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Environmental, Social, and Governance (ESG) practices influencing the performance of high-growth ventures listed on JSE Altx

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Environmental, Social, and Governance (ESG) practices influencing the performance of high-growth ventures listed on JSE Altx.

by

Thabo S. Motha

Supervisor: Professor Boris Urban

0715255T

University of the Witwatersrand, Johannesburg

A Research Report presented to the Wits Business School, Faculty of Commerce, Law and Management, as a partial fulfilment of the prerequisites for the candidacy of the degree of Master of Management in Entrepreneurship and New Venture Creation.

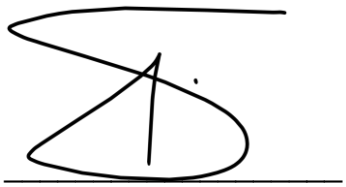
ABSTRACT

The incorporation of Environmental, Social, and Governance (ESG) practices is increasingly prioritised in global corporate strategies to enhance sustainable development and stakeholder trust. Investment decisions are progressively influenced by non-financial metrics, prompting the adoption of ESG frameworks by both major corporations and emerging firms in competitive markets like the Johannesburg Stock Exchange (JSE) Altx. However, empirical research on the performance effects of ESG in high-growth enterprises, especially in emerging markets with evolving institutional support for ESG, is scarce. Current literature predominantly examines established firms, neglecting how nascent companies navigate ESG responsibilities amidst rapid growth, thus creating a research gap regarding the impact of ESG on innovation and financial performance. This study seeks to assess the influence of ESG practices on the performance of high-growth ventures listed on the JSE Altx by analysing the separate effects of environmental, social, and governance factors. Utilising a positivist and quantitative research methodology, the study analysed secondary data from 25 high-growth firms collected between 2023 and 2024, incorporating ESG ratings, financial reports, and innovation metrics with statistical techniques including Pearson correlations and multiple linear regression via SPSS. The findings indicate that while environmental practices positively affect innovation performance, no ESG dimensions significantly impact financial or operational results, suggesting that ESG adoption among high-growth Altx firms may be more compliance-driven than strategically motivated. These results underscore the nascent nature of ESG's effectiveness as a performance enhancer in this sector, indicating an urgent need for specialised policy support, ESG reporting frameworks for SMEs, and initiatives to ensure that ESG integration yields real value for firms and society.

Keywords: Environmental, Social, and Governance (ESG); high-growth ventures; JSE Altx; innovation; emerging markets; sustainable entrepreneurship; firm performance; ESG disclosure; SME governance; sustainability reporting.

DECLARATION

I, Thabo S. Motha, declare that this research report is my own, original work, except where otherwise indicated through proper referencing and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation at the University of the Witwatersrand. This work has not been submitted for any degree or examination at any other university.



Thabo S. Motha

DEDICATION

To God Almighty, for granting me the strength, wisdom, and perseverance to complete this degree.

To my loving wife Baakile, thank you for your unwavering support, love, and encouragement. Your strength in holding the fort during my many nights of absence means more than words can express.

To my brilliant son Kgosiientse, may witnessing this chapter of my life spark new ideas, dreams, and guide you as you embark on your own academic journey.

To my daughter, my beautiful flower Aobakwe, may reading this work one day remind you of what your father achieved, and may it inspire you to pursue your own goals with passion and determination.

To my parents, Lucas and Mpho and my siblings, Wesley and Beverley, thank you for your unwavering belief in me. I am where I am today because of your love, sacrifices, and support.

To my supervisor, Professor Boris Urban, I am truly grateful for your guidance and support during my studies. Your mentorship has greatly influenced my work.

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION TO THE STUDY

The notion of corporate responsibility began to crystallise during the 1950s, particularly through Howard Bowen's influential 1953 work, The Social Responsibilities of the Businessman. This pivotal publication established the groundwork for what has subsequently transformed into Environmental, Social, and Governance (ESG) principles now integral to the assessment of corporate performance (Bowen, 2013). In contemporary discourse, ESG factors have surged in significance within global investment and governance discussions, as stakeholders including investors, regulators, and consumers demand increasingly transparent, ethical, and sustainable business practices (Kandpal, Jaswal, Santibanez Gonzalez & Agarwal, 2024; Zumente & Bistrova, 2021).

ESG ratings are extensively utilised as systematic instruments for assessing corporate sustainability and risk, encapsulating how firms perform in non-financial dimensions that are essential for long-term value generation (Pagano, Petrucci & Bocconcelli, 2018). Organisations that embed sustainability within their operational frameworks are progressively perceived as industry leaders, thereby augmenting both investor confidence and competitive advantage (Adams, Donovan & Topple, 2023). This evolution is particularly salient for high-growth ventures that must reconcile rapid expansion with ethical practices to attract investment, cultivate stakeholder trust, and maintain resilience amidst shifting regulatory landscapes (Sagar, 2023).

Established in the year 1887, the Johannesburg Stock Exchange (JSE) holds the distinction of being the oldest and largest securities exchange on the African continent, conventionally catering to large, well-capitalised corporations through its Main Board. Nevertheless, acknowledging the marginalisation of smaller, high-potential enterprises, the JSE inaugurated the Alternative Exchange (Altx) in 2003 to provide support for high-growth ventures often colloquially termed as "gazelles" which demonstrate rapid expansion yet face barriers in accessing conventional capital markets. Conceptualised in partnership with the Alternative Investment Market (AIM) of the London Stock Exchange, the Altx offers a more attainable platform characterised by diminished listing prerequisites, streamlined reporting processes, and adaptable governance standards. Its fundamental objective is to cultivate entrepreneurship,

stimulate innovation, facilitate job creation, and enhance inclusivity within South Africa's financial ecosystem.

Given the escalating focus on the integration of ESG principles within high-growth ventures, particularly those listed on the JSE Altx, this research examined the impact of ESG practices on firm performance emphasising financial, operational, and innovation-related outcomes. Utilising secondary data derived from 196 high-growth firms listed on the JSE Altx, the study meticulously analysed ESG disclosures and financial metrics spanning the years 2023 to 2024, sourced from JSE Sustainability Reports, ESG GPS™, and pertinent databases.

1.2 BACKGROUND TO THE STUDY

The ESG framework has emerged as a pivotal paradigm for assessing corporate accountability and sustainability, particularly considering escalating demands from international investors, regulatory bodies, and consumers (Annesi, Battaglia, Ceglia & Mercuri, 2024). Initially articulated in the 2004 United Nations report entitled Who Cares Wins, the principles of ESG have undergone significant expansion to include a diverse range of non-financial metrics, such as greenhouse gas emissions, labour practices, board accountability, and ethical behaviour (Bowley & Hill, 2024). These benchmarks are designed to guarantee that corporations operate not solely for the benefit of shareholders but also in a manner that is congruent with broader societal and environmental objectives. As ESG increasingly becomes a fundamental aspect of institutional investment and regulatory frameworks, its impact on strategic corporate decision-making is progressively intensifying on a global scale, particularly within industries that are susceptible to public examination and long-term risk considerations (Cogilniceanu, 2023).

In the context of South Africa, the integration of ESG factors has assumed significant socio-economic importance. The nation grapples with pervasive inequalities, energy insecurity, and ecological susceptibility, rendering ESG alignment not only a corporate obligation but also a national necessity (Nhlanhla, 2023). The JSE has proactively established reporting frameworks, including the King IV Code and the Sustainability Disclosure Guidance, aimed at fostering enhanced transparency and promoting ethical business conduct (Moyane, 2024). Although large corporations may possess the requisite infrastructure to comply with these mandates, high-growth ventures, particularly those listed on the JSE’s Altx, frequently face challenges related to

resource availability (Semenya, 2021). Despite these constraints, such entities are increasingly compelled to disclose ESG-related data to attract investment, adhere to stakeholder expectations, and distinguish themselves within a competitive market environment (Gopal & Pitts, 2025).

The paradox, nonetheless, resides in the juxtaposition between economic expansion and regulatory governance. High-growth ventures distinguished by swift increases in workforce or revenue commonly find themselves in initial or transitional stages of business evolution, possessing limited capacity for intricate ESG frameworks (Gutterman, 2024). Nevertheless, these are precisely the entities anticipated to spearhead innovation, job creation, and sectoral transformation within the dynamic economic landscape of South Africa. The imperative challenge is to facilitate the meaningful integration of ESG principles within these organisations without undermining their operational flexibility or fiscal sustainability (Annesi, Battaglia, Ceglia & Mercuri, 2024). Consequently, the investigation into ESG assimilation within Altx-listed companies is both pressing and enlightening, particularly in elucidating how such enterprises can reconcile immediate growth imperatives with enduring sustainability aims in the context of an emerging market.

1.3 RESEARCH CONTEXT

Over the preceding two decades, South Africa has actively engaged in a transition towards an inclusive and sustainable model of economic growth, wherein high-growth ventures have emerged as pivotal contributors to job creation, innovation, and industrial diversification (Tagwi, 2022; Sagar, 2023). Concurrently, as the global investment community increasingly advocates for ESG-centric decision-making, high-growth ventures within emerging markets are experiencing intensified pressures to exhibit responsible governance, environmental stewardship, and social accountability (Goncalves, 2024).

Nevertheless, these enterprises frequently encounter operational trade-offs between short-term financial viability and long-term adherence to ESG principles, a situation exacerbated by the lack of ESG frameworks specifically designed for small and medium-sized enterprises (Nhlanhla, 2023). The uncertainty surrounding ESG criteria at the Altx level engenders challenges in measurement and reporting, while simultaneously allowing for discretionary compliance that may be superficial at times (Agbakwuru, Onyenahazi, Antwi & Oyewale, 2024). This study seeks to elucidate

these complexities by investigating the interplay between firm performance and the adoption of ESG practices within a constrained yet high-growth entrepreneurial ecosystem.

