DURBAN UNIVERSITY OF TECHNOLOGY
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Ethical Investment and Financial Sustainability among Resource Extraction Companies in South Africa: The Moderating Role of Disclosure Quality

A Dissertation submitted in fulfillment of the requirements of the degree of

Master of Accounting

In the Faculty of Accounting and Informatics at Durban University of Technology

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2025

DECLARATION

I hereby state as such:

1. This dissertation which was written and completed by Ms. Minenhle Mandy Nxumalo, Student Number 21510771, satisfies the requirements for the Master of Accounting degree in terms of both quality and scope.

2. This thesis has not been submitted to another university for a degree or examination.

3. Unless otherwise noted as being taken from someone, this thesis is entirely my own creation. All information obtained from the literature have been duly referenced.

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Ms Minenhle Mandy Nxumalo	-	–	11 December 2024
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I certify that I have read this thesis entitled: Ethical Investment and Financial Sustainability among Resource Extraction Companies in South Africa: The Moderating role of Disclosure Quality, written by Minenhle M. Nxumalo (student number 21510771). In my opinion, this thesis meets the requirements for the master's in Accounting degree in terms of quality and scope.

Dr Haruna Maama		4 April 2025
Supervisor	**Signature**	**Date**

Professor Oludayo O. Olugbara		08/04/2025
Co-supervisor	**Signature**	**Date**

DEDICATION

This thesis is dedicated to my late father, Mr Nhlanhla and dear son Philanathi. This achievement is as much yours as it is mine.

ACKNOWLEDMENTS

First and foremost, I am grateful to God for giving me the strength, wisdom and perseverance to complete this thesis. I am thankful for his blessings and grace upon my life.

I extend my sincere appreciation to my amazing supervisors, Dr Haruna Maama and Professor Oludayo O. Olugbara (Executive Dean, FAI). Thank you for believing in me and giving me the opportunity to do my research. Not to mention the love and support I have received throughout my academic journey. Professor Olugbara, thank you for the financial support. I never felt the burden of financial constraints.

To Dr Maama, I do not even know where to start. Thank you for believing in me and for your steadfast support throughout this journey. You really pushed and challenged me to learn and grow as an individual and as an academic. Most importantly thank you for your time. I am amazed by your extensive knowledge, continuous guidance and the steady attention I received whenever I needed your insight.

I am incredibly thankful to my dear sister, son and partner for their support and understanding during challenging moments and late nights. You have been my rock.

Lastly, to all the people who supported and assisted and rooted for me I say “Izandla zidlula ikhanda”.

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LIST OF ABBREVIATIONS

ESG	Environmental, Social and Governance
EI	Ethical Investment
FS	Financial Sustainability
SRI	Socially Responsible Investment
CSR	Corporate Social Responsibility
SDGs	Sustainable Development Goals
JSE	Johannesburg Stock Exchange
DQ	Disclosure Quality
PRI	Principles for Responsible Investment
ROI	Return on Investment
ROA	Return on Asset
ROS	Return on Sales
ROE	Return on Equity
ROCE	Return on Capital Employed
FV	Firm Value
GDP	Gross Domestic Product
SAPIA	South African Petroleum Industry
GRI	Global Reporting Initiative
Sys-GMM	System Generalized Method of Moments
IV	Instrumental Variables
R&D	Research and Development
PP	Phillips and Perron
IPS	Im-Pesaran
ADF	Augmented Dickey Fuller
POLS	Pooled Ordinary Least Square
FE	Fixed Effect
RE	Random Effect
CRISA	South African Code for Responsible Investing

ABSTRACT

The objective of this study is to investigate the moderating role of disclosure quality in the relationship between ethical investment strategies and financial sustainability among resource extraction companies in South Africa. In recent years, ethical considerations have become increasingly central to the investment landscape, as investors and stakeholders place greater emphasis on aligning financial activities with broader societal values and sustainable development goals. This has led to the emergence of ethical responsible investment, which seeks not only financial returns but also positive environmental, social, and governance outcomes. While existing literature has explored the broad association between ethical investment and financial sustainability, the specific mechanisms through which disclosure quality moderates this relationship remain underexplored. This study is relevant because historical inequalities, regulatory changes, and evolving stakeholder expectations in South African have created a complex environment for resource extraction companies. The country has been a global hub for mineral resources, playing a pivotal role in the mining and extraction industries. This study used ethical investment, disclosure quality, and financial sustainability performance data from 2013 to 2022. Ethical investment and disclosure quality data were collected from the integrated reports of the firms and financial sustainability data was sourced from Bloomberg and McGregor BFA databases. This study used a multiple regression estimating method based on the benefits from panel data analysis. The system generalized method of moments; a dynamic estimating methodology was used in the study to estimate the model's parameters. The findings showed that institutional ownership, ownership type, research and development, profitability, size, age, leverage, book to market ratio and liquidity influences the adoption of ethical investment. The study further found that ethical investment has a positive relationship with profitability and firm value. According to the finding, disclosure quality influences the relationship between ethical investment and financial sustainability. The implication of this result is that transparency and accountability in companies lead to decision-making certainties among investors which creates lower perceived risks and higher expected returns, thus increasing stock prices. Therefore, ethical investment disclosure can result in decreased information asymmetry and increased trust from investors in ethically responsible companies. The study recommends that companies should provide transparent and accurate information for stakeholders to gain trust, this will attract more ethical investments, thus resulting in more financial sustainability. The study contributes to the advancement of ethical investment research by establishing the connection between ethical investment and financial sustainability with the disclosure quality as a moderator.

KEYWORDS: Ethical Investment, Financial Sustainability, Disclosure Quality, ESG, South Africa

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Environmental, social and governance principles (ESG) have become a widely accepted method for evaluating a company's non-financial performance. The years 2011 and 2012 saw a surge in the use of ESG in financial media, with the term, 'ethical investment' appearing frequently in investment reports (Leins, 2020). As a result, investments are made based on non-financial factors such as ESG considerations. Given the growing demands of investors for increased transparency and disclosures regarding the methods and locations in which their funds are being invested, it is assumed that sincere interest in ethical investment has developed (Oehmke and Opp, 2022). This investment strategy has gained popularity and given rise to a sizable and incredibly diverse global movement. Scholars use different terms to refer to this type of investment. These terms include ethical investment (EI), socially responsible investment (SRI), sustainable investment, green investment, impact investment, ESG investment and responsible investment (Schanzenbach and Sitkoff, 2020). This study chooses to use the term, 'ethical investment'.

Various industries have adopted ESG investing principles, indicating how big and influential this movement has become (Daugaard, 2020). In South Africa, there has been a significant shift, where the focus is moving beyond the social or environmental aspects of ESG to a holistic approach that highlights the cultivation of sustainable business practices (Matos, 2020). The establishment of the South African Code for Responsible Investing (CRISA), in February 2012 reflects this commitment with its five core principles aligning with those of the UN PRI2 principles (CRISA, 2020). This chapter provides an overview of the study's context. The information related to ethical investing, financial sustainability and transparency is discussed. Moreover, the chapter delves into the issue at hand explaining why this research is essential. This chapter goes on to provide further detail about the numerous ways in which this study has advanced our understanding of accounting, ethical investing, and research. This chapter also covers the goals and research questions of the study, as well as its significance and organization.

1.2 Study Background

Most multinational firms have found success with ethical investment (EI) as a management strategy and corporate governance concept (Amin-Chaudhry, 2016; Haji and Mohamed, 2021). It continues to be intriguing to a great number of scholars, experts in economics, government officials and non-governmental organizations, as well as the general public because of its impacts on industrial growth and financial well-being of many countries (Kapil and Rawal, 2023; Widyawati, 2020; Pedersen et al., 2021). Evidence shows that ethical investment has the ability to positively impact society and business development (Wahba and Elsayed, 2015; Kapil and Rawal, 2023). In practice, more firms are starting to recognize the advantages of creating strategic EI agendas (Iliescu and Voicu, 2021; Sciarelli et al., 2021; Bhandari et al., 2022).

However, managing ethical investments requires significant human and financial resources, in addition to the opportunity cost of passing up lucrative investment opportunities (Mervelskemper and Streit, 2017). As a result, businesses will not commit to ethical investments if there are no proven financial rewards (Cahan et al., 2016; Zainul Abidin et al., 2024; Pan et al., 2023). Therefore, EI proponents are confident that it benefits the company, its stakeholders, and society. They hold the view that investing in EI improves a company's reputation and grants it special competitive marketing advantages, with consumers and investors, who are becoming more socially and environmentally conscious, which in turn raises the company's long-term income and value.

In the past, the 1960s saw the notion of EI become widely accepted. Since then, it has been broadly interpreted and used without consideration to embrace both moral and legal obligations (Uadiale and Fagbemi, 2012; Dahlman, 2023). Participating in EI initiatives is a method for businesses to atone for the social and environmental harm that their operations have caused. Additionally, it shows gratitude to the welcoming society. In reality, corporate entities are social constructs that rely heavily on societal support to survive (Relch, 1998). However, it is debatable whether businesses should spend on CSR initiatives in order to reap the benefits of society's continued support or whether doing so simply wastes their resources (Testa and D'Amato, 2017).

Growing dedication to environmental, social, and governance practices has resulted in more businesses engaging in ethical practices and, as a result, more businesses are disclosing information about these practices to raise stakeholder awareness (Carnini Pulino et al., 2022;

Benjamin et al., 2024). Companies use ESG disclosure as a communication tool to meet the needs of their stakeholders. Li et al. (2018), Dye et al., (2021) and Zhou et al., (2024) states that strong disclosure or quality disclosure boosts reputation, which in turn improves profitability or capital availability. However, it is also true that inadequate disclosure can generate mistrust and give rise to a reputation for greenwashing. Disclosure quality refers to the transparency, accuracy, quality and quantity of information about a company's ethical investment activities to their stakeholders

There has been ambiguities and doubt in the literature regarding what EI actually means to companies and the driving force behind a firm's engagement in EI (Skaperas, 2023; Galant and Cadez, 2017; Hategan and Curea-Pitorac, 2017). Researchers, and economic strategists have invested significant research resources to produce empirical evidence on whether a proactive approach to EI offer a source of long-term success and competitive advantage for companies or it is merely a drain on its profits (Cerciello et al., 2023; Galant and Cadez, 2017; Khalid et al., 2023; Masongweni and Simo-Kengne, 2024). Contrary to popular belief, which holds that businesses participate in socially responsible behaviour because they hope to get certain advantages, EI theories claim that businesses' primary objective is to maximize profits through EI (McWilliams and Siegel, 2001; Oehmke and Opp, 2024; Bagnoli and Watts, 2003; Amin-Chaudhry, 2016). Investors who adopt an ethical investment approach are more likely to consider incorporating ESG factors into their allocation decisions, so the volume and quality of ESG data disclosed by companies becomes increasingly significant (Singhania and Gupta, 2024; Yu and Van Luu, 2021; Khan and Iqbal, 2024). Companies are held accountable for their actions by this increased transparency, which guarantees that they report on their activities and act responsibly.

Some firms in South Africa, especially those in the resource extraction sector have started to factor in the effect of their prospective activities on the environment and society because they reckon the need to be responsible in their operations (Van Zyl, 2013; Masongweni and Simo-Kengne, 2024). Meanwhile, focusing on ethical investment may deny firms profitable investment opportunities (Maama and Mkhize, 2020). It is, therefore, reasonable to postulate that firms may not focus on EI if there are no benefits. For an ethical investment to be embraced by Johannesburg Stock Exchange-listed resource extraction companies, it is important to demonstrate the environmental, social and economic benefits of its adoption (Viviers and Els, 2017).

South Africa stands as a unique context for exploring the interplay between ethical investment, financial sustainability, and corporate disclosures in the resource extraction sector. Resource extraction companies in South Africa play a critical role in studies of ethical investing and financial sustainability because of their effects on the environment and society. Historically, the country has been a global hub for mineral resources, playing a pivotal role in the mining and extraction industries. Given that many of these businesses operate in environmentally sensitive areas, addressing ethical issues can result in better sustainability practices (Ivic et al., 2021; Garcia et al., 2017). Examining resource extraction companies in South Africa is particularly important for developing a comprehensive ethical investment strategy, as financial sustainability also involves reducing risks related to social and environmental issues (Ivic et al., 2021; Fu et al., 2024). As resource extraction companies navigate this landscape, the quality of their disclosure practices regarding ESG matters gains particular significance. This means that transparent and accurate disclosure of environmental and social practices does not only promotes accountability and legitimacy but also informs investors about the company's ethical performance (Dikgwatlhe and Mulenga, 2023; Stocker et al., 2020). Therefore, the degree to which these disclosures accurately reflect a company's actual practices, goals, and its role in mediating the relationship between ethical investment and financial sustainability remains a subject of investigation in South Africa. This issue is particularly relevant in the South African context, where historical inequalities, regulatory changes, and evolving stakeholder expectations create a complex environment for resource extraction companies.

1.3 Research Problem Statement

There has been a growing interest in the corporate finance landscape towards ethical investment, occasioned by the increasing concerns over the environment, social and governance (ESG) issues. This growing interest is particular pronounced in the resource extraction industry, which has received considerable attention regarding sustainability and corporate responsibility. In South Africa, the integration of ethical investment principles within the resource extraction industry has become topical because of the country's wealth in natural resources. However, while the literature provides a broad understanding of the theoretical benefits of ethical investment, a significant gap in literature remains to be filled as there is a paucity of evidence on the direct impact of ethical investment on financial sustainability.

Recent studies on the relationship between EI and financial sustainability have shown that EI could be related to FS in many ways (Xu et al., 2015; Leins, 2020; Erol et, al., 2023). Nonetheless, this relationship is not straightforward among companies operating in the resource extraction sector. A crucial element that may influence this relationship is the disclosure quality of a company's EI activities to their stakeholders. First, for resource extraction companies, ethical investment that focuses on environmental and social responsibility attracts investment and preserve market confidence. An unethical investment, on the other hand, might leads to unethical business practices, penalties, a loss of market integrity, and negative press, all of which have a detrimental effect on the economy (Ng and Rezaee, 2015). This viewpoint is consistent with the signaling theory, which contends that businesses employ ethical investment principles to influence stakeholders' behavior, particularly that of shareholders (Fasan and Mio, 2017; Hassan et al., 2020).

From the foregoing discussion, it has become crucial to understand the relationship between ethical investment and financial sustainability of companies, given the critical role each plays in the survival and success of companies. Despite the evidence suggesting a link between EI and FS Cerciello et al., 2023; Galant and Cadez, 2017; Khalid et al., 2023; Masongweni and Simo-Kengne, 2024, these studies looked at the individual effects of EI components on FS without examining its overall influence on financial sustainability and how disclosure quality influences this relationship. These limitations imply that there is still much to learn about the connection between EI and FS, highlighting the need for additional study in this area. Once more, the majority of these research were conducted in industrialized nations, whose institutional setups differ somewhat from those of emerging nations such as South Africa. For these reasons, along with the limitations noted in previous research, it is necessary to present empirical findings on whether ethical investment and disclosure quality are value relevant. Therefore, the purpose of this research is to provide empirical evidence on the impact of ethical investment on the financial sustainability among resource extraction companies in South Africa and further establish the moderating role of disclosure quality in this relationship. The research question to pursue in the study is: What is the moderating effect of disclosure quality on the relationship between ethical investment and financial sustainability? South Africa is becoming more interconnected with the rest of the world thanks to the ongoing globalization campaign, and more foreign investors are continually investing

in the country (Traore et al., 2022). Given the distinctiveness of the nations' cultures, economies, societies, legal systems, and political systems, it is necessary to investigate the connection between EI and FP for resource extraction companies listed on the JSE. This study provides important insights for the future of the resource extraction industry in South Africa, which adds to the larger discussion on sustainability in corporate finance and disclosure quality in corporate reporting.

1.4 Research Aim and Objectives

1.4.1 Aim of the Study

The primary aim of this research is to investigate the relationship between ethical investment and financial sustainability of resource extraction companies in South Africa and how disclosure quality moderates this relationship**.** By examining this complex interplay, the study aims to enhance the understanding of how ethical considerations, financial sustainability, and disclosure practices intersect within the unique socio-economic and regulatory context of South Africa.

1.4.2 Objectives of the study

The following are the specific objectives formulated to guide the study.

1. To identify the critical factors that influence the ethical investment practice of resource extraction companies listed on the Johannesburg Stock Exchange.
2. To explore the relationship between ethical investment and financial sustainability of listed resource extraction companies in South Africa**.**
3. To examine the moderating role of disclosure quality on the relationship between ethical investment and financial sustainability**.**

1.5 Research Questions

The research questions articulated to anchor this study are stated below.

1. What are the critical factors that influence the ethical investment of resource extraction companies listed on the Johannesburg Stock Exchange?
2. To what extent does ethical investment impact financial sustainability of companies?
3. How does disclosure quality moderate the relationship between ethical investment and financial sustainability?

1.6 The Contributions of Study

The study aims to make a contribution to academia and industry by offering a detailed investigation of the interplay between ethical investment strategies, financial sustainability, and disclosure quality within South African resource extraction companies. First, previous research ignored the aggregate effects of the responsible investing on financial sustainability, instead focusing on the relationship between the effects of the individual components of EI on firms' financial sustainability. Earlier research Assaf et. al. (2024) and Fillippini et. al. (2024) also used a dichotomous response to gauge the adoption of ethical investment practices, leaving out the importance of both the quantity and quality of such investments and their disclosures. Due to these drawbacks, the ethical investment variable's capacity to forecast how it would affect firms' financial performance is diminished. By presenting evidence that demonstrate the combined influence of ethical investment on organizations' financial sustainability, this study will close this gap in the literature. This study therefore differs from earlier studies that employed individual ESG scores, by showing whether environmentally and socially ethical investment, collectively has an impact on financial sustainability.

The management of businesses could also determine whether they can utilize ethical investment to add value for investors by establishing the connection between ethical investment and financial sustainability. By uncovering the moderating influence of disclosure quality, this study also provide insights into the mechanisms through which ethical investment can impact financial sustainability, highlighting on the potential advantages of responsible practices for both investors and companies.

This research further seeks to advance our comprehension of the impact of ethical investing on the financial sustainability of companies. To provide significant policy implications for stakeholders in the South African resource extraction sector, the empirical findings will help determine the relationship between ethical investment and financial sustainability factors and the moderating role of disclosure quality. Ultimately the findings of this study could inform stakeholders, policymakers, and investors about the potential advantages of ethical investment strategies and the importance of transparent disclosure in the resource extraction sector.

1.6 The Organization of the Study

This study is structured into five chapters.

The Introduction is covered in Chapter 1. Here, the problem statement which highlights the gap of this study is addressed after the study's background. In addition, the significance and contributions of this research were discussed, along with the aim, objectives, and research questions. In overall this chapter articulated the importance and the purpose of this research ensuring that readers understand the context.

Chapter 2 will be the Literature Review. The chapter will discuss the comprehensive overview of existing research related to this study. This chapter will provide an overview of the conceptual literature surrounding ethical investing, delving into the fundamental principles of EI. In addition, the chapter will discuss the theoretical literature underpinning the conduct of this study as well as the critical review of the findings of previous studies.

Chapter 3 will be the Methodology. This chapter will provide a detailed research methodology providing an insight into strategies this study intends to employ to achieve the objectives of the study. Specifically, the chapter will discuss the methodological aspects employed in this study.

Chapter 4 will be Results and Discussion. The chapter will provide data analysis together with the discussion of this study in detail. The chapter will present the results that addresses the study's objectives. Specifically, the chapter will present the descriptive statistics, multicollinearity and regression findings for each objective.

Chapter 5 will be the Conclusion and Recommendations. The chapter will discuss the summary of findings. Based on the findings, the conclusion and the recommendations will be discussed. The chapter will further make recommendations based on the findings. In addition, the chapter will address the limitations of the study, acknowledge constraints that may impact the findings and suggests areas for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

With a focus on the moderating role of disclosure quality, this study intends to investigate the correlation between ethical investment and financial sustainability in South African resource extraction companies. In the previous chapter, the problem statement was discussed along with an outline of the study's background and justification for conducting the research. This chapter offers a summary of the conceptual literature in this field. In addition, the chapter discusses the theoretical framework supporting the conduct of this study. Moreover, the empirical literature is covered in more detail in this chapter. This chapter fill in the knowledge gaps on ethical investing, financial sustainability and disclosure quality. Key topics addressed in this chapter encompass the concept of ethical investments, the elements of ethical investing, resource extraction companies in South Africa, ethical investment practices, and financial sustainability.

