THE EFFECT OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING ON STOCK RETURNS OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI

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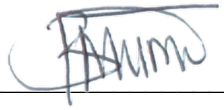
DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed:  Date: 23.11.2022

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This research project has been submitted for examination with my approval as the University Supervisors.

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DEDICATION

This research project is dedicated to:

My parents and siblings, for their love and financial support.

My sunshine, Imani, for her fervent encouragement.

My colleagues at The Village Creative Group, for the moral support.

May the Lord richly bless you!

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
ANOVA	Analysis of Variance
ATS	Automated Trading System
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
CSR	Corporate Social Responsibility
ESG	Environmental, Social and Governance
GRI	Global Reporting Initiative
ICPAK	Institute of Certified Public Accounts of Kenya
KCB	Kenya Commercial Bank
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
VIF	Variance Inflation Factors

ABSTRACT

In the aftermath of global financial scandals and increased stakeholder pressure, companies are now more sensitive towards ESG reporting. ESG entails voluntarily reporting a firm's ethical values, long-term sustainability performance, and reputation. Presently, the board not only monitors and controls managers' behaviors but also ensures that the company meets societal and environmental needs, which is best captured by ESG reporting. Recent studies reveal that ESG reporting reduces information asymmetry between the principal and the agent; thus, mitigating opportunistic managerial behaviors' and this is expected to enhance the stock returns of firms. The main research objective was to establish ESG reporting effect on stock returns of listed firms at the Nairobi Securities Exchange. The independent variable for the research was ESG reporting measured using environmental reporting, social reporting and environmental reporting while the control variable was trading volumes. The dependent variable was stock returns measured using annual change in share price. The research was anchored on stakeholder theory, the agency theory and behavioral finance theory. Descriptive research design was utilized in this research. The 63 listed firms in Kenya as at December 2021 served as target population. The research obtained secondary data for five years (2017-2021) on an annual basis from CMA and individual listed firms' annual reports. Descriptive, correlation as well as regression analysis were undertaken and outcomes offered in tables followed by pertinent interpretation and discussion. The research discovered a 0.2528 R square value implying that 25.28% of changes in listed firms' stock returns can be described by the four variables chosen for this research. The multivariate regression analysis further revealed that individually, environmental reporting exhibited a positive and significant influence on stock returns of Kenyan listed firms (β=0.1222, p=0.000). Social reporting and governance reporting exhibited positive but not significant effect on stock returns of listed firms as shown by (β=0.0392, p=0.594); and (β=-0.0618, p=0.392) respectively. Trading volumes exhibited a positive and significant influence on stock returns of Kenyan listed firms (β=0.2314, p=0.000). The research recommends the need for listed firms to enhance environmental reporting as this will enhance their returns. The policy makers such as CMA can hasten the implementation of GRI-G4 guideline. Future research ought to focus on other listed firms in East Africa community member countries to corroborate or refute the conclusions of this research.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

With the increase in uncertainty in the market environment, companies cannot rely on financial reporting alone to remain competitive. Investors require more information from companies which will give them a clear understanding of their investment (Nazir, Akbar, Akbar, Poulovo, Hussain & Qureshi, 2022). The latest development in corporate reporting is Environmental, Social and Governance (ESG) reporting that is intended to explain the matters pertaining conventional non-financial plus financial reporting also enhancing preceding advancements improving the information that is extended to the firm's stakeholders (Al Amosh, Khatib & Ananzeh, 2022). ESG reporting promotes investors' confidence through enhanced transparency and quality of financial information, which tends to reduce the opportunistic behavior of managers and by so doing enhance the stock returns of a firm. Similarly, firms that divulge sustainability information tend to receive favorable perceptions regarding their corporate governance mechanism (Feng, Long, Wang, & Chang, 2022).

This study was founded on three theories consisting of the stakeholder theory, the agency theory and behavioral finance theory. Stakeholder theory by Freeman (1984) is the anchor theory as it argues that stakeholders consist of corporate shareholders, creditors, government and even groups that encourage people to conserve the environment, among others. Stakeholder relationships improves when there is an increase in social spending which is conducive in reduction of social costs of firms, which increases the net financial worth. Agency theory by Jensen and Meckling (1976) is a principle that resolves and explains issues of a relationship between business principals and their agents especially between shareholders and company

executives. The theory shall be used in this study to establish how ESG reporting solves some of the agency conflicts that are inherent in an organization. Behavioral finance by Kahneman and Tversky (1974) purport that individual's decisions are not purely informed by logic and rationale but rather driven by personal preferences and experiences and so stock returns usually show the behaviors of different investors in the market.

In Kenya, the NSE is the only body which undertakes the activities of the stock market, amid multiple additional agendas alongside duties, which are promotion and improvement of a culture of thrift, and/or saving by according alternative premise for investment and helps to transfer the savings to investment in high-yielding enterprises and listed stocks. The NSE plays critical role in Kenya's economic growth as it currently trades more than a 100 million shares in a month (Okoth, 2020). With the emphasis of the CMA on the tightening of corporate governance rules amongst the market participants and the introduction of ESG reporting framework, the extent of disclosure is bound to be enhanced at the NSE. It was thus authoritative to examine if this development is significant to the listed firm stock returns.

1.1.1 Environmental, Social and Governance Reporting

The Global Reporting Initiative (2013) defines ESG reporting as "a process that aids firms in formulating goals, measuring performance besides controlling variations towards a sustainable global economy – one combining long term profitability with social responsibility and environmental care." ESG reporting can also be defined as a clear communication on the strategies, governance and possibilities that will support short, medium and long term value creation in a corporate body (Shaikh, 2022). ESG reporting focuses on corporate activities that enhance its potential in creating long-

term value for various stakeholders in a firm's context. Presently, stakeholders expect firms to declare non-financial alongside financial details that reveals a holistic firm view (Gholami, Sands & Rahman, 2022). In the current study, the GRI (2013) definition will be adopted as it reckons with the ESG reporting.

Proponents of signaling theory suggest that ESG reporting is a very crucial instrument which aids leaders in portraying their trustworthiness, communicate the effectiveness of governance structures and demonstrate their firms' sustainability to internal and external stakeholders (Romero, Ruiz & Fernandez-Feijoo, 2019). Rezaee and Tuo (2019) argue that disclosure of both non-financial besides the financial facts to third parties assists in mitigating unethical manipulation of earnings also managerial opportunism. Besides, Dhaliwal et al. (2011) claims that ESG reporting reduce information asymmetry between managers and investors which in effect enhances stock returns. Therefore, the adoption of ESG reporting offers an effective basis for improved quality of financial reporting.

In regards to operationalization, the majority of ESG reporting studies have adopted the sustainability reporting index to measure ESG reporting. The sustainability reporting index is based on a weighted scoring technique generated by the division of the firm's maximum possible score by the actual score of sustainability reporting granted. This measurement is regulated in GRI-G4 Guidelines. Sidorova and Gurvitsh (2019) developed an ESG measurement framework developed from the GRI-G4 guideline and this framework was adopted in the current study.

1.1.2 Stock Returns

The gain or loss for a certain period, often as a percentage, is called the return on the stock. It comprises cash advances and any revenue from the shares recognized by the

shareholder (Mugambi & Okech, 2016). Stock returns have alternatively been described as the advantages to an investor due to changes in dividends, incomes and share value (Sharif, Purohit, & Pillai, 2015). Stock returns may alternatively be described as the capital or wealth shift caused by investing (Saleh, 2015). Stock returns are guidance to investors when selecting stocks. Financiers of various financial means can invest in stocks so long as they can make a profit bigger than their investment rate (Wang, 2012).

Stock returns, as per Taofik and Omosola (2013), regulate the suitable market information accessibility as well as the stock efficiency and the effectiveness in shares and stocks allocation. Share price alterations develop some level of investors' uncertainty, influencing stock supply as well as demand. Securities exchange markets respond to any signal that can be useful in future market expansion and shaping (Širucek, 2013). Companies with high stock returns are successful and therefore contribute generally to economic growth (Aliyu, 2012). Consequently, investment returns are a key part of the entire industry as unpredictable financial innovations make both consumption and investment difficult (Erdugan, 2012).

Stock market indexing is generally applied in calculating stock returns. The price variation of a particular stock discloses its performance. Strengthening stock index shows an outstanding market or industry such as stock price growth reflecting good stock performance and poor stock performance (Daferighe & Sunday, 2012). The CAPM is also extensively utilized in measuring stock returns (Sobia, Arshad & Szabo, 2015). Predescu and Stancu (2011) calculated the change in the stock price plus any dividend paid in computing stock returns and this metric was adopted in the current research.

1.1.3 Environmental, Social and Governance Reporting and Stock Returns

Friedman (1962) is among the scholars who argued that enterprises should only have one social responsibility which is to making profit. It should do so by observing fairness and open competition and without engaging in fraud. Freeman (1984) also argued that a firm's success can only be achieved by creating more stakeholders' value. Recently, academicians acknowledged that ESG exists and now focuses on its influence on the organizations and why it is adopted. Mcguire and Schneewe (2018) posit that when firms are actively involved in ESG, they indirectly invest in reputation. Ponnu and Okoth (2019) proved empirically that businesses involved in practices of ESG reporting improve their company image enabling them to increase revenue and profits. Carroll and Shabana (2011) suggest that a company obtains capital from reputation and maintain legitimacy in the society as they engage in ESG reporting.

Over the years the empirical studies that the scholars have performed probing the manner in which ESG reporting impacts the returns of firms have never been in accord. Different researchers uncovered positive nexus, other found adverse linkage whereas others found no connection at all. This was because ESG reporting affect the stock returns of companies differently from each other. Embracing ESG reporting created direct financial benefits to organizations owing to improved brand reputation which improved their sales as observed by Brammer and Millington (2006).

Darik (2021) argued that embracing ESG reporting could increase the ability of an entity to attract capital owing to its reputation. In making investment decision, some investors evaluate a firm's reputation in ESG. Such investors will withhold investments for firms that fail to give back or pollute the environment despite the

attractiveness of the opportunity. How ESG relates to the stock returns have been explained by different theories. Freeman (1984) and Teppo (2007) suggests that firms can as well improve their returns by meeting the demand and expectations of their diverse stakeholders thus cutting down the cost of maintaining the relationship with their stakeholders. A positive relationship creates a positive corporate image of a company. Improving stock returns can lead to the availability of slack resources which in turn helps a company to engage in ESG activities (Waddock & Grave, 1997).