1.4 RESEARCH PROBLEM

High-growth ventures on the JSE AltX operate in competitive settings where sustained performance is vital. These firms are increasingly required by various stakeholders to exhibit robust ESG practices (Mmako, 2021). Nevertheless, management grapples with uncertainty about whether ESG investments yield measurable performance benefits or merely incur costs (Chiloane-Tsoka, 2023).

Despite mounting pressure to embrace ESG practices, Altx-listed ventures lack definitive, evidence-based insights on which ESG dimensions effectively enhance financial, operational, or innovative performance (Serobe, 2018). This ambiguity presents a managerial challenge: executives are unable to allocate resources to ESG initiatives confidently without comprehending their actual performance impacts (Crosby, 2024).

Consequently, the research problem explored in this study is the absence of empirical understanding regarding the influence of environmental, social, and governance practices on the multi-faceted performance outcomes of high-growth ventures on the JSE Altx, hindering management's capacity to make informed ESG-related strategic choices.

1.5 RESEARCH QUESTIONS AND OBJECTIVES

1.5.1 Primary Objectives

The aim of this research is to investigate how ESG practices influence the performance outcomes of high-growth ventures listed on the JSE Altx.

1.5.2 Sub-Objectives

i. To examine the impact of environmental practices on firm performance metrics (financial performance, operational efficiency, and innovation).
ii. To investigate the effect of social practices on firm performance metrics (financial performance, operational efficiency, and innovation).
iii. To analyse the influence of Governance practices on firm performance metrics (financial performance, operational efficiency, and innovation).
iv. To identify which ESG dimension shows the strongest relationship with performance outcomes.

1.5.3 Research Questions

i. To what degree do environmental practices affect the performance metrics of high-growth ventures listed on the JSE Altx?
ii. To what degree do social practices impact the performance metrics of high-growth enterprises listed on the JSE Altx?
iii. What is the correlation between governance practices and the performance metrics of high-growth enterprises listed on the JSE Altx?
iv. Which ESG dimension shows the strongest relationship with performance outcomes?

1.6 SCOPE AND DELIMITATIONS

This investigation is specifically concerned with high-growth enterprises listed on the JSE Altx. The parameters of this study are confined to:

- Firms classified as high-growth by OECD standards (20% annual growth in employment or revenue over three years).
- Firms with publicly accessible ESG disclosures by way of JSE Sustainability Reports or recognised ESG databases.
- Secondary data from the 2023–2024 reporting cycle.
- ESG evaluated using recognised external rating systems, not self-reported questionnaires.

Delimitations:

- Qualitative assessments of managerial perceptions of ESG are excluded from the study.
- The analysis focuses on relationships rather than causality due to its correlational design.
- Firms lacking ESG disclosures were omitted, regardless of growth qualifications.
- Performance was measured across three dimensions: financial, operational, and innovation-related outcomes.

These delimitations promote methodological consistency but may restrict generalisability to firms outside the Altx or those without ESG disclosures.

1.7 ASSUMPTIONS

The following assumptions inform the study and direct the interpretation of findings:

Accuracy of Secondary Data: It is presumed that ESG and financial data in JSE disclosures and third-party ESG databases are accurate and audited.

Comparability of ESG Scores: It is assumed that ESG scores from various rating agencies employ similar constructs for comparative analysis.

Stability of ESG Definitions: It is assumed that ESG constructs across rating agencies remain consistent over the reporting period.

Objective Firm Reporting: Firms are presumed to report ESG and financial information transparently in compliance with regulatory standards.

Relevance of ESG to Performance: It is assumed that ESG adoption is pertinent for high-growth ventures and can be measured through existing performance indicators.

1.8 DEFINITION OF KEY TERMS

To ensure clarity and conceptual alignment, key terms in the study are defined as follows:

Environmental, Social, and Governance (ESG): A comprehensive framework evaluating a firm's environmental practices, social practices, and governance practices.

High-Growth Ventures: Firms demonstrating at least 20% average annual growth in revenue or employment over three years (OECD definition).

JSE Altx: The Johannesburg Stock Exchange’s Alternative Exchange, tailored for smaller, high-growth companies with flexible listing requirements.

Performance Outcomes: Indicators of firm success, encompassing financial performance (ROA, ROE), operational efficiency, and innovation capability.

ESG Disclosure: Public reporting of ESG-related activities, policies, risks, and performance based on frameworks like GRI, SASB, and King IV.

Sustainability Reporting: Thorough disclosure of a firm’s environmental, social, and governance impacts and strategies.

1.9 HYPOTHESES

This research endeavour posits the subsequent testable hypotheses aimed at scrutinising the interrelations among ESG dimensions and organisational performance metrics within high-growth enterprises listed on the JSE Altx. All hypotheses are directional in nature and articulated to encapsulate the correlational framework inherent in the research design.

H1. Environmental practices have a positive relationship with the performance outcomes of high-growth ventures listed on the JSE Altx.

H2. Social practices have a positive relationship with the performance outcomes of high-growth ventures listed on the JSE Altx.

H3. Governance practices have a significant relationship with the performance outcomes of high-growth ventures listed on the JSE Altx.

1.10 REPORT STRUCTURE

The research report is organised as follows:

Chapter 1: Introduction

Introduces the study's background, problem statement, objectives, research questions, assumptions, scope, and key definitions.

Chapter 2: Literature Review

Investigates theoretical frameworks, ESG concepts, empirical studies, and hypothesis development.

Chapter 3: Research Methodology

Details the research paradigm, design, sampling, data collection methods, analysis techniques, and considerations of reliability and validity.

Chapter 4: Results and Discussion

Delivers descriptive statistics, correlation analyses, regression outcomes, and a cohesive discussion of the results.

Chapter 5: Conclusions and Recommendations

Consolidates key findings, offers suggestions for practitioners and researchers, and highlights potential directions for subsequent research.

1.11 CONCLUSION

This chapter delineated the significance of ESG practices within global and South African capital markets, emphasising the unique challenges and prospects for high-growth companies on the JSE Altx. It defined the research problem regarding the insufficient empirical insight into the correlations between ESG practices and financial, operational, and innovation performance in these entities, while establishing clear objectives and research inquiries for the study.

By contextualising the research within South Africa's socio-economic landscape and the dynamic ESG regulatory framework, the chapter underscored the necessity of analysing ESG–performance connections in an emerging market marked by resource limitations and institutional challenges. The theoretical framework and articulated goals lay the groundwork for the subsequent chapter, which will assess existing literature on entrepreneurship, ESG integration, and corporate performance, as well as formulate the hypotheses and conceptual model essential for the empirical research.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter delineates the theoretical and empirical foundations of the investigation. It presents the emergence and importance of ESG principles, focussing on their relevance in high-growth enterprises within emerging economies such as South Africa. Section 2.2 examines the intersection of entrepreneurial activities and the integration of ESG principles, emphasising the manner in which rapidly expanding enterprises assimilate ecological and societal responsibilities in conjunction with their profit-orientated objectives. Section 2.3 analyses the theoretical frameworks, including Stakeholder Theory and Legitimacy Theory, that clarify the implementation of ESG practices by companies. Section 2.4 specifies the principal research variables, elaborating on each ESG component and designating the dependent variable, performance results. Section 2.5 delineates the hypotheses developed for the investigation, grounded in theoretical literature.

2.2 ENTREPRENUERSHIP AND ESG INTERGRATION

The convergence of entrepreneurship and social responsibility emerged in the mid-to-late 20th century, significantly shaped by Howard R. Bowen. In his landmark 1953 publication “Social Responsibilities of the Businessman”, Bowen posited that enterprises possess duties extending beyond mere profit generation, encompassing societal responsibilities (Qianhui, 2023). Entrepreneurship in high-growth contexts now incorporates societal and environmental responsibilities beyond mere profit. This evolution coincides with the emergence of social entrepreneurship, which integrates innovation and business expertise with social mission goals (Khawaja, 2024). Social entrepreneurs frequently engage in initiatives that yield both economic benefits and favourable societal outcomes, thereby establishing a strong alignment with ESG criteria (Diaz-Sarachaga & Ariza-Montes, 2022). Once ESG considerations become ingrained within entrepreneurial frameworks, they provide both a structural basis and a competitive advantage for rapidly expanding ventures that aspire to realise sustainable development (Son & Suh, 2024). The incorporation of ESG principles into entrepreneurial frameworks not only augments stakeholder confidence and long-term sustainability but also bolsters the significance of entrepreneurship as a catalyst for inclusive and sustainable progress (Kapoor, Kharat, Parhi, Kharat & Pandey, 2024).

2.3 BACKGROUND DISCUSSION

ESG standards have swiftly ascended as pivotal criteria for ethical business operation on a global scale (Wang, 2024). These standards provide a clear way to assess how companies manage their impact on the environment, their social responsibilities, and their governance practices, aligning business success with broader goals for society and sustainability (Hristov, Appolloni, Cheng & Huisingh, 2022). The triad of ESG serves as a critical foundation for appraising a corporation's dedication to creating enduring value while concurrently promoting societal and environmental welfare (Kandpal et al., 2024).

High-growth enterprises, notably those listed on the JSE (Altx), function within rapidly evolving domains such as technology, fintech, and renewable energy (Semenya, 2021). These entities confront distinctive challenges, including restricted access to capital, heightened risk exposure, and swiftly changing stakeholder expectations (Wang, 2024). The global proliferation of ESG frameworks has amplified their significance for high-growth enterprises, functioning not merely as a risk management mechanism but also as a benchmark for establishing credibility and legitimising stakeholder engagement (Carroux, 2025). Nevertheless, numerous high-growth enterprises in South Africa grapple with the difficulties of aligning their ESG disclosures with international benchmarks due to limitations in resources.

