

**EFFECT OF FINANCIAL RISK ON ENVIRONMENTAL
SUSTAINABILITY ACCOUNTING DISCLOSURE AMONG
INVESTMENT MANAGEMENT FIRMS IN KENYA**

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DECLARATION

STUDENT'S DECLARATION

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

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

For the past several decades, there has been witnessed global concern for the environment, due to the imminent dangers posed by the overemphasized increased the economy's growth and development at the expense of the environmental sustainability. Unprecedented climatic changes with severe impact on human, marine as well as other ecosystems have been witnessed (Intergovernmental Panel on Climate Change, 2019). To a large extent, this has been attributed to industry-related activities involving use of the raw materials extracted from the environment leading to their exhaustion, release of toxic waste into the environment as a result of manufacturing the raw materials into finished products. These substances have both long term and short term effects on environment (Khalife & Hamzeh, 2019). On this note, environmental disclosures have started to gain momentum among several firms more especially in developed economies and few emerging economies (Odoemelam & Okafor, 2018).

Nevertheless, to prevent environmental degradation by firms, mandatory environmental sustainability disclosure is paramount. Previous studies produced inconclusive results and there is no sound explanation for the relationship between Financial Risk and Environmental Sustainability Disclosure. Financial risk is whereby returns vary or fluctuate unexpectedly. There are many types of financial risks such as equity risk, liquidity risk, market risk, currency risk, asset-backed risk, foreign exchange risk, credit risk among others. These risks contribute negatively in terms of how an organization will perform financially (Belás, Dvorský, Kubálek & Smrčka, 2018). Financial risk usually leads to the collapse and underperformance of financial institutions if they are not handled. Financial risks normally lead to financial crisis if they are not managed which leads to poor performance of firms and lowers the economy of a country and hence the living standards of people. These risks should be managed and regulated by firms and institutions so as to improve profitability and reduce losses.

Many attempts have been made in literature to understand, explain, and justify environmental disclosure by companies. As the interest in environmental sustainability disclosure continues to increase both in the developed and developing nations, there have been different opinions as to what environmental sustainability accounting disclosure is intended to accomplish for a firm (Oláh,

Kovács, Virglerova, Lakner, Kovacova & Popp, 2019). In the United Kingdom (UK), Kouloukoui, Sant'Anna, da Silva Gomes, de Oliveira Marinho, de Jong, Kiperstok, and Torres (2019) explored whether there was any relationship between social and environmental disclosure and the financial market performance of the largest companies. The study concluded that no direct relationship between share returns and the disclosure was found and that neither had such a relationship been expected, in keeping with the prior literature.

In Nigeria, presenting environmental information to ensure uniformity in reporting environmental issues, there is no definite accounting standard but rather guidelines issued by some organizations e.g. Regulation Enforcement Agency Act of 2007. These guidelines are not mandatory in nature but rather advisory, because it is not mandatory most companies tend to disclose information just to conform to industry practices, pressures from environmental advocates (Odoemelam & Okafor, 2018). In Ghana, the relationship between environmental management practices (EMPs) and environmental sustainability accounting disclosure of small-and medium-sized enterprises (SMEs) was looked at. This study investigated the relationship between six environmental practices (energy, water, waste, material, emissions, and biodiversity) and environmental sustainability accounting disclosure. The study suggested that this enabled them to report evidence of how each EMP measure affects environmental sustainability accounting disclosure differently and identify where win-win opportunities are for SMEs (Al-Dhaimesh, 2019).

Corporate Sustainability disclosure is becoming more and more popular and the listed companies in Kenya are adopting it. This can be demonstrated by the society's level of awareness that has increased as a result of rising level of education, global warming, climate change, the rapidly evolving technology and thirst for information (Gatimbu, Kimathi & Wabwire, 2017). This therefore makes stakeholders to demand more information from companies hence, forcing companies to actively participate in sustainable reporting. Environmental pollution has also been a common problem in Kenya in the last few decades due to the growth of the investment management industry. However, the growth of the industry can trigger problems, particularly to the environment (Kalomba, 2020). This, in turn, leads to increasing demands for enhancing environmental sustainability accounting disclosure in banking practices. The need for corporations to be environmentally accountable should therefore not be ignored, but rather viewed objectively in the context of countless merits such as being a sustainable enterprise, improving ties with the

governments and other regulatory bodies, and better reputation (King'ori, Naibei, Sang & Kipkosgei, 2019).

Mandatory disclosure is whereby companies disclose sustainability information as per requirement of the legal rules and regulations of the country (Mbalu & Kamau, 2022). However, environmental disclosure is not mandatory in Kenya. Voluntary Disclosure is whereby Companies disclose environmental information on voluntary terms. They are not obligated by law to disclose as is a practice in Kenya. They do this from pressures from financial institutions, investors, and the community at large. Culture of the organization may also influence such disclosures as may be the preference of dominant management and CEOs. Organizations do this as a way remaining legitimate in the eyes of the society as there may be benefits to be reaped in the long run (Mbithi, Mloi & Wangombe, 2023). Involuntary Disclosure is a type of disclosure that goes against the will of the company. Permission has not been granted by the company against such disclosure a good example is the lead expose in Mombasa. This disclosure is done by the media, civil society groups, and green groups' activists as a result of the detrimental actions of the company toward the society or environment (Kinyua, 2020). It is mainly exposed after the adverse action has occurred.

Moreover, in Kenya environmental sustainability accounting disclosure voluntary and there is no law that mandates this form of reporting. This leaves the entities that report not having any standardized way of doing it. However, the Global Reporting Initiative (GRI) guidelines provide one of the reporting frameworks and the guidelines have been developed for each sector, both in private and public agencies. Without any legislation the motivation for sustainability reporting in the country is low. Most of sustainability reports are prepared using Global Reporting Initiative (GRI) guidelines. GRI provides a standardized reporting framework for the environmental, social, and governance disclosure (Tarus, 2020). Many companies in Kenya attempt to disclose the measures they take in environmental protection for instance, air emission information, water discharge information, solid waste disposal information, environmental policies, conservation of natural resources, recycling plant of waste products, installation of effluent treatment plant, anti-litter and conservation campaign, land reclamation and forestation programs. Limited studies have been done on environmental sustainability accounting disclosure in general in Kenya; this study sought to ascertain the effect of financial risk on environmental sustainability accounting disclosure Investment Management Firms in Kenya.

1.1.1 Financial Risk

Financial risk is the likelihood of financial loss resulting from an entity's exposure to undesirable events (Höck, Klein, Landau & Zwergel, 2020). There are various ways of classifying financial risks. Imoniana, Soares and Domingos (2018) identify five key financial risks namely interest rate, currency, inflation, credit and commodity risks. Zhao, Shahbaz, Dong and Dong (2021) identify four financial risks namely investment risk, financing risk, income distribution Risk and capital recovery risk. Kotaskova, Lazanyi, Amoah and Belas (2020) identify credit, liquidity and Interest Raterisks. Sathyamoorthi, Mapharing, Mphoeng and Dzimiri (2020) identify the above three, plus capital risk, and solvency risk. There is no consensus in classifying financial risk.

Financial risk literature shows that most indicators of financial risk rely on financial ratios. These can be split into liquidity, coverage, operating, leverage and investment ratios. Liquidity ratios measure the ability to cover current obligations using liquid assets (Khalife & Hamzeh, 2019). They include the current ratio, whose ideal levels are between 1.5 and 2, and the quick ratio, whose ideal value is 1 (Oláh et al., 2019). Coverage ratios measure the ability to service debt. Operating ratios measure management performance (Dumay & Hossain, 2019). Interest rate risk measures how sensitive net income is to variations in operating results and to capital structure risk (Belás, Dvorský, Kubálek & Smrčka, 2018). Investment risks are measured using efficiency ratios (Odoemelam & Okafor, 2018).

1.1.2 Environmental Sustainability Disclosure

Simpson (2013) asserted the word disclosure to entail “sharing, releasing, and communicating some useful” and relevant information. Traditionally, disclosure in accounting had been linked to conventional financial reporting, which in recent years has been broadened to incorporate among others value disclosure, sustainability disclosure (Mahadeo, Oogarah-Hanuman, and Soobaroyen, 2011; Farneti and Guthrie, 2009; Williams, 2008). Natural sustainability disclosure has two key implications: (i) creating reports yet likewise (ii) disclosure of data (Niemann and Hoppe, 2017). ESD is a branch of sustainability disclosure that deals with the ecologically actuated budgetary effects on foundations (Schaltegger and Burritt, 2000; Dim and Bebbington, 2002; Godschalk, 2008, Haque, 2011).

The study applied the GRI (2011) in developing the environmental disclosure checklist consisting of various items as used in other studies (Odoemelam & Okafor, 2018; Höck, Klein, Landau &

Zwergel, 2020; Gatimbu, Kimathi & Wabwire, 2017). These items are categorized under; ecological Policies, ecological Sustainability, ecological laws and standards adherence, ecological associated products and procedures concerns, and other information associated to ecology.

Sustainability disclosure detailing improvements have taken distinctive structures, one of them being triple bottom line (TBL) disclosure concept, where the three measurements are social, monetary and natural, or individuals, planet and benefit (Peng & Huang, 2020). For corporate governance effectiveness, the concept has been cited as the most appropriate due to its holistic nature of value creation over the short, medium and long term (Kumar, Jindal & Velaga, 2018). The concept has been attributed from the accounting profession and accounting bodies growing support, which results in likely changes within organization and management as well as the take with which 'institutions might communicate with the community and stakeholders in the provision of its services and operations'(Kouloukoui et al., 2019). In the meantime, worldwide institutions supporting sustainability disclosures were established. One of them is the Global Reporting Initiative (GRI) that has built up a willful sustainability disclosure system.

1.1.3 Financial Risk and Environmental Sustainability Disclosure

Profitability and safety are directly related to the firm's ability to accept risks, according to Al-Dhaimesh (2019), who argue that a firm's ability to see, take care of, and prevent any risk in the future is critical to its ability to recover from losses caused by risks. While a large number of research studies cover risk management, its underlying factors and the impact on firm value, the research on transparency has only been covered on a theoretical basis. Imoniana, Soares and Domingos (2018) argued that the concept of transparency is a relatively new phenomenon, recently receiving scientific interest.

Based upon the concept of information asymmetry, it was largely assumed that the more the firm discloses information to the public, the more symmetrical information exists between the firm and the stakeholders. For example, Kouloukoui et al. (2019) provided some insights that the more the firm discloses its information, the lower the estimation Risk and the less the investors have to guess about the firm. Most of the research on transparency provided explanations as to how transparency can be value creating for the firm but less evidence is found on the exact premium provided by additional transparency.

Peng and Huang (2020) argued that the more information an investor receives, the higher the possibility that he might be drowned in the information he obtained and therefore resulting in the investor being confused. As such, he argued that there should be an optimal point where the information disclosed is sufficient and beyond this point, additional information only sought to confuse the receiver of that information. This optimal point also includes the point where additional information beyond this point might reveal competition sensitive information free for the firm's competitors. Therefore, firms' management has to balance the different perspective and considerations to ensure that neither too little nor too much information is disclosed to the public.