1.1.4 Nairobi Securities Exchange

It commenced as an association of voluntary brokers back in 1954 which was registered under the Societies Act and in 1988 NSE was privatized. The Automated Trading Systems (ATS) were launched by NSE to facilitate live trading, and it provided services to traders based on first-come, first-served principle. The Central Depository System and the CBK were connected to the ATS in order to simplify the trading of government securities. Capitalist, in February 2018 were provided with NSE all share Index being a means of measuring the performance of the NSE. Multiple innovations along with advancements has progressively been occurring at the NSE also bearing in mind the removal of the collective foreign ownership limit of the NSE quoted entities in the year 2015. Licensing in addition to regulating the NSE are functions of Capital Market Authority (CMA). Moreover, CMA is required to approve the listing along with prospecting of issued plus traded at the NSE (NSE, 2021).

CMA being the regulating body has concocted a guidance directing listed firms on how to prepare their annual reports. The CMA has also encouraged firms to disclose

voluntary information to stakeholders. Several listed firms at the NSE such as Equity Group Holdings Limited, Safaricom, KCB Group and Limuru Tea Company Limited have gone a step higher as they offer stand-alone ESG reports based on the GRI-G4 guidelines. The CMA, NSE and the Institute of Certified Public Accountants (ICPAK) have come up with awards to encourage listed firms to disclose more information in line with ESG requirements (CMA, 2021).

In regards to stock returns, since the founding of the NSE in 1954 it has undergone various phases of low and high returns on the investments of shareholders. Some of the causes that have been attributed to the fluctuation of the NSE stock returns included but not limited to political temperatures, prevalent macroeconomic variables for instance interest and inflation amongst others. Despite the fact that NSE is regarded as a highly liquid market as well as highly active with regards to trades in comparison to the other Exchanges in the East and Sub-Saharan Africa, high volatility levels continue to be a major challenge encountered by the Securities Market in Kenya where there is increased volatility being faced in the equity and bonds secondary markets (CMA, 2021). The current study aims to establish whether the introduction of ESG reporting at the NSE has had an impact on stock returns of the listed institutions.

1.2 Research Problem

In the aftermath of global financial scandals and increased stakeholder pressure, companies are now more sensitive toward ESG reporting. ESG entails voluntarily reporting a firm's ethical values, long-term sustainability performance, and reputation (Rezaee & Tuo, 2019). Presently, the board not only monitors and controls managers' behaviors but also ensures that the company meets societal and environmental needs,

which is best captured by ESG reporting (Rezaee, 2016). Recent studies reveal that ESG reporting reduces information asymmetry between the principal and the agent; thus, mitigating opportunistic managerial behaviors and this is expected to enhance the stock returns of firms (Al-Shaer, 2020).

ESG reporting adoption has been on the rise but there is need of clarity surrounding its implementation by companies as their framework for reporting is still being worked on. Moreover, even though more effort is being directed towards ESG reporting, reports made annually using the ESG system are being reported by very few companies in the frontline (CMA, 2021). Despite the increasing importance of ESG reporting, very few investigations have been made in the developing nations, Kenya being one of them. These countries are characterized by different degrees of sustainability and regulation, and their capital markets are not well developed either. Moreover, the concept of ESG reporting is still developing, with more focus being placed on a general application, and less on specific applications.

Globally, studies have focused on ESG reporting and stock returns relationships. Gholami et al. (2022) investigate the nexus amidst disclosure of ESG performance along with profits in Australia. This research discovered improved corporate ESG performance disclosure linkage to improved firm profit-realization. Nazir et al. (2022) study examined how top global technology-leading enterprises' ESG performance affects their capital cost. The empirical findings show a positive correlation amid ESG performance plus both cost of capital measures, i.e. cost of debt also cost of equity. Feng et al. (2022) paid attention to the relationships amongst ESG, CSR in addition to stock returns of quoted Chinese establishments. The results indicate that while ESG harms the stock returns of most corporations, CSR greatly boosts the improvement of

corporate stock returns over the long term. These studies present a contextual gap as emerging markets have different social and economic setting from other economies.

Locally, Githaiga and Kosgei (2022) pursued to examine board characteristics influence on the listed East African firms' sustainability reporting. The research reveals a conceptual gap since the manner in which ESG reporting sways on stock returns failed to be addressed. Mbuthia and Gatauwa (2022) focused on how the financial performance of organizations with shares trading publicly on NSE is influenced by social, economic and environmental sustainability. This survey presents a conceptual gap as it failed to address ESG reporting and stock returns. Kimilu (2021) focused on the nexus amongst ESG disclosures and the value of entities quoted at the NSE. Additionally, a conceptual gap occurs in the current probe since the stock returns were not taken into account.

From the reviewed studies, ESG reporting has been seen to be quite significant in several foreign markets and has been shown to produce notable returns and give helpful information regarding a number of stocks in the market. This made it important to undertake this study in the Kenyan market context and find out whether ESG reporting can be utilized to enhance stock returns at the NSE. This yields the survey concern: What is the impact of environmental, social plus governance reporting on stock returns at the NSE?

1.3 Research Objective

This research's objective was to determine the effect of environmental, social and governance reporting on stock returns at the NSE.

1.4 Value of the Study

The survey conclusions will contribute to both theory as well as practice on stock returns. The conclusions will be of significance to different entities such as the Government through the CBK, the CMA, the NSE and other regulatory institutions, the investors and potential investors, to the management and also to other researchers and academicians. To the managers of quoted institutions at the NSE, the outcomes will put them in a better position of formulating plus implementing game plans which will help them to deal with ESG reporting.

To regulating bodies along with government, in the formulating as well as implementing policies plus rules that govern ESG reporting and trading to ensure stability in the stock markets that will stimulate the growth of the economy whilst minimizing its spillover influences towards economy. As a result, financial growth will be enhanced thus strengthening the economy as a whole.

The research conclusions will also act as point of future reference for further researches regarding ESG reporting impacts on the stock returns of the listed organizations at the NSE and also enlighten other researchers and academicians who seek to get detailed intuition into the association amidst ESG reporting plus stock returns at the NSE and other contexts in general.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This phase contains the theories that are pertinent to the environmental, social plus governance reporting along with stock returns and that form the study basis. The chapter additionally explores on the prior empirical studies, identifies the knowledge gaps, provides a summary of the reviewed literature, gives a conceptual framework and propositions of the anticipated association of the survey attributes.

2.2 Theoretical Framework

This part covers the theories that anchor the study of ESG reporting and stock market returns, and they include the stakeholder theory, agency theory including the behavioral finance theory.

2.2.1 Stakeholder Theory

Freeman (1984) came up with stakeholder theory, that discusses organizational management and business, which is the anchor theory for the current research. Stakeholder theory supports capitalism by stressing the relationship interconnecting employees, customers, investors, suppliers and the community with the business. In managing an organization, business ethics such as morals and values should be practiced. Freeman explains that a business should be of benefit to all stakeholders. Freeman brings out that a manager of a firm tries to manage a series of stakeholders' connections. In a strategic perspective, anyone whose interest is being taken into consideration by the company when making decisions is a stakeholder and is vital to be considered. Currently, stakeholders are more focused on the reduction of opportunist behaviors, incentives as well as supervision. Modern businesses are greatly integrated with the society unlike in the past where they were self-enclosed

(Davis, 1975). Companies have therefore not only gone beyond the aspect of making money but they have been vital in establishing the social aspect together with economic power through ESG reporting. Business activities have great effect on the society, and it is hard to escape the influence it makes on people's lives.

The weakness of this theory is that it conflicts with objective of business profitability by advocating for fair treatment of all the stakeholders. Sternberg (2019) argues contrary that this theory goes against the stakeholders' property privileges. He continues to explain that stakeholder theory does not consider capitalism and compromises free market mechanisms by eliminating the role of the Government. Heterogeneity is present in groups of stakeholders, variable dependence among stakeholders, variable salience, inclusions that are multiple, stakeholder's impact, central place in the model, linkages that are multiple and relationships of (Fassin, 2008).

Businesses are only considered successful if they deliver value to most of the stakeholders. Therefore, an understanding of the application of stakeholder theory will enable the researcher to underscore the present situation (economic and non-economic) of the firm under investigation. Stakeholder theory can be applied to enable a company increase employee satisfaction, increase investment, improve talent acquisition and increase retention rates which contribute to increased stock returns.

2.2.2 Agency Theory

Agency theory was first brought out through the works of Jensen and Meckling (1976) where the correlation between a principal and an agent was affected significantly by vested interests from the agent. The principals anticipate that the agents will make decisions to develop their interests, while agents on the other hand

may undertake such interests with the right motivation. This theory borrows so much from the notion that maximization of the owners' value is the main responsibility of the corporation. Friedman (1962) explains that the responsibility of the agents is to use the firm's assets to undertake activities that maximizes the returns thereby increasing the wealth of the firm owners provided it is in accordance to the established rules and procedures. Gerrans and Murphy (2005) advice to the agents is to only take activities that add value to the firm and reject the non-profitable projects. This theory argues that there is misappropriation of resources when practicing ESG proposing that such resources should be utilized for projects that generate profit (Mc Williams & Siengel, 2005). Moral hazard and agency costs will emerge if the agents decide to invest in ESG activities and fail to result in any financial benefit.

Jones (2004) argues that the agent has expertise knowledge that the principal may not have. The principal is therefore required to rely on the agent in undertaking decisions that he/she is less informed. This is similar to the contractual relationship between the shareholders and management of the firm. The shareholders expect that the management is well informed on the best profit maximizing strategies to adopt and therefore expect that they would undertake such strategies. However, according to Hill and Jones (1992) sometimes the agent fails to adopt the best strategy and pursues his own interests. In such circumstances, the shareholders incur costs of providing incentives to the managers to help them adopt the best strategies. The shareholders may also incur monitoring costs such as auditing costs to force the management to adopt profit maximizing strategies. This is supported by classical theory as it downplays the advantages gained by enhancing ESG.

Yusof (2016) criticized agency theory by considering the role of ownership in a number of different contexts. The findings indicated that ownership of a firm was crucial in the choice of strategy, objectives and thereby the performance that highlight the identity of the owner. This theory does not provide enough information on issues related to corporate governance practices which may be institutional or local. Other theories need to be employed in order to learn about corporate governance in emerging countries. The theory is appropriate to the current research as it distinguishes ESG reporting role in reducing the agency conflicts between management and owners.