2.2 Conceptual Literature Review

2.2.1 The Concept of Ethical Investment

Various authors have defined the term ethical investment (EI) severally. It is also notable that there is no agreement on what the term EI signifies to an investor given its growing relevance (Daugaard, 2020). This may be because EI is studied in various academic disciplines that spans the fields of accounting, management, ethics, and finance. This study focuses on contrasting EI in the accounting and finance discipline. With regards to the social and environmental responsibility of the companies as well as the organizations, there is a rising interest from investors and other stakeholders as to how their actions develop and enhance the value for their stakeholders (Dumay et al., 2016; Bananuka et al., 2019; Cortesi and Vena, 2019). Corporate activities have resulted in increased degradation of natural resources, which has raised concerns (Briem and Wald, 2018; Xiong et al., 2023; Sibanda et al., 2023). Consequently, companies have to incorporate concerns about governance, social welfare, and the environment into their corporate strategy goals in addition to maximizing shareholder profit. This call was appropriate because businesses were

starting to understand that focusing only on reaching financial targets is no longer viable because it does not give a complete picture of their operations and results (Atkins and Maroun, 2015).

Various frameworks have been developed to address this shortcoming, including the Triple Bottom Line and sustainable performance, responsible investment and sustainable investment frameworks, among others. These frameworks aim to bridge this gap in corporate practice by offering guidelines for businesses to consider environmental and social implications when evaluating and making investment decisions (Loviscek, 2020; Correia, 2019; Crace and Gehman, 2023). Taking governance, social, environmental, and financial ramifications into account when making investment decisions is known as ethical investing. Andersson et al. (2022) defined ethical investing as an investment strategy that considers a company's sustainability in terms of its economy, environment, society, and governance. Comparably, ethical investing is a strategy that businesses employ to take into consideration the connections between their operations and issues pertaining to governance, the economy, the environment, and social issues (Widyawati, 2020; Alda, 2021; Zeidan, 2022; Cunha et al., 2021).These authors maintain that various other terms that can be used to represent ethical investment include ESG investment, impact investment, green investment, sustainable investment, socially responsible investment (SRI) and responsible investments. The common goal of these terms is the incorporation of ESG factors into investment decisions. However, the term ‘ethical investment’ was initially used frequently in the literature to refer to this type of investing.

It is assumed that institutional investors have a significant role to play in ESG integration, thereby promoting EI practices, due to the amount of resources at their disposal as a result of material ownership of equity shares and their impact over other significant players in the investment chain (Balp and Strampelli, 2022; Matos, 2020). Companies or organization that invest money for the benefit of their clients are known as institutional investors. They are seen as more knowledgeable than retail investors and face fewer regulations. Institutional investors act as representatives for individual investors and play a significant role in managing and investing clients' funds in capital markets (Park and Jang, 2021; Rau and Yu, 2024). A substantial portion of investable capital is under the control of institutional investors, including family offices, sovereign funds, pension funds, and endowments. Their estimated global investment capacity is as high as $100 trillion

(Monk and Sharma, 2019). Sustainable investment assets (SIA) in the US grew from $12.1 trillion in early 2018 to $17.1 trillion as of the beginning of 2020 (Global Sustainable Investment Alliance, 2020).

In the context of this study, EI is referred to as an approach and practice that includes environmental, social, and governance factors into the decision-making process for investments. EI is viewed as a significant development in the investing sector from an African perspective because of its connection to ESG integration, which is intimately linked to the accomplishment of SDGs, particularly the commitment to reduce poverty, notably in Africa by 2030 (AVAC, 2018). Though it was initially referenced in the Brundtland Commission report (WCED, 1987), the idea of sustainable investment, which later took the form of EI, is not entirely new to Africa. As an illustration of EI screening, during the Apartheid era in the 1970s and 1980s, there was a global push to discourage investing in South African-based businesses (Valsamakis, 2012).

Formánková et al. (2019) asserts that there are different ethical investing screening strategies that have progressed in line with investors' increasing recognition of social and environmental matters. These strategies include negative screening to avoid investments in morally questionable industries, positive screening to incorporate socially responsible companies in investment choices, investor engagement to facilitate discussions for enhancing ESG company conduct, and best-in-class selection of leading firms in environmental and CSR domains.

2.2.2 Components of Ethical Investments

In the field of finance, ethical investment, also known as socially responsible investing or sustainable investing has become an important framework (Pedersen et al., 2021; Martini, 2021). Ethical investment recognizes the impact of investment decisions on profit margins, as well as the benefits they have on society and the environment, by combining financial goals with moral considerations. A wide range of factors such as environmental sustainability, social equity, corporate management, and commitment to ethical standards are involved in ethical investments. Therefore, ESG issues are the three pillars that measure ethical investment (Matos, 2020; Schanzenbach and Sitkoff, 2020). Investors and stakeholders now require that companies assess and disclose nonfinancial information alongside financial information, as investors are

demonstrating a greater propensity to support businesses that are engaged in ethical practices (WEF, 2019). An investor's ability to choose potential investments is aided by a set of operational standards known as ESG criteria.

The environmental component of EI examines how a business contributes to the environment, with a particular emphasis on deforestation, pollution, waste management, gas emissions, and the depletion of natural resources. Similarly, the environmental issues that need to be taken seriously include deforestation, ocean acidification, loss of biodiversity, carbon footprint, global warming, climate change, ozone layer depletion, air pollution, water pollution, soil and land pollution, and natural disasters (Serafeim and Yoon, 2022; Fallah Shayan et al., 2022). Given how many businesses are currently in operation, even little actions taken by them can have a big impact on these problems. Gärling and Jansson (2021) state that possible investment possibilities could include those that promote sustainable development, lessen waste and pollution, or encourage the development of renewable energy. Companies that take steps to protect the environment or minimize their impact are frequently given preference.

The social aspect of EI focuses on employee welfare and the effect that companies have on the community. The main emphasis on the social component of EI is on the wellness of communities, institutions, and individuals. The social factor looks at how a company treats its workers and their working conditions, gender and diversity situations, community engagements and human rights (Benlemlih and Bitar, 2018; Alsayegh et al., 2020). This suggests that the social components convey a company's increased efforts to keep satisfied customers, retain devoted employees, and behave responsibly in the communities in which it operates (Becchetti et al., 2022; Matos, 2020). It emphasizes that a healthy lifestyle is thwarted by social issues, which also cause disruptions to businesses and communities and hinder individuals from realizing their full potential. The social factor is very important for ethical investment because it assists in protecting human rights or rights of workers which ensures that workers are paid fair wages and work under safe environment or conditions. A nation is made up of its people, and whenever they are content, the nation produces more, leading to better outcomes, attracting more investment because they have a higher chance of success and to produce better results than others (Aich et al., 2021). In addition, Eneanya (2020) asserts that businesses benefit society as a whole and their prospective clientele as well, by lowering rates of poverty, hunger, inequality, and careless consumption. By empowering those

who are vulnerable, businesses grow their market. As per Bonoli (2020) and Matos (2020), there has been a notable increase in the acknowledgement of the significance of social factors in ethical investment in recent times. Companies who advocate for social equality and fair labor practices are viewed positively.

On the other hand, the governance dimension of EI encompasses the mechanisms that management has in place to act in the best interests of its shareholders, including having an operational board, upholding thoughtfully crafted executive compensation policies, and refraining from unethical behavior (Seth et al., 2021; Matos, 2020). Therefore, the primary emphasis of the governance component lies in the management style of a company and its dedication to ethical and transparent decision-making. Onuselogu and Shahzad (2023) assert that businesses can recognize and address ESG issues associated with their investments when they have effective governance in place. According to Al-Hiyari and Kolsi (2021), governance practices are important for preventing conflicts of interest between minority shareholders and controlling owners. Businesses can ensure that their investments fulfill ethical objectives and behave responsibly and morally, by putting in place the right governance structures and procedures. This leads to more advanced and stabilized financial sustainability.

In summary, ethical investment components or pillars, each play a role in shaping responsible financial decision making. For investors to determine which investments have positive environmental and social impacts and which are at risk from environmental hazards, they rely on environmental, social and governance considerations. Therefore, investors can select and manage assets that have positive environmental effects by taking these factors into account. To evaluate possible investments and identify opportunities for profitable returns, sustainability and environmental ratings are useful tools. In ethical investing, social factors are also important. They seek to respect human rights while achieving positive social results. Investors can ensure that investments benefit local communities and workers, support sustainable development and promote social justice, by including social factors into their investment decisions. In holding companies accountable for their actions and ensuring responsible and ethical use of investments, governance plays an important role. Thus, following ethical investment principles helps promote sustainability and a prosperous future for all stakeholders involved.

2.2.3 Ethical Investment Practices

These days, ethical investment practices are not only necessary but also increasingly integral to a successful business plan. Ethical investment practices refer to the strategies, techniques, and methodologies employed by companies to ensure their operations align with ethical standards (Litvinenko et al., 2022). Typically, these practices revolve around fostering social responsibility, mitigating adverse environmental impacts, advocating for sustainable development, and safeguarding human rights (Litvinenko et al., 2022) .

Matten and Moon (2008) highlights that for organizations to be successful, they must unavoidably adjust to the dynamics of globalization and the shifting societal norms. These changes include moving from traditional working relationships to collaborative partnerships, a shift from immediate financial gain to focusing on long-term sustainable development, and a movement from self-interest to a commitment to environmental and social responsibility. A number of companies are working together to adhere to specific environmental standards as social and environmental consciousness permeates most aspects of daily life. Companies reduce risks associated with health by improving the environment, extending the life of their products and services, enabling lower energy consumption and pollution levels, making them easier to maintain or retrofit, and exhibiting enhanced recycling, reuse, redemption, and disposal (Khalil and Nimmanunta, 2023).

Ethical practices within the healthcare field have also been widely acknowledged, emphasizing the importance of the interdependence among patients, healthcare professionals, scientists, suppliers, and organizations in promoting social sustainability and sustainable healthcare (Nakhate and Kajale, 2020). Also, the energy industry has received significant recognition for its ethical practices (Li, 2020). Rather than relying on conventional energy sources, it actively advocates for the adoption of renewable energy. Companies are investing in measures to enhance their energy security and efficiency, modernize their technology and procedures, and mitigate the adverse effects of energy storage and transportation (Li, 2020).

Throughout the course of history, mining has been subject to unrelenting environmental and social criticism for a span of more than 2000 years, rendering it the longest-standing target of such scrutiny among all human endeavors. The industry is attempting to implement social, environmental and governance strategies in a multitude of international codes and guidelines such

as the International Building Code, International Standards Organization, International Labor Organization Standards, United Nations Sustainable Development Goals (SDGs)] that have been issued by multiple different organization (Schoenberger, 2014). One of the prominent codes and guidelines that guides the operations of the sector is the Sustainable Development Framework, which was released in 2002 by the International Council on Mining and Metals. This framework includes commitments to increase the standard of good practice and promote economic and environmental development (Schoenberger, 2014). Additionally, the Council promised not to mine in areas that have been officially designated as protected. Their goal is to mine in a way that is both environmentally and socially responsible. It could be stated that the extent to which the industry is responding to social and environmental values that are both expressed and vigorously enforced in society at large will become more and more apparent (Schoenberger, 2014).

Elkington (1998) states that to present mining as sustainable, companies needed to change their focus from profit to the triple bottom line, which includes profit, people, and the environment. Economic expansion in this new formulation needs to be balanced with an understanding of the harm that mining frequently caused to the environment and to society. Apart from their mining operations, corporations have been producing environmental impact assessments, releasing annual reports on sustainability, and engaging in ethical investments practices (Jacka, 2018; Li, 2015). Theoretically, the extraction of minerals including oil and gas should promote economic expansion, job creation, and public services, all of which should lower poverty. Gamu et al. (2015) asserts that by creating jobs, supporting local businesses, building infrastructure, and offering public goods like healthcare and education along with skill development through their corporate social responsibility (CSR) initiatives, extractive companies draw attention to the potential poverty-reducing effects of their operations. Disclosure of the aforementioned practices by businesses can potentially appeal to investors looking to match their investments with their ethical beliefs and sustainability targets.

2.2.4 Ethical Reporting/Disclosure

There is growing interest from regulators and investors who seek to understand the opportunities, risks, and the implication on the value of companies from ethical issues which are raising the demand for quality information and standardized disclosures across the world (Camodeca et al., 2018). Hence, businesses are now using ethical reporting to show transparency in their efforts to manage ethical risks and to satisfy information requirements from stakeholders. Ethical Reporting is a new concept to emerge in recent years as an evolving model of corporate reporting that focuses on addressing the traditional reporting shortcomings in relation to non-financial information (Camodeca et al., 2018). As investor interest in non-financial data increases, multiple sustainability accounting frameworks have been created to enhance standardized ethical reporting. Ethical reporting can be used interchangeably with various terms such as non-financial reporting, integrated reporting, corporate social responsibility reporting, triple bottom line reporting, ESG reporting, sustainable development reporting and sustainability reporting (Siew, 2015; Johari and Komathy, 2019). All these terms incorporate ESG activities in corporate reporting. Therefore, this study uses ethical reporting to represent these reporting practices.

Ethical reporting refers to the systematic disclosure and transparency of a firm's sustainability objectives which are understood more particularly by its ESG objectives and its performance on those objectives (Darnall et al., 2022). Similarly, Aifuwa (2020) defined ethical reporting as the act of disclosing a company's financial, social and environmental impacts that results from its operation on society and environment. This concept refers to the process of releasing company's information completely or partially to stakeholders who needs it for different purposes. Ethical report is a document used to disclose information about a company's performance and impact related to ESG factors. The reports may differ in structure, information disclosure, and target market (Kannenberg and Schreck, 2019).

There has been a substantial increase in the focus on non-financial communication in the last twenty years, especially in the context of sustainability and ethical disclosure practices (Vitolla et al., 2019). Ethical reporting can be traced back to South Africa's first King Code of Corporate Governance (CG) principles, which is referred to as 'King I' and was issued in 1994. Later, King II report (an updated version of King I) bound by Johannesburg Earth Summit outlined 'Integrated Sustainability Reporting' as the new paradigm shift of non-financial reporting (Dumay et al., 2016;

Soriya and Rastogi, 2022). South Africa was the first country that embarked on the implementation of ethical reporting practice through integrated reporting in March 2010 after the introduction of King III (Soriya and Rastogi, 2022). The implementation of King IV has further increased the demand for ethical reporting through the adoption of an apply and explain approach for the principles in the code (Caglio et al., 2020). As a result, it is now compulsory for all companies listed on the Johannesburg Stock Exchange (JSE) to prepare ethical reports, contextually referred to as integrated reports in South Africa.

The important factors for the disclosure of ethical information include disclosure and communication to stakeholders, legal and regulatory obligations and the alignment with the practices of peers or the support of policy initiatives (Prakash, 2020). Ethical reporting is a disclosure of information on how a company is accountable to the ESG issues related to the business. This is in line with the fact that companies are required to provide annual reports to stakeholders detailing their ESG performance to their shareholders (Burhan and Rahmanti, 2012; Vitolla et al., 2020). As per Higgins et al., (2020) ethical reporting has increasingly emerged as a standard managerial practice within companies.

There are arguments supporting the regulation of ethical reporting. Firstly, it defines the minimum level of ethical information disclosed by all companies under regulation. Secondly, it states how reporting should be done so that the revealed information is more useful to the investors and stakeholders (Lu, 2016; Sulkowski and Jebe, 2022). The requirements of ethical investing either come from the stock market, government or both. Furthermore, ethical reporting has three level of reporting requirements. The mandatory reporting level is the highest; the comply or explain approach is slightly below the mandatory disclosure level and the recommended best practice is at the lowest level (Odriozola and Baraibar-Diez, 2017). When reporting companies prepare an ethical report, they first need to identify the standards or framework to employ for their reports. The five influential ethical reporting frameworks and standards are the Global Reporting initiative (GRI); the Climate Disclosure Standards Board (CDSB); Carbon Disclosure Project (CDP); the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB) (Prakash, 2020). Out of all the frameworks mentioned above, GRI is the most

commonly employed by different industries followed by SASB which emphasize materiality issues that are specific to different industries.

The discussion above emphasizes how important it is for companies to embrace ethical reporting in order to satisfy the informational demands of their diverse stakeholders. It is also evident that ethical reporting has various alternate names, all representing similar practice. In this study ethical reporting refers to a practice of communicating companies' ESG impacts alongside their financial sustainability with external stakeholders. It seeks to bridge a gap between disconnected pieces of financial information provided to investors and shareholders with non-financial information intended for stakeholders. Moreover, ethical reporting is crucial to the resource extraction sector as they can use it to demonstrate their commitment to sustainability goals, attract ethical investments and improve their reputation and financial sustainability.

2.2.5 Financial Sustainability

Reaching a consensus on sustainability is challenging because different people have different perspectives on it. Profit-driven organizations do not worry about institutional, social, or environmental issues; they just think about financial sustainability. However, organizations involved in development place a higher priority on sustainability. As per Gleißner et al. (2022) publication, sustainability is defined as development that fulfils present needs without jeopardizing the capacity of future generations to satisfy their own needs. Sustainability is commonly understood to be synonymous with development, which is the process of implementing specific positive changes in a dynamic system that connects the economy, society, and ecology. The financial sustainability of a business is its corporate sustainability's economic component. Roy and Patro (2021) pointed out that financial performance could serve as a proxy for financial sustainability. Therefore, this study opted to use 'financial sustainability' as a stand-in for financial performance since they can be used interchangeably.

Until the late 1980s, executives in the business world used the term 'sustainability' to refer to a company's capacity to grow its profits over time (Savitz, 2013). Financial sustainability is the total financial well-being of the company over a specified time frame (Aizada et al., 2023). Investment analysis in South Africa has traditionally been based primarily on financial performance. The

research conducted by Roy and Patro (2021) concludes that financial sustainability denotes a business's ability to generate profits and expand its operations autonomously, without external support. Furthermore, it necessitates the acquisition of sufficient cash flow and liquidity to ensure uninterrupted business activities, along with the capacity to fulfill both current and future obligations.

The financial sustainability of a company is reflected in its monetary policies and operations. This indicator provides an overall assessment of a company's financial condition over a specific period and allows for comparisons between similar companies within the same industry or across different sectors when combined (Hanoon et al., 2020). Zabolotnyy and Wasilewski (2019) stated that financial sustainability stems from the idea of maximizing value for stakeholders through the best possible investments at a manageable risk level. The authors further define financial sustainability as a company's ability to maintain operations and generate long-term value for its owners through the most effective allocation of resources and funding sources.

Scholars typically adapt measures of either market performance or accounting performance to signify a firm's degree of financial sustainability. They use various accounting ratios and market-based metrics to assess financial sustainability, including return on capital employed (ROCE), return on investment (ROI), return on assets (ROA), return on sales (ROS), return on equity (ROE), as well as other indicators such as Jensen's alpha, Treynor, Sharpe, and Tobin's q (Raza et al., 2012; Al-Waeli et al., 2020). Tobin's Q and ROCE are the key metrics used to assess a company's financial sustainability. ROCE indicates how well a business uses its assets to generate profit, which is a key component of accounting performance (Horsfall and Womenazu, 2022). In accordance with Tobin's Q, assets have more value than replacement cost if the company's capabilities and resources are managed effectively; it displays the state of the market (Minutolo et al., 2019; Horsfall and Womenazu, 2022).