The assimilation of ESG principles is increasingly acknowledged as a catalyst for enduring corporate prosperity and resilience (Goncalves, 2024). ESG ratings and indices have emerged as crucial instruments for investors to evaluate corporate sustainability and risk, culminating in augmented capital inflows into sustainable investment avenues (Kandpal et al., 2024). By endorsing the implementation of ESG standards, the JSE Altx assumes a critical role in nurturing a robust, sustainable economy and facilitating growth in pivotal sectors such as renewable energy, technology, and agriculture (Mmako, 2021).

2.4 ESG THEORETICAL FRAMEWORKS

This study is grounded in Stakeholder Theory and Legitimacy Theory. These ideas enhance the understanding of ESG practices in high-growth enterprises. They clarify the factors driving corporate accountability and the pressures influencing ESG efforts. These theories collectively offer a robust framework for evaluating the drivers of ESG

adoption in such initiatives. They demonstrate how ESG initiatives may enhance financial performance, operational efficiency, and creativity.

2.4.1 Stakeholder Theory

Stakeholder Theory, proposed by Edward Freeman in the 1980s, posits that organisations owe fiduciary duties to multiple stakeholders, not solely shareholders. This theory states that organisations have fiduciary responsibility to numerous stakeholders, not only shareholders (Freeman, 1984; Miar, Rizani, Pardede & Basrowi ,2024). The framework underscores that a corporation's worth depends on its relationships with various stakeholders, as each can profoundly influence the organisation's success and longevity (Barca, 2025). In the realm of ESG frameworks, Stakeholder Theory suggests that adept management of ESG practices can bolster a corporation's reputation, legitimacy, and stakeholder trust (DuBose, 2024). Organisations that emphasise ESG activities often achieve improved stakeholder involvement and loyalty, so fostering a competitive advantage that corresponds with rising expectations for corporate social responsibility (Kandpal, 2024).

Stakeholder Theory offers essential direction for high-growth ventures, especially those listed on exchanges such as the JSE Altx, in negotiating the complexities of ESG implementation (Mmako, 2021). These companies generally encounter heightened stakeholder demands in swiftly changing market environments. By actively collaborating with local communities, consumers, and regulators while promoting sustainable practices, these companies can reduce risks and improve their long-term sustainability (Kholijah, 2024). Organisations that successfully meet their ESG commitments frequently attain superior financial performance, strongly associated with effective stakeholder engagement initiatives (Khamisu, 2024). Stakeholder Theory, as outlined by Wang (2023), highlights the significant role of ESG performance in enhancing corporate performance by fostering stakeholder support and brand perception. The focus on stakeholder interests in ESG frameworks allows high-growth companies to mitigate operational risks linked to negative public perception and regulatory scrutiny, thus enhancing resilience and operational efficiency in competitive settings (Cogilniceanu, 2023).

2.4.2 Legitimacy Theory

Legitimacy Theory is essential for comprehending organisational alignment with societal norms. Originating in the 1970s, it asserts that corporate survival hinges on

acquiring legitimacy from stakeholders and the social environment (Gulluscio, 2023). Legitimacy pertains to the perception of an organisations actions as socially acceptable (Thomas & Ritala, 2022). In ESG contexts, Legitimacy Theory underscores the necessity for corporations to synchronise operational strategies with societal sustainability expectations. This involves transparent ESG reporting to foster stakeholder trust (Amarna, 2024; Fahmy, 2024). Effectively communicating responsible practices can enhance legitimacy and financial performance (Coelho, Jayantilal & Ferreira, 2023).

High-Growth Ventures experience increased scrunity of their environmental and social ramifications.Transparent ESG disclosures enhance investor confidence and financial performance (Ball, 2021). Firms must adjust their ESG strategies to maintain legitimacy in response to increased stakeholder scrutiny (Diana, 2024). This adaptation safeguards reputation and positively influences market perceptions (Wong, 2023). Legitimacy is often achieved through stakeholder engagement in ESG strategy development. This collaborative approach builds shared commitment and effectively addresses concerns (Richardson, 2024). Companies aligning ESG initiatives with societal values, such as sustainability and equity, strengthen their legitimacy (Cosa, 2024; Pichlmayer & Lehner, 2024). In essence, Legitimacy Theory clarifies the methods through which high-growth ventures manage ESG and stakeholder relationships. By strategically implementing ESG principles, companies can enhance market confidence, attract capital, and achieve sustainable growth (Zulu, 2023). This alignment enhances resilience and strategically positions high-growth ventures within a market increasingly focused on ethical considerations (Gakhreja & Thakur, 2024).

2.5 DEFINITION OF VARIABLES

2.5.1 Environmental

The environmental practices of ESG emphasises how organisations regulate their influence on the natural environment (Daugaard & Ding, 2022). It includes strategies and policies pertaining to climate change mitigation, greenhouse gas (GHG) emissions, energy efficiency, biodiversity conservation, pollution management, water preservation, and sustainable resource utilisation (Bhatt, 2023). This pillar signifies a company's dedication to ecological sustainability and its adaptability to environmental risks and opportunities (Mahran & Elamer, 2025).

The increasing global recognition of environmental deterioration, including climate change, deforestation, and resource depletion, has heightened the significance of environmental responsibility in corporate governance (Mishra, 2023). Consequently, organisations are progressively anticipated to incorporate environmentally friendly practices into their operations and transparently report on their advancements (Garg, 2023). In high-growth enterprises, especially in resource-limited and ecologically sensitive areas such as South Africa, environmental performance serves as both a moral obligation and a strategic element that affects investor trust, regulatory adherence, and sustained competitiveness (Krüger, 2025).

2.5.2 Social

The social practices of ESG assesses how organisations handle their interactions with both internal and external stakeholders, such as employees, customers, suppliers, and communities. It demonstrates a company's societal impact and its dedication to ethical and inclusive practices (Abidin, 2025). Essential components encompass equitable labour practices, occupational health and safety, diversity and inclusion, employee engagement, data privacy, human rights advocacy, and community participation (Javed, 2024).

Social factors significantly affect risk and return evaluations by influencing customer happiness and employee engagement, which in turn impact operational performance and market positioning (Kim, 2021). Organisations that prioritise social practices generally develop stronger stakeholder relationships, so boosting their legitimacy and encouraging customer loyalty (Glaveli, 2021). The social dimension acknowledges that corporate value creation transcends financial returns, encompassing positive contributions to societal welfare through ethical labour practices, community development initiatives, and stakeholder engagement strategies that align business operations with overarching social objectives (Cosa, 2024). JSE Altx-listed high-growth ventures should focus on workforce development, community engagement, and stakeholder relationships to address South Africa's unique socioeconomic context (Mmako, 2021). Key measurement frameworks include diversity metrics, employee engagement, health and safety statistics, and community contributions. Standardised impact measurement is crucial for resource-constrained ventures (Chiloane-Tsoka & Egu, 2023).

2.5.3 Governance

The Governance practices of ESG evaluates the frameworks, policies, and procedures that direct corporate decision-making and accountability. It emphasises the governance and control of organisations, specifically regarding ethical leadership, board supervision, transparency, and adherence to regulations. Akinsola, (2025) defines governance as the mechanism by which corporations are held accountable for their acts through explicit internal controls and ethical decision-making frameworks. Manginte, (2024) characterises governance as the amalgamation of processes and structures employed to inform, direct, manage, and oversee an organisation's operations in pursuit of its objectives. Can and Latiff (2024) characterise corporate governance as a framework for harmonising the interests of management with those of shareholders and stakeholders via accountability and adherence to regulations.

This pillar encompasses essential governance metrics, including board composition and diversity, executive compensation, anti-corruption measures, shareholder rights, risk management, and cybersecurity regulations (Gwala, 2022). Effective governance guarantees that companies function publicly and ethically, so bolstering investor trust, mitigating organisational risk, and promoting long-term sustainability (Akinsola, 2025). For high-growth enterprises, especially those on the JSE Altx, strong governance is crucial for attracting investment, adhering to regulatory standards, and maintaining operational integrity in competitive and frequently resource-limited settings (Mekwa, Voluntary and Involuntary Delisting–Implications for Shareholder Wealth on the Johannesburg Stock Exchange , 2024).

2.5.4 Performance Outcome

Performance Outcomes denote the multifaceted results of corporate operations, including financial, operational, and innovation measures. This dependent variable assesses the efficacy of organisational strategies and practices in generating sustainable value (Mondal, Singh & Gupta, 2024). Financial outcomes indicators include accounting metrics like Return on Assets (ROA), which better reflects resource allocation efficiency. Improved ESG performance correlates positively with enhanced financial outcomes, particularly ROA, indicating effective asset utilisation. Rahiminezhad Galankashi and Mokhatab Rafiei (2022) found that firms with higher ESG scores report superior Return on Assets (ROA), implying that sustainable practices enhance efficiency and mitigate risk key financial performance drivers. Their

analysis of cross-sectional data across various industries revealed that ESG-aligned firms consistently outperform peers in profitability, reinforcing the notion that ESG adoption is both ethically and financially beneficial. Chen, Song, and Gao (2023) performed a longitudinal study utilising financial and ESG data from 312 publicly listed companies over five years. The researchers employed fixed-effects regression models to determine the impact of ESG performance on financial metrics by aligning ESG scores with Return on Assets (ROA) for the same firms and periods.

Operational performance evaluates the effectiveness and efficiency of an organisation's internal mechanisms, including productivity, resource allocation, and the calibre of the services rendered (Kimani & Wambua, 2024). Operational metrics frequently assess, quality, speed, flexibility, reliability, and cost, each of which significantly influences organisational performance across various industries (Cristea & Cristea, 2021). Energy efficiency quantifies energy consumption relative to output, connecting operational efficiency with ESG objectives. For instance, a manufacturing entity may monitor kilowatt-hours per unit to evaluate enhancements from energy conservation efforts (Kandpal, Jaswal, Santibanez Gonzalez & Agarwal, 2024).