2.2.3 Behavioral Finance Theory

The behavioral finance theory was pioneered by Kahneman and Tversky (1974). As indicated by the theory, investors, or at least some of them, are prone to bias. As a result, their financial choices may not be completely sensible. Overconfidence and over-optimism, representativeness, conservatism, cognitive biases, frame reliance and anchoring, regret aversion, and mental accounting are some of the biases that might be identified. According to conventional finance, if irrational investors or investors wrongly price assets, rational investors (arbitrageurs) will notice the mispricing and fix it by purchasing cheap assets and disposing costly ones. Behavioral finance theory, on the other hand, argues mispricing may persist because arbitrage is costly and dangerous, reducing arbitrageurs' demand for fair-value restoration trades (Thaler, 1993).

The behavioral finance theory has become exceedingly popular in research. This is mostly because it combines the fascinating field of psychology with the dry mathematical topic of finance. The Behavioral finance theory normally assumes that

economic agents are rational for instance they are not prejudiced and are efficient information processors as well as their decisions are in line with optimization of utility. The biases proposed by the theory appear quite relatable, and most investors have been victims of these biases at one point in time or another. This is the reason the behavioral finance theory is preferred in explaining how the market works. In a world that has become exceedingly turbulent over a long length of time, behavioral finance theory also provides a sense of control (Lekovic, 2020).

The behavioral finance theory is criticized for ignoring the presence of investor behavioral biases (noise traders) who affects the prices as well as return of assets in the market. The theory also ignores arbitrage, which prohibits rational investors from profiting from short-term mispricing and, as a result, bringing prices back to equilibrium. The theory is appropriate to the current research as it considers that behavioral biases will influence the correlation between ESG reporting and stock returns.

2.3 Determinants of Stock Returns

Different factors influence stock returns. However, this research will focus on four factors which are; expected and unexpected company news, trading volumes, market sentiments and ESG reporting.

2.3.1 Environmental, Social and Governance Reporting

How ESG relates to the stock returns have been explained by different theories. Freeman (1984) and Teppo (2007) suggests that firms can as well improve their returns by meeting the demand and expectations of their diverse stakeholders thus cutting down the cost of maintaining the relationship with their stakeholders. A positive relationship creates a positive corporate image of a company. Improving

stock returns can lead to the availability of slack resources which in turn helps a company to engage in ESG activities (Waddock & Grave, 1997).

Mcguire and Schneewe (2018) posit that when firms are actively involved in ESG, they indirectly invest in reputation. Ponnu and Okoth (2019) proved empirically that businesses involved in practices of ESG reporting improve their company image enabling them to increase revenue and profits. Carroll and Shabana (2011) suggest that a company obtains capital from reputation and maintain legitimacy in the society as they engage in ESG reporting.

2.3.2 Expected and Unexpected Company News

The information released in the market will determine the reaction of a company's stock prices, that is, negatively or positively. A negative reaction implies that the stock price is falling whereas a positive reaction implies that the stock price is rising due to specific firm information. Company news can be on performance (profits and earnings, announcement of dividends and future projected profits, a new product launch or a product recall, employee layoffs, safeguarding a modern huge contract, management change, projected takeovers or merger, errors or scandals), industry profitability, investor sentiments as well as economic factors (Mariko & Theuri, 2016).

Market sentiments comprise the general investor attitude to the general price development in a market. The association between stock prices and investor sentiment is considered complex. The behavioral finance theory argues that an investor's decision-making is influenced by their emotions and cognition thus the existence of a huge number of investors that are expressively driven can result to stock price

deviations (Wang, Yu & Shen, 2020). This therefore implies that stock prices are influenced by investor sentimentality that is backed by most research.

2.3.3 Trading Volumes

The quantity of shares exchanged in the stock market over a given period is referred to as trading volume. The prevailing belief has been that there is a direct correlation amongst a stock market's trade volume and its performance. This means that as the volume traded increase, there is an anticipation that prices would increase, causing the security market to become more active. Investors have utilized the volume of trade to choose which stocks to hold as well as when to sell them (Güngör, & Kaygın, 2015). A successful company will attract more investors, necessitating the introduction of new securities into the market, most likely at a higher price. As per Gul and Javed (2019), all metrics of trading volume were revealed to possess positive link with the performance level in the security exchange.

The research found that transaction volume has been regarded as the fuel for security markets, as per Stickel and Verrecchia (1994), and as reported by Aronson (2011). Investors typically peg their financial decisions on market trade volume, as per Stickel's findings. According to the research, a rise in volume traded was automatically associated with a rise in the security exchange's performance; otherwise, it would indicate the start of share reverse, making investors wary about the stock (Aronson, 2011).

2.4 Empirical Review

The link between ESG reporting and stock returns has been studied by not only global researchers but also the local researchers. This section discusses the objectives, methodology and outcomes of these studies.

2.4.1 Global Studies

Gholami, Sands and Rahman (2022) investigates the relationship between ESG performance disclosure plus profit-realized, describing the substantial variances amongst the financial as well as non-financial establishments. This research makes use of a large Australian sample from the Bloomberg database for the years 2007 to 2017. In order to conduct an industry analysis, a panel regression model was utilized to assess the relationship between corporate ESG performance disclosure and profitability. According to this research, greater corporate ESG performance disclosure is linked to increased company profitability. Nevertheless, the research of industry comparisons between financial and non-financial sectors reveals important distinctions. According to this research, there is no connection between a company's corporate environmental and social responsibilities and its profitability for businesses operating in non-financial sectors, with the exception of corporate governance. A contextual gap is realized due to the fact that the survey was carried out in Australia whose economic setting is distinct from the Kenyan one.

Nazir et al. (2022) examined ESG performance impact of leading global technology companies on their cost of capital. Over an eight-year timeframe ranging 2010-2017, panel data fixed effects, random effects, and generalized method of moment regression estimation approaches were used to determine this link. The empirical findings show a positive correlation between ESG performance and both the cost of stock and the cost of debt, which are two measures of the cost of capital. A conceptual gap was discovered during that study since the bearing that ESG reporting has on stock returns failed to be taken into account.

Al Amosh et al. (2022) investigated sustainability disclosure with the ESG facets has influence on the financial performance indices in the Levant nations. The research lacked empiricism because it was a review of the literature, which is a methodological gap. The information was gathered from 124 non-financial organizations in the Levant nations via the content analysis technique (Jordan, Palestine, Syria and Lebanon). The results show that the combined performance of environmental, social, and governance factors maximizes financial performance while only having an impact on ROA. The research offers a methodological gap as it made use of content analysis method and therefore need to establish whether the findings hold when a different method is used.

Feng et al. (2022) focused on the relationships between ESG, CSR, and stock returns of Chinese Listed companies. They employ Westerlund tests to validate the association between the variables using panel data from 684 businesses' yearly stock returns, ESG ratings, CSR scores, and ratings from 2011 to 2020. The findings show that while ESG harms the stock returns of most corporations, CSR greatly boosts the improvement of corporate stock returns over the long term. More analysis demonstrates how closely corporate profitability and the effect of ESG on stock returns connect to one another. The study gives a contextual gap as it was undertaken in Australia that has a diverse economic setting from Kenya.

Shaikh (2022) explored the effect of ESG reporting on firm performance. In the research, the ESG scores of almost 510 companies from 17 multiple nations between 2010 and 2018 were analyzed. According to the descriptive and inductive statistical analyses, European corporations exhibit higher levels of ESG compliance. Asian companies are more organized when it comes to the energy sector, whereas their

counterparts in the Asia-Pacific region are more oriented toward technological companies. According to the study, there are considerable differences between GRI and non-GRI companies' accounting performance (ROA and ROE) and market values (Tobin's-Q). The social factor contributes negatively, and governance favorably influences operational efficiency, but the environmental dimension looks scary across accounting and market-based corporate performance. This study indicates a contextual gap as it was conducted in Europe and Asian economies whose economic and social setting is different from Kenya.

2.4.2 Local Studies

Mbuthia and Gatauwa (2022) focused on how the financial performance of establishments with shares trading publicly on NSE is influenced by social, economic and environmental sustainability. The research utilized a descriptive design, with finance managers working for the 56 NSE-listed companies as the study's target group. Primary data was collected through questionnaires. Regression analysis was utilized. As proved by the research’s findings, the performance outcomes are substantially impacted by the social, economic and environmental sustainability. The investigation failed to address ESG reporting and stock returns which led to a conceptual gap.

Githaiga and Kosgei (2022) investigated board characteristics impact on East African listed firms’ sustainability reporting. The analysis makes use of data from 2011 to 2020 and a sample of 79 listed companies selected from East African stock markets. The Global Reporting Initiative is used to monitor sustainability reporting, and fixed effect, random effect, and the generalized method of moments are used to analyze the data. The outcomes show that the independence of the board, board gender diversity,

including board financial knowledge are all favorably and significantly related to sustainability reporting. A conceptual gap is portrayed since ESG reporting was not addressed.

Kimilu (2021) focused on the extent at which the firm's quoted at the NSE is swayed by ESG disclosures. A descriptive research model was adopted while secondary data for 7 years (2013 to 2020) was obtained from CMA. For purposes of analyzing datum, a random effects panel regression model was use of. The study revealed that ESG reporting substantially affects the value of entities quoted at the NSE but individually, environmental reporting and social reporting has no bearing on the firm's value. A A conceptual gap is presented since the stock returns were not taken into account.

Olumbe, Nyamute, Ondigo and Kithinji (2021) aimed at establishing corporate social investment impact on financial performance of the 64 establishments quoted at NSE. The research population encompassed all 64 companies, with share earnings serving as a proxy for financial performance. The websites of the company were mined for the quantitative secondary data for the period 2010 to 2019. The study discovered that corporate social investment is a strong predictor of firm financial performance using linear regression analysis and Pearson correlation. A conceptual gap occurred during this surveillance due to failure to consider ESG reporting and its effect on stock returns.

Namoit (2021) explored the link between ownership structure dimensions, firm performance and CSR disclosure among NSE listed firms. Explanatory research design is used. The audited yearly publications of the entire 44 quoted entities at the NSE formed the source of panel data assembled. Random effects model was chosen. Managerial ownership, institutional ownership and foreign ownership structure

dimensions had a positive and substantial impact on CSR disclosure whereas concentrated ownership negatively impacted CSR disclosure. The survey presents a conceptual gap since the attention was paid on CSR which is a different concept from ESG reporting.