From the foregoing discussion, business sustainability can be described as the plan for long-term organization survival that incorporates three dimensions: the economic, social, and environmental. It backs up value maximization for stakeholders as well as accounting principles of going concern. Moreover, some authors have stressed that the financial aspect is the most valued of the three since it strengthens an organization's finances and keeps it out of situations where it might fail or be

forced to close (Ahmed and Tirmizi, 2020; Székely and Knirsch, 2005; Gupta and Kumar, 2013; Al-Waeli et al., 2020). On the other hand, financial sustainability is the ability of a company to generate profit over a period that would eventually contribute to value creation to its shareholders and other users with financial interest (Ahmed and Tirmizi, 2020). Financial sustainability extends to the ability of a firm to generate revenue more than expenses as well as capacity to generate positive return on investment. In summary, when a business generates value for its stakeholders by optimizing profits and minimizing environmental and social impact, it is practicing financial sustainability.

2.2.6 Resource Extraction Companies in South Africa

South Africa is a country rich in a wide array of mineral resources. Therefore, resource extraction companies are key contributors to the country's economic framework. The country has solidified its position as a major participant in the global mining arena, dating back to the late nineteenth century when diamonds and gold were discovered (GCIS, 2012; Cole and Broadhurst, 2022). Resource extraction companies operate across various regions of South Africa. These companies are vital to the world economy because they provide raw materials to numerous industries. However, they are often under scrutiny due to the ESG issues brought up by their operations. Although mining is a venture fraught with risks, empirical evidence suggests that it has the capacity to boost a country's economic development and mitigate poverty by generating employment (StatisticsSA, 2019).

With the opening of the first copper mine in the 1850s, South Africa saw the beginning of industrial scale in mining (Cowling, 2023). Subsequently, in Hopetown, diamonds were found in 1867, and gold was found in 1870. Since then, South Africa's mining sector has grown significantly, with an estimated 219,5 billion South African Rands contributed by the sector in 2021 to GDP and the mining industry saw merger and acquisition deals valued at almost 9.2 billion U.S. dollar in 2022 (Cowling, 2023). Joshua and Bekun (2020) highlights that coal plays a significant role in supporting economic growth (GDP) as it directly or indirectly influences crucial sectors such as investment and industry. It stands as a primary economic resource, contributing to the development and sustainability of various industries.

The mining sector remains an integral part of South Africa's socio-economic growth. This is validated by the performance of the sector in 2019 which resulted to the mining industry employing over 1.5 million people (Government Gazette, 2022). A total of R135.9 billion in wages were earned by 454,861 direct workers in this industry which contributed R360 billion, or 8.1 percent of the GDP. Additionally, the industry paid R24.3 billion in taxes, R8.6 billion in royalties, R94.7 billion in fixed investment, R300 billion in goods and services, and R22.7 billion in Pay as You Earn fees (Government Gazette, 2022). These statistics underscores the significant role the resource extraction section play in the economic development of South Africa.

Similarly, the history of South Africa has influenced the country's oil industry significantly. Although the oil industry was initially driven by the need for production in mining and agriculture, the government's import-substituting industrialization policy greatly influenced and encouraged the industry's later growth (Miller and van Meelis, 2005). With the establishment of PetroSA shortly after 2000, the government promoted investment in the oil industry (Miller and van Meelis, 2005). This company was created by merging state-owned assets in the oil sector to form a unified entity dedicated to gas exploration, extraction, and processing (Miller and van Meelis, 2005). Large multinational corporations like Petronas, Shell, BP, Total, and Caltex dominate the private oil industry in South Africa. A report by the South African Petroleum Industry (SAPIA) in 1997 revealed that the majority of the foreign investment in the country was attributed to the assets owned by these corporations.

Despite the significant contribution of resource extraction sector on the South African economy, the past few years have seen several challenges, such as low productivity, strained labor-management relations, uncertain regulatory environments, and the industry's inevitable maturation, along with subdued commodity prices, increased working costs, restricted infrastructure, and high labor costs (Moraka and Jansen van Rensburg, 2015). The resource curse, a term used to describe the negative effects of environmental degradation on local communities' health and sustainable means of subsistence often coexists with a long-term financial burden and the loss of important resources. Based on the unique combination of geography, climate, population distribution, and deposit size, research indicates that the long-term effects of these industries, and particularly coal mining, are likely to be more severe in South Africa than in other nations (McCarthy, 2011).

According to the Section 24(b) (iii) of the 1996 Constitution of the Republic of South Africa and Chapter 2 of the Bill of Rights, mineral resources and all other natural resources in the country are under the jurisdiction of the South African government. In South Africa, the primary piece of legislation governing the mining sector is the Minerals and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002), which is managed by the National Department of Mineral Resources (DMR). The Act specifies how mineral exploration, extraction, and production in South Africa should be conducted. The law emphasizes the growth of black mine ownership, encourages equitable access to minerals, changes the mining and mineral sectors, and supports public involvement (Diale, 2014; Laisani and Jegede, 2019). Compliance with the law mandates mines to create an Environmental Management Program Report. This report outlines the financial strategies to uphold social and labor plans, mine rehabilitation and closure efforts, and an environmental management plan with established monitoring and evaluation procedures.

Among all industrial sectors, mining companies are the most responsible for the largest and most permanent harm to the environment (Boldy et al., 2021; Kapelus, 2002). Therefore, ethical investment in resource extraction companies is crucial for protecting human rights, promoting sustainable development, and mitigating environmental harm. Extractive companies should engage with communities, consult stakeholders, and prioritize environmental conservation for positive outcomes (Fallah Shayan et al., 2022).

2.3 Theoretical Literature Review

At the heart of this study lies several theoretical frameworks that provide a lens through which the complex relationship between ethical investment, financial sustainability, and disclosure quality can be understood. These theoretical frameworks include legitimacy, stakeholder, signalling, and agency theory. These theoretical underpinnings will help uncover the intricate dynamics that shape the interactions between companies, their stakeholders, and the wider environment.

2.3.1 Legitimacy Theory

This presumption originates from the understanding that community support for businesses is crucial to their survival. Legitimacy is the generalized view or notion that an entity's actions are acceptable, appropriate, or desirable within some socially formed system of standards, beliefs,

principles, and doctrines (Suchman, 1995; Hu et al., 2020). According to legitimacy theory, managers use strategies to change their behaviour and align it with social expectations when they identify a legitimacy gap (Lindblom, 1994; Alda, 2021). Deegan et al. (2002), Deegan (2019) and Dumay (2019) assert that legitimacy theory has been and is still used to clarify why businesses invest ethically and provide information about their social and environmental performance.

Businesses manage their credibility through communication with stakeholders. Ethical investment and disclosures serve as communication channels between the company and its stakeholders (Deegan 2019). In response to this, companies use ethical investment and disclosures as a strategy to look environmentally and socially conscious and act in accordance with the expectations of shareholders (Beelitz and Merkl-Davies, 2012; Palazzo and Scherer, 2006; Velte, 2022). According to Patten (2020) and Akhter et al. (2023), the legitimacy theory is arguably the most established and frequently applied theory for emphasizing the rationale behind companies' ethical initiatives and disclosure practices.

Legitimacy theory explains that while investing in ethical activities may be expensive initially, over time a firm's legitimacy grows, and stakeholders give it positive feedback (Hwang et al., 2021). This indicates that in order to acquire the various resources and support required for a business's survival and performance, legitimacy from the perspectives of stakeholders must be established. Legitimacy theory asserts companies have an obligation answer to society. It focuses on the authorization of a firm's presence, emphasizing the social contract that exists between the firm and society (Idowu and Aluchna, 2017; Deegan et al., 2002; Akhter et al., 2023). When a company is unable to validate the necessity of its ongoing operations, the community has the authority to retract its approval for the company to continue its activities. This can therefore result in negative press and a decline in investor interest. In order to meet the expectations of both investors and the general public, firms should demonstrate responsible and mature behavior.

Burritt and Schaltegger (2010) also describe legitimacy as the positive impacts that a company has on society through its practices within different social frameworks. Thus, it is important for companies and society to establish a common understanding for the sake of reciprocal welfare and harmonious cohabitation (Olubunmi, 2023). In this context when companies disclose their ESG

activities, their transparency will attract ethical stakeholders, more investments and improve their financial sustainability.

2.3.2. Stakeholder theory

Friedman (1970) believes that a company's responsibility is to make money for its investors. According to Parmar et al. (2010), a stakeholder is any individual or group that has the power to affect how well an organization performs or how its accomplishments are felt. The main tenet of the stakeholder theory is that businesses have responsibilities to a variety of stakeholders who may be employees, management, customers, communities, and government (Machmuddah et al., 2020; Freeman et al., 2004) and shareholders (Lozano, 2015). Organizational sustainability can be attained if a company is able to effectively meet the needs of its stakeholders. The stakeholder theory is applicable to companies that promote improving society and community links, encourage sustainability activities, and constantly use value-maximizing governance procedures. Mahajan et al. (2023) assert that taking into account stakeholder expectations will lead to an enhancement in business financial sustainability.

Ethical practices can be integrated or combined with a firm's market performance. For example, satisfied employees tend to be more motivated in their work, leading to increased productivity. Loyal customers also contribute to a company's success, while suppliers may offer discounts as a result of positive relationships. All of these elements contribute to enhancing a company's reputation and ensuring its long-term financial stability. Consequently, it is crucial for companies to be transparent and truthful when sharing corporate information, as this reduces information asymmetry and builds trust among investors. Moreover, companies must consider the needs of both internal and external stakeholders when formulating policies and making strategic decisions (García-Sánchez and Noguera-Gámez, 2017; Peng and Isa, 2020). Proactive steps towards ESG measures are necessary to protect a company's financial interests and increase shareholder value. Despite some criticism, the stakeholder theory is still widely used and establishes a precedent for understanding firms' commitment to ethical practices by addressing stakeholder interests through ethical investments (Mansell, 2013).

The core reasoning behind this prediction is that managers who have a solid understanding of ethical practices are more likely to possess the knowledge and skills needed to generate profits

through operational activities. In this context, Ethical practices will encourage businesses to disclose their dedication to ethical practices towards the environment, social welfare and business governance, resulting in continued investments and the attraction of more investors. It is important for companies to consider the interests of all stakeholders, encompassing not only economic factors but also social and environmental factors.

2.3.3. Signaling theory

Connelly et al. (2011) and Flammer (2021) state that the signaling theory can be used to explain behavior where management and stakeholders have access to different and insufficient information. Therefore, management typically chooses how to convey information, and stakeholders, decide how to analyze the information. The primary objective of signaling theory is the reduction of information discrepancy among two parties (Singhania and Saini, 2023). Investors and stockholders may believe that management is not disclosing all relevant information. Due to the lack of data, investors would be cautious to increase their investment in a company.

Corporate governance plays a crucial role in the successful implementation of environmental, social, and governance (ESG) practices, and it also promotes the adoption of ESG disclosure practices in emerging economies (El-Bassiouny and El-Bassiouny, 2019; Jahid et al., 2020). The disclosure of company information is a fundamental principle in the realm of governance. By opting for more voluntary disclosures, companies can enhance their transparency and bridge the gap of information asymmetry. Businesses are required to disclose all information pertaining to financial and non-financial aspects. Financial information, which encompasses profitability, holds significance for investors as it enables them to analyze the firm's year-on-year profit growth (Salehi and Hassanzadeh, 2024). Investors perceive a firm that exhibits consistent profitability as a positive signal, indicating potential benefits from their investment. Furthermore, the firm is required to disclose ethical activities as part of the non-financial information in its annual report. Stakeholders place significant importance on the inclusion of ethical practices in annual reports as it provides insight into the firm's overall performance (Erawati et al., 2021). These disclosures hold immense significance as they empower investors to make well-informed decisions regarding their investments (Cheung et al., 2010; Erawati et al., 2021).

Using signaling theory, one can address the information imbalance between the two parties when the source is either the information quality or the intention of the communication (Connelly et al., 2011; Su et al., 2016). In this context, signaling theory suggests that for stakeholders or investors to form attitudes towards ethical practices or investments, they must perceive the signals and the way they are conveyed by management as valuable, genuine, and reliable. In order to possess these qualities, signals often need to possess specific properties. Firstly, they should be easily observable with clear motives behind them; they should be consistent, and clear, such as through disclosing, as stakeholders or investors actively search for signals, recognize them, learn about their associations with the company, and base their decisions on them. Lastly, signals should contain information cues that aid in evaluating the company, as individuals tend to have pre-existing biases towards ethical practices or investments.

2.3.4. Agency theory

Agency theory focuses on the interaction between principals such as owners or shareholders and the people who represent them such as managers or employees. It focuses on the possible contradictions of interests that may occur when the objectives of principals and agents' conflict. The agency argument asserts that managers who engage in ethical initiatives may follow their own interests and gain personal advantage at the expense of the shareholders (Pham, et. al, 2022). Based on this theory, shareholders may not benefit from ESG spending as it involves a direct depletion of funds which could potentially lead to a decrease in profits (Peng and Isa, 2020). Research conducted by Del Gesso and Lodhi (2024), Barnea and Rubin (2010), Kao et al. (2018) and Borghesi et al. (2014) aligns with the principles of agency theory.

In addition, agency theory helps in addressing how conflicts of interest might arise in businesses (Putri and Puspawati, 2023). Agency challenges are influenced by information asymmetry. In today's knowledge-driven economy, shareholders seek information on environmental, social, and governance matters. In an effort to mitigate the perceived agency problem, management occasionally employs the provision of non-financial information to establish their sense of responsibility. This approach ultimately fosters investor confidence, stimulates increased investments, and consequently leads to a rise in the company's share price. Therefore, improving disclosures can mitigate opportunistic behaviors, reduce information asymmetry, and decrease

capital costs. To ensure that shareholders' interest is served, it is necessary to oversee and regulate managers' activities (Meckling and Jensen, 2019; Del Gesso and Lodhi, 2024). Depending on the status of a firm's financial sustainability, managers may maximize or minimize ethical investments. In this context, agents of the company must be transparent about their ethical practices to attract more ethical investors.

2.4 Empirical Literature Review

This section presents a critical analysis of the empirical results from earlier research. The literature on the factors influencing the adoption of ethical investment is the subject of the first part of this section, which is divided into three sections. The literature's second section tackles objectives two and three, while the final section offers a conceptual framework.

2.4.1 Factors that influence the adoption of Ethical Investment

Different scholars have investigated the factors that influence the adoption of ethical investment. Thanki et al. (2022) investigated how factors like collectivism, thinking about money in a sustainable way, concern for the environment, and knowing about investing ethically might change someone's mind about putting their money into these kinds of investments. The study also examined the impact of attitude, subjective norms, and perceived behavioral control on the investment intention of individual investors in ethical firms. The authors used Partial Least Squares Structural Equation Modeling (PLS-SEM) method and found that people's attitudes towards ethical investing are really affected by caring about others, worrying about the environment, thinking about money in a sustainable way, and knowing about ethical investing. These factors influence individuals to invest ethically.

Similarly, a study by Singh et al. (2021) explored how personal values such as materialism, collectivism, and concerns for the environment affect people's views on investing ethically. They also looked at how these views might lead to the intention to invest ethically, and whether religious beliefs could influence this relationship. The researchers looked at this relationship separately for male and female. The findings indicated that materialism, collectivism and environmental concern strongly influenced attitudes towards ethical investments, which in turn affected the intention to

invest. The study also reported that religious beliefs significantly influenced this relationship, with female showing a stronger effect than male.

Du et al. (2019) used a hybrid analysis methodology. The authors looked at statistical data from Chinese statistical yearbook from 2023 to 2016 and studied over 1339 environmental policies from official environmental protection department websites. Their findings indicate that ethical investments are mostly affected by political, environmental and economic factors. Specifically, political factors play a big role by helping to the build needed facilities and by creating rules and laws to protect the environment. On the other hand, Chițimiea et al. (2021) asserts that some of the strongest factors of ethical investments are economic factors since they best reflect the practices of companies.

Chariri et al. (2019) carried out a study focusing on the correlation between institutional ownership, the audit committee, and various industry types concerning ethical/environmental investments. The authors found that industry type is a significant determinant of environmental investment, while institutional ownership and audit committee were found to have no substantial effect. On the other hand, Alda (2019), Dyck et al. (2019) and Velte (2020) reported a positive influence between institutional ownership and ethical investment practices. Similarly, Meng and Wang (2020) classified institutional investors into long term and short-term investors when they investigated an association between institutional investors and ethical investment practices. The authors reported that short-term institutional investors negatively influence ethical investment practices while long term institutional investors positively influence ethical practices.

Cheng et al. (2024) asserts that ethical investments and corporate social responsibility (CSR) both focus on integrating ESG aspects into company's practices. In their study they investigated the role of foreign institutional ownership in ethical investment practices and discovered that foreign institutions ownership influences ethical investment practices positively. In a similar study, Li et al. (2021) and Kabir and Thai (2021) reported that foreign institutional investors improve ethical investment practices. Moreover, they indicated that companies linked with foreign institutional investors are more inclined to comply with Global Reporting Initiatives (GRI) guidelines and provide detailed sustainability reports. In addition, Tsang et al. (2019) conducted a study examining the influence of foreign institutional investors on voluntary disclosure practices of

firms. The results indicated that generally investments from foreign institutional investors improves voluntary disclosure compared to local institutional investors. Conversely the study also uncovered instances of decline in voluntary disclosure among companies linked with foreign institutional investors from nations characterized with poor disclosure regulations and regulatory frameworks.

Tian et al. (2020) also examined the influence of corporate innovation on environmental investment, alongside the moderating effect of institutional factors. They reported that corporate innovation improves company's environmental investment with a one percent (1%) increase in research and development (R&D) investment ratio resulting in an increase of 2,326 Chinese Yuan in environmental investment. In similar study Xu et al. (2021) also found a positive influence between R&D and ethical investment practices.

Additionally, several studies looked at the association between ethical investment practices and financial sustainability or profitability of companies. Mixed results were reported on this relationship, other scholars found a positive relationship between the variable such as De Lucia et al. (2020), Li et al. (2019), Adhariani and De Villiers (2019), Whelan, et al. (2021) and Oehmke and Opp (2024) while other scholars such as Barauskaite and Streimikiene (2021), Kuo et al. (2021) and Lin et al. (2019) contradicted these findings.

Ruhana and Hidayah (2020) conducted a study assessing the role of liquidity, firm size, audit committee and board of directors in relation to ethical activities. The findings reported that liquidity significantly influence the ethical activities whereas firm size negatively and significantly influence the ethical activities. On the other hand, Hidayah et al. (2021) conducted a similar study and concluded that company size, leverage and type influence ethical investment. The evidence indicated that both the type of company and leverage have a significant impact on ethical investment, while the size of the company does not influence it.

From the above discussion, it is evident that different scholars have different findings about the factors that influence the adoption of ethical investment practices. Some reported positive influence while others reported a negative influence. Based on their finding we can deduce that the contradictions may be because the studies were conducted on different geographic areas and

companies. It may also be because of different data methods used. Therefore, the first objective is to explore the factors that influence the adoption of ethical investment in resource extraction companies in South Africa to provide a unique perspective to this area of research.

2.4.2 Prior Studies and Hypotheses Development

The potential impacts that ethical investment may have on a company's cost of capital as well as its financial sustainability are important to consider. It is thought that ethical investment has an impact on a number of decision-making processes, including the evaluation of market shares, risk assessment by auditors, and loan or lending decisions by loan officers and lenders (Buallay, 2022; Khan et al., 2021; Xu et al., 2015). Prior researchers have concentrated on the association between ethical investment and firm value, profitability, market value, and financial information. Examples of such studies are those conducted by Adhariani and De Villiers (2019), Oehmke and Opp (2024), Kim and Li (2021), Garcia and Orsato (2020) and Shabbir and Wisdom (2020). All these studies found a connection between these factors and ethical investment. This suggests that ethical investment broadens a company's investor base and raises investor awareness of its presence, increasing risk sharing, both of which can boost financial sustainability. In addition, the absence of strong ethical investment practices would lead to investor doubts and impressions that something might not be right with the company, which could eventually harm its prospects. Investors would then start to price-protect themselves and show less trading inclination, which would lead to illiquidity, a larger bid-ask spread, and a greater cost of capital.