Innovation performance evaluates an organisation's capacity to conceive and execute novel ideas, commodities, services, or methodologies (Migdadi, 2022). Innovation is defined as the “creation or acceptance, integration, and utilisation of a value-enhancing novelty within economic and societal contexts” (Alalääkkölä et al., 2025, p. 23). Empirical studies suggest that “proficiently managing innovation can yield economic returns 2.4 times greater than those of rivals”, underscoring its importance for enduring competitive advantage (Rezazadeh, Bagheri, Karimi, Nazarian-Jashnabadi & Nezhad, 2023). Sustainable Product Revenue Share quantifies the proportion of revenue derived from ESG-compliant innovations, thereby connecting Research & Development (R&D) results to sustainability effects. For instance, a technology firm may monitor earnings from energy-efficient products to assess the effectiveness of green innovations (Shmelev & Gilardi, 2025).

2.6 HYPOTHESIS FORMULATION

This research examines the interconnections between ESG practices, and the performance metrics of high-growth enterprises listed on the JSE Altx. In alignment with the identified research problem, the objective is to ascertain the degree to which each ESG dimension correlates with financial performance, operational efficacy, and

innovation outcomes. Consequently, the hypotheses are formulated based on both empirical and theoretical frameworks that substantiate these associations.

Performance outcomes are the study's dependent variable, evaluated through financial performance, operational efficiency, and innovation performance. These metrics illustrate the complex nature of organisational performance in high-growth ventures and align with previous empirical research on ESG engagement outcomes.

2.6.1 Environment

The environmental practices of ESG is crucial for ongoing financial viability and market competitiveness. Firms that effectively address their environmental footprint can realise cost reductions through enhanced resource utilisation while mitigating regulatory and reputational risks (Cho, 2022). This assertion is consistent with Stakeholder Theory and Legitimacy Theory, indicating that proactive environmental stewardship improves corporate legitimacy and fortifies stakeholder relations, thus enhancing performance outcomes (Cosa, 2024). Porter's theory bolsters this connection, suggesting that firms facing rigorous environmental regulations gain significant first-mover advantages by establishing environmental capabilities ahead of less regulated rivals (Bataineh, Sánchez-Sellero & Ayad, 2024). Environmental management systems yield competitive benefits at various levels: through strategic foresight, by fostering valuable internal assets and skills, and by promoting life-cycle oriented strategies that transcend internal processes (Taherdoost, 2022). Meta-analyses of 2,000 studies provide empirical evidence of predominantly positive correlations between ESG factors and financial performance, particularly highlighting that environmental initiatives are associated with lower operational costs, diminished downside risks, and enhanced access to capital (Singhania & Gupta, 2024). In the context of high-growth ventures in South Africa, characterised by water scarcity and energy challenges, environmental performance is crucial. Firms that exhibit exceptional environmental management can improve operational efficiency through resource conservation and bolster their appeal to environmentally conscious investors and consumers in the sustainability-oriented JSE Altx market (Matji, 2023). This dialogue results in the establishment of the preliminary hypothesis.

H1. Environmental practices positively influence performance outcomes in high-growth ventures listed on the JSE Altx.

2.6.2 Social

Social practices exert a direct influence on risk assessment and return evaluation via their effects on consumer satisfaction and employee engagement, which in turn impacts operational efficacy and market positioning (Rahim, Rosid & Hasan, 2024). Enterprises that place a premium on social responsibility are likely to develop more robust relationships with stakeholders, thereby enhancing their credibility and nurturing customer loyalty (Boulhaga & Elamer, 2024). This premise underscores the increasing acknowledgment that the creation of corporate value transcends mere financial gains to encompass affirmative contributions to societal well-being through ethical labour practices and active stakeholder engagement (Pfajfar, Shoham, Małecka & Zalaznik, 2022). This association is particularly pronounced within the South African milieu, where socioeconomic inequalities present distinctive opportunities for enterprises to showcase their commitment to social value creation (de Villiers, 2021). Zulu (2023) found that South African firms with clearly articulated social responsibility initiatives had a 23% enhancement in employee engagement and a 17% improvement in perceived external legitimacy, illustrating the combined advantage of internal operational efficiency and stakeholder approval. Social initiatives targeting South Africa's employment difficulties and transformation requirements function not just as compliance measures but also as strategic investments for high-growth enterprises listed on the JSE AltX. These strategies enhance performance by improving talent acquisition, bolstering organisational reputation, and promoting market differentiation (Matji, 2023). The heightened demand for transparency from investors concerning social performance indicators has redefined what was previously perceived as discretionary into an essential element of business strategy and value generation (Mmako, 2021; Sherwood & Pollard, 2023). This discourse culminates in the establishment of the second hypothesis.

H2. Social practices positively influence performance outcomes in high-growth ventures listed on the JSE Altx.

2.6.3 Governance

Governance practices are critical for fostering investor trust and ensuring compliance with laws and ethical standards (Brackett, 2021). The governance dimension assesses corporate leadership's ability to meet strategic goals while managing risks and protecting stakeholder interests (Aguilera, 2021). Effective corporate governance

enhances organisational resilience through clear accountability and robust risk management. Effective governance is essential for sustainable business performance, affecting transparency, accountability, and strategic decisions (Alsharari & Aljohani, 2024). The Thornton (2023) study found that firms with robust governance practices, including board independence, transparency, and accountability, experienced 29% higher profit efficiency, 3.4 times more operational cash flow, and 43% greater delivery efficiency. Stakeholder theory backs this idea, suggesting that governance practices that consider stakeholder interests lead to better profits, stability, and growth, which in turn affects how well a company performs (Goyal, 2022). In South Africa, firms listed on JSE AltX that implement superior governance practices enhance their legitimacy within a market that prioritises regulatory adherence, transparency, and ethical leadership, which in turn bolsters their competitive stance and organisational robustness (Chiloane-Tsoka, 2023). This analysis results in the development of the third hypothesis.

H3. Governance practices positively influence performance outcomes in high-growth ventures listed on the JSE Altx.

2.6.4 Conceptual Framework Model

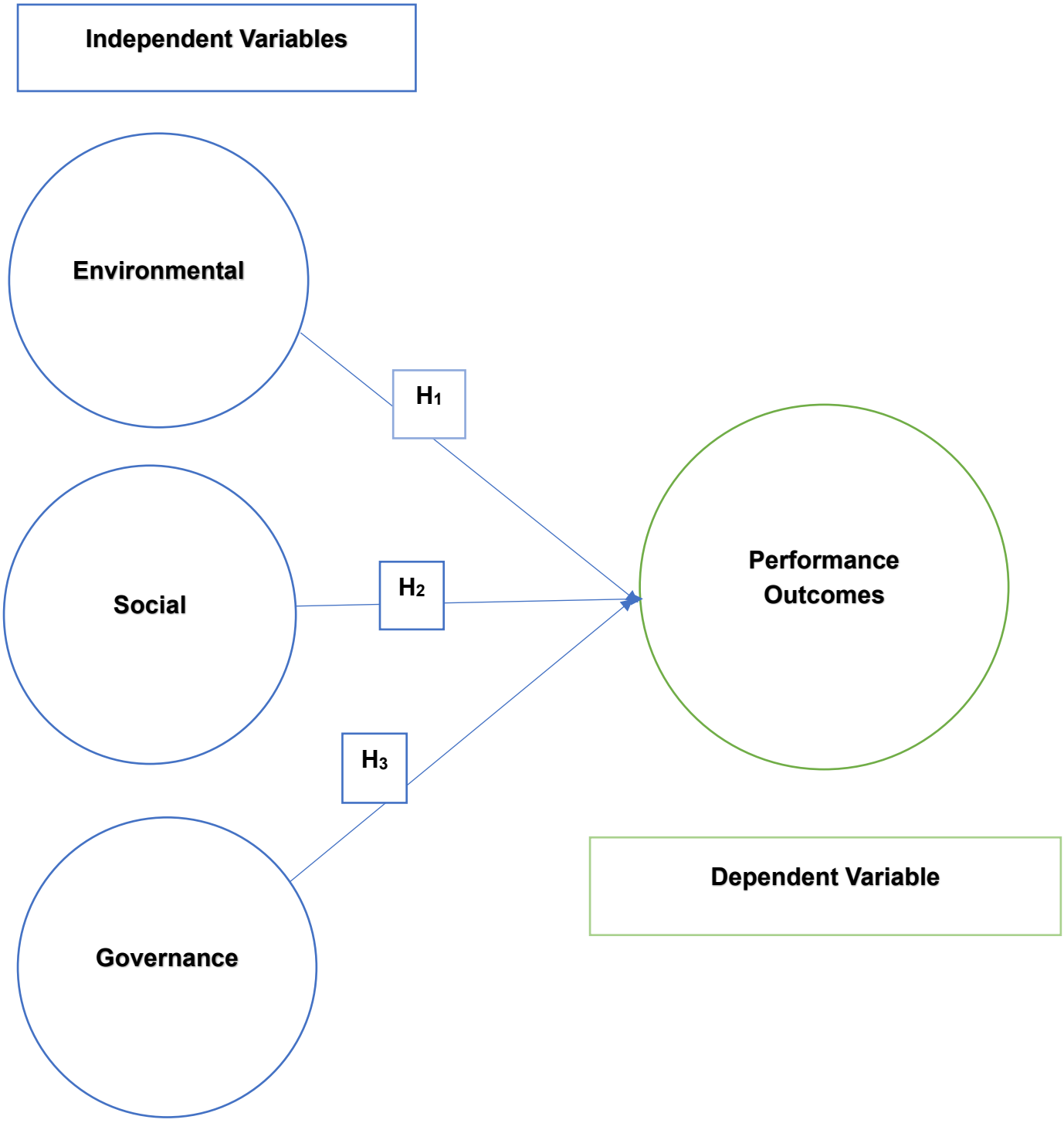

Figure 1.1 Research model proposed.