2.5 Summary of the Literature Review and Research Gaps

The theories reviewed indicated the forecasted association of ESG reporting and stock returns. There has been discussion about key stock return influencing factors. There is a knowledge gap that has to be filled based on the studies that have been examined. Various conclusions on the association amongst ESG reporting and stock returns have been drawn from the researches that have been analyzed. The variances amongst the researches can be explained by conceptual, contextual and methodological gaps.

From the reviewed studies, ESG reporting has been seen to be quite significant in several foreign markets and has been shown to produce notable profits and give helpful information regarding a number of stocks in the market. This makes it important to undertake this study in the Kenyan market context and find out whether ESG reporting can be utilized as stock performance determinant in the NSE that is important for investors in the country.

2.6 Conceptual Framework

The anticipated link between components is shown in Figure 2.1. ESG reporting was the predictor variable given by environmental reporting index, social reporting index and governance reporting index. Control variable selected for this study was trading volumes. Stock returns are the response variable provided by a stock price movement.

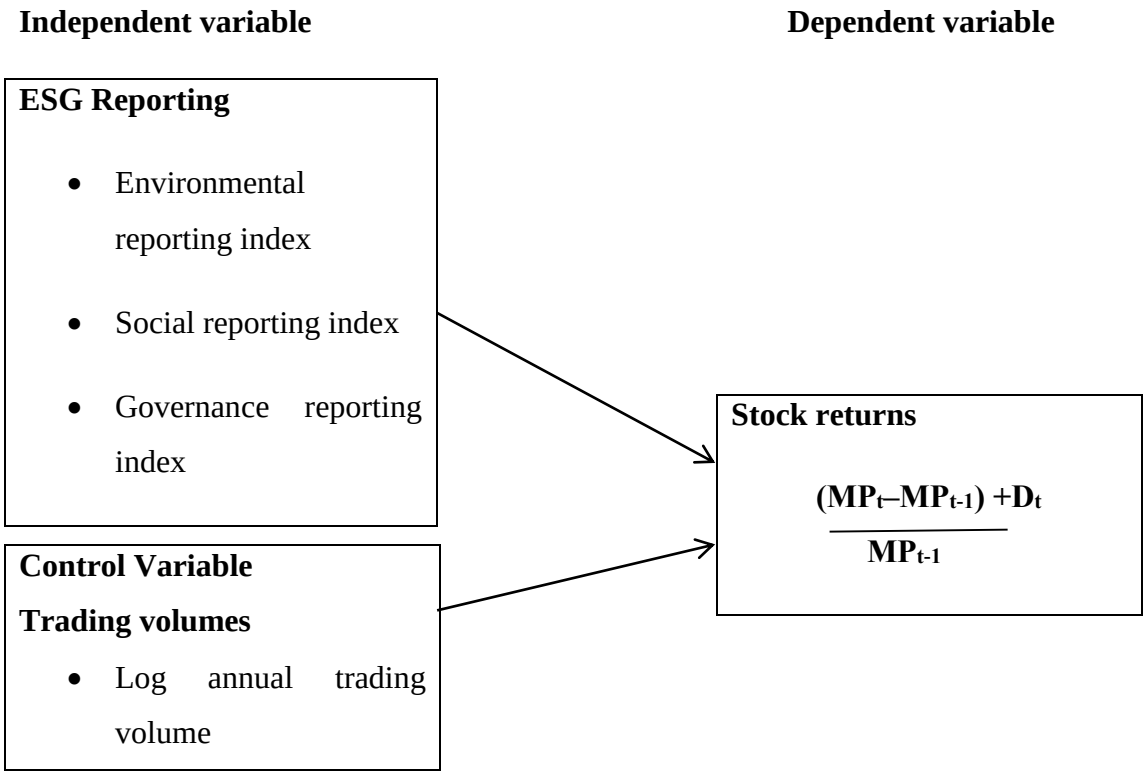

Figure 2.1: The Conceptual Model

Source: Researcher (2022)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The entire methodologies which guided the survey are portrayed in this segment. The population targeted which aided in data analyses with the help of scientific/analytical models and later tests of significance regarding the study phenomena impacts of ESG reporting on stock returns is addressed here.

3.2 Research Design

A strategy that is clearly outlined for purposes of assisting the scholar in collating, measuring besides analyzing statistics is a research design (Cooper & Schindler, 2014). A descriptive approach was used for this investigation. Given that the researcher was primarily interested in the phenomenon's fundamental characteristics, this approach is appropriate (Khan, 2008). Also, it was effective for describing the phenomena' interconnections. Additionally, the design portrayed the attributes precisely and legitimately, yielding sufficient data to answer the survey objectives (Cooper & Schindler, 2014).

3.3 Population

As at 31st December 2021, NSE had listed 63 entities which were used for this study's population (Appendix I). The researcher focused on firms whose information was available from January 2017 to December 2021 because certain stocks may have stopped trading on the NSE during that time. Owing to relatively small population, the research was a census.

3.4 Data Collection

The CMA plus NSE websites were used as the sources of assembling secondary data

utilized in the current investigation. The collected datum covered a 5 year period, from 2017 to 2021. The 5-year duration was chosen as it offered the latest information and provided adequate data for regression analysis. The assembled statistics particularly belonged to entire institutions quoted at NSE. The research captured statistics on stock prices, ESG disclosures and trading volumes.

3.5 Data Analysis

Stata 16 was used to do an analysis on the data collected. Charts and tables were used to quantitatively display the results. Together, the gathered descriptive statistics and the standard deviation served as the basis for measurements of central tendency and dispersion for each variable. Both correlation and regression played a role in the construction of inferential statistics. A panel regression linearly established the nexus amid controlling plus predicting elements.

3.5.1 Diagnostic Tests

The diagnostic tests were performed are outlined in Table 3.1

Table 3.1: Diagnostic Tests

Assumption	Description	Test	Interpretation	Treatment
Normality	To verify normal distribution, the test is conducted	Shapiro–Wilk test	If p values are above 0.05, the variables are normally distributed	Application of square roots or logs to non-normality
Multicollinearity	The phenomenon known as multicollinearity occurs when there is a connection between many variables, which then leads to the standard errors distorting the regression analysis.	VIF Test	Multicollinearity exist where the VIF > 10	Eliminate highly correlated variables.

Heteroscedasticity	To determine whether the model's or the errors' variance is different for each observation	Breusch–Pagan test	Heteroscedasticity exist where the p-value p<0.05)	Use Natural log of variables
Autocorrelation	To determine the value of a single variable by considering other variables that are connected to it.	Breusch-Godfrey test.	If p-values are lower than 0.05, autocorrelation is present.	Hildreth-Lu Procedure
Stationarity test	In order to evaluate whether or not a time series variable has a unit root and whether or not it is stationary	ADF test	If p values are below 0.05, unit roots exist.	Use Natural log of variables
Hausman specification test	In order to distinguish between fixed-effects and random-effects models and to choose the most appropriate one	Hausman test	Use fixed effects model in case the p value is below 0.05 and random effects if otherwise	Use natural log of variables

3.5.2 Analytical Model

The equation shown below was used:

$$Y_{it}= \beta_0 + \beta_1 X_{1it}+ \beta_2 X_{2it}+ \beta_3 X_{3it} + \beta_4 X_{4it} +\varepsilon_{it}$$

Where: Y_{it} = Stock returns measured as the annual change in stock price plus dividend

β_0 =y intercept of the regression equation.

β_1, β_2, β_3, β_4 =are the regression coefficients

X_{1it} = Environmental reporting measured using environmental reporting index

X_{2it} = Social reporting measured using social reporting index

X_{3it} = Governance reporting measured using governance reporting index

X_{4it} = Trading volumes as measured by the log of the number of shares traded

in a given year

ε =error term

3.6.3 Tests of Significance

The relevance of the general model as well as the variable was determined via the use of parametric tests. To determine whether the model was useful, the F-test was used in the analysis of variance (ANOVA), but to establish if any given variable was statistically significant, the t-test was used.

CHAPTER FOUR: DATA ANALYSIS RESULTS AND FINDINGS

4.1 Introduction

This phase addressed descriptive statistics also the results and interpretations of various tests namely; test of Normality, Multicollinearity, Heteroscedasticity tests, Autocorrelation and Stationarity test. The chapter also presents the results of Pearson correlation and Regression analysis.

4.2 Descriptive Statistics

This division presents the descriptive findings from the collected data. The descriptive outcomes include each of the study variables' mean plus standard deviation. The analyzed data was obtained from CMA and individual firm's annual publications covering a span of 5 years (2017 to 2021). The number of observations is 275 (55*5) as 55 listed firms provided complete data for the 5-year period. In Table 4.1 outcomes are exhibited.

Table 4.1: Descriptive Results

	N	Minimum	Maximum	Mean	Std. Deviation
Stock returns	275	-.5400	.4200	.068376	.1067155
Environmental reporting	275	.1450	.9075	.575045	.3258798
Social reporting	275	.1450	.8950	.680649	.1966446
Governance reporting	275	.1629	.8771	.718017	.1933614
Trading volumes	275	6.8655	11.5966	9.300967	1.1529630
Valid N (listwise)	275				

Source: Field Data (2022)

4.3 Diagnostic Tests

The scholar as rationalised in chapter three, steered diagnostic tests for purposes of guaranteeing that there is no violation of the assumptions of Classic Linear Regression Model (CLRM) plus attaining the suitable models for probing in the

significance that the CLRM hypotheses are not infringed. As a result, pre-approximation and post-approximation assessments of the regression model were performed prior to processing. The Multicollinearity test and unit root test were the pre-approximation tests used in these situations, whereas the normalcy test, test for heteroscedasticity, and test for autocorrelation were the post-estimation tests.

4.3.1 Normality Test

The data normality can be tested using a variety of methods. The most commonly utilized approaches include Skewness, Histogram, Shapiro–Wilk test, Kurtosis, Kolmogorov–Smirnov test, Mean and Standard deviation. Kolmogorov–Smirnov test besides Shapiro–Wilk test are amongst the most extensively used normality tests. Samples which are below 50 (n <50) are best evaluated using the Shapiro–Wilk test, although it can also be used on more extensive sample selections, whereas the Kolmogorov–Smirnov test is better for n>50 samples. As a result, the research utilized the Kolmogorov–Smirnov test as the numerical method of determining normality. For the tests above, the null hypothesis implies that datum was sourced from a normal distribution population. Data that is abnormally distributed has P-value that is below 0.05, which leads to rejection of the null hypothesis.