Similarly, other studies show that EI do not harm a portfolio's financial prospects. These studies demonstrated that stocks that adhere to ethically responsible standards of conduct may experience a reduction in overall company risk, which would enhance the long-term risk-adjusted performance of EI portfolios (Tariq and Khattak, 2024). When analyzing investor response to the 1999 Seattle World Trade Organization debacle, Schnietz and Epstein (2005) discovered that ethically or socially conscious stocks respond negatively to crises. Plastun et al. (2022) and Jain et al. (2019) compared EI indexes to traditional indexes but found no statistically significant difference. Consequently, investment practitioners can gradually pivot their attention towards sustainable investments. Moreover, Sadorsky (2014) looked at the volatility dynamics of ethical investments using multivariate GARCH models and discovered that hedging possibilities with

ethical indices might be as good as those with conventional investments like the S&P500. This destroys the idea that morality must be surrendered for profit. Yue et al. (2020) suggests that ethical investment funds pose a reduced level of risk when contrasted with traditional funds. The research conducted by Cederburg et al. (2020) supports the conclusions drawn by Moreira and Muir (2017) regarding traditional funds that equities exhibit a remarkable ability to minimize risk, even in periods characterized by extreme market volatility.

Another study found a positive correlation between ethical investment and financial sustainability by examining more than 1000 studies released from 2015 to 2020 (Whelan et al., 2021). The results imply that EI might potentially increase financial performance when adjusting for risks (Bertrand and Lapointe, 2015). However, other studies found contradictory results about whether EI funds underperform or outperform conventional funds. EI funds show less volatility in their flow when compared to traditional funds according to studies carried out by Nainggolan et al. (2016), Leite and Cortez (2015) and Renneboog et al. (2008). Depending on market conditions and ethics, EI may be as good or bad as regular funds (Nofsinger et al., 2019)

Kılıç et al. (2020) also conducted a study that showed how big investors follow social rules, avoid investing in companies involved in harmful activities, and support businesses that act responsibly. This finding shows that making ethical choices in investing can change how investors decide where to invest their money, how much it costs to get that money, and how well the company performs. Cooray et al. (2020) agreed with this idea and emphasized that investing in social and environmental projects can change how well a company performs and how risky it is, which can also change how much it costs to get money. Luo and Bhattacharya (2009) also found a connection between making ethical choices in investing and the special risks that businesses face. The results suggest that ethical investing do not only change the unique risks a company faces but also help reduce confusion about what a company is doing and make things clearer. Basically, being more open about social issues can lead to lower capital costs and better long-term financial health for a company.

Supporting this prediction, Adhariani and De Villiers (2019) and Dhaliwal et al. (2011) discovered that ethical investment is connected to a lower cost of capital and better financial sustainability for companies in the United States. This finding suggests that companies that invest ethically tend to

have lower costs and perform better financially. In other research, studies such as those conducted by Reverte (2012), Gupta and Aggarwal (2024) and Lutfiani and Hidayah (2022) also found that ethical investment is linked to a lower cost of capital. Reverte (2012) additionally showed that this relationship is stronger for companies in industries that are sensitive to environmental issues. This suggests that companies can use ethical activities to gain acceptance, which can lead to lower cost of capital and better financial results.

García-Sánchez and Noguera-Gámez (2017) also showed that investing ethically can boost performance and lower a company's cost of borrowing money. Ng and Rezaee (2015) looked at how ethical investment affect financial performance and reached a similar result. Similarly, Li et al. (2019) found a positive correlation between ethical investing and Tobin's Q but a negative correlation with the cost of capital. The authors discovered that exercising responsibility in one's investment actions had a cumulative benefit. On the other hand, Khanchel and Lassoued (2022) conducted a study on 430 S&P 500 US firms from 2011 to 2019. The findings suggested that the impact of the three dimensions varies. Governance disclosure initially reduced the cost of capital, with a positive effect emerging in subsequent years. Social disclosure, on the other hand, resulted to an increase in the cost of capital over time. Environmental disclosure while negatively affecting the cost of capital in the early years, did not show a significant impact in later years.

The literature review above established some connections between ethical investing and financial sustainability. These studies have certain limitations, but they do offer helpful insights into how ethical investment affects investors' behavior. Without making a distinction between the quantity and quality of ethical investment, these studies examined the adoption status of ethical investment (whether enterprises adopt or do not adopt ethical investment). Additionally, this research only focused on the unique characteristics of ethical investment, ignoring the synergistic impact of its numerous components. As a result, the variables for ethical investing are less capable of forecasting its effect on financial sustainability. Another observation from the literature review is that only a small number of these research were carried out in developing nations, with the majority taking place in developed nations. The impact of ethical investment on the financial performance of firms operating in emerging countries, particularly South Africa, is still up for debate.

According to the majority of the findings in the discussion above, companies that make ethical investments, particularly in environmental and social issues, convey a favorable message to the market about their performance and future prospects. Considering the foregoing discussion, we hypothesize the following.

H1: Ethical investment *has a positive relationship with firms' profitability*.

H2: Ethical investment *has a positive relationship with firms' financial value.*

While research on EI is plentiful in developed nations, there is typically little evidence from the perspective of emerging nations (Wahba and Elsayed, 2015). Particularly, there are relatively few EI studies in South Africa. Therefore, the purpose of this research is to present more empirical evidence on the impact of EI on the financial sustainability of companies, from the perspective of a developing nation. Much ethical investment research is conducted in developed countries, so including data from less developed nations may help to advance both corporate finance and corporate social responsibility theories.

Our analysis of the EI literature found that research has mostly focused on determining whether there is a business rationale for EI, that is, determining whether EI funds can generate revenue (Khalid et al., 2023, Chatzitheodorou et al., 2019). However, there no is critical literature that has addressed three important components related to the core idea of EI, comprising environmental, social and governance issues and the moderating role of disclosure quality.

2.4.3 The nexus between Ethical Investment, Financial Sustainability and Disclosure Quality

The relationship among ethical investment, financial sustainability, and disclosure quality is interdependent. Companies are motivated by ethical investment to prioritize ethical business practices and sustainability. Such practices may lead to financial sustainability. In addition, companies that prioritize disclosure are in a better position to attract ethical investors who value accountability and transparency. In this context, the quality of a company's disclosure is important as it gives investors the necessary information to assess its ethical and financial sustainability (Odriozola and Baraibar-Diez, 2017). Thus, providing precise and accurate information can help

build trust with stakeholders and investors. This can lead to more ethical investment and support for sustainable initiatives. This section reviews the findings of previous studies on this topic.

Serafeim and Yoon (2022) in their study found that high-quality disclosures can reduce the risks of ethical investing, making a company's financial stability stronger during tough economic times. Meanwhile, a study about the impact of environmental, social and governance on financial sustainability conducted by Almeyda and Darmansya (2019) discovered that if a company shares more information about ESG, its financial sustainability can improve. Therefore, stakeholders such as company leaders, investors, industry regulators and decision makers are encouraged to understand the importance of ESG disclosure. Chen and Xie (2022) also discovered that the effect of ESG reporting on a company's financial sustainability is especially strong in companies that attract ESG investors, as well as those with a longer track record, high media exposure, and high agency costs. Additionally, investors who focus on environmental, social, and governance factors play an important role in balancing the connection between ESG information and financial sustainability.

Oyewumi et al. (2018) analyzed the relationship between ethical investment, disclosure, and corporate financial sustainability using panel data from banks in Nigeria, a developing country. The study findings presented that ethical investment without proper disclosure may not significantly contribute to corporate financial sustainability. On the other hand, Kumawat and Patel (2022) investigated the correlation between ESG disclosures and cost of capital; the results of their study indicated a negative correlation between ESG disclosures and the cost of capital, supporting the idea that non-financial disclosures contribute to reducing information asymmetry and, consequently, the cost of capital (Chauhan and Kumar, 2018).

Moreover Saygili et al. (2022) looked at how ESG disclosures affect the financial sustainabilityof companies listed on the Borsa Istanbul Corporate Governance Index (XKURY) during the period of 2007 to 2017. To assess this relationship, the authors employed the corporate governance principles established by the Capital Markets Board and incorporated the environmental indicators provided by the Global Reporting Initiative (GRI). The results of their investigation revealed a negative association between environmental disclosures and corporate financial sustainability,

indicating that such disclosures have a negative impact on the financial sustainability of these companies.

Drawing from prior studies, it can be concluded that, there are mixed findings regarding the relationship between ethical investment, financial sustainability and disclosure quality. Some researchers found a positive association while others found a negative association. Therefore, this study's intention is to investigate the relationship between ethical investment and financial sustainability with a moderating role of disclosure quality. Based on the weight of the arguments supporting a positive impact of disclosure quality on the relationship between ethical investment and financial sustainability, we hypothesize that:

> *H3: Disclosure quality has a positive impact on the relationship between ethical investment and financial sustainability.*

2.4 Conceptual Framework

The acceptance and the growth of ethical investment and practices have gained prominence because of the implementation of several frameworks. Nevertheless, due to the lack of availability of quality disclosures, investors usually complain that they cannot make sound investment choices (Ilhan et al., 2023). Therefore, investors, consumers and stakeholders are now seriously concerned about disclosures and financial transparency. In an effort to fulfill the expectations of the external and internal stakeholders to acquire transparency pertaining to firm sustainability, companies invest substantial resources to generate ESG reports (Utz, 2019). However, the relationship between financial sustainability, ethical investment and ethical disclosure quality as well as the specific ways in which it is influenced remains the topic of debate.

Fatemi et al. (2018) asserts that the lack of ESG activities and disclosure decreases firm value. Similarly, Li et al. (2018) found a positive relationship between firm value and the level of disclosure, demonstrating that accountability, stakeholders trust, and transparency increases firm value. The following scholars: Adhariani and De Villiers (2019); Alareeni and Hamdan (2020); Garcia and Orsato (2020); Shabbir and Wisdom (2020); Kim and Li (2021) and Lutfiani and Hidayah (2022) discovered a positive relationship between business sustainability and ethical

investment. Furthermore, when Alareeni and Hamdan (2020) investigated the impact of ESG disclosure combined score and E, S, G factors separately on financial sustainability measured as Tobin's Q, ROE and ROA, they found that a combined ESG disclosure positively influence all these metrics. Whereas social and environmental factors negatively affect ROA and ROE, the implication is that businesses financial sustainability may decrease because of higher ESG spending. Furthermore, they asserted that a positive effect on firm value is linked with a positive market attitude of ethical investment.

Figure 4.1 below demonstrates the interrelationship between ethical investment, financial sustainability, and disclosure quality.

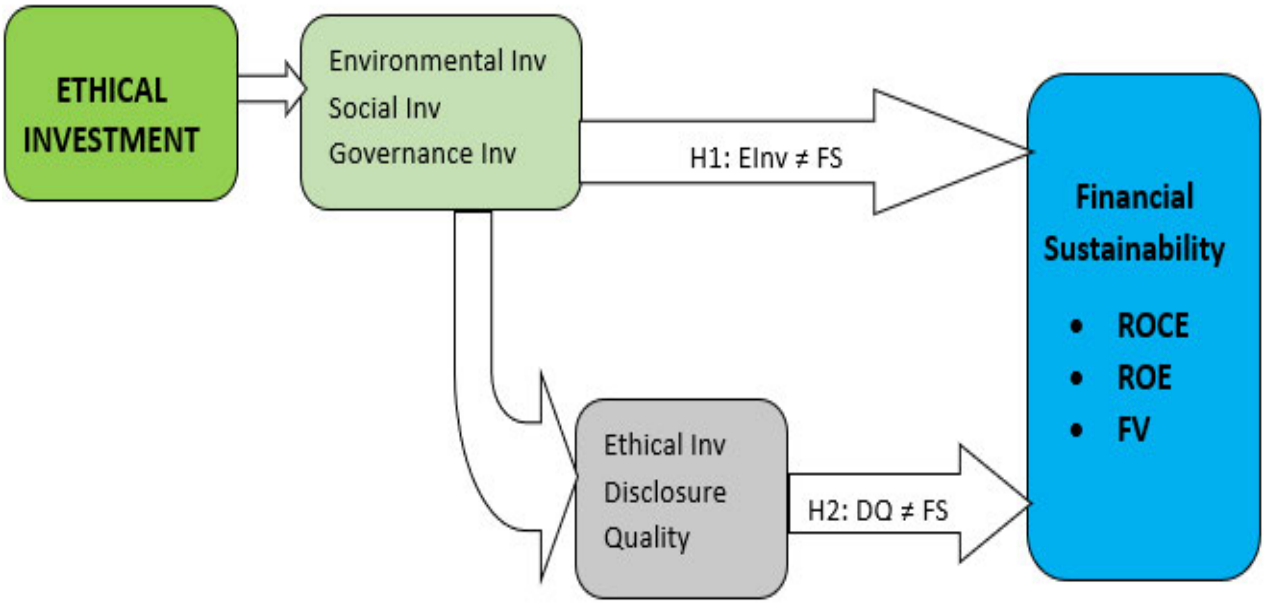

Figure 4.1: Conceptual Framework

From the Figure 4.1, it can be observed that ethical investment is measured by three components which are environmental (E) investment, social (S) investment and governance (G) investment. These components are also known as ESG investment. Financial sustainability is also operationalized by return on capital employed (ROCE), return on equity (ROE) and firm value (FV). Figure 4.1 demonstrates that ethical investment has a direct and indirect impact on financial sustainability. In addition, the figure follows studies such as Oyewumi et al. (2018) and Alareeni

and Hamdan (2020) to postulate that ethical investment has an indirect relationship with financial sustainability. This indirect relationship is demonstrated in the diagram through a moderating role of disclosure quality (DQ). The reason is that a firm will be able to benefit financially from ethical investment activities only when such activities are disclosed or reported appropriately to the various stakeholders.

2.5 The Summary of the Chapter

The above literature review demonstrated that previous scholars have different views and ideas about the relationship between ethical investment and financial sustainability. Previous studies seem to support that businesses who engage in ethical investment practices usually experience improved financial sustainability while attracting more investors. On the other hand, other studies seemed to disagree that ethical investment practices lead to increased financial sustainability. They assert that there are no financial rewards for businesses that engage in ethical investments. Furthermore, the literature highlighted that businesses who disclose their ethical practices build their trust with investors thereby increasing the positive results of ethical investments and financial sustainability. When businesses openly and accurately disclose their ethical practices, they attract more investors and in turn achieve better financial sustainability. The next chapter discusses the methodological aspects employed in this study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The preceding chapter presented a comprehensive review of the literature relevant to the study. In contrast, this chapter outlines and clarifies the methodologies used to fulfill the objectives of this study. In particular, it discusses methodological components utilized in this research, including the research design, research approach, target population, sample size and sampling strategies, as well as the techniques for data collection and analysis.

3.2 Research Design

Research design serves as a blueprint for conducting research because it provides the structure and direction to a study. This process includes preparing, gathering, examining, and understanding data to make sure the findings from a study are trustworthy and accurate (Flick, 2022, Cronje, 2020). According to Creswell and Creswell (2017), the plan for a study involves the steps, techniques, and structures that help in collecting and analyzing data. Having a clear plan for a study makes sure that the research is organized in a way that produces solid and dependable results. To ensure that the research question is properly and consistently answered and that the goals of the study are achieved, the plan for the study details how the aspects of the study were used, how the group of people for the study was selected, how the data was collected and analyzed, and how factors that could affect the results were managed. Mudimba (2021) highlights the significance of choosing an appropriate data collection method to accomplish a fruitful research design. This critical decision-making process involves considering options such as quantitative, qualitative, or a combination of both approaches.

The research approaches used in this study included both descriptive and inferential research methods. The descriptive research design is a method of research that accurately portrays a population, situation, or phenomenon that is already happening and under investigation (Siedlecki, 2020, Irwin and Donai, 2024). The main objective of descriptive research is to describe what is happening. Therefore, descriptive research seeks to uncover information on what, how, where, and when phenomena occur (Bell et al., 2022). The inferential approach assists researchers to assess

the relationships among variables and infer conclusions about a population based on data obtained from a sample (Simonsohn et al., 2019). Inferential analysis is always subject to less manipulation and permits generalization of findings. Based on the explanation given above, the study determined that it was more appropriate to utilize a descriptive and inferential research design to explore the impact of ethical investment on the financial sustainability of listed resource extraction companies in South Africa, while also considering the moderating role of disclosure quality.

3.3 Research Paradigm

Research paradigms allude to the overarching structures that guide researchers' approach to investigation. Research paradigm structures the way researchers see reality, collect information, and elucidate results (Dauda, 2019). When researchers choose a paradigm, it influences the design since individual paradigms lead to unique and clear research designs and methods. The paradigm forms the basis for all philosophically oriented scientific research and is consistent with how researchers perceive knowledge and reality (Elgeddawy and Abouraia, 2024; Alharahsheh and Pius, 2020). As per several researchers Alharahsheh and Pius (2020); Bell et al., (2022) and Dauda (2019) it is essential for scientific research to be based on a set of fundamental philosophical assumptions. These assumptions should consider the type of the research, the supporting findings, and the methodology utilized. They either support quantitative research, qualitative research, or a combination of both. There are two mainly used paradigms, comprising positivism and interpretivism (Alharahsheh and Pius, 2020; Junjie and Yingxin, 2022). However, there is a third one called pragmatism or post-positivism which is the combination of positivism and interpretivism (Elgeddawy and Abouraia, 2024; Ramanadhan et al., 2021). Interpretivism is a research paradigm that posits that people's knowledge and understanding of reality are products of social construction (Junjie and Yingxin, 2022). The proponents of interpretivism approach holds the view that there is no objective reality within the social world. The primary objective of interpretivism is to develop meaning through an understanding of both the world and behaviours of humans (Irshaidat, 2022).

Meanwhile positivism is a theoretical and scientific paradigm that focuses on the employment of research-based methods and experimental evidence to understand and interpret the world. It claims that knowledge is gained from things that can be observed and measured. The positivist approach

suggests that an objective reality exists, independent of individual perceptions (Kamal, 2019). This approach often relies on controlled experiments, statistical methods, and testing hypotheses to either support or challenge ideas. Junjie and Yingxin (2022), McGregor and Murnane (2010) and Davies and Fisher (2018) explain that the positivist research approach posits that knowledge is only confirmed as true if it is obtained through scientific methods. Positivism research is mostly employed where researchers use quantitative secondary data to test existing theories or developed hypotheses. Thus, for this study, the positivist approach was chosen as the most suitable method for the research because the research is based on established theories, uses secondary data and intends to test the hypotheses. This choice is supported by recent research showing that a key aspect of philosophical positivism is the belief in an objective reality, prompting researchers to seek the most effective and impartial ways to collect evidence to verify this reality (Elgeddawy and Abouraia, 2024; Ramanadhan et al., 2021).

3.4 Research Approach

When conducting research, there are three research methods that can be used either qualitative, quantitative, or a combination of both referred to as a mixed method (Kandel, 2020). These approaches each indicates a particular direction for procedures involved in a research design. Mulisa (2022) asserts that a researcher's decision to use either qualitative or quantitative cannot be based solely on personal preference. There are several factors that can be taken into consideration especially, research paradigms.

Qualitative research method offers insight and comprehension of the context of the research problem. Qualitative research approach is employed with the aim of getting a more detailed understanding of human behavior, experience, beliefs, plans and needs, based on observation and analysis, to know how people feel (Braun and Clarke, 2022; Kandel, 2020; Shaheen and Pradhan, 2019). It is mainly adopted by studies using primary data since it relies on techniques such as interviews, textual analysis and observations (Thambu et al., 2021). In a qualitative study approach, researchers consider the views of participants as more important. Therefore, the qualitative approach is based on the interpretivism research paradigm.

Conversely, quantitative research method is the type of research that uses methods from natural sciences. This approach is also known as a deductive approach, as it evaluates theories and

hypotheses by assessing the association among variables in question (Abdukarimova and Zubaydova, 2021). Quantitative research methods analyze data using statistical and mathematical techniques. It is mainly employed by studies using secondary data as it relies on numbers, objective information and reliable data such as information from the stock market and financial statements. Quantitative research usually follows the positivist approach, which believes that social reality is real and independent of what the researcher thinks (Saha, 2022; Junjie and Yingxin, 2022). Decisions in business and economics, and how investors use financial reports to make choices, are examples of social reality. This approach uses quantitative ways to collect and analyze data to find connections between different factors and discover the truth.

This study used a quantitative research methodology. Data was collected from integrated reports, JSE database and Bloomberg and MacGregor BFA databases. The data was further analyzed, and links were found between the investigated variables. Moreover, it adopted a positivism research paradigm as it has hypothesis to prove.