Odoemelam and Okafor (2018) examined the relationship between corporate voluntary disclosure and systematic (market/beta) risk in a sample of Egyptian listed companies. They indicated that more environmental information about listed companies seems preferable to less in order to reduce the perceived riskiness of a company. This should act as incentive for listed companies to enhance public disclosure. The higher level of voluntary disclosure reduces the information gap (asymmetry) between companies and investors (Khalife & Hamzeh, 2019). It is often argued that companies that provide environmental sustainability accounting disclosure to investors and analysts will find it advantageous (Truant, Corazza & Scagnelli, 2017). If a firm does not provide such information, the investors could become suspicious about the quality of their investment.

1.1.4 Investment Management Firms in Kenya

Investment management is the professional management of various securities (shares, bonds and other securities) and assets (e.g., real) in order to meet specified investment goals for the benefit of the investors. Investors may be institutions (insurance companies, pension funds, corporations, charities, educational establishments etc.) or private investors (both directly via investment contracts and more commonly via collective investment schemes e.g. mutual funds or exchange-traded funds). Asset management and investment management is used interchangeably (Tanui & Serebemuom, 2021).

In Kenya, the establishment and licensing of Investment Companies is done by the Capital Markets Authority (CMA). These firms are registered as collective investment schemes (CIS) each mandated to operate investment based on the license granted. Kenya represents over 50% of the economic power of the East African countries, with the most active securities exchange, Nairobi Securities Exchange. Even with the growth in the number of investment firms, the uptake of these

investment opportunities has been wanting. The volume of funds channeled to funds in comparison to other securities, questions the knowledge of the operations of funds, investor confidence and knowledge of the different investment vehicles available (Kiptoo, Kariuki & Ocharo, 2021). The listed collective schemes are managed by investment companies, in Kenya there are four investment companies listed in the Nairobi Securities Exchange. This indicates that such investments are professionally managed and the returns derived should mimic the market trends. The Investment companies listed at NSE are City Trust, Olympia capital holdings, Centum Investments and Trans Century (Sabila, 2021).

Most of investment companies in Kenya have hugely invested in financial wellness programs which aim at motivating, retaining, committing and attracting new employees as well as improving their performance. In most investment companies in Kenya, the number of employers offering financial incentives as part of their wellness program increased to 86%, up from 74% in 2017. The average employee incentive amount also increased, growing from \$742 in 2017 to \$784 in 2018. This growth is part of a longer-term trend with 50% growth from 2013 when the average incentive was \$521. The trend is likely to continue with 29% of employers planning on increasing financial incentives as part of their three to five-year strategy (Wanjere, Ogutu, Kinoti & Iraki, 2021).

Among the investment firms in Kenya, financial knowledge has been found to influence one's financial situation. Financial knowledge may include knowledge about general personal finances, retirement plans, employee benefits, credit and money management, and consumer rights. Workplace financial literacy can increase the level of financial knowledge, and sometimes increased financial knowledge improves the individual financial well-being. Financial problems resulting from poor personal financial management are known to affect individual productivity at the workplace (Mutua, 2019).

1.2 Research Problem

The disclosure of environmental accounting concerning environmental conservation activities of companies and other organizations, including public interest organizations and local public entities, provides a means for stakeholders to understand, evaluate, and offer their support to such efforts (Al-Dhaimesh, 2019). Over the past decade, corporations have witnessed a high demand to be socially responsible and environmentally sensitive to society. Studies conducted on effect of

sustainability disclosure on financial performance yielded either a negative, neutral or positive association thus indicating inconsistent results.

As environmental reporting remains voluntary in firms in Kenya, glaring differences regarding the quality and quantity of environmental information abound (Kalomba, 2020). Environmental disclosure practice in Kenya is weak and there is no reliable and regular information for controlling the environment, especially in the investment management firms. Local investment firms in Kenya are facing stiff competition from foreign investment firms which are well established and have mandatory environmental reporting (Nyangao, 2018). Investment Management Firms in Kenya are faced with numerous financial risks such as credit, liquidity, operational (weak internal controls and inadequate Information Communication Technology (ICT), among others) hence, the need to harmonize financial Risk and environmental sustainability accounting disclosure among Investment Management Firms in Kenya.

However, despite environmental sustainability accounting and reporting being a new phenomenon and the lack of any mandatory regulation towards this disclosure in Kenya, companies are voluntarily engaged in reporting several social responsibility activities in their annual financial reports and it appears that companies have progressed substantially further than literature. Whereas many studies (Kouloukoui, Sant'Anna, da Silva Gomes, de Oliveira Marinho, de Jong, Kiperstok & Torres, 2019; Tarus, 2020; Kipngetich, Tenai & Bonuke, 2019) have been done on CSR in general and on social and environmental accounting and reporting, none has been done to ascertain the effect of financial risk on environmental sustainability accounting disclosure, especially on Investment Management Firms in Kenya. This study therefore aims to analyze the effect of financial risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya.

1.3 Research Objectives

The general objective of the study was to analyze the effect of financial risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya. The study sought to achieve the following specific objectives:

- i. To establish the effect of credit risk on environmental sustainability accounting disclosure among investment management firms in Kenya.

- ii. To determine the effect of liquidity risk on environmental sustainability accounting disclosure among investment management firms in Kenya.
- iii. To evaluate the effect of operational risk on environmental sustainability accounting disclosure among investment management firms in Kenya.

1.4 Value of the Study

Investment management firms would immensely benefit from the study findings as they would be informed of the various financial risks inherent in Nairobi county investment management firms and how their management same influence their firm performance. These include operational risk, liquidity risk, interest rate risk and credit risk. This would equip them with the necessary knowledge that would enable them develop effective financial risk in tandem with their respective risk appetites.

The policy makers would definitely find this case study to be useful and more so the government in carrying out their role of regulation. The study would identify the challenges that companies in the investment management firms face and therefore disclose areas in which the regulatory organizations can step in, in order to forefront development in the industry and in return, the overall economic growth.

This study would also contribute to the Kenyan body of knowledge pertinent to financial risk management and performance of investment management firms in the country. This would add a pool of knowledge and would help scholars get an insight on the impact of financial risk management on operation of investment management firms found in Nairobi County, Kenya. For academicians, the study would be a reference point for those looking to further investigate the region of financial risk. Future specialists would almost certainly advance the point further and better as this study includes the current assemblage of information.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, relevant literature information that is related and consistent with the objectives of the study was reviewed. Important issues and practical problems are brought out and critically examined so as to determine the current facts. This section was as it determines the information that link the current study with past studies and what future studies still needed to explore so as to improve knowledge.

2.2 Theoretical Review

Different scholars have designed several theories to explain the effect of financial Risk and environmental sustainability accounting disclosure. This study was anchored on liquidity preference theory, credit risk theory, agency theory and expectations theory.

2.2.1 Credit Risk Theory

Merton (1974) introduced the credit risk theory otherwise called the structural theory which said that the default event derives from a firm's assets evolution, modeled by a diffusion process with constant parameters. Such models are commonly defined "structural models" and are based on variables related to a specific issuer. In these models, the default can happen throughout all the life of a corporate bond and not only at maturity (Bielecki & Rutkowski, 2013).

Saunders and Allen (2010) posit that credit risk theory is the first readily available portfolio model for evaluating credit risk. The credit risk approach enables a company to consolidate credit risk across its entire organization and provides a statement of value-at risk (VaR) due to credit caused by upgrades, downgrades, and defaults. Credit risk model is useful to all firms that are exposed to credit risk in the course of their business. According to this theory, a firm should develop a methodology to quantify credit risk across a broad range of instruments, including traditional loans, commitments, and letters of credit; fixed income instruments; commercial contracts such as trade credits and receivables; and market-driven instruments such as swaps, forwards, and other derivatives.

When a firm grants credit to its customers it incurs the risk of non-payment. Credit management, or more precisely credit risk management, refers to the systems, procedures, and controls which a

Sacco has in place to ensure the efficient collection of customer payments minimize the risk of non-payment. Hence credit risk theory helped in bringing a good basic understanding credit risk under the study and its effect on environmental sustainability accounting disclosure among investment management firms in Kenya.

2.2.2 Liquidity Preference Theory

John Maynard Keynes created the Liquidity Preference Theory in 1936. Liquidity Preference Theory is a model that suggests that an investor should demand a higher Interest Rate or premium on securities with long-term maturities that carry greater risk because, all other factors being equal, investors prefer cash or other highly liquid holdings. The central point of this idea is that when a firm is financially constrained the offer of trade credit can make up for the reduction of the credit offer from financial institutions. In accordance with this view, those firms presenting good liquidity or better access to capital markets can finance those that are credit rationed.

Several approaches have tried to obtain empirical evidence in order to support this assumption. For example, Nilsen (2002), using small firms as a proxy for credit rationed firms, finds that when there is a monetary contraction, small firms react by increasing the amount of trade credit accepted. As financially unconstrained firms are less likely to demand trade credit and more prone to offer it, a negative relation between a buyer's access to other sources of financing and trade credit use is expected. Petersen and Rajan (1997) obtained evidence supporting this negative relation. The theory has also been criticized where it's stated to be indeterminate. Most economists have pointed out that like the classical and the neoclassical theories of interest, the liquidity Preference Theory is also indeterminate. According to Keynes, rate of interest is determined by the speculative demand for money and the supply of money available for speculative purposes. Given the total supply of money we cannot know how much is available for the speculative motive, unless we know what the transactions demand for money is and we cannot know the transactions demand for money unless we first know the level of income (Keynes, 1936).

This theory suggests that the premium demanded for parting with cash raises as the term for getting the cash decreases. The rate in the increase of this premium amount slows down with the increase term. In financial trading, this theory is expressed as forward rates should exceed the future spot rates. According to Keynes, the demand for liquidity is determined by three motives including: the transactions motive where people prefer to have liquidity to assure basic transactions, for their

income is not constantly available. The amount of liquidity demanded is determined by the level of income: the higher the income, the more money demanded for carrying out increased spending. The precautionary motive where people prefer to have liquidity in the case of social unexpected problems that need unusual costs (Keynes, 1936). The amount of money demanded for this purpose increases as income increases. Speculative motive where people retain liquidity to speculate that bond prices will fall.

Liquidity Preference Theory becomes vital to this research as it explains the rational of banks holding assets. Customers avoid banks characterized by high liquidity risk as they opt for assets that are highly liquid, they do this as they pile up the cash in banks that are highly liquid (Bonfim & Kim, 2011). Therefore, the higher the liquidity of commercial banks the higher their profitability and overall performance. Nikolaou (2009) put forward that a link exists between liquidity Risk and bank liquidity based on the notion that there is high preference by investors for liquidity. This theory thus formed the basis for understanding liquidity risk and its relationship with environmental sustainability accounting disclosure among Investment Management Firms in Kenya.

2.2.3 Agency Theory

The Agency theory was first postulated by Jensen and Meckling in the 1976 article —Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure and it helped establish agency theory as the dominant theoretical framework of the corporate governance literature and position shareholders as the main stakeholder. Agency theory explains the relationship between the principals of the organizations and the operators of the firm. This relationship incorporates partition of possession and control, and administrative inspiration. Agency theory concerns itself mainly in resolving issues that arise in this relationship either due to unaligned goals or because of risk levels of aversion. In corporate risk management issues tend to impact the administration demeanor towards risk taking and hedging. Agency theory also looks at the interest variations between the owners, administrators, and debt holders. Because of variation in profits, management may result in taking too many risks or it may deliberate avoid engaging in projects which may have positive returns (Bass & Bass, 2009).