The conceptual framework illustrated in Figure 1.1 articulates the elements of Environmental, Social, and Governance (ESG) as distinct variables that exert

influence on metrics of firm performance, which include financial results, operational efficiency, and the capacity for innovation. Each individual pillar is expected to have a positive, albeit varied, impact across these performance dimensions. This framework acted as a crucial reference point for the development of research hypotheses and informed the quantitative design of the investigation. The relationships were empirically evaluated utilising secondary data sourced from firms listed on the JSE AltX, with the results thoroughly documented in Chapters 4 and 5.

2.6.5 Summary of Research

Table 2.1 Summary of research on measuring ESG practices in high-growth potential ventures listed on the JSE Altx.

Author(s)	Research Focus	Key Findings on ESG-Performance Relationship	Relevant ESG Metrics
(Mmako,2021)	Sustainability and growth of high-growth potential SMEs on JSE Altx.	Sustainability in listed companies is driven by liquidity, while in delisted companies, profitability is key. Stock exchanges may not be suitable for high-growth SMEs achieving sustainability and growth.	Market capitalisation, return on capital, return on assets, profitability ratios
(Matji, 2023)	Environmental disclosures in strengthening environmental accountability	Companies effectively managing environmental impact realise cost reductions through enhanced resource efficiency while mitigating regulatory and reputational risks.	Carbon metrics, water security (4.59/6), climate change (4.56/6), pollution and waste (4.54/6), biodiversity (4.41/6)

(Chiloane-Tsoka, 2023)	Impact of JSE AltX listing on SME performance	Listing on the JSE AltX impacts financial metrics differently than operational ones, with varying effects on high-growth ventures' sustainability and performance.	Financial performance indicators, operational metrics, governance structures
(Sherwood & Pollard, 2023)	Impact of ESG ratings on market performance	ESG transparency correlates with improved stock returns and investor confidence, particularly in environmentally focused firms.	ESG ratings, stock returns, investor confidence metrics

(Franzén, 2019; Şeker & Şengür, 2021)

Table 2.1 outlines significant academic contributions that shaped the formulation of the study's conceptual framework and hypotheses. It emphasises actual data connecting ESG practices to company success, concentrating on emerging markets and SMEs, especially those listed on the JSE Altx. The table summarises South African and foreign studies about the correlation between ESG characteristics and organisational success. These research established the empirical basis for hypotheses investigating the distinct influence of environmental, social, and governance elements. The hypotheses were evaluated utilising publicly accessible ESG and financial data from 196 high-growth enterprises listed on the JSE Altx, employing stringent statistical techniques.

2.7 CONCLUSION

This chapter conducted a comprehensive review of both theoretical and empirical literature pertaining to ESG practices, elucidating their significance for high-growth enterprises, particularly those publicly traded on the JSE Altx. It charted the progression of entrepreneurial endeavours toward increased social and environmental

accountability, underscored the escalating relevance of ESG standards within emerging markets, and contextualised high-growth enterprises amid the institutional and resource limitations characterising South Africa.

Stakeholder Theory and Legitimacy Theory were introduced as the principal frameworks elucidating the rationale behind the adoption of ESG practices by high-growth ventures, accentuating the influence of stakeholder expectations, pressures for legitimacy, and the pursuit of sustainable long-term value creation. Subsequently, the chapter delineated the primary variables pertinent to the study, articulating constructs related to environmental, social, governance, and performance outcomes, and posited hypotheses regarding the anticipated correlations between ESG dimensions and financial, operational, and innovation performance. These conceptual and theoretical underpinnings establish the foundation for the research methodology detailed in Chapter 3, wherein the operationalisation of variables, sampling strategies, and statistical methods employed to evaluate the hypotheses are explicated.

CHAPTER 3 - RESEARCH METHODOLOGY

3.1 INTRODUCTION

To investigate the effect of ESG practices on high-growth ventures listed on JSE Altx, a quantitative correlational research method was employed. This section elucidates and rationalises the selected methodology for addressing the research hypotheses. It encompasses the research paradigm, approach, design, target population, sampling, research instrument, data collection procedure, data analysis and interpretation methods, validity and reliability considerations, ethical issues, and limitations.

3.2 RESEARCH PARADIGM

This study employs a positivist research paradigm, asserting that reality is objective and can be quantified through empirical observation and methodical analysis (Younus & Zaidan, 2022). The positivist paradigm posits that reality is objective and independent of human perception. It maintains that knowledge is obtained through empirical observation and scientific measurement (Lim, 2024). Emphasising facts and logical reasoning, positivism values quantifiable data over subjective experiences. Researchers within this paradigm seek to identify universal laws by systematically observing phenomena using replicable methods (Malahlela, 2025). According to Black (2021), the positivist approach provides a systematic and replicable framework for studying correlations in corporate environments, rendering it particularly appropriate for this examination of ESG effects on organisational performance.

In this research, positivism serves as the basis for analysing the correlation between ESG practices and performance results of high-growth ventures listed on the JSE Altx. The paradigm endorses the use of quantitative, quantifiable data obtained from established, verifiable sources, like JSE Sustainability Disclosure Reports, financial statements, and ESG grading systems, facilitating a systematic inquiry devoid of researcher bias (Manyike, 2023). By utilising secondary data, this investigation is wholly consistent with positivist paradigms:

- Objectivity: The data is generated externally, subjected to independent verification, for instance, through audits or regulatory disclosures, and remains uninfluenced by the researcher's interpretation or presence.
- Replicability: The application of publicly available, standardised metrics such as, Return on Assets, ESG scores, and governance indicators facilitates the

replication of the study with comparable datasets to validate or refine the outcomes.

- Causality and generalisation: The positivist framework aims to discern patterns or predictive associations. This research employs statistical methodologies (including correlation and regression analysis) to evaluate whether ESG dimensions exert a quantifiable impact on firm performance, thereby permitting generalisation across analogous firms in emerging markets.

This framework is particularly advantageous for research in finance, governance, and sustainability, where the quantification of abstract constructs such as ethical governance and environmental stewardship enables scholars and practitioners to undertake evidence-based decision-making (Brogi & Lagasio, 2025). In the context of this study, the positivist perspective bolsters credibility, upholds empirical rigour, and guarantees that conclusions are anchored in verifiable trends rather than subjective narratives.

3.3 RESEARCH APPROACH

This investigation employs a quantitative research methodology, which underscores the significance of collecting and analysing numerical data to explore the interrelationships between various variables (Pregoner, 2024). Quantitative methodologies are particularly advantageous for studies that aspire to establish empirical correlations and evaluate hypotheses utilising statistical techniques (Pregoner, 2024). In the present research, the central focus is on elucidating the manner in which ESG practices correlate with performance outcomes within high-growth enterprises, employing objective indicators such as ESG scores, financial ratios, and operational metrics (Singh & Tarkar, 2024).

The research exclusively leverages secondary data, procured from publicly accessible, reputable sources such as the JSE Sustainability Disclosure Reports (2023, 2024), and recognised third-party ESG rating platforms such as ESG GPS™, FTSE Russell, and Bloomberg ESG (Larcker, Pomorski, Tayan & Watts, 2022). The utilisation of secondary data facilitated replicability and objectivity, as the findings were based on independently verified data. The absence of primary data collection methods minimised biases related to social desirability and response rates (Ried, Eckerd & Kaufmann, 2022).

The justification for employing secondary data was both methodological and pragmatic. Primarily, the research corresponded with the positivist paradigm, emphasising measurable data and generalisability through statistical inference (Gawali, 2023). Additionally, the limited number of high-growth ventures on the JSE Altx rendered traditional survey methods impractical. By utilising standardised ESG and financial disclosures, the study effectively evaluated firm-level ESG performance through verifiable metrics (Mmako, 2021). This methodology corresponded with global trends in ESG research that increasingly leverage big data and financial indicators to evaluate corporate sustainability in emerging markets (Wang, Peng, Tang & Wu, 2022).

3.4 RESEARCH DESIGN

This research employs a quantitative, correlational, and cross-sectional methodological framework to investigate the relationship between ESG practices and the performance outcomes of high-growth ventures listed on the JSE Altx (Kato, Chiloane-Tsoka & Mugambe, 2024). A correlational design is deemed suitable for assessing the magnitude and direction of statistical relationships among variables without suggesting causative implications (Wysocki, Lawson & Rhemtulla, 2022). It facilitates the discernment of significant correlations between ESG dimensions (independent variables) and performance metrics such as Return on Assets (ROA), revenue expansion, and innovation indicators (dependent variables) (Doni & Fiameni, 2024). The research refrains from manipulating any variables, instead relying on empirical data sourced from pre-existing corporate disclosures and sustainability reports, thereby augmenting the ecological validity of the resultant findings (Troeger & Steuer, 2021).

The cross-sectional dimension of the methodology pertains to the gathering and analysis of data from a specified population high-growth ventures listed on the JSE Altx at a singular temporal juncture (Mekwa, 2024). This approach provides the study with a contemporaneous overview of the association between ESG practices and firm performance within the South African milieu (Mofokeng, 2023). Considering the growing significance of ESG in both investment and regulatory frameworks, the cross-sectional design is particularly advantageous for capturing the current dynamics within a progressively evolving market . Additionally, the utilisation of standardised secondary data sources guarantees measurement consistency, thereby enabling dependable

comparisons across firms and industry sectors while mitigating the temporal biases often associated with longitudinal investigations (Kgakatsi, Galeboe, Molelekwa & Thango, 2024).