3.5. Target Population

A population is any group of individuals, objects or entities that exhibit similar characteristics and are deemed relevant to a researcher's investigation (Pandey and Pandey, 2021)**.** The research population includes all resource extraction companies listed on the JSE between 2013 to 2022. In addition, companies were included based on the availability of data and their continuous listing on the JSE website for a minimum of five (5) years. This research specifically targeted firms operating in resource extraction, with a total of forty-three (43) companies under investigation. The selection process prioritized companies with ethical investment data dating back at least four (4) years. All companies listed for less than five years were rejected from the study.

3.6 Sampling and Census

The process of choosing a smaller group of people from a larger population in order to make generalizations about the population as a whole is known as sampling (Berndt, 2020; Rahi, 2017). The two primary types of sampling methods are probability sampling and non-probability sampling (Berndt, 2020). Stratified sampling, random sampling, systematic sampling, and cluster sampling are a few types of probability sampling. As opposed to this, non-probability sampling

techniques include quota, self-selection, snowball, and purposive sampling. A census provides a comprehensive representation of the entire population, which ensures accuracy in the findings and their generalisation. As asserted by Grundler et al. (2019), conducting a census involves counting the entire population, which is equivalent to the sample size. The study used inclusion and exclusion criteria to select the companies included in the study. The first criterion was that the companies should have been listed for a minimum of five years on the JSE. In addition, the companies with less than 4 years of data were excluded. The application of these criteria resulted in the exclusion of two of the companies. Based on the inclusion and exclusion criteria, all the forty-three (43) resource extraction companies listed on JSE were included in the study for the analysis.

3.7 Data Source

There are three categories of data sources, primary, secondary and mixed data. Primary data can be referred to as a process of collecting data directly from a first-hand source, for instance, conducting an interview. Secondary data are information gathered from currently available documents or sources that researchers consult. On the other hand, mixed data is a combination of both primary and secondary data. This study's data was gathered from secondary sources. The study relied on the secondary data of the companies from 2013 to 2022, a duration of ten (10) years. The year 2013 was chosen as the base year since most of these businesses began including social and environmental activities in their investment decisions this year and 2022 was chosen as the terminating year for data collection because it represented the year in which the latest data needed for the study were available. The study included all the resource extraction companies listed on the JSE. As earlier highlighted, the inclusion of the firms was contingent upon their continuing listing for at least five (5) years. To provide a longitudinal analysis, the firms must also have data on ethical investment going back at least four (4) years. Given the application of these criteria, the study relied on data for 415 firm-year observations.

Three sets of data were used, comprising sustainability performance data, ethical investment disclosure and ethical or responsible investment index. The ethical investment index was obtained from the annual integrated reports of the firms. These companies publish their own sustainability or integrated reports, which include information on their inclusion in ethical indices or their ESG

performance. The disclosure quality data was also manually collected from the integrated reports of the firms. The financial sustainability data of the companies were also collected from the Bloomberg and MacGregor BFA (Iress) databases. Panel data was used in the study. The study used a multiple regression estimating method based on the benefits from panel data analysis. Some of the benefits of using a panel data are that it helps to lower the correlation between independent variables by adding more data points and allowing for more flexibility. It also assists researchers to investigate more complex economic issues that cannot be addressed using cross sectional data or time series. In addition, panel data addresses issues in econometrics caused by missing variables correlated with independent variables (Hsiao, 2022). The next section discuss how ethical investment data was collected from the annual integrated reports of the companies.

3.8. Content Analysis

The ethical investment and disclosure quality data were manually collected through a content analysis method from the companies' annual integrated reports. The annual integrated reports offer a thorough insight into a company's ethical investment practices and financial sustainability (Doni et al., 2019) . As a result, we assert that these reports contain the most important information about the company's ethical investment activities and disclosure. In accounting and disclosure studies, content analysis has been widely adopted to analyze ethical disclosures and financial information (Opanyi, 2019; Xie et al., 2019b). Content analysis analyzes and identifies patterns and themes in textual information (Ashok et al., 2022; Abhishek et al., 2024). It remains a preferred method used for analyzing the level of disclosure of ESG practices globally (Landrum and Ohsowski, 2018; Sharma et al., 2020). Therefore, content analysis can be employed to identify patterns and trends in ethical investment activities and disclosure practices for this study.

This study used integrated reports from 2013 to 2022 of forty-three (43) companies. Four hundred and fifteen (415) integrated annual reports were scrutinized to obtain ethical or ESG investment practices following the guidelines and procedures of content analysis. After scrutinizing the annual integrated reports of resource extraction companies, the dissimilarities and trends were identified, and the causes were investigated to make a conclusion from each pattern and difference. Additionally, an interpretative checklist was used in this research to measure ethical investment information from the annual integrated reports of resource extraction companies listed on the JSE

in South Africa. Torelli et al. (2020) assert that studies focusing on the evaluation and analysis of these practices may also be conducted with the use of disclosure indices. These indices are usually used in content analysis to estimate the level and quality of disclosures made by companies.

As per Ashok et al. (2022) the scoring technique can be classified as binary represented by (0 or 1) or ordinal (1-5). Therefore, a Likert scale based on the checklist was employed to measure the information on environmental, social and governance disclosure from the annual integrated reports of the companies. Consequently, the final score of the ethical investment and disclosures were determined using the average of the ESG scores. This study opted for an ordinal (1 to 5) Likert scale as follows:

Score 1: Very poor information or the information was not disclosed.
Score 2: Poor information or information was briefly disclosed.
Score 3: Average information was disclosed to some extent.
Score 4: Strong information or information was largely disclosed.
Score 5: Very Strong information or full disclosure was reported.

On the other hand, the ethical investment score of the firms were assigned values ranging from one (1) to one hundred (100). Companies with strong ethical investment programs and projects scored higher marks, whilst those with less commitment to ethical investment projects scored lower marks. The ethical investment scores of the firms were further normalized using 4:4:2 ratio for environmental, social and governance activities respectively. Environmental and social investment activities were assigned higher ratios to reflect their significant impact on the environment and society, where companies are expected to make considerable investment.

We established several validation measures, including the design of an evaluation matrix based on the Global Reporting Initiative IV (GRI IV) and the use of experienced coders. First, the evaluation matrix was designed using the guidelines of Global Reporting Initiative IV (GRI IV). GRI IV is a widely used framework by companies worldwide to guide their ethical investment and reporting activities. In addition, the data was collected by four coders. Each coder had considerable experience in data coding using content analysis, having previously worked on several data coding projects. To ensure consistency and reliable data, each coder checked on the work of one another

during the coding process. Where there were disagreements, the coders discussed the issues causing the disagreement to ensure that the data were collected using similar principles.

After the coding, each coder took ten annual reports coded by other members for recoding to determine the level of agreement among the coders. This process is called intercoder reliability testing and it is normally calculated using a statistic technique called Kappa intercoder reliability rate. Consequently, the authors estimated the Kappa intercoder reliability rate of the content analysis process. The Kappa intercoder reliability rate, which measures agreement between coders indicated a high level of reliability at 91.68%, which is well above the threshold of 0.65 accepted by many researchers, such as Yoon, Chung and Ju (2020), Rau and Shih (2021) and Yao et al. (2022). Overall, the combination of the ethical investment and reporting scoring, systematic coding and robust intercoder reliability testing ensured the robustness and accuracy of the data used for the analysis.

3.9 Data Analysis

This study employed a dynamic estimating methodology called the system generalized method of moments (Sys-GMM) to estimate the models' parameters. Blundell and Bond (1998) assert that Sys-GMM can fix different estimating problems that prevent the use of alternative regression approaches. The bias related to omitted variables, errors in measurement, the endogeneity of regressors and unobserved panel heterogeneity are the concerns involved. It was suggested by Arellano and Bond (1991) that to tackle the endogeneity problems in panel data, the use of instrumental variables (IV) to assume the System Generalized Method of Moments (Sys-GMM) for the relevant moment conditions can be employed. This indicates that the Sys-GMM method can eliminate the individual fixed effects by first differencing regression equations. Arellano and Bover (1995) in their study suggested two diagnostic tests for GMM estimators, even though the GMM provides consistent and efficient estimators. These diagnostic tests are the Hansen Test and autocorrelation test. The study also demonstrated three panel estimators: Pooled Ordinary Least Square, Fixed Effect and Random Effect. These estimation results were presented alongside the Sys-GMM results as a robustness test to demonstrate the consistency and robustness of the Sys-GMM results.

3.10 Econometric Model

The type of research used in this study is quantitative research, therefore the type of analysis made for this study was a multiple regression analysis. The equations were estimated using panel data analysis in compliance with related studies carried out by Ahmad et al. (2021); Zhou et al. (2024); Shaikh (2022) and Dhaliwal et al. (2011), to evaluate the association between the dependent and independent variables. The following models were employed by this study. Model 1 below addressed Objective 1 to establish the determinants of ethical investments.

$$EInv_{it} = \beta_0 + \beta_1 EInv_{it-1} + \beta_2 OwnType_{it} + \beta_3 IntInv_{it} + \beta_4 R\&D_{it} + \beta_5 LIQ_{it} + \beta_6 ROCE_{it} + \beta_7 Size_{it} + \beta_8 Leverageit + \beta_9 Age_{it} + \varepsilon_{it} \quad (1)$$

Objective 2 assessed the relationship between ethical investment and financial sustainability. This objective was further broken down into two objectives where financial sustainability is measured by return on capital employed (ROCE) and average market price (AvPx). Therefore, Objective 2 had two dependent variables, which was addressed by Models 2 and 3 below. Model 2 used the return on capital employed (ROCE) as the dependent variable to represent financial sustainability whilst Model 3 used the average market price of shares (AvPx) as the dependent variable.

$$ROCE_{it} = \beta_0 + \beta_1 ROCE_{it-1} + \beta_2 EInv_{it-1} + \beta_3 BTM_{it} + \beta_4 LIQ_{it} + \beta_5 Size_{it} + \beta_6 Leverage_{it} + \beta_7 Age_{it} + \varepsilon_{it} \quad (2)$$

$$AvPx_{it} = \beta_0 + \beta_1 AvPx_{it-1} + \beta_2 EInv_{it} + \beta 3BTMit + \beta 4LIQit + \beta 5Sizeit + \beta 6Leverageit + \beta 7Ageit + \varepsilon it \quad (3)$$

Similarly, Objective 3 investigates the role of disclosure quality on the relationship between ethical investment and financial sustainability. This objective is also divided into two sub-objectives, each with separate dependent variables where we assessed the relationship between EI, ROCE and DQ and the relationship between EI, AvPx and DQ. Therefore, Objective 3 was addressed by Models 4 and 5 below.

$$ROCE_{it} = \beta_0 + \beta_1 ROCE_{it-1} + \beta_2 EInv_{it} + \beta_3 DQ + \beta_4 EInv*DQ_{it} + \beta_5 BTM_{it} + \beta_6 LIQ_{it} + \beta_7 Size_{it} + \beta_8 Leverage_{it} + \beta_9 Age_{it} + \varepsilon_{it} \quad (4)$$

$$AvPx_{it} = \beta_0 + \beta_1 FV_{it-1} + \beta_2 EInv_{it-1} + \beta_3 DQ + \beta_4 EInv*DQ_{it-1} + \beta_5 BTM_{it} + \beta_6 LIQ_{it} + \beta_7 Size_{it} + \beta_8 Leverage_{it} + \beta_9 Ageit + \varepsilon_{it} \quad (5)$$

The independent variables and dependent variables are explained below.

Dependent Variables

$AvPx_{it}$**:** The $AvPx_{it}$ denotes the average price of firm *i* at time *t*. It represents the value of the companies which is equal to the annual average market price of the companies' shares (market price). This variable was sourced from Bloomberg Database. Authors such as Dalal and Thaker (2019), Abdi et al. (2022), Abdi et al. (2022), Tlili et al. (2019), Vitolla et al. (2020) and Cooray et al. (2020) used similar measures to estimate the value of firms. Data for this variable was obtained from the Bloomberg database.

ROCE$_{it}$: The $ROCE_{it}$ represents the return on capital employed of firm *i* at time *t*. This variable was determined as the percentage of the net profit after tax to the total assets of the firms. Authors such as Sharma et al. (2021) and Jyoti and Khanna (2021) have used similar a measure to estimate the profitability of the companies. McGregor BFA (Iress) database was the source of this data.

EInv$_{it}$: This variable is a dependent variable in model 1 and an independent variable from models 4 to 5. It proxies the EI scores of firms *i* at time *t*. The scores are the averages from environmental (E), social (S), and governance (G) investment activities. The authors manually collected this data from the annual integrated reports of the companies. These companies publish a comprehensive annual integrated report which contains their ethical or ESG investment activities.

Independent Variables

R&D$_{it}$: This variable represents the research and development of firms *i* at time *t*. It was determined by the value of R&D expenditure of the companies. The value of the R&D was calculated as the actual amount of funds that the company spent on R & D activities (Fu et al., 2020). The R&D data for the study was obtained from the Bloomberg database.

$OwnerType_{it}$: This variable represents ownership type of firms *i* at time *t*, where we looked at whether the companies were locally or foreign owned**.** In this study, we followed the studies by Takahashi and Yamada (2021) and Shubita and Shubita (2019) to measure ownership type as the percentage of shares owned by foreign investors. Data relating to the ownership type was sourced from the Bloomberg database.

$InstOwner_{it}$: The variable proxies the institutional ownership of firms *i* at time *t*. It was determined by the percentage of shares owned by institutional investors. Authors such as Darsani and Sukartha (2021) and Sukmawardini and Ardiansari (2018) employed similar formula to measure institutional ownership. The study obtained this data from the Bloomberg database.

Drawing from previous research, such as Dhaliwal et al. (2014); Ng and Rezaee (2015) and Ferrary and Déo (2023), the study incorporated certain control variables that may influence firm financial sustainability. Below, the control variables are explained.

BTM_{it}: These variable proxies the book to market ratio of the companies *i* at time *t*. Fan et al. (2017) elucidate that BTM of a firm is used in measuring the value of a company, thus affecting their ROCE and market capitalization. This study estimated BTM as the proportion of the book value to the market value of the company's equity, by following scholars such as Dhaliwal et al. (2014) and Schumacher (2020). The data on BTM was obtained from the McGregor BFA database (Iress).

LIQ_{it}: This variable represents liquidity of firms *i* at time *t*. Liquidity of the firms was measured using the operating cash ratio, which is equivalent to the percentage of cash flow from operations to current liabilities. Liquidity symbolizes the ability of a company to survive and capitalize on available investment opportunities. The liquidity data for the study was obtained from the Bloomberg database.

In addition, the study accounted for traditional factors that affect company sustainability performance and introduce the following variables:

$Size_{it}$: This variable represents the size of firms *i* at time *t*. This variable was calculated as the natural logarithm of the firm's total assets. Researchers such as Mohammad and Wasiuzzaman

(2021) and Bahri et al. (2022) used similar formula to measure the size of companies. The data on the size of the companies was sourced from the McGregor BFA database (Iress).

Leverage$_{it}$. This variable denotes the leverage of firms *i* at time *t.* The leverage of the companies was calculated as the ratio of total debt to total equity. Leverage is the ratio that shows the level of debt that is being used to finance the company's asset (Markonah et al., 2020). The leverage data was obtained from the McGregor BFA database (Iress).

Furthermore, the age of the companies was controlled, which is represented by age. The firms' age is a measurement of the experience a firm has in conducting operational activities. A firm that has enough experience is an added advantage as compared to other firms. In this study the age of the firm was measured by how long a company has been operating and was manually collected from the companies' annual reports

3.11 Validity and Reliability

The concepts of validity and reliability describe separate aspects of the measuring tools, despite their close relationship. The consistency and stability of the tool is measured by reliability. On the other hand, validity refers to how well the tool measures what it is intended to measure. It is possible for a tool to be reliable but not valid, although if a tool is valid, it is likely to also be reliable. Nevertheless, validity cannot be guaranteed by reliability alone (Sürücü and Maslakci, 2020). As a result, it would be difficult for scholars to interpret their research findings if validity and reliability are not tested (Sürücü and Maslakci, 2020). In this study, secondary data was used which was already available on the internet. This data was audited by independent professional accountants; therefore, they could not be manipulated. Pre- and post-estimation tests were employed since these tests were important in ensuring the validity and reliability of the findings. These tests assisted in identifying and addressing issues with data quality which contributed to the robustness of this research findings. The specific pre-estimation tests adopted in the study included multicollinearity and panel unit root tests. In addition, the post-estimation tests adopted included the Hansen J test and serial correlation test. The reasons for these tests will be discussed in the appropriate sections in Chapter 4. The supervisors with extensive knowledge of the research topic also checked and examined the collecting tools of the data.

3.12 Ethical Consideration

Generally, ethical consideration can be referred to as a moral principle that influence behavior and decision making. Ethical clearance was not needed for this study since it did not involve interaction with humans or animals. In this study secondary data was used, which was already published on the websites of the various databases for the public accessibility. In addition to this, all the ethical principles in the conduct of research, were followed. The various sources of the data used in the study and the literature consulted have been duly acknowledged or credited. Finally, the study followed to all the regulating the conduct of research at the Durban University of Technology.

3.13 Chapter Summary

In this chapter, the research methodology employed to conduct this research was outlined. This chapter also thoroughly discussed the research design, paradigm, target population and sampling methods. Moreover, the data and its sources were outlined, and the dependent and independent variables were introduced and explained to justify their inclusion. Furthermore, the study employed the use of descriptive and inferential design, where the descriptive research design was employed to provide an overview of the data of the entities included in the study. The inferential statistics approach was used to examine the effects of ethical investment on the financial sustainability of listed resource extraction companies in South Africa. The study employed a positivism approach which postulate that objective reality exists regardless of personal perceptions. The study data was collected from the integrated reports of the firms, the Bloomberg and MacGregor BFA databases. The next chapter presents the results of the data analysis which addresses the objectives of this study. It presents the results, interprets, analyse and discuss the findings.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The preceding chapter discussed the methodology of the research. It also discussed research design, paradigm, population, and sampling methods used. Moreover, the chapter discussed the data collection methods and summarized the chapter. As a result, this chapter addresses the study's objectives. This chapter presents the descriptive statistics, multicollinearity and regression findings. The findings are then analysed and discussed according to each objective.

4.2 Objective 1: The Factors influencing Ethical Investment

The findings of the variables influencing the listed resource extraction companies in South Africa's ethical investing practices are discussed in this section. Understanding the factors influencing these companies' dedication to moral investing is essential since it drives their sustainable investment strategies. The summary statistics of the major factors examined in this study are shown in Table 4.1.

Table 4.1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Minimum	Maximum
EI	415	20.14	1.269	7.42	58.97
OwnerType (%)	384	37.48	8.666	7.61	61.83
IntsOwner (%)	416	61.41	6.55	17.65	94.48
R&D (million rands)	367	47.88	25.856	1.92	242.69
ROCE (%)	406	6.16	21.506	-29.79	75.043
LIQ (%)	402	84.38	32.61	1.023	313.87
LEV (%)	406	22.19	1.575	0.997	162.13
SIZE (million rands)	408	9566.17	17839.25	4.22	116300.00
AGE (years)	404	38	33.258	1.000	135.000

Source: Authors estimation (2024)

In Table 4.1, the results from the factors that influence the adoption of ethical investment among the resource extraction companies in South Africa are demonstrated. The results show that EI is low, with an average score of 20.14 and a standard deviation of 1.269, showing a minor dispersion among the resource extraction companies' ethical investment activities. The wide variation between the minimum (7.42) and maximum (58.97) values suggests that some companies are more committed to ethical investment activities than others. Companies that have higher EI scores are likely more actively involved in sustainable practices. The ownership type also has an average value of 37.48, suggesting a significant percentage of the companies are owned by South African individuals and companies. The minimum (7.61) and maximum (61.83) results further depict a significant variability in the ownership type among the companies. This wide dispersion could suggest that ownership type plays diverse role in driving the ethical investment of the companies.