Table 4.2: Test for Normality

	Kolmogorov-Smirnov	**P-value**
Stock returns	0.874	0.091
Environmental reporting	0.892	0.101
Social reporting	0.923	0.120
Governance reporting	0.874	0.194
Trading volumes	0.982	0.126

Source: Research Findings (2022)

From Table 4.2 results, all the study variables have a p value more than 0.05 and therefore had a normal distribution.

4.3.2 Multicollinearity Test

Multicollinearity transpires when the regression model independent variables are significantly linked. Multicollinearity was assessed using the VIF and tolerance indices. If the VIF value is above ten and the tolerance score is below 0.2, multicollinearity is present, and the assumption is broken. The VIF values are below 10, indicating no problem with multicollinearity.

Table 4.3: Multicollinearity

	Collinearity Statistics	
Variable	**Tolerance**	**VIF**
Environmental reporting	0.782	1.279
Social reporting	0.535	1.869
Governance reporting	0.601	1.664
Trading volumes	0.598	1.672

Source: Research Findings (2022)

4.3.3 Heteroscedasticity Test

The residual variance from the model must be constant and unrelated to the independent variable in linear regression models calculated with the aid of Ordinary Least Squares (OLS) mechanism (s). The research utilized the Breusch-Pagan/Cook-Weisberg test to check if the variation was heteroskedastic. The null hypothesis implies constant variance, indicating that the data is homoscedastic. Tabulated below are the finding;

Table 4.4: Heteroscedasticity Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
chi2(1)	=	0.3422
Prob > chi2	=	0.1631

Source: Research Findings (2022)

The null hypothesis according to Table 4.4 was accepted since the p-value was 0.1631, which was statistically significant (p>0.05). As a result, the dataset had homoscedastic variances. Since the P-values of Breusch-Pagan's test for homogeneity of variances were above 0.05. As a result, the test confirmed homogeneity of variance. The data can therefore be used to conduct panel regression analysis.

4.3.4 Autocorrelation Test

Serial correlation, also known as autocorrelation, makes the standard errors of coefficients appear to be less than in linear panel data models, resulting in higher R-squared and erroneous hypothesis testing Autocorrelation was verified via Durbin-Watson test. If the Durbin-Watson test results in a value of 2, it confirmed the non-correlation of the error terms of regression variables (i.e. between 1 and 3). The nearer the figure to 2 is, the better. The results are as displayed below in Table 4.5;

Table 4.5: Test of Autocorrelation

Durbin Watson Statistic
2.164

Source: Research Findings (2022)

The Durbin-Watson statistic was 2.164, according to Table 4.5 results. The fact that the Durbin-Watson statistic was near to 2 demonstrates that the error terms of regression variables are uncorrelated.

4.3.5 Stationarity Test

The research variables were subjected to a panel data unit-root test to establish whether the data was stationary. The researcher specifically utilized Levin-Lin Chu unit root test as the unit root test. At a standard statistical significance level of 5%, the test was compared to their corresponding p-values. In the test, the null hypothesis is that every panel has a unit root, and the alternative hypothesis is that at least one panel is stationary. Table 4.6 includes the results of the Levin-Lin Chu unit root test.

Table 4.6: Levin-Lin Chu unit-root test

Levin-Lin Chu unit-root test			
Variable	**Statistic**	**p value**	**Comment**
Stock returns	6.4722	0.0000	Stationary
Environmental reporting	7.3975	0.0000	Stationary
Social reporting	6.2126	0.0000	Stationary
Governance reporting	8.2031	0.0000	Stationary
Trading volumes	6.8447	0.0000	Stationary

Source: Research Findings (2022)

As demonstrated in Table 4.6, this test concludes that the data is stationary at a 5% level of statistical significance since the p-values all fall below 0.05.

4.3.6 Hausman Test

When using panel data, it is necessary to establish if a fixed or random effect model is more desirable. For the purpose of choosing the best panel regression model, the Hausman specification test was used. In essence, a Hausman specification test determines if the unique errors have a relationship to the regressors, with the null

hypothesis being that they do not (random effect is preferred). Fixed effects were utilized when the P-value was significant (below 0.05), while random effects were used otherwise. The outcomes of the Hausman test are depicted as shown below;

Table 4.7: Hausman Test Results

chi2(4)	P-Value
19.36	0.0000

Null Hypothesis: The appropriate model is Fixed Effects

Source: Research Findings (2022)

4.4 Correlation Results

To determine the degree and path of link of each predictor variable and the response variable, correlation analysis was carried out. The correlation findings in the table below shows correlation nature among the survey determinants in relation to magnitude along with direction.

Table 4.8: Correlation Results

		Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
Stock returns	Pearson Correlation	1				
	Sig. (2-tailed)					
Environmental reporting	Pearson Correlation	.411**	1			
	Sig. (2-tailed)	.000				
Social reporting	Pearson Correlation	.382**	.698**	1		
	Sig. (2-tailed)	.000	.000			
Governance reporting	Pearson Correlation	.373**	.629**	.629**	1	
	Sig. (2-tailed)	.000	.000	.000		
Trading volumes	Pearson Correlation	.124*	-.294**	-.294**	-.174**	1
	Sig. (2-tailed)	.040	.000	.000	.004	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
c. Listwise N=275

Source: Research Findings (2022)

The correlation outcomes disclose environmental reporting exhibits a weak but positive together with notable link with stock returns (value of r is 0.411) at 5 percent significance level. Social reporting also exhibit a weak but positive plus notable link with stock returns (value of r is 0.382) at 5 percent significance level. The outcomes disclose that governance reporting and stock returns have a positive as well as significant correlation (value of r is =0.373) at 5 % significance level. The findings further reveal a positive relationship between trading volumes and stock returns (r value of 0.124) at a significance level of 5%.

4.5 Regression Results

The usage of regression analysis helps in establishing the magnitude at which the selected variables explains the stock returns. Below is a table displaying the regression's findings;

Table 4.9: Regression Results

Source	SS	df	MS	Number of obs	=	275
				F(4, 270)	=	22.83
Model	.788720386	4	.197180096	Prob > F	=	0.0000
Residual	2.33164693	270	.008635729	R-squared	=	0.2528
				Adj R-squared	=	0.2417
Total	3.12036731	274	.011388202	Root MSE	=	.09293

Stockreturns	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Environmentalreporting	.1222255	.0235293	5.19	0.000	.0759013	.1685497
Socialreporting	.0391644	.0733531	0.53	0.594	-.1052524	.1835812
Governancereporting	.0618456	.0721814	0.86	0.392	-.0802643	.2039555
Tradingvolumes	.0231423	.0056129	4.12	0.000	.0120917	.0341929
_cons	-.2883569	.0571879	-5.04	0.000	-.4009479	-.1757659

Source: Research Findings (2022)

Through the conclusions as epitomized by the altered R^2, the studied independent variables explained variations of 0.2528 in stock returns amidst the Kenyan based quoted establishments. This suggests that other factors account for 74.72% of the

variability in stock returns amidst the Kenyan based quoted establishments, while the four variables account for 25.28% of those variations. The significance level of the data was 0.000, according to Table 4.9's ANOVA results, which proposes that the model is the best choice for drawing conclusions about the variables.

Below is the function of the coefficient of regression;

$$\mathbf{Y = -0.2884 + 0.1222X_1 + 0.2314X_2}$$

Where:

Y = Stock returns X_1 = Environmental reporting; X_2= Trading volumes

4.6 Discussion of Research Findings

Establishing the degree at which ESG influences the stock returns of Kenyan listed firms was the current survey's objective. During the probe, a descriptive design was useful in analyzing a population of 63 Kenyan listed firms. Complete data was obtained from 55 firms which were considered adequate for regression analysis. The research made use of CMA alongside individual institutions' yearly records in extracting secondary data that was utilized in this investigation. The actual attribute of ESG factored in were environmental reporting, social reporting and governance reporting. The control variable was trading volumes. Data analyses was performed using both descriptive in addition to inferential statistics. Detailed elaboration of results are covered in this phase.

Multivariate regression findings unveiled that the R square was 0.2528 implying 25.28% of variations in stock returns of listed firms are due to the four variables alterations opted for this study. This means that variables not considered explain 74.72% of changes in stock returns. The p-value of the overall model was 0.000

which is below the significance level of 5% confirming the model to being statistically significant. This implies that the overall model had the required goodness of fit.

The multivariate regression analysis further revealed that individually, environmental reporting exhibited a notable also positive impact on stock returns of Kenyan listed firms (β=0.1222, p=0.000). Social reporting and governance reporting exhibited positive but not significant effect on stock returns of listed firms as shown by (β=0.0392, p=0.594); and (β=-0.0618, p=0.392) accordingly. Trading volumes exhibited that stock returns of Kenyan based listed organizations are positively besides substantially connected (β=0.2314, p=0.000).

These conclusions concur with the findings by Nazir et al. (2022) who examined ESG performance impact of leading global technology companies on their cost of capital. Over an eight-year timeframe ranging 2010-2017, panel data fixed effects, random effects including generalized technique of moment regression estimation approaches were used to determine this link. The empirical findings show a positive correlation amid ESG performance alongside both the cost of stock and the cost of debt, which are two measures of the cost of capital.

The research findings also concur with Al Amosh et al. (2022) who investigated sustainability disclosure with the ESG facets has influence on the financial performance indices in the Levant nations. The research lacked empiricism because it was a review of the literature, which is a methodological gap. The information was gathered from 124 non-financial organizations in the Levant nations via the content analysis technique (Jordan, Palestine, Syria and Lebanon). The results show that the

combined performance of environmental, social, and governance factors maximizes financial performance while only having an impact on ROA.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The survey's core agenda was determining the manner in which how ESG influences the stock returns of Kenyan listed firms. This section includes a summary of the outcomes from the previous chapter together with the conclusions besides set-backs faced during the survey. Moreover, it makes recommendations for potential policy measures. The chapter provides recommendations for further research.