Therefore, agency theory implies that distinct supporting approaches that can have a significant influence on firm value, Stulz (1984) first suggested why it is important for the managers of a firm to take up risk management. He asserts that managers should be working for the shareholders and

they are supposed to concern themselves into improving the profitability of the firms and the expected return of the firm's value. For shareholders, good risk management will save them on agency costs because they reduce in variation of returns of their firms. Managerial incentives in the execution of risk management have been considered by various researchers with a negative effect (Bielecki & Rutkowski, 2013).

Agency theory underpins the procedure of risk management as a response to confound between administrative motivating forces and shareholder interests. Stakeholders and management will always differ towards the interest of the firm and the objective of risk management is also expected to vary. Shareholders may expect high risk – high return investments, but the managers might prefer low Risk and high return investments. There agency theory should emphasize on good risk management practices geared towards aligning the interest of the managers and those of the shareholders so as to impact on the environmental sustainability accounting disclosure. This theory thus helped in explaining the operational risk management and its influence on environmental sustainability accounting disclosure among Investment Management Firms in Kenya.

2.2.4 Expectations Theory

The theory was developed by Professor Lutz and is based on the assumptions that investors have perfect knowledge about the future short term interest rates, there are no taxes or other costs involved in holding or trading and investors are assumed to be profit maximizers. With these assumptions the theory comes to the conclusion that a long term Interest Rate is an average of the expected future rates on short term bonds. Ignoring the compound interest factor this average will be a simple average. If the long term rate of interest is an average of the short term rates of interest, if the short term interest rates raise the average will also rise and the long term interest will also rise. Thus the long term rate always moves in the same direction in which short term rates move. However the fluctuations in the long term rate will be lower than the fluctuations in the short term rates.

This theory is based on the expectations that people will have in regard to future conditions. If investors expect future interest rates to be high, they will prefer to hold long term securities and if the vice versa is true, they will prefer short term securities. Other expectations that will influence securities demand will include expectations on political conditions, expected inflation levels, among others. Investors expecting higher short-term interest rates are more likely to buy bonds maturing in the short term. If they were to invest money into a long term debt they might not be able to make as

much interest (Auerbach, 1988). This theory thus helped in explaining the Interest Rate risks and its influence on environmental sustainability accounting disclosure among Investment Management Firms in Kenya.

2.3 Determinants of Environmental Sustainability Accounting Disclosure

Environmental disclosure, as one sort of voluntary environmental regulation, plays a significant role in fostering the sustainable development of businesses by increasing their environmental consciousness (Ng, 2018). Environmental accounting data is made public so that users may see how company action affects the environment. This study has primarily focused on factors indicating structural firm-specific factors, ownership structure factors, and corporate governance factors. Powerful determinants, factors, or variables that have a significant impact on environmental accounting disclosure, and do not have a priority over others. The company's environmental performance, size, and profitability play a critical role in the environmental disclosure process. The firm size is an important variable and has a significant impact on the disclosure process, as companies with the largest size report high levels of environmental disclosure (O'Dwyer & Unerman, 2020). In comparison to smaller organizations, larger companies report more disclosure due to the magnitude of their operations

A company in strong financial conditions is also expected to make more detailed environmental disclosure than one in weak financial conditions. Environmentally sensitive industries are subjected to higher societal and political pressure and, as a result, make more elaborate disclosures (Kouloukoui, Sant'Anna, da Silva Gomes, de Oliveira Marinho, de Jong, Kiperstok & Torres, 2019). Companies that are listed on a stock exchange release more environmental information than companies that are not listed on a stock exchange. Firms having a lengthy history (older firms) are reported to be more concerned about their reputation since their legitimacy is threatened by society (Al-Dhaimesh, 2019). Environmental management in the workplace is becoming more widely acknowledged as a major source of risk (e.g. International Auditing Standards). Larger boards may be better suited to reflect the many stakeholder interests. Several scholars agree that the efficiency of a board in dealing with non-financial disclosure is influenced by its independence, which is directly linked to the board's strength. Corporations with more media exposure have a higher level of CSR activities (Wang, Yang, Reisner & Liu, 2019). The formation of an environmental committee is seen as a firm's capital resource

Credit risk is defined as the potential that a borrower or counterparty will fail to meet its obligations in accordance with agreed terms. According to Imoniana, Soares and Domingos (2018), credit risk is the most expensive risk in financial institutions and its effect is more significant as compared to other risks as it directly threatens the solvency of financial institutions. While financial institutions have faced difficulties over the years for a multitude of reasons, the major cause of banking problems continue to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that lead to deterioration in the credit standing of financial institution's counterparties (Höck, Klein, Landau & Zwergel, 2020).

Liquidity risk is the possibility of negative effects on the interests of owners, customers and other stakeholders of the financial institution resulting from the inability to meet current cash obligations in a timely and cost-efficient manner. Liquidity risk usually arises from management's inability to adequately anticipate and plan for changes in funding sources and cash needs. Efficient liquidity management requires maintaining sufficient cash reserves on hand while also investing as many funds as possible to maximize earnings (Majeed, Aziz & Saleem, 2015). A lender must be able to honor all cash payment commitments as they fall due and meet customer requests for new loans and savings withdrawals. These commitments can be met by drawing on cash holdings, by using current cash flows, by borrowing cash, or by converting liquid assets into cash (de Villiers, Rinaldi, & Unerman, 2014).

Operational risk management is a decision-making tool to systematically help identify operational risks and benefits and determine the best courses of action for any given situation. The control of operational risk is primarily concerned with good management, which includes a fearless procedure of cautiousness and regular improvement. This is a worth including activity that effects, either specifically or by implication, on short and long-haul exhibitions. It should, in this way, be a key concern for any business.

In light of the uncertain course of interest rates, financial intermediaries face significant challenges in managing their Interest Rate exposures. Clearly, the impact of changes in market rates depends on the maturity and re-pricing mismatches embedded in institutions' assets, liabilities, and off-balance-sheet positions. In general, those institutions whose assets are expected to re-price faster than their liabilities--referred to as "asset-sensitive"--would be expected to benefit from a rise in

rates, because higher rates, holding everything else constant, should increase their net interest margins. Conversely, the net interest margins of “liability sensitive” institutions--those whose asset durations are longer than their liability durations--would be expected to be negatively affected by a rise in market interest rates (Mungania, 2017).

2.4 Empirical Studies

This section reviews the existing Empirical Studies on financial risk on environmental sustainability accounting disclosure. Empirical Studies on credit risk, liquidity risk, operational Risk and Interest Rate risks were sought.

2.4.1 Credit Risk and Environmental Sustainability Accounting Disclosure

Gladys (2012) studied on the effect of management of credit risk on the environmental sustainability accounting disclosure of commercial banks in Kenya. Descriptive research design was adopted, collected data from commercial banks annual reports for the year 2007 to 2011 and out of 43 banks and analyzed 26 commercial banks using multiple regression analysis. The conclusion was that there is a significant relationship between environmental sustainability accounting disclosure and credit risk. The researcher’s scope of study was commercial banks in Kenya and studied on credit risk management which is a component of financial risk management. This literature has induced the researcher of this study to limit it to Nairobi Security exchange by finding the effect of the financial risk which includes credit risk as an element under study

Kolapo, Ayeni and Oke (2012) focused on the relationship between credit Risk and commercial banks’ accounting disclosure in Nigeria. This study was an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in Nigeria over the period of 11 years (2000- 2010). Five Commercial banking firms were selected on a cross sectional basis for eleven years. The traditional profit theory was employed to formulate profit, measured by Return on Asset (ROA), as a function of the ratio of Non - performing loan to loan & Advances (NPL/LA), ratio of Total loan & Advances to Total deposit (LA/TD) and the ratio of loan loss provision to classified loans (LLP/CL) as measures of credit risk. Panel data was used to estimate the determinants of the profit function. The results showed that the effect of credit risk on bank accounting disclosure is inconclusive. That is the effect is similar across banks in Nigeria, though the degree to which individual banks are affected is not captured by the method of analysis employed in the study. A 100 percent increase in non - performing loan reduces profitability (ROA) by about

6.2 percent, a 100 percent increase in loan loss provision also reduces profitability by about 0.65 percent while a 100 percent increase in total loan and advances increase profitability by about 9.6 percent.

Kargi (2011) evaluated the impact of credit risk on the profitability of Nigerian banks. Financial ratios as measures of bank performance and credit risk were collected from the annual reports and accounts of sampled banks from 2004-2008 and analyzed using descriptive, correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that banks' profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress.

Poudel (2012) explored various parameters pertinent to credit risk management and their effect on the banks' financial performance in Nepal. Parameters covered in his study were such as default rate, cost per loan assets and liquidity risk ratio. Financial report of 31 banks were used to analyze secondary data for eleven years from 2001 to 2011 by comparing the profitability ratio to default rate, cost of per loan assets and liquidity risk ratio which was presented in descriptive. Correlation and regression models were used to analyze the data where the study revealed that all these parameters have an inverse impact on banks' financial performance. Observation of t-test indicated that there is a significant negative relationship between return on assets and independent variable which are default rate and liquidity risk ratio. However, the default rate is the most predictor of bank financial performance.

2.4.2 Liquidity Risk and Environmental Sustainability Accounting Disclosure

Mwangi (2014) studied on the effect of liquidity on environmental sustainability accounting disclosure of deposit taking micro finance institution in Kenya. The study analyzed environmental sustainability accounting disclosure from 2009 to 2013 from Association of Microfinance Institution Reports (AMFI) and CBK annual reports for the period. Environmental sustainability accounting disclosure was measured by ROA while liquidity was assessed by using cash and cash equivalents over the total assets. The findings showed a positive relationship between environmental sustainability accounting disclosure and liquidity because the coefficient of determination was 0.91 or 91% of the variance on the environmental sustainability accounting disclosure. The researcher concluded that financial sector will realize increased environmental sustainability accounting

disclosure if an effort to stimulate micro finance institution's liquidity is implemented by the management.

According to Weber (2012) who studied on Liquidity Risk and liquidity risk measures he carried out the study at Cape Town whose goal was to distil a clear definition for liquidity, molding organic groupings between the measures based on similarities of purpose and assessing them in terms of accuracy and practicality. The study was opposed to this study of financial risks on environmental sustainability accounting disclosure on commercial banks of Kenya. The study found that liquidity risk is the component of financial risk that the research concentrated and its effect on commercial banks in Kenya.

Maaka (2013) studied on the relationship between liquidity Risk and environmental sustainability accounting disclosure of commercial banks in Kenya. Cross-Sectional research design was adopted and secondary data analyzed for 33 commercial banks from 2008 to 2012. Multiple regression was used for assessment of the impact of liquidity on banks' accounting disclosure. It was concluded that accounting disclosure of commercial banks in Kenya is negatively affected due to increase in liquidity gap and leverage.

Alshatti (2016) investigated the impact of bank liquidity on accounting disclosure in Jordanian commercial banks during the years between 2005 and 2012 using data in the Amman Stock Market. A regression model was developed with accounting disclosure whereas the independent variables consisting of investment ratio, net credit facilities/total assets, capital ratio, liquid ratio and quick acid ratio. The research findings established that there was an effect of liquidity Risk and commercial bank accounting disclosure and that the investment ratio and quick ratios affect the accounting disclosure was positive.

Arif and Anees (2012) examined liquidity Risk and its effect on banks' profitability in Pakistani banks. Data was obtained from the balance sheets, income statements and notes of 22 Pakistani banks during 2004 to 2009. Multiple regressions were applied to assess the impact of liquidity risk on banks' profitability. Deposits, cash, liquidity gap and non-performing loans, NPLs were considered as the independent variables regressed with profitability as the dependent variable. The results of their multiple regressions showed that liquidity risk affects bank profitability

significantly, with liquidity gap and non-performing as the two factors worsen the liquidity risk as they have a negative relationship with profitability.