The institutional ownership variable also has a mean score of 61.41%. This result indicates that there is a significant presence and influence of institutional investors in resource extraction companies. The table further shows the results of the investment in research and development (R&D) with a mean score of R47.88 million and a standard deviation of 25.86 million, demonstrating the importance of innovation and technological advancement in the resource extraction sectors. The result also shows that while some companies invest heavily in research and development some invest less.

The summary statistics for the average return on capital employed of 6.16% indicates a moderate average profitability, with significant variability of 21.506, suggesting that while other companies faced challenges with profitability and efficient capital use, others achieved the opposite. Additionally, liquidity which is a measure of a company's ability to meet its short terms obligations has a mean of 84.38% and a standard deviation of 32.61. This result indicates that on average, these companies have a strong ability to cover their short-term liabilities, and the high standard deviation suggest a wide variability of liquidity among the companies. On the other hand, the leverage of the resource extraction companies averaged 22.19%, which suggest that the companies have a moderate level of debt financing. Lastly the mean score of age and size of the companies (38) and (R9566.17 million) respectively, indicates that the companies are large entities that are well established with nearly four decades of operational history.

4.2.1 Multicollinearity Test

A Pearson correlation matrix was employed by this study to evaluate the level of correlation and linear association among the independent variables. A designated benchmark for assessing the level of correlation between the independent variables is 0.70 Yue et al. (2019); PATI (2020); Chan et al. (2022) and Sakhrawi et al. (2023). This means that if the correlation coefficients are less than 0.70, there are no multicollinearity issues between the variables**.**

Table 4.2: Correlation

	OwnerT	IntsOw~r	RD	ROCE	LIQ	LEV	SIZE	AGE
OwnerT	1.0000							
IntsOwner	-0.0306	1.0000						
R&D	0.2834***	-0.0234*	1.0000					
ROCE	0.0104	-0.1070*	-0.0037	1.0000				
LIQ	-0.0626**	-0.0699	0.0080**	0.0496*	1.0000			
LEV	-0.0251	0.0468**	-0.0307*	-0.2559	0.2094	1.0000		
SIZE	-0.0223*	0.0197	-0.0494*	-0.0228	0.0050*	-0.0210**	1.0000	
AGE	0.0532	-0.0163**	0.0072	0.1053	0.2513	0.0114	0.0421*	1.0000

Source: Authors estimation, (2024).
Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

In Table 4.2, the correlation results present that institutional ownership has a weak negative relationship with the ownership type of the companies (-0.0306), implying that the ownership of the resources extraction companies and the level of institutional ownership is independent of each other. Similarly, research and development (R&D) also exhibit a weak negative relationship with institutional ownership (-0.0234), indicating that the amount of money a company invests on R&D does not significantly relate to the level of institutional ownership in the companies. On the other hand, the return on capital employed (ROCE) which is the financial sustainability matric has a weak positive relation with the ownership type (0.0104) of the companies. This suggests that the financial sustainability measured by ROCE does not depend on ownership type of the companies. Table 4.2 further presents that R&D and ownership type has a weak correlation coefficient (0.2834). In summary, the results show weak correlations among all the independent variables, with none having a correlation coefficient of more than 0.40. The weak correlation among the

independent variables suggests that there are no multicollinearity issues among the independent variables. This conclusion is consistent with the correlation benchmark of 0.70, as suggested by authors such as Yue et al. (2019); PATI (2020); Chan et al. (2022) and Sakhrawi et al. (2023).

4.2.3: Panel Unit Root Test

In this study, secondary data was used to determine the relationship between ethical investment and financial sustainability among the resource extraction companies in South Africa, whilst examining the moderating role of disclosure quality. According to Pesaran (2021), the basic requirement of panel data is to examine the data stationary level. We used a panel unit root test to assess the results with a view of determining whether the variables are stationary over time. It is necessary to check whether the unit roots are stationary at order zero I(0) or stationary at one I(1). Banday et al. (2021) emphasize that data that are stationary at order zero, I(0) or stationary one, I(1) are fit for a dynamic model analysis. The panel unit root test results are presented in Table 3 below.

Table 4.3: Panel Unit Root Test

	ADF		**Hadri**		**PP**		**IPS**	
	t-stats	**Level**	**t-stats**	**Level**	**t-stats**	**Level**	**t-stats**	**Level**
EI	186.126***	I(0)	9.188***	I(0)	135.268***	I(1)	-3.322 ***	I(0)
ROCE	201.024***	I(0)	11.345***	I(0)	161.072***	I(0)	-6.195***	I(0)
AvPx	105.636***	I(1)	8.217***	I(0)	238.131***	I(0)	-1.849***	I(1)
DQ	163.155***	I(0)	12.054***	I(0)	207.425***	I(1)	-7.058***	I(0)
OwnerType	171.237***	I(1)	7.385***	I(0)	134.378***	I(1)	-5.915***	I(1)
IntsOwner	130.854***	I(1)	9.281***	I(0)	168.278***	I(0)	-1.078***	I(1)
R&D	114.029***	I(0)	10.684***	I(0)	109.637***	I(0)	-2.364**	I(1)
LIQ	149.614***	I(0)	12.035***	I(0)	238.914***	I(1)	-4.083**	I(0)
LEV (%)	92.928***	I(1)	7.866***	I(0)	215.025***	I(0)	-7.167***	I(1)
SIZE	49.752***	I(1)	5.718***	I(0)	164.410***	I(0)	-4.385***	I(0)
AGE	115.368****	I(0)	8.675***	I(1)	157.674***	I(1)	-6.771***	I(0)

Source: Authors estimation, (2024).

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

Table 4.3 summarizes the unit root test results that includes Augmented Dickey Fuller (ADF), Philips and Perron (PP), Im-Pesaran-Shin (IPS) and Hadri unit root test. The p-values were examined at 0.01 and 0.05 levels of significant as shown in Table 4.3. Table 4.3 reveals that all the panel unit root tests, ADF, PP, IPS and Hadri indicate that either the variables are stationary at I(0) or I(1) at both significant levels of 0.01 or 0.05. Additionally, it is observed from Hadri test that except for age variable being I(1), all the other variables are I(0). I(0) indicates stationarity at level, while I(1) indicates stationarity at the first difference. Therefore, the four different unit root tests reject the null hypothesis of the existence of unit roots at both levels and the first difference which implies that they are consistent in their conclusions. Thus, the results suggest that the estimation technique used in this study is able to account for both I(0) and I(1) variables in regression analysis with a consistent pattern emerging from each across the units under study. These results reveal that a stationary process generates series, thus System GMM approach may be suitable for the modelling and its estimation.

4.2.4 The Determinants of Ethical Investment

This section presents and analyses the results relating to the determinates of ethical investment among the resource extraction companies in South Africa. The use a two-step system GMM with orthogonal deviation addressed the problem of missing values and associated survivorship bias, resulting in estimates that are strong, effective and reliable. Table 4 then presents static models, which are pooled ordinary least square (POLS), fixed effect (FE), and random effect (RE) models. The table also presents the results from the dynamic model, which is the generalized method of moments (GMM) models. These static models are all robustness tests; however, the emphasis is based on the GMM model. In the tables, the figures represent the coefficients, and the significant levels are represented by asterisks and the t-values are in parentheses.

Table 4.4: The Determinants of Ethical Investment

Variable	Model 1 POLS	Model 2 RE	Model 3 FE	Model 4 GMM
EI_{it-1}				0.0680***
				(5.754)
$OwnerType_{it}$	-3.0265**	-0.4271**	-0.0438***	-1.0673***
	(-2.174)	(-2.097)	(-4.714)	(-7.348)
$IntsOwner_{it}$	0.4722**	0.5805***	0.1426*	0.0638**
	(1.984)	(3.981)	(1.975)	(2.003)
$R\&D_{it}$	1.0582***	0.0048***	0.4725***	4.0931***
	(3.843)	(6.107)	(6.384)	(4.682)
$ROCE_{it}$	-0.0462	-0.0323*	-1.0039**	-0.0537
	(-1.084)	(-1.838)	(-2.017)	(-1.361)
LIQ_{it}	0.3283**	0.0057**	0.0941***	4.0353**
	(1.979)	(2.013)	(4.098)	(2.103)
LEV_{it}	-0.639	-0.0922*	-0.0673*	-2.0358
	(-1.146)	(-1.728)	(-1.847)	(-0.982)
$Size_{it}$	5.2901**	2.0084*	0.0259**	0.0366**
	(2.114)	(1.821)	(2.018)	(2.097)
Age_{it}	0.0063*	0.0528	0.0263*	0.1958*
	(1.818)	(1.034)	(1.812)	(1.915)
Constant	0.0545***	0.0538***	0.5282***	0.0364***
	(4.685)	(6.084)	(4.866)	(5.034)
Observations	415	415	415	406
R-squared	0.8926	0.9035	0.8842	
Adjusted R-Squared	0.8601	0.8937	0.8599	
Number of ID		23	23	23
Number of Instruments				17
Prob > F/Wald Prob > chi2	0.0000	0.0000	0.0000	0.0000
AR2				0.186
Hansen stat				0.247

Source: Authors estimation, (2024).
Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

Table 4.4 presents the regression results of the determinants of ethical investments amongst resource extraction companies in South Africa. As presented in Table 4.4, the analysis usually begins with the results of POLS. This static model is utilized when the data used is pooled from different sources for analysis purposes. It assumes that the association between the variables used

is the same across all groups. After the POLS, the FE and RE static models follow. When unobserved heterogeneity correlated with independent variables raises concerns, FE is used. On the other hand, RE is employed when the researcher considers the overall population effect while taking random effect into account. The results from the static models presented in Table 4.4 indicate that institutional ownership (IntsOwner) is strongly significant and positively related to ethical investment. This demonstrates that, ceteris paribus, an increase in institutional ownership level would increase the ethical investment practices in companies. The results are consistent in all the static models (POLS, FE, RE). Similarly, the model findings indicate that research and development (R&D) influences ethical investment positively and significantly, as an improvement in R&D results in improvement in ethical investment. The regression results are consistent with the sign and significance in all the models (POLS, FE and RE). Conversely, the return on capital employed (ROCE) and Leverage (LEV) results are not significantly related to ethical investment, which is evident in the correlation results. On the other hand, liquidity (LIQ) results are positive and significant, indicating that higher LIQ levels result in higher levels of ethical investment. The company size has a positive and statistically significant impact on ethical investment. In addition, the age of the companies is positive and significant. This implies that the older the company, the higher the ethical investment or practices in the company. The above analyzed results are consistent in all the static models.

The static models, comprising POLS, FE and RE are consistent with the dynamic model, which is the GMM results. Hence, the subsequent analysis and discussion will be based on the result of the GMM, because it provides a statistically robust result. In Table 4.4, Model 4 demonstrates the results of the system GMM estimation. The findings indicate that the lag of ethical investment (EI_{it-1}) has a positive and significant relationship with the current ethical investment (EI), demonstrating that the level of ethical investment in the past influences the current ethical investment practices. This result implies that companies tend to build upon their ethical investment initiatives over time. In contrast, the correlation between ownership type (OwnerType) and ethical investment (EI) is negative (-1.0673) and significant (p-value < 0.01). Ownership type differentiates between domestically owned and foreign owned companies. The results reported suggest that ownership structure inversely influences the level of ethical investments. This result can be explained by factors such as economic considerations, a difference in priorities and cultural

differences. In terms of priorities, companies that are foreign owned might place a higher value on operational effectiveness and profitability than on participating in the community or abiding by local moral standards. This may result in less money being invested in ethical practices. The implication of the results is that companies that are foreign owned need to reevaluate their corporate governance frameworks to align more closely with local ethical standards. This will build credibility and trust among stakeholders. These results contradict those found by Li et al. (2021) and (Kabir and Thai, 2021) who found that foreign ownership has a positive influence in ethical investment practices.

The GMM results further report that the relationship between (IntsOwner) and EI is positive (0.0638) and statistically significant (p-value < 0.05). This result indicates that higher institutional ownership suggests stronger influence in advocating and monitoring ethical investment. This can be because institutional investors participate in shareholders meetings and start conversations that encourage companies to adopt ethical investment practices. The implication of this result is that companies with lower institutional ownership participation achieve lower EI. There are similarities between this result and those found by Singh et al. (2021) which reported that institutional ownership had a significant influence on corporate attitude, which thereafter influenced the intention to invest in ethical investment. Similarly, Velte (2020) findings also support this finding that institutional ownership and ethical investment are positively associated.

Moreover, the result demonstrates that research and development (R&D) has positive (4.0931) and statistically significant (p-value < 0.01) impact on EI, and it can be noted in the table that the significance remains strong throughout the models (1, 2, 3 and 4). The possible reason for this result is that R&D activities result in the development of new processes, technologies and products that include sustainability, improve social outcomes, reduce environmental impacts and enhance governance practices. The implication is that when companies invest less in R&D, they lose more on ethical investments. There are similarities between this result and those found by Tian et al. (2020) who discovered that R&D has a positive and significant relationship with environmental investments. Similarly, Xu et al. (2021) agreed with this finding that R&D investment has a positive relationship with green innovation performance and ethical investment performance and can increase the number of green invention patents.

On the other hand, ROCE and LEV results are negative (-0.0537 and -2.0358) and statistically insignificant (p-value < 0.1). This means that these variables have no impact on ethical investment. The results imply that while ethical investment is essential for non-financial outcomes, they may not be directly influenced by ROCE and LEV. The implication of this result is that improved profitability does not necessarily lead to influencing companies to commit to ethical investment practices. This result is identical to those found by Barauskaite and Streimikiene (2021); Kuo et al. (2021) and Lin et al. (2019) who also found that ethical investment practices have a negative relationship with profitability or financial sustainability. Contradictorily, De Lucia et al. (2020) disagreed with this result in their study. The authors found a positive relationship between ethical investment and financial sustainability. Furthermore, the GMM results reports that liquidity has a significant (p-value < 0.05) and positive (4.0353) relationship with ethical investment. This result suggests that higher liquidity enhances ethical investments. The implication of the result is that companies with higher liquidity levels can devote resources to ethical investment projects because they have more readily available capital.

Similarly, the association between the size of the companies and ethical investment is positive (0.0366) and statistically significant (p-value < 0.05). It can be noted in the table that model 1, 2 and 4 are significant at 0.05; however, Model 2 differs since it is statistically insignificant (p-value < 0.1). The positive relationship indicates that larger companies are in a good position to invest in ethical practices. The implication is that when larger companies embrace ethical practices, they attract ethical investors and manage reputational risks. The result of the company age is also positive (0.1958) and statistically insignificant (p-value < 0.1). This is evident in model 4, and it is consistent in all the 4 models, indicating that the age of the company has no significant impact on ethical investment. The implication of this result is that older companies do not automatically have significant engagement in EI than younger companies. These results contradict those reported by D'Amato and Falivena (2020) who found that age influences the ethical practices of companies.

Furthermore, the second order autocorrelation coefficient (AR2), which measures the level of serial correlation in the residuals of the model is insignificant (p > 0.05). This shows that for the estimation models, autocorrelation is not an issue, suggesting that the estimates are accurate and efficient. In addition, since Hansen's J-test result is insignificant, hence the null hypothesis is

rejected. The result suggests that null hypothesis indicating limitations in the models regarding over-identification restrictions are inaccurate. This finding implies that the GMM estimators are not adversely affected by the number of instruments used in the GMM estimation.

4.3 Objective 2: The relationship between Ethical Investment and the Financial Sustainability

The relationship between ethical investment and financial sustainability is discussed and analyzed in this section. The financial sustainability is measured by return on capital employed (ROCE) and the average market price (AvPx) of the companies. Table 4.5 demonstrates the descriptive (summary) statistics of the dependent and independent variables.

Table 4.5: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROCE (%)	406	6.16	21.506	-29.79	75.043
AvPx (rands)	388	44.61	12.91	1.12	929.92
EI	415	20.14	1.269	7.42	58.97
BTM (rands)	398	0.059	8.42	0.0029	0.70
LIQ (%)	402	84.38	32.61	1.023	313.87
SIZE (million Rands	408	9566.17	17839.25	4.22	116300.00
LEV (%)	406	22.19	1.575	0.997	162.13
AGE (Years)	404	38	33.258	1.000	135.00

Source: Authors estimation, (2024).

The results show that the mean score of book-to-market ratio is 0.059 with a standard deviation of 8.42. This result shows that the market values of these companies relative to their book values is significant. The other variables, which are ROCE, liquidity, size, leverage and age have already been analyzed and discussed in Table 4.1. The major highlight was that ethical investment (EI) is moderately high with a small standard deviation, which suggests a minor dispersion of ethical investment activities among the resource extraction companies. In addition, the results suggested that some companies are more committed to ethical investment than others.

4.3.1 Multicollinearity Test

Table 4.6 presents the results of the correlation between the explanatory variables.

Table 4.6: Correlation Matrix

	EI	BTM	LIQ	SIZE	LEV	AGE
EI	1.0000					
BTM	0.0945***	1.0000				
LIQ	0.0975	-0.1106**	1.0000			
SIZE	0.0570***	0.0610*	0.0067***	1.0000		
LEV	0.1562***	0.0448	0.1996**	-0.0306*	1.0000	
AGE	0.0557	0.0169**	0.1948	0.0214***	-0.0530	1.0000

Source: Authors estimation, (2024)

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

As presented in Table 4.6, the correlation coefficient (-0.1106) between liquidity and book to market value implies a weak negative relationship. This suggests that an increase in liquidity (LIQ) is slightly associated with a decrease in book to market value (BTM). This emphasizes that when companies are financially stable, they are less likely to be undervalued by the market. Meanwhile, the relationship between size and liquidity (LIQ) is weak positive (0.0067), suggesting that the size of the company has almost no link with liquidity. Similarly, there is a weak positive correlation (0.0448) between the leverage of the companies and their BTM. The results imply that there is a minor tendency for the market to undervalue companies with higher debt levels. Furthermore, the relationship between the age and size of companies is weak and positive (0.0214), indicating that the size of a company has almost no relationship with its age. Based on these results, there are no multicollinearity issues between among the independent variables since they are all less than the benchmark 0.70 adopted by many scholars such as Yue, Lian and Wan (2019), Pati (2020), Chan et al. (2022) and Sakhrawi, Labidi, Sellami and Bouassida (2023).

4.3.2: Regression results of the relationship between Ethical Investment and ROCE

In this section, the regression result of the relationship between EI and financial sustainability which is measured by ROCE is presented and discussed. The results are reported in Table 4.7.

Table 4.7: Regression results of the relationship between Ethical Investment and ROCE

Variable	Model 1 POLS	Model 2 RE	Model 3 FE	Model 4 GMM
$ROCE_{it-1}$				0.0008***
				(5.675)
EI_{it}	0.0753*	0.0064**	1.6486***	0.2075**
	(1.764)	(2.001)	(4.755)	(1.984)
BTM_{it}	1.0469**	0.0171*	0.0063*	0.0412*
	(1.986)	(1.937)	(1.761)	(1.748)
LIQ_{it}	0.2487***	0.0367***	0.0185***	0.3268***
	(5.276)	(5.185)	(4.479)	(6.187)
$SIZE_{it}$	-2.0676*	-0.1245*	-0.0084**	-1.3811**
	(-1.855)	(-1.848)	(-2.167)	(-2.094)
LEV_{it}	0.0584	1.3460*	0.1035	1.0678*
	(0.937)	(1.924)	(0.875)	(1.560)
AGE_{it}	-0.0459**	-0.6489	-0.0457***	-0.4522*
	(-1.992)	(-1.135)	(-4.816)	(-1.874)
Constant	2.0563***	2.0245***	0.3168**	0.2872***
	(6.052)	(4.086)	(1.981)	(4.709)
Observations	412	412	412	401
R-squared	0.7832	0.8456	0.8022	
Adjusted R-Squared	0.7596	0.8103	0.7429	
Number of ID				23
Number of Instruments				17
Prob > F/Wald Prob > chi2	0.0000	0.0000	0.0000	0.0000
AR2				0.238
Hansen stat				0.516

Source: Authors estimation, (2024).