5.2 Summary

Establishing the degree at which the stock returns of Kenyan based quoted entities are swayed by ESG is this study's main goal. During the investigation a descriptive design was utilized for analyzing a population of 63 Kenyan listed firms. Complete data was obtained from 55 firms which were considered adequate for regression analysis. The research made use of CMA alongside individual institutions' yearly records in extracting secondary data that was utilized in this investigation. The actual attribute of ESG factored in were environmental reporting, social reporting and governance reporting. The control variable was trading volumes. Data analyses was performed using both descriptive in addition to inferential statistics.

The correlation findings disclose that environmental reporting possess a weak although positively substantial link with stock returns at 5 percent significance level. Social reporting also possess a weak although positively substantial link with stock returns. The outcomes disclose that governance reporting and stock returns have a positive as well as significant correlation. The findings further reveal a positive relationship between trading volumes and stock returns.

Multivariate regression results revealed that the R square was 0.2528 implying 25.28% of variations in stock returns of listed firms are due to the four variables alterations opted for this study. This means that variables not considered explain 74.72% of changes in stock returns. The p-value of the overall model was 0.000 which is below the significance level of 5% indicating that the model is statistically significant. This implies that the overall model had the required goodness of fit.

The multivariate regression analysis further revealed that individually, environmental reporting exhibited a substantial along with positive effects on stock returns of Kenyan listed firms (β=0.1222, p=0.000). Social reporting and governance reporting exhibited positive but not significant effect on stock returns of listed firms as shown by (β=0.0392, p=0.594); and (β=-0.0618, p=0.392) respectively. Trading volumes exhibited that stock returns of Kenyan listed firms are significantly in addition to positively correlated (β=0.2314, p=0.000).

5.3 Conclusions

The research intention of the research was to establish correlation between ESG and Kenyan listed firms' stock returns. The surveillance sums up that environmental reporting has a substantial linkage with stock returns while social reporting and governance reporting have no significant effect on stock returns of quoted establishments. The research also comes to the conclusion that trading volumes does significantly affect the stock returns of Kenya's listed enterprises.

Further conclusions imply that the four variables chosen for this study explain 25.28% of variations in stock returns of listed firms. This means that variables not considered explain 74.72% of changes in stock returns. The p-value of the overall model was 0.000 which is below the significance level of 5% confirming that the model is

statistically significant. This implies that the overall model had the required goodness of fit.

The findings of this study concur with Kimilu (2021) who focused on how the value of institutions listed on the NSE is connected with ESG disclosures. A descriptive study model was adopted while second-hand details for 7 years (2013 to 2020) was obtained from CMA. Data analyses was performed with the aid of a random effects panel regression model. As highlighted by the investigation, value of firms listed at the NSE is notably influenced by ESG reporting.

5.4 Recommendations for Policy and Practice

The study's results indicate that environmental reporting significantly and positively affected stock returns of firms listed at the NSE. Hence, the robe suggests that listed establishments ought to enhance their environmental reporting as this will have a positive effect on their returns. This can be accomplished by following the GRI-G4 guidelines. CMA as the regulator can enhance the implementation of environmental reporting by constantly evaluating that the guidelines are being adhered to.

The study revealed that trading volumes influences stock returns of listed firms substantially along with positively. The survey commends the need for policy makers and practitioners to enhance the liquidity of the Kenyan stock market as this will accelerate the stock returns. Policy makers ought to develop policies that will encourage both local and foreign investors to purchase shares of NSE listed firms.

5.5 Limitations of the Study

The main attention was on various factors which are thought to influence stock returns of Kenyan listed firms. The four explanatory variables were particularly evaluated during the probe. However, in certainty, there is presence of other variables

probable to influence stock returns of listed firms including internal like corporate governance attributes and dividend policy whereas others are beyond the control of the firm like interest rates as well as political stability.

In this study, a five-year period from 2017 to 2021 was selected. It has not been proved that comparable outcomes will remain unchanged across a longer time frame. Moreover, it is impossible to predict if the same outcomes would persist after 2021. Given that additional time contains instances of big economic transitions like recessions and booms, it is more dependable.

Data quality was the main restriction during the current survey. It is not possible to conclusively conclude that the study's findings accurately reflect the current reality. It has been presumed that the statistics utilized in the survey are accurate. Due to the current conditions, there has also been a great deal of incoherence in the data measurement. The study made use of secondary data rather than primary data. Due to the limited availability of data, only some of the stock returns drivers have been considered.

The data analysis was performed using regression models. The application of this model has a number of shortcomings such as inaccurate or erroneous findings caused by a change in the variable value, the researchers would not be able to generalize the conclusions precisely. A regression model cannot be performed using the prior model after data is added to it.

5.6 Suggestions for Further Research

This surveillance paid attention to Kenyan listed firms. Further studies can focus on a wide scope by covering other listed firms in East Africa Community member countries to back or contradict the results of the current study. Further, this study

focused on GRI-G4 guidelines as a measure of ESG. Future studies should focus on other ESG measures that were not considered in this study.

A five-year period was covered by the current research; more surveillance can be performed beyond a five-year period to determine whether the results might persist. Thus, inherent future studies may use a wider time span, that can either support or criticize the current research conclusions. The scope of the study was additionally constrained in terms of context where NSE listed firms were examined. Further studies can be extended to other listed firms to establish if they complement or contradict the current study findings. Researchers in the East African region, the rest of Africa together with other global regimes can too perform the probe in these jurisdictions to ascertain if the current survey conclusions would persist.

The research only used secondary data; alternate research may use primary data sources such in-depth questionnaires and structured interviews given to practitioners and stakeholders. These can then affirm or criticize the results of the current research. The multiple linear regression alongside correlation analysis were applied in this investigation; future research could use other analytic techniques such discriminant analysis, cluster analysis, factor analysis, granger causality, and descriptive statistics, among others.

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APPENDICES

Appendix I: Firms Listed at the NSE

	COMPANY	SECTOR	YEAR OF LISTING
1	Deacons (East Africa)	Consumer Services	2016
2	Nairobi Business Ventures	Consumer Services	2016
3	Stanlib Fahari I-REIT	Financials	2015
4	Atlas African Industries	Industrials	2014
5	Flame Tree Group Holdings	Basic Materials	2014
6	Kurwitu Ventures	Financials	2014
7	Nairobi Securities Exchange	Financials	2014
8	Home Afrika	Financials	2013
9	I&M Holdings	Financials	2013
10	CIC Insurance Group	Financials	2012
11	Umeme	Utilities	2012
12	Britam (Kenya)	Financials	2011
13	TransCentury	Industrials	2011
14	Co-operative Bank of Kenya	Financials	2008
15	Safaricom	Telecommunications	2008
16	Kenya Re-Insurance Corporation	Financials	2007
17	Liberty Kenya Holdings	Financials	2007
18	Equity Group Holdings	Financials	2006
19	Eveready East Africa	Consumer Goods	2006
20	KenGen Company	Utilities	2006
21	WPP Scangroup	Consumer Services	2006
21	WPP Scangroup	Consumer Services	2006
22	Mumias Sugar Co	Consumer Goods	2001
23	ARM Cement	Industrials	1997
24	TPS Eastern Africa	Consumer Services	1997
25	Kenya Airways	Consumer Services	1996
26	National Bank of Kenya	Financials	1994
27	Sameer Africa	Consumer Goods	1994
28	Longhorn Publishers	Consumer Services	1993
29	Crown Paints Kenya	Basic Materials	1992
30	HF Group	Financials	1992

21	WPP Scangroup	Consumer Services	2006
22	Mumias Sugar Co	Consumer Goods	2001
23	ARM Cement	Industrials	1997
24	TPS Eastern Africa	Consumer Services	1997
25	Kenya Airways	Consumer Services	1996
26	National Bank of Kenya	Financials	1994
27	Sameer Africa	Consumer Goods	1994
28	Longhorn Publishers	Consumer Services	1993
29	Crown Paints Kenya	Basic Materials	1992
30	HF Group	Financials	1992
31	Uchumi Supermarkets	Consumer Services	1992
32	KCB Group	Financials	1989
33	Standard Chartered Bank Kenya	Financials0	1988
34	Total Kenya	Oil & Gas	1988
35	Barclays Bank of Kenya	Financials	1986
36	Jubilee Holdings	Financials	1984
37	Express Kenya	Consumer Services	1978
38	Olympia Capital Holdings	Industrials	1974
39	East African Cables	Industrials	1973
40	Nation Media Group	Consumer Services	1973
41	Carbacid Investments	Basic Materials	1972
42	Diamond Trust Bank Kenya	Financials	1972
43	Eaagads	Consumer Goods	1972
44	East African Breweries	Consumer Goods	1972
45	East African Portland Cement	Industrials	1972
46	Kapchorua Tea Kenya	Consumer Goods	1972
47	Kenya Power & Lighting	Utilities	1972
48	Williamson Tea Kenya	Consumer Goods	1972
49	NIC Group	Financials	1971
50	Unga Group	Consumer Goods	1971
51	Bamburi Cement	Industrials	1970
52	Stanbic Holdings	Financials	1970
53	B O C Kenya	Basic Materials	1969
54	BAT Kenya	Consumer Goods	1969
55	Centum Investment	Financials	1967
56	Limuru Tea	Consumer Goods	1967
57	Sasini	Consumer Goods	1965

58	Sanlam Kenya	Financials	1963
59	KenolKobil	Oil & Gas	1959
60	Kenya Orchards	Consumer Goods	1959
61	Standard Group	Consumer Services	1954
62	Kakuzi	Consumer Goods	1951
63	Car & General (K)	Consumer Services	1940

Source: NSE (2021)