2.4.3 Operational Risk and Environmental Sustainability Accounting Disclosure

Lyambiko (2015) conducted a study on the effect of operational Risk Management Practices on the Financial Performance in Commercial banks in Tanzania. The study adopted a descriptive research design, a target population of 36 licensed commercial banks as at 31st December 2013 with a sample of the 36 commercial banks being analyzed. Secondary data was collected from the financial statements of commercial banks between 2009 and 2013. A regression model was developed with bank accounting disclosure and the independent variables consisting of credit risk, insolvency Risk and operational efficiency. The research findings established that the independent variables had varying degrees of relationship with environmental sustainability accounting disclosure of commercial banks. The research confirmed that operational efficiency was positively correlated with the environmental sustainability accounting disclosure of commercial banks while credit Risk and insolvency risk negatively influenced the environmental sustainability accounting disclosure of commercial banks.

Nabweteme Sewanyana (2011) conducted a study to establish the relationship between operational Risk and organizational environment in Stanbic bank in Uganda. The study adopted both cross-sectional and descriptive survey design with the target population consisting of 60 staff members consisting 14 risk officers, 9 human resource consultants, 18 IT officers, 13 operation officers and 11 senior managers. A sample of 51 respondents was used for the study with questionnaires and interviews being used to obtain information. Secondary data was obtained from existing firms' literature, council reports and journals. The research findings established that there was a positive and significant relationship between operational risk management and organizational accounting disclosure. The regression analysis further revealed that operational risk was significant indicators of accounting disclosure.

Muriithi (2016) sought the effect of financial risk on financial performance of commercial banks in Kenya. The quantitative research design was adopted in the study. The target population of this study was the 43 commercial banks licensed by CBK by December 2014. Time Series Cross Sectional unbalanced secondary panel data was analyzed. The data was obtained from published financial statements of accounts of all 43 commercial banks in Kenya, CBK, and the Banking survey

publications for ten years from 2005 to 2014. The study used financial ratio analysis and panel data techniques of random effects, fixed effects estimation and generalized method of moments, GMM to purge time-invariant unobserved firm specific effects and to mitigate potential endogeneity problems. The pairwise correlations between the variables were carried out. Wald and F- tests were used to determine the significance of the regression while the coefficient of determination, overall, within and between R², were used to determine how much variation in dependent variable is explained by independent variables. Chow and Breusch and Pagan Lagrange multiplier (LM) tests were used to test whether the fixed effects model is better than pooled OLS model and the appropriateness of the random-effects model relative to the pooled OLS model respectively. The findings of the Study indicated that operational risks have significant negative effect on return on equity.

2.4.4 Interest Rate Risk and Environmental Sustainability Accounting Disclosure

Maina (2015) conducted a study on the determinants of interest rates spread among commercial banks of Kenya. The study hypothesized how inflation, operating costs, market structure, ownership structure and business risks affect the behavior of commercial banks in Kenya while setting interest rates. The study used both primary and secondary data from both central bank and Kenya bureau of statistics. The finding of the study was that ownership structure, market structure and business risks play significant role on explaining the interest spread.

Ngalawa and Ngare (2014) conducted a study on the effect of Interest Rate risk on commercial banks in Kenya. The study was limited to listed commercial banks in Kenya. The objective was to determine whether commercial banks in Kenya retain a large exposure to Interest Rate that can be predicted through income gap. The study revealed there is sensitivity of income gaps to market interest rates as determined by the CBK through treasury instruments.

Kipngetich (2011) studied the relationship between interest rates and financial performance of commercial banks in Kenya. To achieve the objective of the Study regression models were developed using financial performance as the independent variable and interest rates as dependent variables. Secondary data was collected from published reports for a period of five years between 2006 and 2010. The analysis shows that the effect of interest rates on profitability is not significant in the short term for all the banks.

Kimita (2016) sought the effect of Interest Rate variations on the financial performance of commercial banks in Kenya. A descriptive design was used in this study, to show trends and comparative analysis of the Interest Rate Variations over the years. All 42 operational Commercial Banks in Kenya as at the year 2015 were considered. Therefore, a census will be used. To achieve the objective of this study, secondary data sources were used to gather information. The study covered a period of 10 years, from the year 2006 to 2015. The data obtained from the secondary sources was analyzed using statistical package for social sciences (SPSS). The findings on the regression coefficients established that Interest Rate variation had an insignificant positive relationship with the Financial Performance of Commercial banks but a negative relationship was witnessed in the case of credit Risk and inflation. The findings also established an insignificant positive relationship between GDP growth and Financial Performance of Commercial Banks. The study concluded that interest rates variation, credit Risk and inflation have an inverse relationship with Financial Performance of Commercial banks while GDP growth rate has a direct relationship with the Financial Performance of Commercial Banks in Kenya.

2.5 Summary of the Literature review and Knowledge Gaps

The studies so far took different focus geographically or from a financial risk component perspective. Whereas these studies focused on specific aspects of commercial bank risks, not many studies have been done to focus on financial risk in totality. The results though have conflicting points to the fact that if not properly managed, financial risk will result into poor results. The cases where there was contrary finding would somehow indicate a possibility where banks compensated their tolerance for risk by a mark-up on profitability hence increasing their returns despite poor asset quality. Further, financial risk focus should include assessment of all its components as defined earlier to give more meaningful result. The contribution that these studies have made in the literature has expanded the need of exploring financial risk factors along with effects on progress of commercial banks. Nevertheless, a gap remains where the authors have become unsuccessful in recognizing the elements that create increased risk.

This study was anchored on liquidity Preference Theory, credit risk theory, agency theory, and Expectations Theory. Corporate risk is traditionally separated into business risks and financial risks. A number of economic and business factors can, of course, affect corporate revenue. Specific market risk factors include the cyclicity of demand for the product and sensitivity to price changes

(demand elasticity). In addition, marketing or production costs may have significant volatility, thus affecting revenues.

According to a review of the literature, the bulk of previous Empirical Studies examined the influence of financial risk on financial performance using various metrics. In most research, the indicator used to quantify profitability is ROA (Muigai & Muriithi, 2017; Kargi, 2011; Poudel, 2012). Furthermore, the majority of local research has focused primarily on the various instruments and techniques of financial risk management, practices, and strategies employed by various organizations.

The majority of the research used Ordinary least squares (OLS), long run models, panel data analysis, and factor analysis-discriminant analysis to conduct their analyses. Descriptive statistics, multiple linear regression, and content analysis was used in this study. Empirical research has yet to establish a credible causal link between financial Risk and environmental sustainability accounting disclosure. Several studies have found that financial risk has a considerable detrimental impact on other variables such as performance or stock returns. Kamau (2015); Choo (2018); and Avedi (2016) established a contra view that financial risk has no impact on environmental sustainability accounting disclosure. These mixed results and different views from varied scholar's forms the basis of this study.

The analysis of the literature on liquidity Risk and accounting disclosure confirms a strong negative influence, as indicated by the works of Imoniana, Soares, and Domingos (2018); Gladys (2012); and Kolapo, Ayeni, and Oke (2012). Mwangi (2014), on the other hand, established that long-term interest rates had no bearing on accounting disclosure. Weber (2012) determined that long-term interest rates are relevant, whereas Maaka (2013) determined that exchange rates are significant to accounting disclosure but interest rates are insignificant. This mixed information from various economies and researchers adds to the confusion, necessitating additional research.

According to Empirical Studies on the impact of operational risk on environmental sustainability accounting disclosure, Alshatti (2016), Lyambiko (2015), and Nabweteme Sewanyana (2011), operational risk has a negative impact on environmental sustainability accounting disclosure. In contrast to the above findings, Maina (2015) determined that liquidity risk had no bearing on environmental sustainability accounting disclosure. According to Ngalawa and Ngare (2014), the

impact of liquidity risk on environmental sustainability accounting disclosure is dependent on the model utilized. The impact of liquidity risk on environmental sustainability accounting disclosure in developing countries like Kenya need to be established in relation to the findings from developed counties. However, these studies did not look at the effect of financial risk on environmental sustainability accounting disclosure of listed banks in Kenya.

2.6 Conceptual Framework

A conceptual framework is an interconnected set of ideas (theories) about how a particular phenomenon functions or is related to its parts. The framework serves as the basis for understanding the causal or correlational patterns of interconnections across events, ideas, observations, concepts, knowledge, interpretations, and other components of experience (Khalife & Hamzeh, 2019).

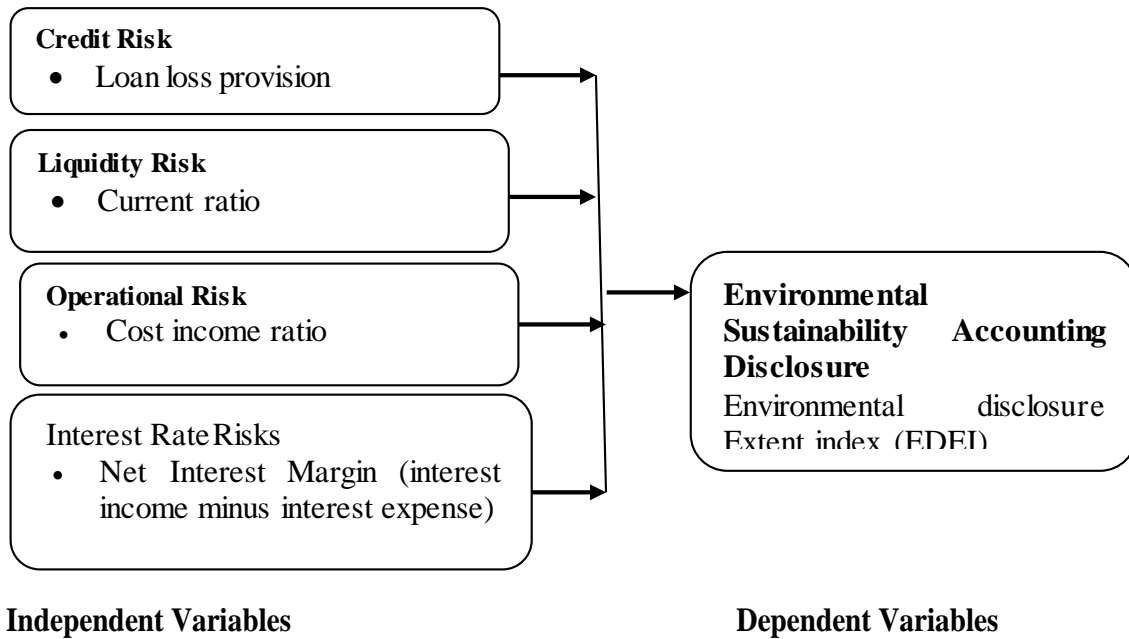


Figure 1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was used in gathering the data. Areas it presents include the research design and philosophy, target population, sample frame, sample size, sampling technique, data collection instrument, data collection procedures, pilot study to test validity and reliability of the research, Data Analysis and presentation procedures that was used to analyze the data to give results of the findings..

3.2 Research Design

Research design is defined as an outline for carrying out a research study with utmost control over factors that may hamper the validity of the findings (Snyder, 2019). The study used descriptive research design. Descriptive study involves finding out who, what, where and how much of a phenomenon, which is the concern of the Study. Rinjit (2020) observes that the goal of descriptive research is to offer the researcher a profile or describe pertinent features of the phenomena in question from the person, organization, business or other perspective.