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

The results in Table 4.7 demonstrate the relationship between ethical investment and financial sustainability. In this section, financial sustainability was measured using accounting performance, which is the return on capital employed (ROCE). In model 4 (GMM), the lag of ROCE ($ROCE_{it-1}$) has a positive and significant correlation with the current ROCE of the companies. This suggests

that as the lag of ROCE increases, the current ROCE also increases. In other words, the result implies that the immediate previous year's ROCE has a significant influence on the current ROCE. The regression results are consistent in all the models both in terms of sign and significance.

Considering the main independent variable, the GMM model indicates that ethical investment (EI) has a positive (0.2075) and statistically significant (p-value <0.05) relationship with return on capital employed (ROCE). As earlier highlighted, the ROCE is the accounting component of financial sustainability; therefore, this result suggests that ethical investment has a significant impact on the financial sustainability of companies. This positive relationship between ethical investment and financial sustainability was expected because the study also hypothesized that ethical investment would have a positive relationship with profitability. The positive relationship is consistent in all the four models (POLS, RE, FE and GMM). However, the significance differs in Model 1 (POLS) as it is insignificant. A possible reason for this positive relationship could be because more investors are now shifting their investment towards companies who are ethically responsible. The result implies that the more investors put their funds towards ethical practices, the more profitability they generate. Another reason can be that more customers are buying goods and services that align with their ethical beliefs. This means that companies that invest in ethical practices attract not only investors but even stakeholders. The more business gains support the more the generated profit. The implication is that as companies increase their ethical investment practices, their financial sustainability also increases.

This result is similar to those found by Whelan et al. (2021) who found a positive relationship between ethical investment and financial sustainability by examining more than 1,000 studies published from 2015 to 2020. Similarly, Bertrand and Lapointe (2015) agreed with this finding that EI can improve performance when adjusting for risk. On the other hand, a study by Oyewumi et al. (2018) contradicts this finding. The authors found that ethical investment has a negative and insignificant impact on financial sustainability as companies consider ethical investments as a cost. These results also contradict those found by Cerciello et al. (2023) which reported that ethical business practices reduce profitability. The reason for the contradiction may be because of different legal, social, economic, cultural or political environments. It also can be due to different data sources and measurement methods used.

Additionally, Model 4 presents the results of the control variables that could potentially influence the ROCE of the firms. From Table 4.6, it can be observed that both BTM and LEV have positive (0.0412 and 1.0678) and insignificant (p-value < 0.1) impacts on ROCE. The positive link shows that higher BTM and LEV levels are associated with higher levels of ROCE. The implication of these result is that BTM and LEV might not directly determine the profitability in a significant way. This result contradicts the findings of Nugroho (2020), which found a negative relationship between leverage and profitability. On the other hand, Nugroho (2020) also agreed with this finding that book to market ratio has a significant positive effect on profitability.

The results also show that the size of the companies has a negative (-1.3811) and significant (p-value < 0.05) association with ROCE, indicating that larger companies tend to have lower ROCE compared to smaller firms. The implication is that as companies get bigger their ROCE levels decrease. The sign or direction of the impact is consistent in all the models, but the significance levels differ across the models. This result contradicts those reported by Alarussi and Alhaderi (2018) who found a strong positive link between company size and profitability. On the other hand, the age of the companies has a negative and insignificant relation with ROCE, suggesting that older companies usually have lower ROCE. The results can be possible since younger companies often adapt quickly to the market changes, thus leading to higher profitability. The implication is that older firms can use the experience and reputation they have gained over the years to boost their appeal to investors focused on ethical practices.

From the results presented in Table 4.7, it is evident that LIQ has a positive and significant (p-value < 0.01) link with ROCE. This result indicates that higher LIQ levels are associated with higher levels of ROCE. This result can be possible because companies with sufficient liquidity can use their resources to generate profits. The implication of this result is that when liquidity is insufficient, companies will not be able to generate better profits. This result disagrees with those found by Alarussi and Alhaderi (2018) which found an insignificant relationship between liquidity and profitability. The reason for these contradictory results may be because of different data sources used. It is noted that both the AR2 coefficient and Hansen's J-test results are insignificant (p-value >0.05). This shows that the residuals are not correlated over time, indicating that the model does not display the anticipated autoregressive pattern. A p-value (>0.05) shows that we

lack the evidence needed to reject the study's hypothesis that the model instruments used in the study are valid and uncorrelated with the error term.

4.3.4 The relationship between Ethical Investment and Firm Value

The previous section looked at the relationship between ethical investments and profitability. In this section, we examine another component of financial sustainability which is firm value. Table 4.8 presents the results on the association between ethical investment and firm value.

Table 4.8: The relationship between Ethical Investment and Firm Value

Variable	Model 1 POLS	Model 1 RE	Model 1 FE	Model 1 GMM
$AvPx_{it-1}$				1.4531***
				(7.867)
EI_{it}	0.0495**	1.1033***	0.2196**	0.0149**
	(2.162)	(4.472)	(1.984)	(2.218)
BTM_{it}	-0.6521*	-1.0546	-2.0147	-3.0142*
	(1.801)	(-1.159)	(-1.436)	(-1.764)
LIQ_{it}	1.2638***	0.0278*	0.1439**	0.0381**
	(5.898)	(1.683)	(2.314)	(2.155)
$SIZE_{it}$	0.3447***	4.0769***	2.2085***	1.7625**
	(9.085)	(3.465)	(3.693)	(2.076)
LEV_{it}	-1.3853*	-0.0406**	-0.7997*	-0.1059*
	(-1.882)	(-2.175)	(-1.708)	(-1.841)
AGE_{it}	1.0491	0.2209	0.0115**	0.8695**
	(1.265)	(0.868)	(2.318)	(1.992)
Constant	0.4083**	2.5407***	5.4082***	1.4581**
	(2.037)	(3.715)	(6.485)	(2.457)
Observations	412	412	412	401
R-squared	0.7924	0.8135	0.7807	
Adjusted R-Squared	0.7611	0.8072	0.7439	
Number of ID				28
Number of Instruments				24
Prob > F/Wald Prob > chi2	0.0000	0.0000	0.0000	0.0000
AR2				0.247
Hansen stat				0.312

Source: Authors estimation, (2024).

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

Table 4.8 reports the regression results of the impact of ethical investment on the value of the firms. The results from the GMM model indicate that the lag of the companies' average market price ($AvPx_{it-1}$) has a positive (1.4531) and statistically significant (p-value < 0.01) link with the current average market price of the companies, indicating that the price of the shares of the companies is driven by their previous performance. This relationship is evident across all the models. Similarly, the link between EI and AvPx is positive (0.0149) and statistically significant (p-value < 0.05), demonstrating that an improvement in EI results in an increase in AvPx. The reason behind this result is that companies who are recognized as ethically responsible may attract a significant investor demand, leading to higher stock prices. The implication is that higher stock prices show investor confidence and willingness to invest in companies with strong ethical foundations and expansion opportunities. These results are similar to those reported by Xie et al. (2019a) who found a positive correlation between ethical investments and firm value. The authors discovered that exercising responsibility in one's investment actions had a cumulative benefit.

Conversely, BTM and LEV have a negative (-3.0142 and -0.1059) and statistically insignificant (p-value < 0.1) correlation with AvPx. A similar link is noted in all the models except in Model 1 (POLS) where the significance is noted. This result demonstrates that higher BTM and LEV are associated with lower AvPx and are statistically insignificant. The reason for this result can be because of factors such as market sentiments and sector dynamics. The implication of this result is that higher BTM and LEV are associated with lower AvPx but they both do not have a significance influence on the AvPx. This result contradicts those found by Jihadi et al. (2021) who reported a positive relationship between leverage and firm value.

The GMM model further indicates a positive and statistically significant (p-value < 0.05) relationship between firms' characteristics represented by age (0.8695) and size (1.7625) and AvPx. These results indicate that the older and the larger a company is, the better is the AvPx. The reason for this result is that older and bigger companies have established reputations and usually have greater resources compared to smaller companies. This can lead to higher perceived value and lower business risk, which will lead to higher AvPx. The implication of this result is that smaller and younger companies usually have higher perceived risk which leads to lower stock

prices, thus, lowering AvPx. This result is in line with the result found by Rudangga and Sudiarta (2016) and Rudangga and Sudiarta (2016)who reported that company size has a significant positive impact on firm value.

In addition, LIQ has a positive (0.0381) and significant (p-value < 0.05) relationship with AvPx. This result indicates that an increase in LIQ resulted in an increase in AvPx. The reason could be because higher liquidity increases market efficiency, decrease trading costs and enhances a company's stock accessibility. Therefore, this drives up the stock price. The implication of this result is that companies with higher LIQ are viewed positively by investors as higher LIQ enhances AvPx. This result contradicts those found by Akbar and Nusa (2022) who reported that liquidity does not influence the value of firm. On the other hand, this result is similar to Jihadi et al. (2021) result which found a positive impact of liquidity on firm value. Based on the insignificant results of AR2 and Hansen's J-test, it is safe to conclude that there is no autocorrelation in the residuals of the model and the instruments used in the regression model are accurate.

4.4 Objective 3: The moderating effect of Disclosure Quality on the relationship between Ethical Investment and Financial Sustainability

The preceding section discussed the extent to which ethical investment has an influence on the financial sustainability of the resource extraction companies listed on the Johannesburg Stock Exchange. It was evident from the discussion that ethical investment has an impact on companies. However, the extent to which this relationship can be enhanced through adequate disclosures of the companies' ethical investment activities has been of great interest to stakeholders. As a result, this section presents the results and discussion of the moderating role of disclosure quality on the relationship between ethical investment and financial sustainability. Table 4.9 presents the descriptive statistics results.

Table 4.9: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROCE (%)	406	6.16	21.506	-29.79	75.043
AvPx (rands)	388	44.61	12.91	1.12	929.92
EI	415	20.14	1.269	7.42	58.97
DQ	389	2.940428	3.723724	1.00	5.00
BTM (rands)	398	0.059	8.42	0.0029	0.70
LIQ (%)	402	84.38	32.61	1.023	313.87
SIZE (million Rands	408	9566.17	17839.25	4.22	116300.00
LEV (%)	406	22.19	1.575	0.997	162.13
AGE (Years)	404	38	33.258	1.000	135.00

Source: Authors estimation, (2024).

In this table, mean results of all the variables have been discussed in Section 4.3.2. The only variable that was not discussed is disclosure quality (DQ), which is a measure of the quality of reporting about the companies' ethical investment activities. The table demonstrates that DQ has a mean score of 2.940 and a standard deviation of 3.724. In addition, the maximum disclosure score reported was 5.00 whilst the minimum was 1.00. This suggests that there is a significant variation in the disclosure quality of individual companies. Nonetheless, the mean score of 2.940 demonstrates that majority of the firms provided adequate information about their ethical investment activities.

4.4.1 Multicollinearity Test

This section assesses the relationship between independent variables.

Table 4.10: Correlation Matrix

	EI	DQ	BTM	LIQ	SIZE	LEV	AGE
EI	1.0000						
DQ	0.0586	1.0000					
BTM	0.1121**	-0.0484**	1.0000				
LIQ	0.0987*	0.0939***	-0.1106**	1.0000			
SIZE	0.0664	-0.0133*	0.0610*	0.0067**	1.0000		
LEV	0.1564*	-0.0097	0.0448**	0.1996	-0.0306	1.0000	
AGE	0.0709**	0.0326**	0.0169	0.1948*	0.0214**	-0.0530*	1.0000

Source: Authors estimation, (2024).

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

Table 4.10 reports a positive association between disclosure quality and ethical investments (0.0586). This suggests that a high level of transparency increases ethical investment practices. All the other variables in the table were analyzed and discussed in Table 4.6. The maximum coefficient value reported is 0.1996 (size) which means that all the coefficients are below the benchmark (0.70). This indicates that there are no issues with multicollinearity amongst the variables.

As presented in Table 4.6, the correlation coefficient (-0.1106) between liquidity and book to market value imply a weak negative relationship. This suggests that an increase in liquidity (LIQ) is slightly associated with a decrease in book to market value (BTM). This result emphasizes that when companies are financially stable, they are less likely to be undervalued by the market. Meanwhile, the relationship between size and liquidity (LIQ) is weak positive (0.0067), suggesting that the size of a company has almost no impact on liquidity. Similarly, there is a weak positive correlation (0.0448) between the leverage of the companies and their BTM. The results imply that there is a minor tendency for the market to undervalue companies with higher debt levels. Furthermore, the relationship between the age and size of companies is weak and positive (0.0214), indicating that the size of the company has almost no impact on its age. Based on the results, there are no multicollinearity issues between all the independent variables, since they are all less than the benchmark of 0.70 adopted by many scholars such as Yue, Lian and Wan (2019), Pati (2020), Chan et al. (2022) and Sakhrawi, Labidi, Sellami and Bouassida (2023).

4.4.2 Objective 3: The Moderation effect of Disclosure Quality on the relationship between Ethical Investment and ROCE

This section analyses and discuss the regression results relating to the interrelationship between ethical investment, ROCE (profitability) and disclosure quality. Table 4.11 demonstrates the findings on this subject matter.

Table 4.11: The Regression Results of Ethical Investment, ROCE and Disclosure Quality

Variable	**Model 1 POLS**	**Model 1 RE**	**Model 1 FE**	**Model 1 GMM**
$ROCE_{it-1}$				0.4574**
				(2.147)
EI_{it}	1.0508**	0.7244***	0.1457**	0.1546**
	(2.307)	(3.618)	(2.068)	(2.204)
DQ_{it}	1.1594**	0.8225***	0.0548**	0.4347**
	(2.282)	(5.088)	(1.996)	(2.219)
EI*DQ	0.7283***	0.7399**	0.1542***	1.3913***
	(4.865)	(2.316)	(4.845)	(6.584)
BTM_{it}	0.8695**	0.1965**	0.0151*	0.3009*
	(2.084)	(2.338)	(1.719)	(1.824)
LIQ_{it}	1.0144**	0.0418***	0.0012*	0.5895**
	(2.245)	(7.656)	(1.889)	(2.176)
$SIZE_{it}$	-0.5791*	-0.0564	-0.0494**	-0.3847
	(-1.692)	(-1.265)	(-2.305)	(-0.658)
LEV_{it}	0.4347*	0.1092**	0.2948**	0.7531**
	(0.739)	(2.158)	(1.982)	(1.993)
AGE_{it}	-0.0655	2.0846*	0.0213**	0.6755
	(1.435)	(1.783)	(2.184)	(0.951)
Constant	3.1764***	2.0686***	0.0674***	1.0057***
	(4.959)	(3.692)	(4.942)	(4.918)
Observations	412	412	412	405
R-squared	0.8672	0.8064	0.8348	
Adjusted R-Squared	0.8135	0.7617	0.7685	
Number of ID				24
Number of Instruments				19
Prob > F/Wald Prob > chi2	0.0000	0.0000	0.0000	0.0000
AR2				0.311
Hansen stat				0.406

Source: Authors estimation, (2024).

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

Table 4.11 reports the relationship between ethical investment and ROCE, and how disclosure quality moderates this relationship. Similar to the results in Section 3.3, Model 4 indicates that the lag of ROCE has a positive and significant relationship with the current ROCE. Similarly, EI has a positive relationship with ROCE and this relationship follows similar pattern in all the models. The possible reasons and implications for this relationship have been discussed under Table 4.4. In this section, the overarching objective is to examine whether disclosure quality has an impact on the relationship between ethical investment and ROCE. First, the result demonstrates a positive (0.4347) and significant (p-value < 0.05) relationship between DQ and ROCE.

The reason behind this relationship is that companies that provide higher quality disclosures are more transparent about their strategic decisions and financial sustainability. Another possible reason is that the market rewards companies that disclose higher profits. The implication of this results is that the higher quality disclosure can reduce information asymmetry between the investors and the company. In addition, companies that maintain a good behavior via strong level of disclosure build strong associations with business partners and suppliers. This can lead to higher profitability. This result is similar to those found by Li et al. (2018) who found that disclosing information on ethical investment activities has a positive and significant effect on the profitability of companies. Conversely, Fahad and Busru (2021) findings contradict this result. They found a negative impact of disclosure quality on firm profitability and firm value.

Correspondingly, the interaction between ethical investment and disclosure quality (EI*DQ) has a positive (1.3913) and statistically significant (p-value < 0.001) relationship with ROCE. One of the reasons for this result may be that companies that participate in ethical investment practices and produce high quality disclosure are considered more accountable, align with stakeholder's value and transparent. This can positively influence ROCE by attracting ethical investors. The implication is that companies who integrate ESG considerations in their ethical investments and disclose relevant information, focus on stakeholder value creation and sustainable growth. There are similarities between this result and those reported by Almeyda and Darmansya (2019) who reported that there is a statistically significant positive link between the ethical investment and disclosure with firm's sustainability. Again, this result agrees with Albitar et al. (2020) results

which showed a positive and significant relationship between ethical investment disclosure quality and financial sustainability.

Furthermore, Model 4 reports that BTM has a positive (0.3009) and insignificant (p-value < 0.1) relationship with ROCE. The possible reasons and implications have been mentioned in Table 4.7 above. Over and above that, a positive and significant relationship is also indicated between LIQ, LEV and ROCE respectively. The reason for this result is that companies that purposively leverage debt while maintaining enough liquidity levels can enhance their cost of capital and improve profitability. The implication is that when companies maintain higher levels of LIQ and LEV their ROCE improves.

On the other hand, the size of the companies has a negative (-0.3847) and insignificant relationship with ROCE, suggesting that size has no influence or impact on ROCE. Moreover, a positive (0.6755) and insignificant (p-value <0.1) relationship between age and ROCE is also noted. The results and implications of this result has already been discussed in Table 4.4. The AR2 and Hansen's J-test results also support the rejection of the hypothesis since p-value > 0.05 for both coefficients. Therefore, we can conclude that the estimates are effective and reliable.

4.4.3 The Moderation effect of Disclosure Quality on the relationship between Ethical Investment and Firm Value

This section analyses and discusses the results of ethical investment, firm value and disclosure quality. Table 4.12 presents the results.

Table 4.12: Ethical Investment, Firm Value and Disclosure Quality

Variable	Model 1 POLS	Model 1 RE	Model 1 FE	Model 1 GMM
$AvPx_{it-1}$				0.5431***
				(6.143)
EI_{it}	0.9675***	0.7578***	0.0011***	0.9811***
	(7.521)	(5.814)	(3.909)	(4.655)
DQ_{it}	1.0682***	0.6814***	0.0456***	1.8747***
	(5.646)	(12.139)	(4.155)	(7.096)
EI*DQ	0.6711***	0.1811***	0.2717***	0.0367***
	(5.168)	(3.715)	(8.496)	(4.115)
BTM_{it}	-0.8011*	0.0386	0.0196	0.0735
	(1.812)	(1.087)	(0.721)	(0.556)
LIQ_{it}	0.9347***	0.0520***	0.4215***	0.7292***
	(3.884)	(5.147)	(5.003)	(4.469)
$SIZE_{it}$	0.5341**	0.1006**	0.1425*	1.9298**
	(2.245)	(1.984)	(1.769)	(2.318)
LEV_{it}	-0.4006*	0.0901**	0.4006*	2.0348
	(-1.788)	(2.087)	(1.824)	(0.562)
AGE_{it}	0.2670*	0.1343	2.2032**	0.0398**
	(1.816)	(0.751)	(1.994)	(2.318)
Constant	0.1421**	0.0505***	0.2773***	0.0797***
	(2.056)	(3.864)	(8.108)	(4.374)
Observations	415	415	415	407
R-squared	0.8315	0.8847	0.7949	
Adjusted R-Squared	0.7938	0.8608	0.7513	
Number of ID				27
Number of Instruments				23
Prob > F/Wald Prob > chi2	0.0000	0.0000	0.0000	0.0000
AR2				0.108
Hansen stat				0.275

Source: Authors estimation, (2024).

Note: *** = Significant at 0.01; ** = Significant at 0.05; and * = Significant at 0.1

The relationship between ethical investment, firm value and disclosure quality is demonstrated in Table 4.12. The table shows that lagged market price ($AvPx_{it-1}$) has a positive (0.5431) and statistically significant (p-value < 0.01) relationship with AvPx. This suggests that the increase in $AvPx_{it-1}$ results to an increase in AvPx. Similarly, the results show a positive (0.9811) and

significant (p-value < 0.01) relationship between EI. and AvPx. This shows that an increase in EI improves the AvPx of the companies. The result and implication are already discussed in Table 8.