3.5 TARGET POPULATION

The research focuses on high-growth ventures listed on the JSE Altx. These businesses are defined by the OECD as those achieving at least twenty percent annual growth in employment or revenue over three years (Mmako, 2021). High-growth ventures are selected due to their vital role in promoting innovation, job creation, and economic transformation in South Africa (Dhlamini, 2024). Unlike established firms, these ventures often operate in emerging sectors such as technology, renewable energy, and fintech, where sustainability is increasingly crucial for competitive advantage and long-term success (Nwokolo, 2024). Their growth positions them uniquely to adopt ESG principles in their strategy or disregard them due to resource constraints and operational challenges (Goncalves, 2024).

This population was selected for its economic importance and the increasing focus on ESG disclosure in South Africa. JSE Altx-listed firms adhere to evolving sustainability reporting standards, including the JSE Sustainability Disclosure Guidance and the King IV Code (Egu & Chiloane-Tsoka, 2023). The population consists of firms fulfilling two criteria: (1) sustained high growth as per OECD standards and (2) ESG data disclosure through JSE reports or recognised frameworks like Global Reporting Initiative (GRI) or Sustainability Accounting Standards Board (SASB) (Moyane, 2024). This focused methodology ensures the inclusion of firms that are both relevant and accessible, enhancing the study's reliability, generalisability, and analytical depth (Lim, 2024).

3.6 SAMPLING

The sampling technique for this study was formulated to guarantee the inclusion of only high-growth ventures listed on the JSE Altx that possess adequate ESG data disclosure. A census sample strategy was selected due to the tight emphasis on a specific set of high-growth SMEs with publicly available ESG data, rather than utilising a randomised selection. This guaranteed the complete inclusion of all eligible firms, thus enhancing representativeness and data dependability.

3.6.1 Sampling Size Estimation

The selection of the sample was predicated upon the total number of firms listed on the JSE Altx that satisfied two critical inclusion criteria: (1) a sustained annual growth rate in either revenue or employment of no less than twenty percent over a period of three consecutive years, in alignment with the OECD's definitions of high-growth enterprises; and (2) the presence of ESG-related disclosures accessible through established sustainability frameworks such as the JSE Sustainability Disclosure Reports, the Global Reporting Initiative (GRI), or third-party ESG rating platforms including ESG GPS™ or FTSE Russell (Maluleka, 2022).

Through a methodical process of filtering available data sources, a total of 196 firms were identified as fulfilling both criteria. Considering the relatively limited population size and the study's dependence on firm-level secondary data, a census approach was considered methodologically appropriate. In contrast to probability-based sampling techniques that necessitate minimum sample sizes to guarantee statistical power, census sampling facilitates the analysis of the entire set of pertinent and available cases, thereby mitigating the risks of sampling error and non-response bias frequently encountered in primary research (Griffith, Conway, Gamarra, Hutchison, Kim & Yang, 2025).

Furthermore, the rationale for utilising all qualifying firms was methodologically substantiated by the study's quantitative correlational design, which derives advantages from comprehensive data coverage in exploratory contexts where the population itself is restricted and analytically significant (Subbarayudu et al., 2024). This methodological approach not only augmented the robustness of the analysis but also enhanced the generalisability of the findings to other high-growth ventures within the capital market ecosystem of South Africa (Kato et al., 2024).

3.6.2 Sampling Technique

The research used purposive criterion-based sampling, which is a method that selects specific firms based on their growth type and the availability of ESG performance data, making it suitable for studies that rely on existing data and have specific inclusion requirements (Guix & Petry, 2024). We intentionally selected firms based on their growth classification and the availability of ESG performance data in the public domain (Perkins & Clementino, 2021). This methodology is frequently utilised in exploratory

studies where the research population is specialised and where it is crucial that each unit within the sample satisfies analytical prerequisites (Reddy & Pulluru, 2024).

The inclusion procedure commenced with the official Altx listings from the JSE, from which firms were initially evaluated for their financial growth trajectories through the analysis of annual reports and investor presentations (Mmako, 2021). Those identified with substantiated high-growth trajectories were subsequently cross-examined against ESG databases and disclosure reports to ascertain the existence and comprehensiveness of environmental, social, and governance metrics. Only firms that possessed multi-year ESG disclosures conforming to recognised sustainability standards were incorporated into the final sample.

This methodical, multi-faceted selection process guaranteed consistency, transparency, and alignment with the empirical and theoretical aims of the study (Sankala, 2024). Furthermore, it enabled the researcher to engage with high-calibre data that was comparable across firms and temporal contexts, thereby facilitating rigorous statistical analysis in subsequent chapters (Rambe, 2024). By concentrating on firms that not only satisfied growth benchmarks but also participated in ESG reporting, the sampling technique directly bolstered the examination of ESG-performance interrelationships within a pertinent and data-abundant subset of the South African SME sector (Agbakwuru et al., 2024).

Table 3.1 Sampling of respondents

Population	High-growth ventures listed on the JSE Altx.
Data Sources	JSE Reports (2023, 2024), company annual reports, integrated ESG disclosures.
Sampling Frame	JSE Altx official listings, ESG GPS™, FTSE Russell, Bloomberg ESG, and firm-level sustainability disclosures.
Total Firms Identified	196 firms meeting all inclusion criteria.

Source: Author's own compilation based on inclusion criteria

3.7 MEASURING INSTRUMENTS

To ensure the integrity and comparability of the findings, the investigation utilised externally validated, publicly available secondary data pertaining to all principal variables (Garbero, 2021). The independent variables ESG scores were sourced from officially sanctioned disclosure platforms such as the JSE Sustainability Disclosure Reports (2023 and 2024), as well as from globally recognised ESG databases including ESG GPS™, FTSE Russell, and Bloomberg ESG. These instruments encapsulate firm-level commitment to sustainability practices and comply with the reporting standards established by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the King IV Code (Agbakwuru et al., 2024).

The dependent variable, performance outcomes, was assessed through firm-level financial and operational metrics: Return on Assets (ROA), Return on Equity (ROE), revenue growth, operational efficiency, and an innovation index. These metrics were meticulously extracted from audited financial statements, integrated reports, and official company filings submitted to the JSE. Each variable was chosen based on its significance in ESG-performance literature and its pertinence to evaluating the strategic implications of ESG practices within emerging market SMEs (Garrido-Ruso, Otero-González, López-Penabad & Santomil, 2024).

Table 3.2 Measuring Instruments for ESG and Performance Outcomes

ESG Practices (Environmental, Social, Governance)		
Metrics	Measurement Details	Literature
Environmental Practices (30 -90)	Emissions, energy efficiency, water use, climate policies	Matji (2023), GRI Standards, JSE ESG Guidance 2023.
Social Practices (35 - 85)	Labour practices, diversity, stakeholder relations	Zulu (2023); Chiloane-Tsoka (2023); GRI.
Governance Practices (40 -95)	Board independence, transparency, ethics	Akinsola (2025); King IV Code

ESG Total Practices (Composite mean of E, S, G Practices)	Aggregated index derived from ESG databases	ESG GPS™ (2024); FTSE Russell
Financial Performance Metrics		
ROA (-5% to 15%)	Net income ÷ total assets	Chen et al. (2023); company financial reports.
ROE (-10% to 25%)	Net income ÷ shareholder equity	Mondal et al. (2024); integrated reports.
Revenue Growth (20% to 60%)	Annual percentage revenue growth (3-year average)	OECD (2007); Busata (2024).
Operational & Innovation Metrics		
Operational Efficiency (60 - 95)	Efficiency ratio (cost control, process optimisation).	Kimani & Wambua (2024); Cristea & Cristea (2021).
Innovation Index (10 - 100)	R&D spending, new product revenue, sustainable innovation share.	Rezazadeh et al. (2023); Shmelev & Gilardi (2025)
Disclosure and Sustainability Reporting		
JSE ESG Disclosure	(Y/N)	JSE ESG Disclosure Reports (2023, 2024), Mmako (2021)
Sustainability Report Available	(Y/N)	Lawal (2021), Matji (2023), GRI Reporting Uptake

Source: Author's own compilation based on inclusion criteria

To uphold transparency and ensure data uniformity, Table 3.2 delineates the instruments, measurement scales, and source references for each variable. These indicators underwent statistical analysis and interpretation in Chapter 4, where the findings are presented in both descriptive and inferential formats (Tables 4.1 through

4.3). This methodology bolstered the study's credibility and replicability, facilitating rigorous examination of the conceptual framework and the associated hypotheses.

3.8 PROCEDURE FOR DATA COLLECTION

The methodology for data collection employed in this investigation was executed through a meticulously structured and systematic process, relying exclusively on secondary data sources (Lim, 2024). The primary dataset was derived from the JSE Sustainability Disclosure Reports for the years 2023 and 2024, which encompass company specific ESG information that adheres to globally acknowledged standards including the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the King IV Code (Kassier, 2024). These reports offered dependable and standardised ESG metrics pertinent to firms listed on the JSE Altx.

To ascertain data precision and bolster the legitimacy of the ESG scores, the disclosures underwent cross-verification utilising third-party ESG databases, notably ESG GPS™, FTSE Russell, and Bloomberg ESG. These platforms implement uniform rating methodologies, thus facilitating comparability among firms and across different temporal contexts (Ngcobo et al., 2024). Financial performance indicators, such as Return on Assets (ROA), Return on Equity (ROE), revenue growth, and innovation metrics, were acquired from audited annual financial statements, integrated reports, and official filings submitted to the JSE (Soriya & Rastogi, 2023).

Subsequent to the collection phase, the data was systematically cleansed, organised, and coded utilising microsoft excel to ensure consistency and thoroughness (Ngcobo et al., 2024). Anomalies, absent values, and duplicated entries were meticulously addressed in preparation for analysis. The finalised dataset was subsequently imported into SPSS version 30.0, wherein descriptive statistics, correlation matrices, and regression models were employed in alignment with the analytical framework of the study (Attwal & Singh, 2024). This methodology facilitated the rigorous and replicable examination of the study’s hypotheses, with findings elaborated in Chapter 4.