Descriptive research design is suitable when the objective is to establish the effect of social media strategies on competitiveness of Investment Management Firms in Kenya. This study adopted a descriptive research design since it helps to understand the characteristics of a group in a particular situation, to aid in making certain decisions (Snyder, 2019). A descriptive approach was suitable for this study because other scholars who researched on related topics adopted this design. This design was therefore in line with the philosophical direction and scope of the study. It was probable that this design supported the study's desired objectivity and allow the logistical flexibility essential for data collection and data analysis (Ørngreen & Levinsen, 2017).

3.3 Population and Sample

Population is defined by Cr (2020), as all the fundamentals that rally the basis for inclusion in a study. Target population comprises of all members of a valid or theoretical set of groups, events or objects from which a researcher desires to generalize the outcome of their research while accessible population comprises of all the persons who practically could be incorporated in the sample (Pandey & Pandey, 2021). The target population for this study was 79 Investment Management Firms in Kenya (see Appendix II). This study adopted a census study of all investment management.

3.4 Data Collection

The study collected through secondary data from CMA and CBK annual reports and investment management firms' financial reports between 2018 and 2022. This was done by use of desk search techniques by visiting Nairobi securities exchange and capital market authority websites and head office, further the researcher gathered more information from published financial statements of the investment firms while carrying scientific content of the theoretical framework of the study and to explain the basic concepts of the Study.

3.5 Data Analysis

The quantitative data in this research was analyzed by descriptive statistics using IBM Statistical Package for the Social Sciences (SPSS) version 27. Descriptive statistics included mean, frequency, standard deviation and percentages to profile sample characteristics and major patterns emerging from the data. In addition to measures of central tendencies, measures of dispersion and graphical representations were used to tabulate the information. The analyzed data was then interpreted and presented in frequency tables, graphs and pie charts.

In addition, the researcher conducted a Pearson's correlation and a regression analysis. The Pearson's correlation analysis measures the strength and direction of the relationship between two variables. When one variable changes, the other variable changes in the same direction. Regression analysis was used to analyze the relationship between a dependent variable and independent variables. The models were as shown below

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where

Y = environmental sustainability accounting disclosure Environmental Disclosure Index adopted from the Global Reporting Initiative (GRI 2008).

X₁ = credit risk (Non-performing loans/Total loans)

X₂ = liquidity risk (Total Loans/Total Deposit)

X₃ = operational risk (Operating expenses/Gross Income)

X₄ = Interest Rate risks ((Interest on Assets – Interest Cost on Liabilities)/ Total Assets)

ε = Error term

3.6 Diagnostic Tests

3.6.1 Stationarity Test/ Unit Root Test

Using Augmented Dickey-Fuller (ADF) tests, the study conducted a stationarity test to determine the a unit root presence. The test will be undertaken to assist in avoiding the spurious problem and regression results inconsistency. Generally, a p-value of below 5% indicates that the unit root of the null hypothesis is rejected. The calculated DFT statistics was also linked to the critical value tabulated. If the DFT statistics is less than the table value, the null hypothesis of a unit root is rejected. It is of importance to know that the stronger the evidence for rejecting the null hypothesis of a unit root, the more negative the DF test statistic.

3.6.2 Cointegration Test

Before performing the VAR analysis, cointegration was performed to ascertain if the variables have a long-run or short-run link. The Johansen test was used in the study to detect the presence of cointegration.

3.6.3 Normality Test

Jarque-Bera was used to test the data's normality and establish it for all variables. In the vent the obtained p-value is below 0.05, the data is considered non-normally dispersed.

3.6.4 Multicollinearity

This is common in time series data if two separate variables have a linear relationship. Its existence causes an increase in the variance of parameter approximates, resulting in the provision of incorrect magnitude and sign estimates. This could lead to even more incorrect conclusions. To test for mulicollinearity, the study used VIF values for all variables. If the VIF values for a variable are below 10, the variable is said to have no Multicollinearity symptoms.

3.6.5 Autocorrelation

The term "autocorrelation" denotes to a condition in which the error term is correlated with the error term before it. Its presence has no effect on the unbiasedness of the estimates, but it results to incorrect conclusions due to incorrect hypothesis testing. The study used the Breusch Godfrey LM test to determine whether or not there is autocorrelation. If the p-value for the Chi-square statistic is below 0.05, the empirical model's residuals are not auto correlated.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter explores data analysis, presentation, interpretation and discussions of the research findings using descriptive and inferential statistics. The tests of assumptions of regression model such as tests of normality, multicollinearity, autocorrelation, cointegration test, and unit root tests were conducted to determine the fitness of the regression model that was adopted for this study.

4.2 Descriptive Statistical Analysis

This section presents descriptive statistics of the effect of financial risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya. The section presents the general description of the study variables characteristics including the Mean, standard deviation (Std. Dev), Skewness and Kurtosis. The section also presents the trend analysis per objective. The results are presented in tables and graphs.

4.2.1 Descriptive Statistics on Credit Risk

The study sought to establish the effect of credit risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya. The researcher required to assess the trend analysis for credit risk between the years 2018 to 2022. Figure 4.1 illustrates the findings.

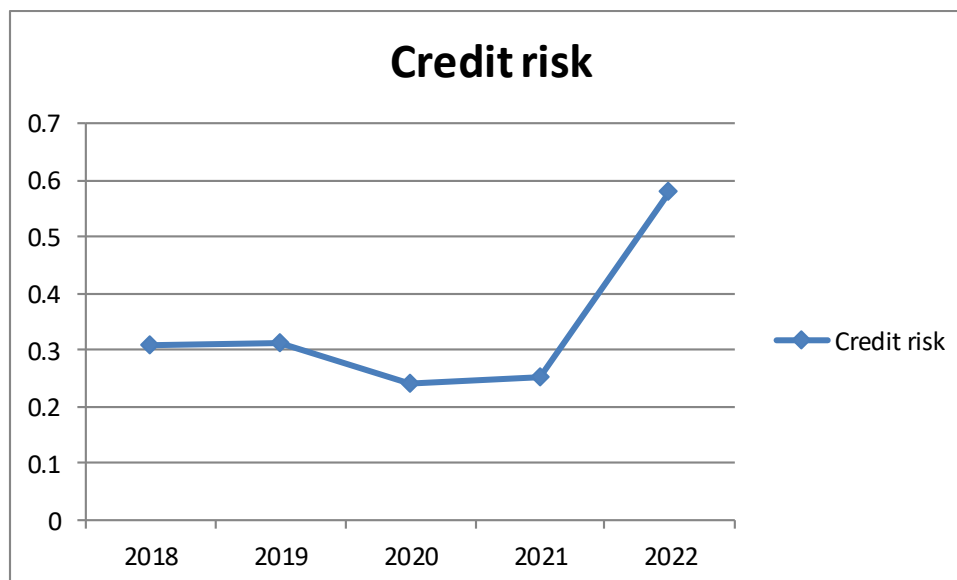


Figure 4. 1: Trend Analysis on Credit Risk

From Figure 4.1, the proportion of non-performing loans to total loans has seen a substantial increase over the period. In 2018, 30.98% of loans were non-performing, and this percentage escalated to 58.01% by 2022. This upward trend suggests a growing challenge in managing credit risk, necessitating a closer examination of lending practices and risk mitigation measures.

The study also sought the descriptive statistics of credit risk. Table 4.1 shows the findings.

Table 4. 1: Descriptive Statistics on Credit risk

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Credit risk	.2409	.5801	.339400	.1384652	1.930	.913	3.930	2.000

The findings from Table 4.1 show that the mean credit risk figures are 0.339400. It further indicates that the maximum was 0.5801 while minimum was 0.2409. On skewness, the results showed that credit risk is asymmetrical to the right around their mean. On the kurtosis, the variable exhibited positive kurtosis. The findings are in accordance with Imoniana, Soares and Domingos (2018) who noted that credit risk is the most expensive risk in financial institutions and its effect is more significant as compared to other risks as it directly threatens the solvency of financial institutions.

4.2.2 Descriptive Statistics on Liquidity risk

The study sought to assess the effect of liquidity risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya. The researcher required to assess the trend analysis for liquidity risk between the years 2018 to 2022. Figure 4.2 illustrates the findings.

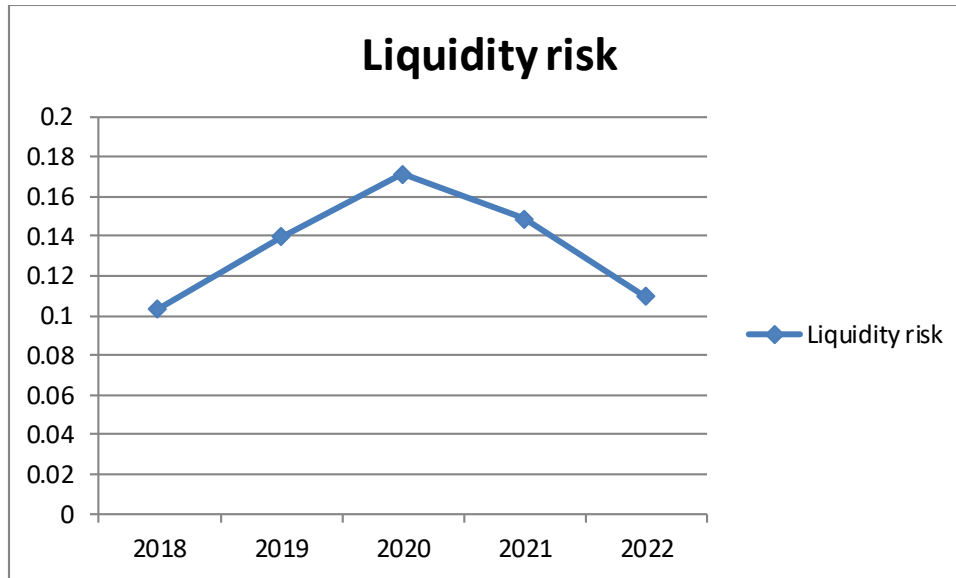


Figure 4. 2: Trend Analysis on Liquidity risk

Liquidity risk, as reflected in the ratio of total loans to total deposits, exhibited a fluctuating pattern. After a relatively low liquidity risk of 10.37% in 2018, the ratio increased until 2020, only to decrease to 10.96% in 2022. This dynamic trend could signify changing market conditions or strategic shifts in managing liquidity within these investment management firms.

The study also sought the descriptive statistics of liquidity risk. Table 4.2 shows the results.

Table 4. 2: Descriptive statistics on Liquidity risk

	Minimu m	Maximu m	Mean	Std. Deviatio n	Skewnes s	Kurtosi s		
	Statistic	Statistic	Statisti c	Statistic	Statistic	Std. Erro r	Statistic	Std. Erro r
Liquidit y risk	.1037	.1715	.134620	.0281302	.147	.913	-1.620	2.000

The findings from Table 4.2 show that the mean liquidity risk figures are 0.134620. It further indicates that the maximum was 0.1715 while minimum was 0.1037. On skewness, the results showed that liquidity risk is asymmetrical to the right around their mean. On the kurtosis, the variable exhibited positive kurtosis. The results correlate with de Villiers, Rinaldi and Unerman (2014) who pointed out that a lender must be able to honor all cash payment commitments as they

fall due and meet customer requests for new loans and savings withdrawals. These commitments can be met by drawing on cash holdings, by using current cash flows, by borrowing cash, or by converting liquid assets into cash.

