of the study, commercial banks should develop environmentally friendly policies that will allow them to take the lead in the implementation of green finance practises. Furthermore, in light of the changes in new technologies, commercial banks should invest in technical competence among their staff in order to promote green innovations that may be essential to the growth of green finance in the long term. Furthermore, according to the findings of the research, financial institutions should establish clear social laws and risk management policies, which may aid in promoting the bank's adoption of green financing.

A further recommendation made by the research is that commercial banks should establish partnerships with a global financial organisation such as the World Bank or the United Nations, which are providing financial and technical assistance to institutions engaged in green finance projects. This will provide Kenyan banks with an opportunity to acquire greater capability in the creation of green financing solutions in the future. It is also suggested that commercial banks promote professional development among their staff, as this would increase the acceptance and implementation of the green finance idea in the long run. Furthermore, according to the findings, commercial banks should educate their customers on the changes occurring in the financial sector as a result of the transition to green finance practises. This will guarantee that bank customers are aware of the issue and may help to increase demand for environmentally friendly goods and services.

5.6 Area for Further Research

Following the findings of the study, it is recommended that further research be undertaken to examine the effect of sustainable banking/socially responsible banking on the operational performance of commercial banks in Kenya. Additionally, the research suggests that future studies should be performed while taking into account the perspectives of the regulator and industry participants on the difficulties associated with the development of green banking practises in Kenya. More research should be carried out to assess public awareness and understanding of green banking policies, which is particularly important.

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APPENDICES

Appendix I: Graduate School Introduction Letter

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SCHOOL OF GRADUATE STUDIES AND RESEARCH

KCAU/SGS/MSc/Nov.20/17 *November 9, 2020*

To whom it may concern,

Dear Sir/Madam,

RE: RAPHAEL MWANU MARURI REG. NO: 18/03675

It is my distinct pleasure to introduce to you Mr. Raphael Maruri who is a student in our institution pursuing a Master of Science in Development Finance at the School of Business and Public Management.

Raphael is conducting a research on a topic titled: "*Influence of Banking Institutions On Development of Green Finance in Kenya*" which is part of the requirements of the program he is pursuing. The research as well as the data procured thereof shall be used for academic purposes only.

Any assistance accorded to him is highly appreciated.

In case of further inquiry, do not hesitate to contact the undersigned.

Yours faithfully,

Dr. Nyaribo Misuko
Dean, School of Graduate Studies & Research

Appendix II: Research Questionnaire

Section A: General Information

1. What is your age?

    - 18 - 35
    - 36 - 45
    - 46 - 55
    - 56 and above

2. What is your gender?

    - Male
    - Female

3. What is your highest level of education?

    - College Diploma
    - Undergraduate Degree
    - Graduate Degree

4. How long have you been working within the banking industry?

    - 1-3 years
    - 4-6 years
    - 7-9 years
    - Over 10 years

5. What position do you currently hold within the bank?

    - Branch Managers
    - Finance Managers
    - Strategy Manager

Section B: To examine the development of green finance in Kenyan commercial banks

Please indicate in the table with a tick (√) or a cross (×) with a scale of

5= strongly agree 4= Agree 3= Moderately Agreed 2= Disagree 1= Strongly Disagree

Kindly answer the following questions based on your agreement with development of green finance. The scale level ranges from 1 – 5

No	Development of green finance	5	4	3	2	1
1.	The bank has witnessed a growth in the green credit instruments					
2.	The bank offers green mortgages both to individual and institutional customers					
3.	The bank has introduced green bancassurance products in its portfolio					
4.	There are channels for green securitization within the bank					
5.	The bank undertakes green project financing within the various sectors					
6.	The bank has adopted green banking operations in its core functions					

Section C: To examine the effect of financial regulations on development of green finance in Kenyan commercial banks

Please indicate in the table with a tick (√) or a cross (×) with a scale of

5= strongly agree 4= Agree 3= Moderately Agreed 2= Disagree 1= Strongly Disagree

Kindly answer the following questions based on your agreement with the effect of financial regulations on development of green finance. The scale level ranges from 1 – 5

No	**Banking regulations and Development of green finance**	**5**	**4**	**3**	**2**	**1**
1.	The central bank has put in place prudential guidelines to guide green finance development					
2.	There are capital requirements guidelines in place to foster adoption of green finance					
3.	The licencing requirements within the commercial bank promoted green finance					
4.	The regulatory guidelines from the capital markets promote adoption of green finance					
5.	The bank continuously undertakes research on the new green practices to introduce in the bank					

Section D: To examine the effect of green banking policies on development of green finance in Kenyan commercial banks

Please indicate in the table with a tick (√) or a cross (×) with a scale of

5= strongly agree 4= Agree 3= Moderately Agreed 2= Disagree 1= Strongly Disagree

Kindly answer the following questions based on your agreement with the effect of green policies on development of green finance. The scale level ranges from 1 – 5

No	Green policies and Development of green finance	5	4	3	2	1
1.	There are risk management policies in place to enhance green finance					
2.	The bank has put in place social regulations to promote green finance					
3.	The bank has adopted environmental sustainability goals in its business policies					
4.	The bank has a clear green policy development guideline in place					
5.	The bank constantly reviews the green finance regulations in place within the firm					
6.	The bank has developed a charter to direct adoption of sustainable products and services					
7.	The bank has adopted green innovations to foster green finance development					

Section E: To examine the effect of banking incentives on development of green finance in Kenyan commercial banks

Please indicate in the table with a tick (√) or a cross (×) with a scale of

5= strongly agree 4= Agree 3= Moderately Agreed 2= Disagree 1= Strongly Disagree

Kindly answer the following questions based on your agreement with the effect of banking incentives on development of green finance. The scale level ranges from 1 – 5

No	Banking Incentives and Development of green finance	5	4	3	2	1
1.	Tax incentives are offered to commercial banks adopting green finance products					
2.	The government has put in place subsidy systems to support green finance adoption					
3.	The government has put in place tax exemptions to promote green finance development					
4.	International financial institutions have offer technical and financial support in development of green finance products					
5.	The fiscal policies in place support the development of green finance products					
6.	Customer-centric product and service demands direct adoption of green finance					
7.	The bank has formulated professional development across personnel on the concept of green finance					

Thank you for Your Time