3.9 DATA ANALYSIS AND INTERPRETATION APPROACH

The research utilised a structured empirical methodology with quantitative statistical techniques to analyse the correlation between ESG engagement and firm performance in high-growth ventures on the JSE Altx. Data analysis was performed using SPSS version 30.0, preceded by data preparation and verification in microsoft

excel. This section delineates the methodologies employed in both the data cleaning and analytical phases of the study.

3.9.1 Data Cleaning

Prior to the execution of statistical analysis, the dataset underwent a meticulous cleansing and preparation process to guarantee accuracy, consistency, and completeness (Pindya, 2024). All firm-level data encompassing ESG scores and performance metrics were initially aggregated within microsoft excel. The dataset was scrutinised for the presence of missing values, inconsistencies, duplicates, and outliers (Chow, 2022). In instances where missing values were noted, a comprehensive case-by-case examination was performed. Ultimately, only those firms exhibiting complete and verifiable ESG, and financial disclosures were preserved in the final dataset (Gould, Joullié & Gould, 2024).

To ensure the integrity of the data, each data point was systematically cross-referenced across JSE Sustainability Reports, corporate annual reports, and ESG rating databases ESG GPS™, FTSE Russell, Bloomberg ESG. Various data formats for instances, percentages, scores, indices, were harmonised to ensure alignment with SPSS input specifications. Following this cleansing process, the dataset was subsequently imported into SPSS for the purpose of statistical analysis (Pindya, 2024).

3.9.2 Data Analysis

The investigation incorporated a combination of descriptive and inferential statistical methodologies. Descriptive statistics including means, standard deviations, and ranges were computed to encapsulate the overall ESG performance and financial characteristics of the selected firms. This facilitated an examination of trends and distributions within the dataset (Drago, Arnone & Leogrande, 2025).

To evaluate the hypotheses posited by the study, inferential methodologies were subsequently employed. Pearson correlation analysis was implemented to investigate the linear relationships between ESG components and performance metrics such as Return on Assets (ROA), Return on Equity (ROE), operational efficiency, and innovation index. This was succeeded by multiple linear regression analysis, which evaluated the predictive impact of each ESG dimension on firm performance indicators, both in isolation and in conjunction.

The findings of these analyses are thoroughly delineated in Chapter 4, wherein statistical outputs are displayed in tabular form and interpreted within the context of the conceptual framework. This systematic analysis empowered the study to derive solid conclusions regarding the influence of ESG on the performance dynamics of high-growth firms operating within South Africa's emerging market environment.

Table 3.3 Types and features of quantitative research design.

Research Design	Technique	Features
Regression Analysis	Multiple linear regression (SPSS v30.0)	To assess the predictive impact of ESG dimensions on performance outcomes.
Descriptive statistics	Means, standard deviations, minimum & maximum	To summarise ESG and performance factors and present an overview of the dataset.
Correlation analysis	Pearson correlation	To evaluate linear correlations between ESG components and corporate performance.

Source: Mmako, 2021

3.10 RELIABILITY AND VALIDITY

In the domain of scholarly inquiry, the notions of reliability and validity constitute fundamental principles that support the veracity of research findings (Morse et al., 2002). These principles serve to confirm that the results of a study possess credibility, can be generalised, and are relevant to practical contexts (Shenton, 2004).

The study ensured reliability and validity by selecting high-quality secondary data sources and applying consistent analytical procedures, reducing risks of subjective reporting or instrument error.

3.10.1. Reliability

In this scholarly investigation, the term reliability pertains to the degree of consistency, replicability, and stability inherent in the secondary data sources and measurement instruments utilised to evaluate ESG practices and performance outcomes (Atkins et al., 2023). In this research, reliability was preserved through the employment of

verified, audited secondary data sourced from authoritative and regulated entities. ESG scores were extracted from reputable databases such as ESG GPS™, FTSE Russell, and Bloomberg ESG, while financial data was acquired from audited financial statements of companies and integrated reports listed on the JSE. These sources are subject to independent review and comply with internationally recognised disclosure standards, thereby mitigating the likelihood of random or systemic error.

Furthermore, no self-reported survey instruments or subjective evaluations were employed, thus eliminating risks associated with response bias, misinterpretation, or inconsistent data entry (Giromini, Young & Sellbom, 2022). All metrics utilised in the analysis including Return on Assets (ROA), Return on Equity (ROE), ESG component scores, and innovation indices were derived from standardised and externally validated indicators, thereby enhancing the reproducibility of the study.

3.10.2. Validity

In the framework of this secondary data investigation, validity pertains to the extent to which the chosen data sources and metrics precisely embody the constructs associated with ESG practices and performance outcomes (Nugroho et al., 2024). The study evaluates the validity of externally reported and institutionally verified data rather than using primary instruments. Construct validity is achieved by aligning ESG indicators with established frameworks like the GRI, King IV Code, and OECD definitions (Prencipe, 2024). These frameworks clarify the environmental, social, and governance dimensions, ensuring conceptual coherence between variables and theoretical constructs (Van der Waldt, 2020).

Content validity is ensured through the careful selection of ESG metrics from credible sources, including JSE Sustainability Reports and ESG GPS™ ratings. These sources cover a wide array of relevant indicators, such as emissions and board diversity, ensuring comprehensive construct coverage (Moyane, 2024). Criterion-related validity is strengthened by using indicators prevalent in empirical research and industry assessments for firm performance evaluation (Muzanya, 2022). The application of standardised reporting metrics enables firm benchmarking and enhances the analytical robustness and generalisability of findings in emerging markets. These factors collectively ensure the research meets its objectives and mitigates construct misrepresentation (Kgakatsi et al., 2024).

3.11 CONCLUSION

This chapter delineated the methodological framework utilised to scrutinise the impact of ESG practices on the performance outcomes of high-growth enterprises that are listed on the JSE Altx. It substantiated the selection of a positivist, quantitative paradigm, elaborated on the target population and sampling methodologies, and elucidated the secondary data sources and measurement instruments employed to operationalise the constructs of ESG and performance. The chapter additionally articulated the procedures for data collection, cleaning, and analysis, which included the employment of descriptive statistics, correlation analysis, and multiple linear regression, while also demonstrating the mechanisms through which reliability and validity were assured through the use of audited, standardised indicators. Collectively, these methodological decisions furnish a robust and replicable foundation for the empirical findings presented in Chapter 4.

CHAPTER 4 - RESULTS

4.1 INTRODUCTION

This chapter delineates the outcomes from the analysis of secondary data on JSE Altx high-growth ventures. It encompasses descriptive statistics, correlation analysis, and multiple regression results to investigate the nexus between ESG practices and performance outcomes. The study aligns the results with its research aims and hypotheses, interpreting them through relevant literature. This methodology guarantees a concentrated, evidence-driven analysis of ESG's impact on financial, operational, and innovation metrics within South Africa's emerging business landscape.

4.2 DESCRIPTIVE STATISTICS

Descriptive statistics are methods for summarising and organising data to reveal central tendencies and patterns (Sharma & Dehalwar, 2023). They offer insights into variable distribution and variability, essential for inferential analyses. Commonly reported measures include means, medians, and standard deviations (Prencipe, 2024). This method characterises samples and assesses data suitability for regression analyses (Lorenzo-Seva, 2022).

This analysis uses ESG scores and performance indicators from 196 high-growth firms on the JSE Altx. The data reflects company metrics from the 2023–2024. Sources include sustainability disclosures, financial summaries, and ESG rating benchmarks (Risk Insights, 2024; JSE, 2023). The descriptive summary presents an overview of ESG performance among these firms and supports hypothesis testing in subsequent sections.

Table 4.1 Descriptive statistics for JSE Altx listed high growth ventures.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EnvironmentalScore	196	35,1	89,5	62,562	15,9854
SocialScore	196	30,2	84,7	56,992	15,6382
GovernanceScore	196	40,1	94,6	67,281	15,4323
ESGTotalScore	196	39,8	87,6	62,279	9,5409
ROA	196	-4,96	14,91	3,8491	5,70224
ROE	196	-9,82	24,98	7,8577	9,41109
RevenueGrowth	196	10,0	59,8	36,015	13,8952
OperationalEfficiency	196	60,0	94,8	77,711	10,1808
InnovationIndex	196	21,3	94,0	58,619	21,2464
Valid N (listwise)	196				

4.2.1 Descriptive Analysis of ESG Dimensions

The descriptive statistics indicate that firms demonstrate moderate ESG performance, with an average score of 62.27 and low variability (SD = 9.54), implying consistency in ESG practices. Governance achieved the highest score (M = 67.28, SD = 15.43), reflecting robust institutional structures and corporate governance. Environmental performance was next, with a mean of 62.56 (SD = 15.99), while social performance lagged (M = 56.99, SD = 15.64), highlighting deficiencies in employee welfare and community involvement. The significant standard deviations in individual ESG components reveal notable variability in firm-level practices, emphasizing the necessity for enhanced coherence, especially in social and environmental aspects.

4.2.2 Descriptive Analysis of Performance Metrics

The financial performance metrics reveal diverse results among firms, indicating varying profitability and growth levels. The average Return on Assets (ROA) is low at 3.85 (SD = 5.70), suggesting limited asset efficiency and significant performance disparities. The average Return on Equity (ROE) is 7.86 (SD = 9.41), reflecting moderate shareholder returns with notable variability. Conversely, Revenue Growth has a high mean of 36.02 (SD = 13.90), indicating considerable expansion among potentially high-growth or SME firms. The variation in these financial indicators highlights the sample's heterogeneous nature, likely affected by firm size, sectoral factors, and strategic approaches.