4.2.3 Descriptive Statistics on Operational Risk

The study sought to determine the effect of operational risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya. The researcher required to assess the trend analysis for operational risk between the years 2018 to 2022. Figure 4.3 illustrates the findings.



Figure 4. 3: Trend Analysis on Operational risk

Operational risk, assessed by the ratio of operating expenses to gross income, remained relatively stable from 2018 to 2020. However, an abrupt surge in 2021, with the ratio reaching 4.4663, raises concerns about the operational efficiency of these firms during that specific year. Further investigation into the factors driving this surge may reveal crucial insights into operational resilience and risk management.

The study also sought the descriptive statistics of operational risk. Table 4.3 shows the results.

Table 4. 3: Descriptive Statistics on Operational Risk

N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Operational risk	.9733	4.4663	1.781320	1.5074082	2.190	.913	4.824	2.000

The findings from Table 4.3 show that the mean operational risk figures are 1.781320. It further indicates that the maximum was 4.4663 while minimum was 0.9733. On skewness, the results showed that operational risk is asymmetrical to the right around their mean. On the kurtosis, the variable exhibited positive kurtosis. Yin (2017) argued that operational risk management is a decision-making tool to systematically help identify operational risks and benefits and determine the best courses of action for any given situation. The control of operational risk is primarily concerned with good management, which includes a fearless procedure of cautiousness and regular improvement. This is a worth including activity that effects, either specifically or by implication, on short and long-haul exhibitions. It should, in this way, be a key concern for any business.

4.2.4 Descriptive Statistics on Interest Rate Risk

The study sought to determine the effect of interest rate risk on environmental sustainability accounting disclosure among Investment Management Firms in Kenya. The researcher required to assess the trend analysis for interest rate risk between the years 2018 to 2022. Figure 4.4 illustrates the findings.

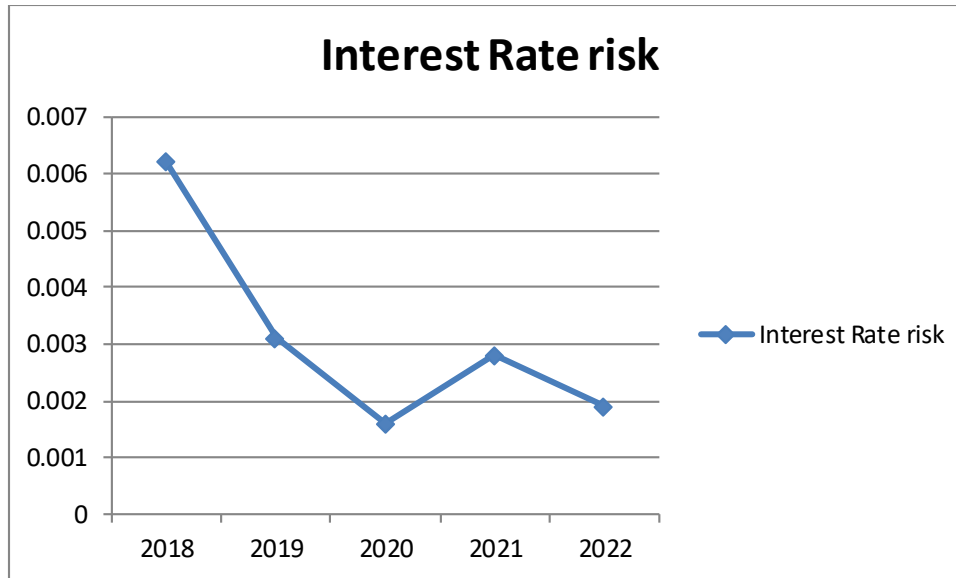


Figure 4. 4: Trend Analysis on Interest Rate Risk

Interest rate risk, measured by the ratio of interest on assets minus interest cost on liabilities to total assets, remained consistently low throughout the years. The figures, ranging from 0.0016 in 2020 to 0.0062 in 2018, indicate a minimal exposure to interest rate fluctuations, showcasing prudent interest rate risk management practices.

The study also sought the descriptive statistics of interest rate risk. Table 4.4 shows the results.

Table 4. 4: Descriptive statistics on Interest Rate Risk

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Interest Rate risk	.0016	.0062	.003120	.0018295	1.623	.913	2.886	2.000

The findings from Table 4.4 show that the mean interest rate risk figures are 0.003120. It further indicates that the maximum was 0.0062 while minimum was 0.0016. On skewness, the results showed that interest rate risk is asymmetrical to the right around their mean. On the kurtosis, the variable exhibited positive kurtosis. The findings concur with Mungania (2017) who found that the

impact of changes in market rates depends on the maturity and re-pricing mismatches embedded in institutions' assets, liabilities, and off-balance-sheet positions. In general, those institutions whose assets are expected to re-price faster than their liabilities--referred to as "asset-sensitive"--would be expected to benefit from a rise in rates, because higher rates, holding everything else constant, should increase their net interest margins. Conversely, the net interest margins of "liability sensitive" institutions--those whose asset durations are longer than their liability durations--would be expected to be negatively affected by a rise in market interest rates.

4.2.5 Descriptive Statistics for Environmental Sustainability Accounting Disclosure

The researcher required to assess the trend analysis for environmental sustainability accounting disclosure among Investment Management Firms in Kenya between the years 2018 to 2022. Figure 4.5 illustrates the findings.

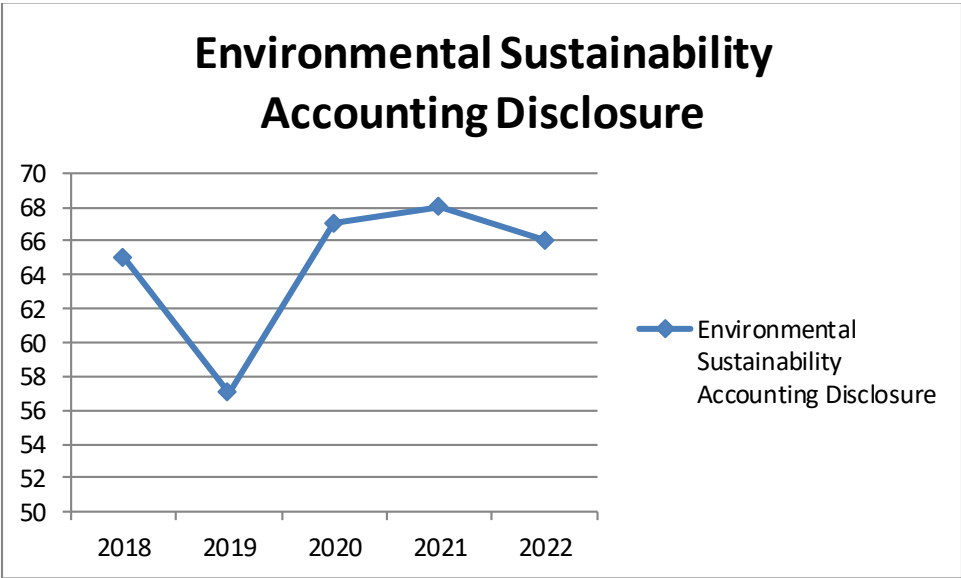


Figure 4. 5: Trend Analysis on Environmental Sustainability Accounting Disclosure

On Figure 4.5, the Environmental Sustainability Accounting Disclosure, represented by the Environmental Disclosure Extent Index (EDEI), fluctuated between 57 and 68 over the years. The highest extent of disclosure was observed in 2021, reflecting a commitment to environmental transparency. However, a slight dip in 2019 suggests potential variations in the firms' focus on environmental sustainability reporting.

The study also sought the descriptive statistics of environmental sustainability accounting disclosure among Investment Management Firms in Kenya. Table 4.5 shows the results.

Table 4. 5: Descriptive Statistics on Environmental Sustainability Accounting Disclosure

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Environmental Sustainability Accounting Disclosure	57.00	68.00	64.60	4.3931765	-1.882	.913	3.768	2.000

The findings from Table 4.5 show that the mean environmental sustainability accounting disclosure figures are 64.60. It further indicates that the maximum for environmental sustainability accounting disclosure was 68.00 and minimum was 57.00. On skewness, the results showed that environmental sustainability accounting disclosure were asymmetrical to the right around their mean. On the kurtosis, the variable exhibited positive kurtosis. According to O'Dwyer and Unerman (2020), Environmental accounting data is made public so that users may see how company action affects the environment. This study has primarily focused on factors indicating structural firm-specific factors, ownership structure factors, and corporate governance factors. Powerful determinants, factors, or variables that have a significant impact on environmental accounting disclosure, and do not have a priority over others. The company's environmental performance, size, and profitability play a critical role in the environmental disclosure process. The firm size is an important variable and has a significant impact on the disclosure process, as companies with the largest size report high levels of environmental disclosure.

4.3 Tests of Assumptions of Regression Model

4.3.1 Unit Root Test

The unit root test to determine the stationarity of the data in the time series was conducted. According to Herranz (2017), a times series is said to be stationary when the statistical attributes, such as; mean, variance and covariance of the distribution are constant over time.

The unit test uses a probability scale of 0.05 or 5%, and a rule that if the probability of unit test is <0.05 there is no unit root therefore the time series is stationary. If there is a p value >0.05 there is a unit root and the time series is non-stationary. The Augmented Dickey-Fuller Test was conducted and the results were as shown on Table 4.6 for the probability values for Level and 1st difference using the unit roots in Intercept and Trend and intercept.

Table 4. 6: Unit Root Test

Independent Variables	Level		1 st difference			
	Intercept (p-value)	Trend Intercept(p-value)	&	Intercept (p-value)	Trend Intercept(p-value)	&
Credit risk	0.9992	0.9735		0.0012	0.0006	
Liquidity risk	0.1545	0.0068		0.0003	0.0090	
Operational risk	0.0001	0.0001		0.0002	0.0001	
Interest rate risk	0.6145	0.6466		0.0004	0.0027	

Results from the stationarity test indicated that for credit risk level intercept $p=0.9992$ $p>0.05$, while trend and intercept $p = 0.9735$ $p>0.05$ while for 1st difference intercept $p=0.0012$ and Trend and intercept $p=0.0006$, therefore there non stationarity in the time series for credit risk in level and but stationary in the 1st difference Unit root tests.

The liquidity risk had a level intercept $p= 0.1545$ and trend and intercept $p=0.0068$ $p>0.05$ while for the 1st difference intercept $p =0.0003$ $p>0.05$ while trend and intercept was $p= 0.0090$ $p>0.05$, the study concluded that there was non stationarity in the level intercept unit tests but stationarity in the 1st difference intercept tests.

For the operational risk there p values all recorded results with p values <0.05 therefore there was stationarity in both pairs of level and 1st difference tests and therefore no unit root and the time series is stationary for both unit root tests.

Results from the stationarity test indicated that for interest rate risk level intercept p=0.6145 p>0.05, while trend and intercept p = 0.6466 p>0.05 while for 1st difference intercept p=0.0004 and Trend and intercept p=0.0027, therefore there non stationarity in the time series for interest rate risk in level and but stationary in the 1st difference unit root tests.

4.3.2 Multicollinearity Test

Multicollinearity test is a test done to find out the correlation between independent variables. Vanegas and Paula (2016) notes that the test is conducted to ensure that the data collected would not be a result of undesired trends in the distribution of data within the study.