In addition, a positive (1.8747) and significant (p-value < 0.01) relationship between DQ and AvPx is also reported in the Table 4.12. This result indicates that a higher DQ leads to an increase in AvPx. The result of this relationship can be because investors value clarity and transparency. When companies disclose accurate and detailed information pertaining their risk management practices, financial health, performance and other ethically responsible projects, information asymmetry can be reduced; thus, leading to higher stock valuations. The implication of this result is that poor transparency and accountability in companies lead to uncertainties among investors, which would result in higher perceived risks and lower expected returns, thus, decreasing stock prices. Conversely Fahad and Busru (2021) findings contradict this result. They found a negative impact of disclosure quality on firm profitability and firm value.

Moreover, EI*DQ have a positive (0.0367) and statistically significant (p-value < 0.01) association with AvPx. This suggests that improved interaction between ethical investment and disclosure quality (EI*DQ) results in higher AvPx. The result may be because when companies disclose their ethical investment activities, investors get attracted to those companies. This increases demand for the stock and eventually drive-up prices. Another reason may be that companies that align their ethical investment practices with institutional investors through disclosure can get capital from these investors. The implication of this result is that lack of ethical investment disclosure can result in lack of trust from investors. This can discourage investors from investing in companies and could result in a lower stock price as investors discount the perceived risk. There are similarities between this result and those reported by Li et al. (2023) which demonstrated that ethical investment and disclosure quality are positively correlated with firm value. The authors further indicated that the impact of environment (E) and society (S) on firm value is greater than that of governance (G) and this improvement of ESG split indicators will increase firm value. Li et al. (2018) also found a positive correlation between ESG disclosure level and firm value.

Similarly, a positive (0.7292) and significant (p-value < 0.01) link between LIQ and AvPx is noted. This shows that higher LIQ is associated with higher AvPx. The possible reasons for this result and implications are already mentioned under Table 4.8. In addition, size and age also have a

positive and significant correlation with AvPx. The possible result and implications are already mentioned under Table 4.8. Conversely, BTM and LEV indicated a positive correlation with AvPx which lacks statistical significance. This imply that higher levels of BTM and LEV are associated with high AvPx. The findings presented in the table, along with the results of the AR2 and Hansen's J-test, allow us to infer that the instruments employed in the instrumental variable estimation are indeed valid. Consequently, this suggests that the results of the estimation are both robust and trustworthy.

4.5 Chapter Summary

This chapter presented the overall summary of the findings of the study. The chapter discussed the major findings of the study and concluded based on the findings. It further provided the implications of the study to businesses, managements and shareholders. The study used secondary data. Therefore, a Panel Unit Root Test was used to assess the stationarity of the variables. The findings were presented by descriptive statistics, correlation matrix and GMM estimation. The results demonstrated that ethical investment improves financial sustainability of resource extraction companies in South Africa. In addition, the researchers found that disclosure quality has a positive influence as a moderator between ethical investment and financial sustainability.

The findings of this study are supported by previous literature that EI practices improve financial sustainability of the companies more especially when this companies disclose their ethical investment activities. The findings imply that companies disclosed their ethical practices to legitimize their activities. This study adds to the ongoing debate about ethical investment and financial sustainability. Therefore, the conclusion drawn from this study will contribute to the advancement of ethical investment research by establishing the connection between ethical investment and financial sustainability with the disclosure quality as a moderator. The next chapter provides the overall summary of this study's findings. The chapter further draws conclusions based on the findings, provides recommendations and highlights the limitations of this study.

CHAPTER FIVE

SUMMMARY, CONCLUSIION AND RECOMENDATIONS

5.1 Introduction

The previous chapter presented and discussed the results of the study, which looked at the impact of ethical investment on the financial sustainability of resource extraction companies in South Africa and how disclosure quality moderates such impacts. The chapter provided interesting insights on the extent to which ethical investment influences the profitability and value of these companies. The chapter further gave an insight on how disclosure quality moderates the link between ethical investment and financial sustainability. Moreover, it provides the summary of the study as well as the findings. The findings significantly contribute to the ongoing discussion and supports agency, signaling and legitimacy theoretical frameworks. The chapter further provides the conclusions emanating from the findings and makes recommendations based on the findings. In addition, the chapter addresses the study's limitations, identifying restrictions that may have affected the results. The chapter concludes by outlining potential directions for future research and encouraging more exploration in this area of research.

5.2 Summary of the Study

This study investigated the moderating role of disclosure quality in the relationship between ethical investment and financial sustainability among resource extraction companies in South Africa. This study was conducted to enhance our understanding of ethical investments and to improve the disclosure activities and sustainability of these companies. The study was structured into five chapters. Chapter one introduced the overview of the study. In this chapter the background of the study was discussed, which led to the identification of the gap in knowledge that this study sought to fill and explained the study's research problem. Furthermore, the chapter highlighted the need and the significance for this study by discussing the problem statement. In addition, this chapter explained the primary aim of the study, objectives and the research questions.

Chapter two then discussed the conceptual literature on EI. The emphasis was on the concept of ethical investment, elements of EI, resource extraction companies in South Africa, EI practices,

and financial sustainability. Moreover, the chapter explored the theoretical and empirical literature, as well as the conceptual framework and conclusion. The literature review revealed that researchers have different definitions and terms for ethical investments. Previous studies seem to support the idea that businesses who engage in ethical investments practices usually experience elevated financial sustainability while attracting more ethical investors. This chapter also reviewed the literature on the factors influencing ethical investments and emphasized that each factor plays a role in shaping responsible financial decisions. Furthermore, the previous studies highlighted that various authors have different views about the impact of ethical investment on financial sustainability. Some maintain that EI boosts FS (Whelan et al., 2021). On the other hand, some assert that there are no financial rewards from ethical investment (Cerciello et al., 2023); while some maintain that EI has a negative impact on FS (Jain et al., 2019). Moreover, the chapter discussed literature relating to how disclosure quality shapes the relationship between ethical investment and financial sustainability. The chapter highlighted that companies that provide precise and accurate information can build trust with stakeholders and investors. This can lead to more ethical investments and support for sustainable initiatives.

In addition, the Chapter Two discussed the four theories underpinning this study. The discussed theories are legitimacy, stakeholder, agency and signaling theories. The theories were thoroughly examined to demonstrate the practical association between primary variables explored in this research. The literature further found that EI research focused on determining whether there is a business rational for EI. However, the literature review highlighted that not much literature has addressed the three important components related to the core idea of EI in South Africa and the moderating role of disclosure quality.

The third chapter outlined and clarified the techniques employed to fulfill the objectives of the study. It discussed the research design and paradigm that was selected to anchor this investigation, the collection methods and procedures, as well as the characteristics of the research's sample and population. Additionally, the reliability and the validity of the data was addressed. The chapter pointed out that, this study adopted both descriptive and inferential research approach. In addition, a positivism approach was chosen for this study as it aligns with the study's postulation that knowledge is only confirmed as true if it is obtained through scientific methods. Furthermore, the target population consisted of all the resource extraction companies listed on the JSE as of 2013.

The data for this research was sourced from the JSE database, integrated company reports, Bloomberg and MacGregor BFA databases from 2013 to 2022. A multiple regression estimating method based on the benefits from panel data analysis was used. A system GMM estimation technique was used to generate the results due to its various advantages including overcoming endogeneity, omitted variable bias and model specification problems.

Furthermore, Chapter 4 focused on the results analysis and discussion. The findings relating to the three objectives set for this study were analyzed and discussed. These objectives looked at: the factors that influence EI practices; how ethical investment affects financial sustainability (profitability and firm value); and how disclosure quality influences the association between EI and FS. The descriptive analysis method was adopted to summarize and describe the data as per objective. Furthermore, the panel unit root test was conducted to assess the stationarity of the variables over time. In addition, the model parameters were estimated using the system GMM estimation technique. To verify the accuracy and robustness of the estimation results, multiple pre- and post-estimation tests were conducted. The chapter further discussed the results of this study and reviewed literature to support the findings. Lastly the implications were examined to come up with the conclusion.

Finally, this chapter (Chapter Five) of the study presents the summary of the entire study. It further presents the summary of the main findings and conclusion. Additionally, this chapter provides the implications and recommendations to improve the ethical investment practices and suggest areas where further studies could be undertaken to improve our understanding of EI, FS and DQ.

5.3 Summary of Findings and Conclusions

This research aimed to investigate the influence of ethical investment on the financial sustainability among resource extractions companies listed on the JSE in South Africa, with the moderating role of disclosure quality. Therefore, this section summarizes the study's results, organized around three objectives. This section will focus on highlighting the major findings of the study which will lead to the conclusion.

5.3.1 Factors influencing Ethical Investment

The first objective looked at the primary factors that influence the adoption of ethical investments. As expected, our findings revealed a variety of significant factors that play a role in the adoption of ethical investment practices. The results revealed a positive relationship between institutional ownership and ethical practices, indicating that engagement in ethical investment practices is more strongly influenced by higher levels of institutional ownership. This can be because institutional investors prioritize ethical practices as a key of investment decisions as institutional investors believe that companies that are committed to ethical practices maintain positive association with communities, regulators, employees and customers. The implication is that companies that display commitments to sustainable practices attract stable capital that aligns with sustainable goals of institutional investors. In addition, companies that engage in ethical investing can attract institutional investors and motivate them to enhance their investments. The evidence is consistent with the result found by Alda (2019), Dyck et al. (2019) and Velte (2020) who reported a significant influence of institutional investors on ethical investment.

Evidence further showed that research and development exert a positive and substantial influence on ethical investment practice, suggesting that an increase investment level of research and development influences ethical investment practices. This can be because research and development investment lead to innovation in sustainability, better social outcomes, less environmental impacts and a positive change in governance practices. The implication is that when companies invest more on research and development, they can become more sustainable. This finding corresponds with those reported by Tian et al. (2020) and Xu et al. (2021). On the other hand, a negative link between ownership type and ethical investment practices was reported in the study. The reason for these findings may be because foreign institutional investors normally prioritize financial returns over ethical practices. The implication of the finding is that foreign owned companies need to reevaluate their operating strategies and integrate ESG factors into them. This finding contradicts those found by Li et al. (2021) and Kabir and Thai (2021) who reported that ownership type has a positive association with ethical investment practices.

The results additionally indicated that liquidity positively affects ethical investment practices. This result suggests that higher liquidity enhances ethical investments. The implication of the result is

that companies with higher liquidity levels can devote resources to ethical investment projects because they have more readily available capital. Similarly, a positive correlation was reported between the companies' size and ethical investment. The reason for this finding may be that larger companies are in a good position to invest in ethical practices. The implication is that when larger companies embrace ethical practices, they attract ethical investors and manage reputational risks. On the other hand, evidence demonstrated that age, leverage and profitability do not have a significant influence on ethical investment practices. The evidence suggested that these variables do not influence ethical investment practices. Scholars such as Barauskaite and Streimikiene (2021) and D'Amato and Falivena (2020) confirmed that these variables do influence ethical investment practices.

5.3.2 The relationship between Ethical Investment and Financial Sustainability

Objective Two was accomplished by investigating the association between ethical investment and financial sustainability. This objective was broken down into two objectives as follows: to assess the relationship between ethical investments and profitability (ROCE) and to assess the relationship between ethical investments and firm value (AvPx). The evidence showed that ethical investments have a positive impact on profitability, suggesting that companies who invest more in ethical practices achieve enhanced profitability. This result was not surprising since this study had already predicted this relationship. Similarly, the evidence is consistent with Whelan et al. (2021) and (Bertrand and Lapointe, 2015) findings. Moreover, the evidence reported by this study is in line with the prediction of signaling and legitimacy theories. From the perspective of signaling theory, stakeholders or investors develop attitudes towards ethical practices or investments based on signals sent out by management. Therefore, these signals are perceived as valuable, genuine and reliable by stakeholders. Investors perceive a company that exhibits consistent profitability as a positive signal, indicating potential benefits from their investment.

This study further reported the impact of ethical investment on firm value. The results demonstrated that ethical investments and firm value are positively correlated. The result suggests that ethical investment practices improve firm value, validates Xie et al. (2019) conclusion. These results support the legitimacy theory, which holds that companies can improve their legitimacy with investors by adopting ethical practices; potentially leading to better firm value due to investor

trust. Similarly, ethical companies who invest in ethical practices can attract socially conscious investors and consumers who choose to support ethical businesses, thus increasing firm value. This finding implies that including ethical principles into company's activities can lead to financial and non-financial advantages. This can promote long term sustainable growth and a competitive edge.

5.3.3 The Moderating effect of Disclosure Quality on the relationship between Ethical Investment and Financial Sustainability.

The third objective explored the moderating role of disclosure quality on the relationship between ethical investment and financial sustainability of resource extraction companies listed on the JSE. The financial sustainability was represented by profitability and firm value. It was evident from the findings that ethical investment has an impact on financial sustainability. However, the role of disclosure quality in shaping this association captured the attention of stakeholders. As a result, the findings of this moderating role were discussed. The evidence reported that disclosure quality has a positive impact on profitability, suggesting that a high level of disclosure in company's results in enhanced profitability. A possible explanation for this result may be that ethical investors prefer companies that reflect their ethical values. Consequently, companies use disclosure practices as a strategy to show their commitment to environmental and social issues, thereby aligning their practices with stakeholder's expectations. The implication of this result is that disclosure can be used by companies to obtain approval from ethical investors. This result is in line with the findings of Li et al. (2018); Oyewumi et al. (2018) and Serafeim and Yoon (2022) who found that disclosure quality improves profitability. In addition, the evidence complimented agency theory, that increasing the level of disclosure can prevent opportunistic behavior, lessen information asymmetry, lower cost of capital and improve profitability.

The study further presented that the interaction between ethical investment and disclosure quality has a positive relationship with profitability. One of the possible reasons for this result is that companies that invest in ethical practices and release high quality disclosure are considered transparent and accountable. This can influence profitability and attract more investments. This result is in line with the conclusions of prior studies such as those by Almeyda and Darmansya (2019) and Albitar et al. (2020).

Furthermore, the study reported that disclosure quality and firm value are positively linked, indicating that high levels of disclosure quality enhance firm value. The result suggests that investors value transparency and clarity. The implication of this result is that the more companies disclose accurate and detailed information about their ethical investment practices, they reduce information asymmetry, thus, resulting in higher stock price. This finding was contradicted by Fahad and Busru (2021) who found a negative relationship between these variables. The possible contradiction may be because of different social, economic, cultural or political environment the studies were undertaken. It also can be due to different measurement methods and data sources. Additionally, the investigation reported a significant correlation between ethical investment and disclosure quality and firm value, suggesting that improved ethical investment practices and disclosure quality enhances firm value. This result corresponds with the results of other scholars such as Li et al. (2023) and Li et al. (2018). The implication is that poor ethical investment disclosure can discourage investors from investing in companies. When the investors get demotivated, they might decrease or withdraw their investments. This will likely result in a decrease in the overall value of the company.

From the results we can infer the following conclusions. Ethical investment has a positive relationship with profitability and firm value, implying that companies that invest more in ethical practices will have enhanced profitability and firm value (financial sustainability). An additional conclusion is that disclosure quality has a positive impact on the association between ethical investment and financial sustainability. The last conclusion is that not all the key determinants influence the adoption of ethical investments positively.

5.4 Implications and Recommendations

The implications and recommendations of the major highlights of the findings are discussed in this section below.

1. The addressed the determinants influencing the adoption of ethical investments. The study reported that institutional ownership has a positive influence on ethical investment practices, suggesting that institutional investors are attracted to investments that align with their ethical values. Therefore, we suggest that management must consider prioritizing integrating ethical concerns in strategic decision-making processes at all levels of their

companies. Here, we recommend that ethical principles should be built into the company's practices and strategies. In addition, managers should proactively communicate with institutional investors and other stakeholders to discuss ethical matters concerning them by addressing their concerns as well as delivering a pledge towards sustaining their desires for moral behavior. In doing so institutional investors will get attracted to their companies.

2. The study further found a positive relationship between research and development and ethical practices. According to our findings, it was evident that increased attention to research and development encourages technological innovations that lead to greater sustainability. Moreover, companies that are involved in research and development for ethical practices can build a perception of being at the forefront in addressing environmental and societal issues. This may attract ethical investors who appreciate companies that embrace responsibility. As a result, we recommend that companies' management and board of directors should allocate funds into sustainable innovation programs to back proposals that advocate for research and development practices. The implication is that as stakeholders embrace this movement, it will lead to a positive impact on ethical investment practices.

3. Furthermore, the evidence showed a positive association between ethical investments and profitability. The findings demonstrate that ethical investments are value relevant. The implication is that companies that invest in ethical practices do not only attract ethical investors but also attract more loyal customers who choose to support ethical businesses. This could lead to customer retention and more profit for companies. As a result, we propose that managers or investors should promote a culture of continuous ethical practices development. This can be achieved by revising policies and procedures and regular training to keep up with best responsible practices to achieve enhanced profits.

4. Additionally, the study reported a positive link between ethical investment and firm value. This result suggests that companies who seek to enhance their firm value should embrace ethical business practices. Responsible companies can lower the cost of capital and reduce financial through easy access to capital from ethical investors. We therefore recommend

that the management of firms should shift their focus more on ethical investments and analyze how their companies address environmental, social and governance risks and opportunities to assess its capacity for value creation and sustainability.

5. The researchers discovered that disclosure quality has a positive influence in shaping the relationship between ethical investment and financial sustainability. The results pointed out that disclosure acts as a communication tool between managers and investors. This evidence suggests that high quality disclosures promote transparency which results in higher investor confidence and reduced cost of capital. The implication of this finding is that managers need to provide a high level of disclosure quality to communicate with investors about their operations. The transparency and accountability will minimize information asymmetry between managers and investors and ultimately increase profit. The study further recommends that management should provide transparent and accurate information for stakeholders to gain their trust, thus resulting to more profits.

6. Similarly, the research investigated an association between ethical investment disclosure quality and firm value. The evidence reported a positive association, suggesting that a high level of ethical investment disclosure improves firm value through accountability, transparency and increased shareholder's trust, which can attract institutional investors. The implication is that failure to disclose accurate information can result in an increase in information asymmetry between management and investors. As a result, the company may be undervalued due to inaccurate information, and this can lead to a company's underperformance. In addition, quality disclosure leads to companies gaining access to a pool of capital providers which enhances firms' value. Therefore, it is essential for companies to pay more attention to ethical disclosures because they can influence firm value.

5.5 Limitations and Suggestion for Further Studies

This study provided evidence on the link between ethical investment and financial sustainability of resource extraction companies listed on the JSE together with the moderating role of disclosure quality. The researcher found limitations on the study. First, this study exclusively worked with South African resource extractions companies listed on the JSE. This limits the generalization of results to other nations and sectors. Nevertheless, additional studies can be extended to a worldwide scale using an international sample. This is because the cultural, environmental, social and economic factors of South Africa may differ from other countries. Therefore, we suggest that the future studies should broaden the sample size to include other developing nations and other sectors such as manufacturing, healthcare and so on. Other future studies can explore the mechanisms through which ethical investments lead to enhance corporate reputation.

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APPENDIX

APPENDIX A: TURNITIN SIMILARITY REPORT

Ethical Investment and Financial Sustainability among Resource Extraction Companies in South Africa: The Moderating Role of Disclosure Quality

ORIGINALITY REPORT

13%	9%	9%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www-emerald-com-443.webvpn.sxu.edu.cn Internet Source	1%
2	Submitted to University of KwaZulu-Natal Student Paper	1%
3	Tarek Rana, Md Jahidur Rahman, Peter Öhman. "Environmental, Social and Governance Accounting and Auditing - Perspectives from China", Routledge, 2025 Publication	<1%
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7	H. Maama, J. O. Akande, M. Doorasamy. "NGOs' Engagements and Ghana's Environmental Accounting Disclosure Quality", Emerald, 2020 Publication	<1%
8	Haruna Maama. "Institutional environment and environmental, social and governance accounting among banks in West Africa", Meditari Accountancy Research, 2020 Publication	<1%