Appendix II: Research Data

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
Athi river mining	2021	-0.1300	0.1450	0.1450	0.1629	10.6504
	2020	-0.0300	0.1450	0.2700	0.4486	10.7281
	2019	0.1800	0.7700	0.8950	0.8771	10.7355
	2018	0.0700	0.1450	0.7700	0.7343	10.5872
	2017	0.0800	0.3950	0.6450	0.7343	10.4928
Bamburi	2021	0.1700	0.8950	0.7700	0.8771	10.6804
	2020	0.1800	0.8950	0.7700	0.8771	10.5485
	2019	0.1500	0.8950	0.7700	0.8771	10.6422
	2018	0.1200	0.7700	0.5200	0.5914	10.6233
	2017	0.1400	0.7700	0.2700	0.4486	10.6536
Car & General	2021	0.0400	0.5200	0.8950	0.8771	9.9931
	2020	0.0500	0.5200	0.8950	0.8771	10.0070
	2019	0.0500	0.5200	0.8950	0.8771	9.9737
	2018	0.0700	0.6450	0.8950	0.8771	9.9313
	2017	0.0900	0.6450	0.8950	0.8771	9.8589
Carbacid	2021	0.1600	0.8950	0.8950	0.7343	9.5394
	2020	0.1500	0.8950	0.8950	0.7343	9.5088
	2019	0.1600	0.8950	0.8950	0.7343	9.4926
	2018	0.2000	0.8950	0.8950	0.7343	9.4237
	2017	0.2500	0.8950	0.6450	0.5914	9.3633
Crown Berger	2021	0.0700	0.3950	0.8950	0.8771	9.7888
	2020	0.0800	0.3950	0.8950	0.8771	9.7241
	2019	0.0400	0.1450	0.3950	0.4486	9.6770
	2018	0.0400	0.1450	0.3950	0.4486	9.6058
	2017	0.1000	0.5200	0.3950	0.4486	9.4891
East Africa Cables	2021	-0.0700	0.1450	0.6450	0.5914	9.8675
	2020	-0.0500	0.1450	0.6450	0.5914	9.8979
	2019	0.0500	0.1450	0.8950	0.8771	9.9435
	2018	0.4200	0.6450	0.8950	0.8771	9.9170
	2017	0.0900	0.1450	0.6450	0.7343	9.8531
E.A Portland	2021	-0.0100	0.1450	0.6450	0.7343	10.4571
	2020	0.1800	0.8950	0.8950	0.8771	10.4647
	2019	0.3400	0.8950	0.8950	0.8771	10.3838
	2018	0.0100	0.1450	0.5200	0.7343	10.2164
	2017	0.1400	0.7700	0.8950	0.8771	10.2277

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
Eveready	2021	0.3800	0.1450	0.5200	0.4486	8.9080
	2020	-0.1500	0.1450	0.3950	0.3057	9.0546
	2019	0.4200	0.1450	0.6450	0.5914	9.1995
	2018	-0.1600	0.2700	0.1450	0.1629	8.9885
	2017	0.0800	0.3950	0.1450	0.1629	8.9934
Kakuzi	2021	0.1300	0.8950	0.8950	0.8771	9.7794
	2020	0.1400	0.8950	0.8950	0.8771	9.7245
	2019	0.1500	0.7700	0.8950	0.8771	9.5007
	2018	0.0700	0.5200	0.8950	0.8771	9.6063
	2017	0.0800	0.5200	0.8950	0.8771	9.5903
Kengen	2021	0.0500	0.3950	0.7700	0.7343	11.5966
	2020	0.0500	0.3950	0.7700	0.7343	11.5850
	2019	0.2200	0.7700	0.8950	0.8771	11.5547
	2018	0.0500	0.3950	0.7700	0.7343	11.4183
	2017	0.0600	0.3950	0.7700	0.7343	11.2957
Kenolkobil	2021	0.1200	0.9075	0.8950	0.8771	10.4020
	2020	0.1200	0.8950	0.8950	0.8771	10.4038
	2019	0.1300	0.8950	0.8950	0.8771	10.2600
	2018	0.0700	0.7700	0.7700	0.7343	10.3987
	2017	0.0500	0.7700	0.6450	0.5914	10.4690
KPLC	2021	0.0500	0.5200	0.7700	0.5914	11.5536
	2020	0.0500	0.5200	0.7700	0.5914	11.4935
	2019	0.0600	0.5200	0.7700	0.7343	11.4601
	2018	0.0700	0.5200	0.7700	0.7343	11.3642
	2017	0.0600	0.5200	0.6450	0.7343	11.2684
KQ	2021	-0.0300	0.1450	0.7700	0.7343	11.1848
	2020	-0.1600	0.1450	0.6450	0.5914	11.2122
	2019	-0.1600	0.1450	0.6450	0.5914	11.2802
	2018	0.0100	0.1450	0.6450	0.5914	11.1922
	2017	-0.0100	0.1450	0.4486	0.4486	11.1088
Safaricom	2021	0.3300	0.8950	0.8950	0.8771	11.2287
	2020	0.2700	0.8950	0.8950	0.8771	11.2221
	2019	0.2300	0.8950	0.8950	0.8771	11.2158
	2018	0.2000	0.8950	0.8950	0.8771	11.1490
	2017	0.1700	0.8950	0.6450	0.5914	11.1301
Sameer	2021	0.0300	0.3950	0.7700	0.7343	9.4927
	2020	-0.1700	0.3950	0.6450	0.5914	9.5373
	2019	0.0200	0.3950	0.7700	0.7343	9.5942
	2018	0.0100	0.3950	0.6450	0.4486	9.6063
	2017	0.1500	0.3950	0.8950	0.8771	9.5845

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
Sasini	2021	0.0500	0.5200	0.6450	0.7343	10.1404
	2020	0.0600	0.5200	0.6450	0.7343	10.2458
	2019	0.1600	0.6450	0.6450	0.7343	10.2253
	2018	0.4100	0.6450	0.6450	0.7343	10.1940
	2017	0.0400	0.3950	0.3950	0.4486	9.9769
Standard Group	2021	-0.0200	0.1450	0.6450	0.4486	9.6693
	2020	0.0800	0.2700	0.8950	0.7343	9.6639
	2019	-0.0400	0.1450	0.6450	0.3057	9.6590
	2018	0.0800	0.2700	0.8950	0.7343	9.6329
	2017	0.0800	0.2700	0.8950	0.5914	9.6394
Total Kenya	2021	0.1000	0.7700	0.8950	0.8771	10.5999
	2020	0.0900	0.7700	0.8950	0.8771	10.5785
	2019	0.0800	0.7700	0.8950	0.8771	10.5543
	2018	0.0700	0.6450	0.8950	0.8771	10.5324
	2017	0.0600	0.5200	0.6450	0.5914	10.6219
TransCentury	2021	-0.1800	0.1450	0.5200	0.5914	10.2928
	2020	-0.0200	0.1450	0.5200	0.5914	10.2967
	2019	-0.0200	0.1450	0.5200	0.5914	10.2967
	2018	-0.0500	0.1450	0.3950	0.4486	10.3588
	2017	0.0600	0.1450	0.5200	0.5914	10.3973
Uchumi	2020	-0.5400	0.1450	0.3950	0.3057	9.7192
	2019	-0.5000	0.1450	0.3950	0.3057	9.8271
	2018	0.1100	0.1450	0.6450	0.5914	9.8579
	2017	0.0900	0.1450	0.7700	0.7343	9.7661
Unga Group	2021	0.0300	0.1450	0.7700	0.7343	10.0315
	2020	0.0900	0.1450	0.5200	0.4486	9.9838
	2019	0.1000	0.1450	0.7700	0.8771	9.9581
	2018	0.0900	0.1450	0.7700	0.8771	9.9245
	2017	0.0700	0.1450	0.7700	0.8771	9.9289
Nation Media	2021	0.1500	0.1450	0.6450	0.4486	10.0739
	2020	0.1600	0.8950	0.7700	0.7343	10.1054
	2019	0.1900	0.8950	0.7700	0.7343	10.1237
	2018	0.2300	0.8950	0.7700	0.7343	10.0972
	2017	0.2600	0.8950	0.7700	0.7343	10.0786
BOC Kenya	2021	0.0500	0.8950	0.7700	0.7343	9.3680
	2020	0.0900	0.7700	0.8950	0.7343	9.3671
	2019	0.0900	0.7700	0.8950	0.8771	9.3857
	2018	0.1300	0.7700	0.8950	0.8771	9.3818

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
	2017	0.1100	0.6450	0.8950	0.5914	9.4405
EABL	2021	0.1500	0.6450	0.8950	0.8771	10.8439
	2020	0.1900	0.8950	0.8950	0.8771	10.8106
	2019	0.1700	0.8950	0.8950	0.8771	10.8457
	2018	0.1400	0.8950	0.8950	0.8771	10.8184
	2017	0.1400	0.8950	0.8950	0.8771	10.7813
Eaagads Ltd	2020	0.2000	0.8950	0.8950	0.8771	8.9851
	2019	0.0800	0.8950	0.7700	0.5914	8.9015
	2018	0.0400	0.8950	0.7700	0.5914	8.6534
	2017	-0.0600	0.8950	0.6450	0.4486	8.6691
Williamson Tea	2021	0.1300	0.7700	0.2700	0.1629	9.9980
	2020	0.0000	0.7700	0.7700	0.8771	9.9424
	2019	0.0800	0.1450	0.7700	0.7343	9.9709
	2018	0.0400	0.1450	0.7700	0.7343	9.9524
	2017	0.1200	0.1450	0.7700	0.5914	9.9514
Kapchorua Tea	2021	0.0000	0.1450	0.7700	0.5914	9.3276
	2020	0.0800	0.1450	0.1450	0.1629	9.3513
	2019	0.0200	0.1450	0.5200	0.5914	9.3174
	2018	0.1000	0.1450	0.1450	0.1629	9.3054
	2017	0.1200	0.1450	0.2700	0.3057	9.3377
Limuru Tea	2021	-0.0400	0.1450	0.5200	0.5914	8.4383
	2020	-0.0500	0.1450	0.3950	0.4486	8.4705
	2019	0.0400	0.2700	0.3950	0.4486	8.5166
	2018	0.0300	0.2700	0.7700	0.8771	8.5497
	2017	0.1100	0.2700	0.7700	0.8771	8.5553
Express	2021	-0.0400	0.2700	0.7700	0.8771	8.5941
	2020	-0.2200	0.1450	0.3950	0.4486	8.5993
	2019	-0.1100	0.1450	0.3950	0.4486	8.6653
	2018	-0.1300	0.1450	0.3950	0.4486	8.6994
	2017	0.0300	0.1450	0.3950	0.4486	8.7017
TPS	2021	0.0400	0.1450	0.2700	0.3057	10.2627
	2020	0.0300	0.1450	0.6450	0.7343	10.2500
	2019	0.0000	0.1450	0.5200	0.5914	10.2191
	2018	0.0400	0.1450	0.2700	0.3057	10.2225
	2017	0.0600	0.1450	0.3950	0.4486	10.2278
Scan Group	2021	0.0700	0.1450	0.3950	0.4486	10.1586
	2020	0.0600	0.3950	0.5200	0.5914	10.1499
	2019	0.0500	0.3950	0.5200	0.5914	10.1158
	2018	0.0700	0.3950	0.5200	0.5914	10.1433