Table 4. 7: Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	Credit risk	0.516	1.938
	Liquidity risk	0.626	1.596
	Operational risk	0.480	2.082
	Interest rate risk	0.785	1.274

a. Dependent Variable: environmental sustainability accounting disclosure among Investment Management Firms in Kenya

Tolerance and VIF are utilized as a metric for the existence of multi-collinearity in a regression model, according to Borsoi, Paula, and Galea (2020). To build a model fit for the investigation, they proposed that the tolerance margins be constricted above 0.1 (> 0.1) and the VIF be constricted below 10 (10). Tolerance values of less than 0.1 and VIF outputs of more than 10 are, however, deemed undesirable in the model.

Tests from Table 4.7 indicated that all the independent variables: credit risk (VIF = 1.938), liquidity risk (VIF = 1.596), operational risk (VIF=2.082) and interest rate risk (VIF=1.274), pass the collinearity test since tolerance levels were above 0.1 while VIFs were all below 10.

4.3.3 Autocorrelation Test

This test was conducted to check whether the values of the residuals are independent and that was to ensure that the observations are independent from one another and uncorrelated. The Durbin-Watson test was conducted to indicate the level of autocorrelation. The statistic's value ranges from 0 to 4. Non-autocorrelation is shown by a number near 2; positive autocorrelation is indicated by a value near 0; and negative autocorrelation between independent variables is indicated by a value near 4.

Table 4. 8: Autocorrelation Test Durbin Watson

Model	Durbin-Watson
1	2.078392

Table 4.8 results show Durbin Watson statistic value is 2.078392. Chen (2016) notes that test statistic values in the range of 1.5 to 2.5 indicates no autocorrelations hence the conclusion is that there is no autocorrelation between the independent variables.

4.3.4 Cointegration Test

The presence of cointegration was detected using the Johansen test. The findings are as indicated in Table 4.9.

Table 4. 9: Cointegration Test Results

	Eigen Value	Trace Statistic	Critical value at 95%	P-value
Credit risk	0.134	23.45	26.09	0.000
Liquidity risk	0.094	61.23	62.12	0.001
Operational risk	0.307	21.09	26.90	0.009

Interest rate risk	0.068	18.78	19.11	0.011
Environmental sustainability accounting disclosure	0.193	27.32	28.92	0.010

From the findings, the study shows that all the factors had their p-values below 0.05 and hence the study concluded that variables exhibit long-run or short run relationship.

4.3.5 Normality Test

Jarque-Bera was used to ascertain the normality of the data. The outcomes are shown in Table 4.10.

Table 4. 10: Normality Test Results

	Jarque-Bera Coefficient	P-value
Credit risk	5.304	0.202
Liquidity risk	1.763	0.315
Operational risk	2.153	0.227
Interest rate risk	3.239	0.300
Environmental sustainability accounting disclosure	3.145	0.201

From the findings, the p-values for credit risk, liquidity risk, operational risk, interest rate risk, and environmental sustainability accounting disclosure were greater than 0.05. Therefore, the study resolved the data was deemed to be normally distributed.

4.4 Multiple Regression Analysis

The researcher conducted a multiple linear regression analysis to ascertain the relationship between environmental sustainability accounting disclosure among Investment Management Firms in Kenya and the four independent variables namely: credit risk, liquidity risk, operational risk, and interest rate risk.

Table 4. 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.951	0.904	0.899	1.120

The results in Table 4.11 indicate an adjusted R² of 0.899. This means that 89.9% of variation in environmental sustainability accounting disclosure among Investment Management Firms in Kenya is explained by interest rate risk, credit risk, liquidity risk and operational risk in the model and that 10.1% of the variation is due to factors not considered in this model. The results also reveal that financial risk affects environmental sustainability accounting disclosure among Investment Management Firms in Kenya significantly.

Table 4. 12: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	909.918	4	227.480	174.310	7.46E-37
	Residual	96.572	74	1.305		
	Total	1006.49	78			

The results in Table 4.12 show that the overall significance of the model was statistically significant at F=174.310 and P-value=7.46E-37<0.05. This means that the model was statistically significant at 95% confidence level. The findings also imply that there was a significant effect of the financial risk used in the study. Consequently, the findings indicate that for the effective environmental sustainability accounting disclosure, the Investment Management Firms listed at Nairobi Securities Exchange should incorporate the four variables so that the desired objectives can be achieved. The results are in agreement with Ng (2018) who asserted that environmental disclosure, as one sort of voluntary environmental regulation, plays a significant role in fostering the sustainable development of businesses by increasing their environmental consciousness. A company in strong financial conditions is also expected to make more detailed environmental disclosure than one in weak financial conditions. Environmentally sensitive industries are subjected to higher societal and political pressure and, as a result, make more elaborate disclosures (Kouloukoui, Sant'Anna, da Silva Gomes, de Oliveira Marinho, de Jong, Kiperstok & Torres, 2019).

Table 4. 13: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.723	0.228		3.171	0.002
	Credit risk	0.695	0.254	0.543	2.736	0.008
	Liquidity risk	0.858	0.163	0.732	5.264	0.000
	Operational risk	0.703	0.242	0.604	2.905	0.005
	Interest rate risk	0.921	0.156	0.817	5.904	0.000

a. Dependent Variable: environmental sustainability accounting disclosure of Investment Management Firms

Based on the results, the predictive model was formulated as:

$$\text{Environmental sustainability accounting disclosure of Investment Management Firms} = 0.723 + 0.695x_1 + 0.858x_2 + 0.703x_3 + 0.921x_4$$

Where, x_1 = Credit risk

x_2 = Liquidity risk

x_3 = Operational risk

x_4 = Interest rate risk

The coefficient results in Table 4.13 revealed that the relationship between the credit risk and environmental sustainability accounting disclosure among Investment Management Firms in Kenya was statistically significant ($\beta=0.695$, P-value=0.008). This implies that for one unit increase in credit risk, environmental sustainability accounting disclosure among Investment Management Firms in Kenya will increase by a factor of 0.695 when holding other factors constant. The findings are in line with Höck, Klein, Landau and Zwergel (2020) who stated that while financial institutions have faced difficulties over the years for a multitude of reasons, the major cause of banking problems continue to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that lead to deterioration in the credit standing of financial institution's counterparties.

Similarly, the relationship between liquidity risk and environmental sustainability accounting disclosure among Investment Management Firms in Kenya was statistically significant ($\beta=0.858$, P-value = 0.000). This implies that an increase of liquidity risk by one unit is expected to increase the environmental sustainability accounting disclosure among Investment Management Firms in Kenya by a factor of 0.858. The findings differ with Majeed, Aziz and Saleem (2015) who concluded that liquidity risk is the possibility of negative effects on the interests of owners, customers and other stakeholders of the financial institution resulting from the inability to meet current cash obligations in a timely and cost-efficient manner. Liquidity risk usually arises from management's inability to adequately anticipate and plan for changes in funding sources and cash needs. Efficient liquidity management requires maintaining sufficient cash reserves on hand while also investing as many funds as possible to maximize earnings.

The relationship between operational risk and environmental sustainability accounting disclosure among Investment Management Firms in Kenya was also statistically significant ($\beta=0.703$, P-value=0.005). This implies that an increase in operational risk by one unit will lead to an increase in environmental sustainability accounting disclosure among Investment Management Firms in Kenya by a factor of 0.703 when holding other factors constant. The results agree with Lyambiko (2015) who found the independent variables had varying degrees of relationship with environmental sustainability accounting disclosure of commercial banks. The research confirmed that operational efficiency was positively correlated with the environmental sustainability accounting disclosure of commercial banks.

Further, the relationship between interest rate risk was statistically significant ($\beta=0.921$, P-value=0.000). This infers that an increase in interest rate risk by one unit will lead to an increase in environmental sustainability accounting disclosure among Investment Management Firms in Kenya by a factor of 0.921 when holding other factors constant. This is accordance with Ngalawa and Ngare (2014) who stated that there is sensitivity of income gaps to market interest rates as determined by the CBK through treasury instruments.

Overall, the interest rate risk had the greatest effect on the environmental sustainability accounting disclosure among Investment Management Firms in Kenya, followed by liquidity risk, then operational risk while credit risk had the least effect on the environmental sustainability accounting

disclosure among Investment Management Firms in Kenya. All the variables were significant since their p-values were less than 0.05.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter includes a review, conclusion, and summary of the findings, as well as debates and research recommendations. The extent to which the research objectives have been met is explained in this chapter. The research looked at how financial risk affects the environmental sustainability accounting disclosure among Investment Management Firms in Kenya.

5.2 Summary of Findings

The goal of the study was to establish the effect of financial risk on environmental sustainability accounting disclosure of Investment Management Firms. The study relied on secondary data to address the research question. The independent variables were credit risk, liquidity risk, operational risk, and interest rate risk and the environmental sustainability accounting disclosure of Investment Management Firms as the dependent variables of measure.

5.1.1 Effect of Credit Risk on Environmental sustainability accounting disclosure of Investment Management Firms

The first objective of the study was to establish the effect of credit risk on environmental sustainability accounting disclosure of Investment Management Firms. The study found that a unit change in credit risk yields a 0.695 positive change on environmental sustainability accounting disclosure of Investment Management Firms. The p-value of 0.008 means that the credit risk has positive and statistically significant effect on the environmental sustainability accounting disclosure of Investment Management Firms.

5.1.2 Effect of Liquidity Risk on Environmental sustainability accounting disclosure of Investment Management Firms

The second objective of the study was to assess the effect of liquidity risk on environmental sustainability accounting disclosure of Investment Management Firms. The study found that a unit change in liquidity risk yields a 0.858 positive change on environmental sustainability accounting disclosure of Investment Management Firms. The p-value of 0.000 means that the liquidity risk has

positive and statistically significant effect on the environmental sustainability accounting disclosure of Investment Management Firms.

5.1.3 Effect of Operational Risk on Environmental sustainability accounting disclosure of Investment Management Firms

The third objective of the study was to determine the effect of operational risk on environmental sustainability accounting disclosure of Investment Management Firms. The study found that a unit change in operational risk yields a 0.703 positive change on environmental sustainability accounting disclosure of Investment Management Firms. The p-value of 0.005 means that the operational risk has positive and statistically significant effect on the environmental sustainability accounting disclosure of Investment Management Firms.

5.1.4 Effect of Interest Rate Risk on Environmental sustainability accounting disclosure of Investment Management Firms

The fourth objective of the study was to determine the effect of interest rate risk on environmental sustainability accounting disclosure of Investment Management Firms. The study found that a unit change in interest rate risk yields a 0.921 positive change on environmental sustainability accounting disclosure of Investment Management Firms. The p-value of 0.000 means that the interest rate risk has positive and statistically significant effect on the environmental sustainability accounting disclosure of Investment Management Firms.

5.3 Conclusions

The study concluded a positive and statistically significant relationship, indicating that higher levels of credit risk are associated with increased environmental sustainability disclosure. This suggests that firms facing greater credit risk are, to a noteworthy extent, more transparent in disclosing their environmental sustainability practices. Consequently, it can be concluded that credit risk management and environmental sustainability reporting are interconnected, and efforts to enhance one aspect may positively influence the other.

The study concluded a highly significant positive relationship, implying that as liquidity risk increases, so does the extent of environmental sustainability disclosure. This suggests that firms facing liquidity challenges may prioritize transparency in communicating their environmental

sustainability practices. In conclusion, effective liquidity risk management appears to align with a commitment to environmental sustainability reporting.

The third objective sought to determine the effect of operational risk on the environmental sustainability accounting disclosure of Investment Management Firms. The study concluded a positive and statistically significant relationship, indicating that higher operational risk is associated with increased environmental sustainability disclosure. This implies that firms grappling with operational challenges are more inclined to transparently communicate their environmental sustainability efforts. In conclusion, effective management of operational risks appears to coincide with a higher degree of environmental sustainability reporting.

The study deduced a highly significant positive relationship, suggesting that higher interest rate risk is associated with increased environmental sustainability disclosure. This implies that firms facing interest rate uncertainties prioritize transparency in disclosing their environmental sustainability initiatives. Therefore, it can be concluded that effective management of interest rate risk aligns with a commitment to environmental sustainability reporting.

5.4 Implications of the Study

Firms facing higher levels of financial risk, as revealed in the study, are likely to enhance their transparency regarding environmental sustainability practices. This has implications for investors who are increasingly considering environmental, social, and governance (ESG) factors in their decision-making. The findings suggest that higher-risk firms may proactively disclose environmental sustainability efforts to build trust and attract socially responsible investors.

Regulatory bodies overseeing investment management may take note of the study's findings. The positive and statistically significant relationships identified imply that regulatory frameworks emphasizing the integration of environmental sustainability into risk management practices could be encouraged. Policymakers might consider providing incentives or guidelines to motivate firms to enhance disclosure in areas where financial risks are prominent.

Investors, particularly those with a focus on sustainable and responsible investment practices, can benefit from the study's insights. Understanding the links between financial risk and environmental sustainability disclosure allows investors to make more informed decisions. It may also encourage

them to engage with investment management firms to ensure alignment with their own sustainability goals.

The study suggests that investment management firms that effectively manage and disclose their financial risks are also more likely to transparently communicate their environmental sustainability initiatives. This creates a competitive landscape where firms with robust risk management practices may gain a competitive edge by appealing to socially conscious investors and stakeholders.

Investment management firms may consider integrating environmental, social, and governance (ESG) factors more explicitly into their risk management frameworks. This integration can not only enhance sustainability performance but also contribute to a more comprehensive understanding of overall organizational risk.

The study implies that there is a potential for long-term value creation for investment management firms that effectively manage financial risks while prioritizing environmental sustainability. Firms that successfully navigate these dual responsibilities may be better positioned for sustainable growth and resilience in the face of evolving market dynamics.

5.5 Recommendations

To address the effect of credit risk on environmental sustainability accounting disclosure, investment management firms in Kenya are advised to integrate environmental, social, and governance (ESG) factors explicitly into their credit risk assessment frameworks. This integration ensures that credit risk evaluations account for environmental sustainability considerations, leading to a more comprehensive understanding of the impact on disclosure. Additionally, the study recommends refining reporting guidelines specifically addressing the environmental aspects of credit risk can enhance the quality and relevance of environmental risk reporting.

In relation to the effect of liquidity risk on environmental sustainability accounting disclosure, the research recommends that firms are encouraged to extend the integration of ESG metrics to liquidity risk management processes. Recognizing the relationship between liquidity risk and environmental sustainability, organizations should ensure that liquidity risk assessments consider environmental factors for a more comprehensive approach to disclosure. The study further recommended

establishing transparent reporting practices that explicitly link liquidity risk management strategies with environmental sustainability initiatives is crucial in fostering transparency in both areas.

Addressing the effect of operational risk on environmental sustainability accounting disclosure requires investment management firms to strengthen their operational risk governance structures. This involves explicitly including environmental considerations in operational risk governance and appointing individuals with expertise in both operational risk and environmental sustainability to ensure a holistic approach to risk management and disclosure. Additionally, the study recommends investing in technology solutions that integrate operational risk and sustainability data can streamline the collection and reporting of operational risk and sustainability metrics, fostering transparency in both areas.

In response to the effect of interest rate risk on environmental sustainability accounting disclosure, firms are recommended to incorporate environmental, social, and governance (ESG) criteria into their interest rate risk management frameworks. This ensures that interest rate risk assessments account for environmental factors, contributing to enhanced disclosure. Furthermore, the study recommends engagement in open dialogue with stakeholders, including regulators and investors, is essential to discussing the integration of interest rate risk management and environmental sustainability. Collaboration with stakeholders can contribute to evolving industry standards that emphasize the importance of sustainability in risk management.

5.6 Suggestions for Further Studies

Since this study explored the effect of financial risk on environmental sustainability accounting disclosure of Investment Management Firms, the study recommends that; similar studies should be done in other countries for comparison purposes and to allow for generalization of findings on the relationship between financial risk and environmental sustainability accounting disclosure of Investment Management Firms.

Other studies should consider other companies such as those in other sectors listed at the Nairobi Securities Exchange. A study on the relationship between financial risk and environmental sustainability accounting disclosure for companies which are not listed at the NSE is also recommended. This includes the companies in the financial sectors for example, the SACCO's and also non-financial companies for example, manufacturing companies. This may help come with

recommendations for companies which are not listed at the NSE to better their environmental sustainability accounting disclosure and financial risk.

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APPENDICES

Appendix I: Secondary Data Collection Sheet

Variable	Description	2018	2019	2020	2021	2022
Credit risk	Non-performing loans					
	Total loans					
Liquidity risk	Total Loans					
	Total Deposits					
Operational risk	Operating expenses					
	Gross Income					
Interest Rate risk	Interest on Assets – Interest Cost on Liabilities					
	Total Assets					
Environmental Sustainability Accounting Disclosure	Environmental disclosure Extent index (EDEI)					

Variable	Description	2018	2019	2020	2021	2022
Credit risk	Non-performing loans	24,126,617	28,008,688	21,890,760	15,772,832	19,654,903

	Total loans	77,882,430	89,382,787	90,883,144	62,383,501	33,883,858
Liquidity risk	Total Loans	77,882,430	89,382,787	90,883,144	62,383,501	33,883,858
	Total Deposits	750,896,000	640,470,000	530,044,000	419,618,000	309,192,000
Operational risk	Operating expenses	729,409	669,082	569,992	555,684	449,339
	Gross Income	749,437	639,131	528,904	124,418	334,723
Interest Rate risk	Interest on Assets – Interest Cost on Liabilities	499,603	278,932	158,378	306,848	220,107
	Total Assets	81,228,791	90,629,929	100,031,067	109,432,205	118,833,343
Environmental Sustainability	Environmental disclosure Extent index (EDEI)	65.00	57.00	67.00	68.00	66.00

Variable	2018	2019	2020	2021	2022
Credit risk	0.3098	0.3134	0.2409	0.2528	0.5801
Liquidity risk	0.1037	0.1396	0.1715	0.1487	0.1096
Operational risk	0.9733	1.0469	1.0777	4.4663	1.3424
Interest Rate risk	0.0062	0.0031	0.0016	0.0028	0.0019
Environmental Sustainability Accounting Disclosure	65	57	67	68	66

Appendix II: List of Investment Management Firms in Kenya

1. Macdavidson Consulting Group Ltd
2. NIC BANK
3. Ethos Research And ICT - Kenya
4. Strategy Private Investigators
5. Denkim Insurance
6. Dolexo Insurance Agency
7. Richmind Investments
8. Afrigold Investment Company Ltd
9. Emeralds Insurance Agency
10. Fourth Street Consultants
11. M.M. John International Limited
12. MNC Consulting Group
13. Ozaid Group
14. Hope Investment
15. Rich World Investments
16. AAR Insurance Kenya
17. Almoed Insurance Agency
18. Compass Solutions Limited
19. Safe Capital Investment
20. Vivek Investments Ltd
21. New Milimani Sacco Limited
22. UAP Old Mutual
23. Business Options Africa
24. Freyr International Limited
25. Miran Insurance Brokers Ltd
26. Watermark Consultants
27. Biglife Group of Companies
28. Paddy Micro Investment Ltd
29. Trunow Insurance Agency
30. Enke Investment Ltd
31. Azzai Insurance Agency
32. Maloo Investments
33. Amana Capital Ltd
34. Walkers Insurance Agency
35. Wesna Insurance Agency Limited
36. Bismart
37. Dynasty Consulting
38. The Lending Company
39. Cherami Africa Limited
40. Moptions Capital
41. Pesabazaar
42. Shankan Enterprises Ltd
43. Investment Promotion Centre
44. African Bank Development Group
45. Mobika Investments
46. Action Plus
47. AIG
48. Clozet Investments

- | | | | |
|-----|---------------------------------------|-----|----------------------------|
| 49. | Eagle Holding | 64. | Jumbi Investments Ltd |
| 50. | Gallium Active Investing | 65. | Jumbo Investments Ltd |
| 51. | Nginyo Unvestments | 66. | Karume Investments Ltd |
| 52. | Nima Investments | 67. | Kipriko Investments Ltd |
| 53. | Sovereign Group | 68. | Marge Investments Ltd |
| 54. | Tekko | 69. | Marlborough Investments |
| 55. | Themis Investments | 70. | Musimba Investments Ltd |
| 56. | Trade World Kenya | 71. | Ositum Investment Ltd |
| 57. | Goldwings Investments Ltd | 72. | Pawa Investments Ltd |
| 58. | Suera Flowers Ltd | 73. | Rajdip Housing Development |
| 59. | Task Ant | 74. | Samima Investments Ltd |
| 60. | AfricanAlliance Kenya Investment Bank | 75. | Venture Investments Co Ltd |
| 61. | Amalgamated Properties Ltd | 76. | Yalah Investments Limited |
| 62. | Bon-Vak Investments | 77. | Nucleur Investments Ltd |
| 63. | Centum Investment | 78. | Adobe Investments Ltd |
| | | 79. | Akaba Investments Ltd |

Appendix III: Environmental disclosure Extent Index (EDEI)

Content analysis was used to determine the extent of environmental disclosures made by these companies in their annual reports. Content analysis is a research technique that applies systematic procedures for analysing the content of written medium and converting them into quantitative measures (Krippendorff 1980; Wolfe 1991). This method has been considered as the most widespread form of data measurement used in studies that involve disclosures (see e.g., Gray, Kouhy and Lavers 1995), and it has been commonly adopted, in various forms, in previous social and environmental disclosure studies (e.g., Guthrie and Mathews 1985; Guthrie and Parker 1990; Hackston and Milne 1996).

In this study, we shall adopt a scoring approach used by Djajadikerta and Trireksani (2012) on the examination of environmental disclosure by Indonesian listed companies in their corporate websites, which was adopted and adjusted based on the previous work of Cross and Djajadikerta (2004), Freedman and Wasley (1990), Ingram and Frazier (1980), Walden and Schwartz (1997), and Wiseman (1982). In this approach, the extent of the environmental disclosure is scored based on the three dimensions of evidence, timeframe and specificity.

Components of environmental disclosure extent score

<i>Dimension</i>	<i>Item</i>
Evidence	Monetary / Quantitative Non-monetary / Qualitative Declarative No evidence
Time frame	Future Present Past No time frame
Specificity	Specific General

If there is no evidence of environmental disclosure, a score of zero is awarded. If environmental disclosure is present, the scoring system described in Table above was used to determine the score each dimension item of the disclosure. The total score ranges from zero to six for each company and it represents a measure of environmental disclosure Extent. An environmental disclosure Extent index (EDEI) for each company is calculated by dividing the mean by six, which is the maximum possible total score.