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
	2017	0.0900	0.3950	0.6450	0.7343	10.1253
Business Venture	2021	-0.2000	0.3950	0.6450	0.7343	8.1775
	2020	0.0600	0.1450	0.2700	0.3057	8.2115
	2019	0.0600	0.1450	0.5200	0.5914	8.0683
	2018	0.1300	0.1450	0.5200	0.5914	7.9203
	2017	0.0600	0.3950	0.5200	0.5914	7.6741
Home Africa	2021	-0.0100	0.1450	0.5200	0.5914	9.6711
	2020	-0.0100	0.1450	0.3950	0.4486	9.6144
	2019	-0.0700	0.1450	0.3950	0.4486	9.6068
	2018	0.0300	0.1450	0.5200	0.5914	9.5904
	2017	0.0600	0.1450	0.7700	0.8771	9.5064
Kurwitu	2021	-0.0500	0.3950	0.6450	0.7343	8.1675
	2020	0.0000	0.3950	0.2700	0.3057	8.7280
	2019	0.0300	0.1450	0.3950	0.4486	8.8010
	2018	0.0300	0.1450	0.5200	0.5914	8.7319
	2017	-0.0800	0.1450	0.5200	0.5914	8.1294
NSE	2021	0.1300	0.1450	0.1450	0.1629	9.3439
	2020	0.1200	0.8950	0.7700	0.8771	9.3240
	2019	0.1900	0.8950	0.7700	0.8771	9.3029
	2018	0.2200	0.8950	0.7700	0.8771	9.2466
	2017	0.2600	0.8950	0.7700	0.8771	9.0804
BAT	2021	0.2200	0.8950	0.7700	0.8771	10.2706
	2020	0.2900	0.8950	0.7700	0.8771	10.2872
	2019	0.3000	0.8950	0.7700	0.8771	10.2914
	2018	0.2600	0.8950	0.7700	0.8771	10.2813
	2017	0.2500	0.8950	0.7700	0.8771	10.2501
Mumias	2020	0.0900	0.8950	0.7700	0.8771	10.4482
	2019	-0.2000	0.3950	0.2700	0.3057	10.3303
	2018	-0.0900	0.1450	0.7700	0.8771	10.3922
	2017	-0.0200	0.1450	0.4800	0.5514	10.4559
Longhorn Publishers Limited	2021	0.0900	0.1450	0.6450	0.7343	9.2892
	2020	0.0800	0.1450	0.2700	0.3057	9.2911
	2019	0.1200	0.8950	0.7700	0.8771	8.8584
	2018	0.1600	0.8950	0.7700	0.8771	8.8965
	2017	0.2000	0.8950	0.7700	0.8771	8.8557
Deacons (East Africa) PLC	2020	-0.0900	0.8950	0.7700	0.8771	9.3783

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
	2019	0.0700	0.8950	0.7700	0.8771	9.4155
	2018	0.0600	0.3950	0.3950	0.4486	9.3127
	2017	-0.0100	0.1450	0.5200	0.5914	8.7613
ABSA	2021	0.0798	0.1450	0.5200	0.5914	8.2874
	2020	0.0689	0.1450	0.3950	0.4486	8.3360
	2019	0.0687	0.1450	0.2700	0.3057	8.3743
	2018	0.0660	0.8950	0.7700	0.8771	8.4023
	2017	0.0584	0.8950	0.7700	0.8771	8.4342
Diamond Trust Bank	2021	0.0798	0.8950	0.7700	0.8771	8.2874
	2020	0.0689	0.8950	0.7700	0.8771	8.3360
	2019	0.0687	0.8950	0.6450	0.7343	8.3743
	2018	0.0660	0.8950	0.7700	0.8771	8.4023
	2017	0.0584	0.8950	0.7700	0.8771	8.4342
Standard Chartered Bank Kenya Ltd	2021	0.0749	0.8950	0.7700	0.8771	8.3108
	2020	0.0746	0.8950	0.7700	0.8771	8.3632
	2019	0.0771	0.8950	0.7700	0.8771	8.3673
	2018	0.0578	0.8950	0.7700	0.8771	8.3892
	2017	0.0674	0.8950	0.7700	0.8771	8.4188
NIC Bank	2021	0.0717	0.8950	0.7700	0.8771	8.0548
	2020	0.0714	0.8950	0.7700	0.8771	8.1030
	2019	0.0727	0.8950	0.7700	0.8771	8.1837
	2018	0.0686	0.8950	0.7700	0.8771	8.2395
	2017	0.0664	0.8950	0.7700	0.8771	8.2491
National Bank	2020	0.0440	0.8950	0.7700	0.8771	7.9861
	2019	0.0374	0.8950	0.7700	0.8771	8.1094
	2018	0.0204	0.8950	0.7700	0.8771	8.1164
	2017	0.0312	0.3950	0.7700	0.8771	8.0811
KCB Bank	2021	0.0678	0.1450	0.7700	0.8771	8.5039
	2020	0.0696	0.1450	0.7700	0.8771	8.5288
	2019	0.0754	0.1450	0.5200	0.5914	8.5963
	2018	0.0691	0.1450	0.6450	0.7343	8.6900
	2017	0.0707	0.8950	0.7700	0.8771	8.7231
I&M Bank	2021	0.0700	0.8950	0.7700	0.8771	7.3105
	2020	0.0720	0.8950	0.7700	0.8771	8.0626
	2019	0.0530	0.8950	0.7700	0.8771	8.1577
	2018	0.0710	0.8950	0.7700	0.8771	8.1898

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
	2017	0.0710	0.8950	0.7700	0.8771	8.2352
HFCK	2021	0.0489	0.8950	0.7700	0.8771	7.6294
	2020	0.0485	0.8950	0.7700	0.8771	7.6898
	2019	0.0462	0.8950	0.7700	0.8771	7.8017
	2018	0.0512	0.8950	0.7700	0.8771	7.0211
	2017	0.0413	0.8950	0.7700	0.8771	7.0200
Equity Bank	2021	0.0860	0.8950	0.7700	0.8771	8.3541
	2020	0.0860	0.8950	0.7700	0.8771	8.3969
	2019	0.0970	0.8950	0.7700	0.8771	8.4611
	2018	0.0820	0.8950	0.7700	0.8771	8.5532
	2017	0.0720	0.8950	0.7700	0.8771	8.5995
Co-operative Bank	2021	0.0700	0.8950	0.7700	0.8771	8.3203
	2020	0.0720	0.8950	0.7700	0.8771	8.3796
	2019	0.0630	0.8950	0.7700	0.8771	8.4713
	2018	0.0640	0.8950	0.7700	0.8771	8.5509
	2017	0.0680	0.8950	0.7700	0.8771	8.5641
Stanbic	2021	0.0533	0.8950	0.7700	0.8771	7.6898
	2020	0.0590	0.8950	0.7700	0.8771	7.8017
	2019	0.0620	0.8950	0.7700	0.8771	8.2539
	2018	0.0554	0.8950	0.7700	0.8771	8.3179
	2017	0.0519	0.8950	0.7700	0.8771	8.3315
Jubilee	2021	0.0512	0.8950	0.7700	0.8771	6.8655
	2020	0.0397	0.8950	0.7700	0.8771	6.9153
	2019	0.0630	0.8950	0.7700	0.8771	7.7597
	2018	0.0640	0.8950	0.7700	0.8771	7.8329
	2017	0.0590	0.8950	0.7700	0.8771	7.8352
Pan Africa	2021	0.0565	0.8950	0.7700	0.8771	6.9646
	2020	0.0471	0.8950	0.7700	0.8771	7.0049
	2019	0.0426	0.7700	0.6450	0.7343	7.0303
	2018	0.0462	0.7700	0.6450	0.7343	7.0392
	2017	0.0405	0.8950	0.7700	0.8771	7.0359
Kenya Re	2021	0.0846	0.8950	0.6450	0.7343	7.0338
	2020	0.0789	0.8950	0.6450	0.7343	7.1549
	2019	0.0711	0.7700	0.6450	0.7343	7.2566
	2018	0.0793	0.7700	0.6450	0.7343	7.3215
	2017	0.0675	0.8950	0.7700	0.8771	7.3703
Liberty	2021	0.0569	0.8950	0.7700	0.8771	7.3004
	2020	0.0519	0.8950	0.7700	0.8771	7.3131

Company	Year	Stock returns	Environmental reporting	Social reporting	Governance reporting	Trading volumes
	2019	0.0426	0.7700	0.5200	0.5914	7.3512
	2018	0.0423	0.7700	0.5200	0.5914	7.3636
	2017	0.0371	0.8950	0.7700	0.8771	7.3707
Britam	2021	0.0630	0.8950	0.7700	0.8771	7.6841
	2020	0.0710	0.8950	0.7700	0.8771	7.7362
	2019	0.0690	0.7700	0.6450	0.7343	7.8120
	2018	0.0610	0.7700	0.6450	0.7343	7.8536
	2017	0.0690	0.8950	0.7700	0.8771	7.9386
CIC	2021	0.0798	0.8950	0.7700	0.8771	8.2874
	2020	0.0689	0.8950	0.7700	0.8771	8.3360
	2019	0.0687	0.7700	0.6450	0.7343	8.3743
	2018	0.0660	0.7700	0.5200	0.5914	8.4023
	2017	0.0584	0.8950	0.7700	0.8771	8.4342

Appendix III: ESG Reporting Index

The following are binary questions that attempt to measure the extent of a firm's ESG reporting. A mark of one will be given for each variable that a firm has complied while 0 will be given for non-compliance.

Environmental Reporting

1. Water pollution
2. Air pollution
3. Climate change
4. Biodiversity
5. Energy efficiency
6. Resource depletion
7. Ecosystem services
8. Waste management
9. Hazardous materials
10. Supply chain management

Social Reporting

1. Employee retention
2. Diversity management
3. Customer satisfaction
4. Community relations
5. Occupation, health and safety
6. Labour rights
7. Government relations

8. Management relations
9. Equal opportunities
10. Employees training

Governance Reporting

1. Separation of CEO and chairman
2. Whistleblowing schemes
3. Accounting standards
4. Audit committee characteristics
5. Business ethics
6. Board composition
7. Executive pay
8. Succession planning
9. Risk management
10. Anti-competitive behaviour

Source: Sidorova and Gurvitsh (2019)