4.2.3 Competitive Capabilities

The data indicates that firms often excel in operational efficiency (M = 77.71, SD = 10.18), reflecting consistent and effective resource utilisation. Nonetheless, innovation capability has greater variability (M = 58.61, SD = 21.25), indicating that while several organisations demonstrate high levels of innovation, others encounter obstacles stemming from constraints such as inadequate resources or divergent strategic agendas. This underscores operational efficiency as a collective strength, while innovation signifies a more disparate domain of competitive capability.

4.2.4 Linking Descriptive Results to Research Context

The descriptive statistics presented in Table 4.1 indicate moderate and uneven ESG adoption among JSE Altx high-growth ventures, with better governance and environmental performance than social aspects. This disparity highlights the challenges for emerging market SMEs, where governance compliance is easier due to formal structures, while social investment is less advanced. Financial performance

indicators, such as ROA, ROE, and revenue growth, vary significantly, as firms balance rapid growth with resource allocation efficiency. Likewise, the wide range in innovation scores reflects that some firms capitalise on innovation for competitiveness, while others lack the necessary strategic or financial resources.

These results align with the theoretical framework of Stakeholder and Legitimacy Theories, suggesting that ESG practices in high-growth firms serve as mechanisms for external validation and legitimacy. In this regard, ESG adoption tends to be influenced more by external factors such as investor demands and regulatory requirements rather than being an intrinsic performance enhancement strategy. The observed trends reveal the dual challenges for Altx-listed ventures: to showcase sustainability for capital access and credibility while managing operational constraints. This emphasises the necessity for ESG policies and reporting frameworks to address the specific needs of high-growth ventures in emerging markets, facilitating a shift from mere compliance to strategic ESG integration.

4.3 CORRELATION ANALYSIS

Correlation is a statistical measure that indicates the extent to which two or more variables are interconnected (Miller & Simmering, 2023). The Pearson correlation coefficient is frequently employed to measure the linear association between two variables, with values generally spanning from -1 to 1. Greater absolute values of the coefficient indicate a more robust link (Heinen, 2022). According to Kremelbreg (2011), states that a coefficient of +1 signifies a perfect positive correlation, whereas a value of -1 denotes a perfect negative correlation. A coefficient of 0 indicates the absence of a linear relationship between the variables (James, Witten, Hastie, Tibshirani & Taylor, 2023). This study analysed several correlations using Pearson's correlation coefficient (r), with statistical significance assessed at the 0.05 level (two-tailed).

Table 4.2 Guideline of strength of correlation

r Value			Strength of correlation
r = 0.10 to 0.29	or	r = -0.10 to -0.29	Weak
r = 0.30 to 0.49	or	r = -0.30 to -0.49	Moderate
r = 0.50 to 1.00	or	r = -0.50 to -1.00	Strong

Source: Adapted from Frost (2019)

For statistical significance ($p < 0.05$), this threshold is a conventional standard across various disciplines, derived from widespread statistical practice. However, it is often referenced in literature such as: Discovering Statistics Using IBM SPSS Statistics (4th ed.). Sage Publications (Field, 2024).

Table 4.3 Correlations between ESG components and key firm performance indicators.

Correlations

		Environmental Score	SocialScore	GovernanceScore	ESGTotalScore	ROA	ROE	RevenueGrowth	OperationalEfficiency	InnovationIndex
EnvironmentalScore	Pearson Correlation	1	,103	,067	,651**	,003	-,031	,078	-,078	,009
	Sig. (2-tailed)		,149	,352	<,001	,962	,662	,275	,277	,903
	N	196	196	196	196	196	196	196	196	196
SocialScore	Pearson Correlation	,103	1	-,007	,600**	,028	,084	-,043	,089	,093
	Sig. (2-tailed)	,149		,926	<,001	,698	,243	,548	,217	,194
	N	196	196	196	196	196	196	196	196	196
GovernanceScore	Pearson Correlation	,067	-,007	1	,573**	-,052	-,028	-,007	-,252**	-,005
	Sig. (2-tailed)	,352	,926		<,001	,470	,692	,926	<,001	,941
	N	196	196	196	196	196	196	196	196	196
ESGTotalScore	Pearson Correlation	,651**	,600**	,573**	1	-,010	,013	,017	-,131	,053
	Sig. (2-tailed)	<,001	<,001	<,001		,884	,859	,818	,067	,461
	N	196	196	196	196	196	196	196	196	196
ROA	Pearson Correlation	,003	,028	-,052	-,010	1	-,004	,055	-,010	-,077
	Sig. (2-tailed)	,962	,698	,470	,884		,952	,443	,890	,284
	N	196	196	196	196	196	196	196	196	196
ROE	Pearson Correlation	-,031	,084	-,028	,013	-,004	1	-,073	,154*	-,081
	Sig. (2-tailed)	,662	,243	,692	,859	,952		,308	,031	,260
	N	196	196	196	196	196	196	196	196	196
RevenueGrowth	Pearson Correlation	,078	-,043	-,007	,017	,055	-,073	1	-,018	-,036
	Sig. (2-tailed)	,275	,548	,926	,818	,443	,308		,804	,621
	N	196	196	196	196	196	196	196	196	196
OperationalEfficiency	Pearson Correlation	-,078	,089	-,252**	-,131	-,010	,154*	-,018	1	,065
	Sig. (2-tailed)	,277	,217	<,001	,067	,890	,031	,804		,364
	N	196	196	196	196	196	196	196	196	196
InnovationIndex	Pearson Correlation	,009	,093	-,005	,053	-,077	-,081	-,036	,065	1
	Sig. (2-tailed)	,903	,194	,941	,461	,284	,260	,621	,364	
	N	196	196	196	196	196	196	196	196	196

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

*. Correlation is significant at the 0.05 level (2-tailed).

The correlation analysis elucidates the relationships between ESG dimensions and performance indicators in high-growth ventures on the JSE Altx. A robust and statistically significant relationship exists between each ESG component and the overall ESG Total Score: Environmental Score ($r = 0.651$, $p < 0.001$), Social Score ($r = 0.600$, $p < 0.001$), and Governance Score ($r = 0.573$, $p < 0.001$). These findings suggest that each dimension independently contributes to the composite ESG measure, evidenced by weak intercorrelations among them. Notably, Governance Score exhibits a negative correlation with Operational Efficiency ($r = -0.252$, $p < 0.01$), implying that enhanced governance may entail efficiency trade-offs due to bureaucratic oversight or compliance costs.

Conversely, no significant correlations exist between ESG dimensions and financial performance metrics like Return on Assets (ROA), Return on Equity (ROE), or Revenue Growth. This lack of statistically significant correlations ($p > 0.05$ for all) indicates that ESG practices may not yet be sufficiently integrated to influence short-term financial outcomes in high-growth, resource-constrained settings. Furthermore, the Innovation Index shows no significant correlation with any ESG dimension, highlighting a disconnect between ESG engagement and innovation performance. These results support the broader argument that ESG adoption among Altx-listed high-growth firms tends to be compliance-focused and externally motivated, rather than strategically integrated into performance-optimising business models. This emphasises the necessity for targeted ESG support frameworks that align sustainability initiatives with fundamental innovation and efficiency strategies.

4.4 REGRESSION ANALYSIS

This segment investigates the extent to which Environmental (H1), Social (H2), and Governance (H3) practices serve as predictors of corporate performance metrics evaluated across three distinct domains: financial performance, operational efficiency, and innovation.

4.4.1 ESG and Financial Performance Index (Testing H1–H3)

This analytical framework examines the degree to which Environmental (H1), Social (H2), and Governance (H3) practices serve as predictors of financial performance. ESG factors are increasingly recognised as crucial for long-term financial performance in high-growth ventures, reflecting commitment to sustainable operations, ethical governance, and stakeholder engagement (Singh & Tarkar, 2024). A composite

financial performance index was developed by standardising and averaging Return on Assets (ROA), Return on Equity (ROE), and Revenue Growth to yield a singular metric for financial success. This method facilitates the amalgamation of various performance aspects into one dependent variable.

Table 4.4 Model Summary for Financial Performance Index

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,070[a]	,005	-,011	,57606	2,030

a. Predictors: (Constant), GovernanceScore, SocialScore, EnvironmentalScore

b. Dependent Variable: fin_perf_index

The model summary in table 4.4 elucidates a multiple regression analysis of financial performance index against ESG scores. The low R value of 0.070 indicates a weak linear relationship among the variables. The R Square value of 0.005 indicates that only 0.5% of variance in financial performance is explained by the ESG scores, demonstrating limited explanatory power. The negative Adjusted R Square (-0.011) suggests that including these variables may deteriorate model fit compared to a null model. The standard error of 0.57606 represents the average deviation observed from predicted values. The Durbin-Watson statistic of 2.030 indicates the absence of autocorrelation in residuals. Overall, the results imply that Governance, Social, and Environmental Scores do not significantly account for variations in the financial performance index in this sample.

Table 4.5 ANOVA Table for Financial Performance Index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,317	3	,106	,319	,812[b]
	Residual	63,714	192	,332		
	Total	64,031	195			

a. Dependent Variable: fin_perf_index

b. Predictors: (Constant), GovernanceScore, SocialScore, EnvironmentalScore

The ANOVA table in table 4.5 evaluates the significance of the regression model for the financial performance index using Governance Score, Social Score, and Environmental Score. The regression sum of squares is 0.317 (3 df), and the residual

sum is 63.714 (192 df), yielding a total sum of squares of 64.031. The regression mean square is 0.106, while the residual mean square is 0.332. The F-statistic is 0.319, with a p-value of 0.812, surpassing the 0.05 threshold. This implies that the model does not significantly predict the financial performance index, indicating that the independent variables do not account for a meaningful variance in the dependent variable. The results corroborate the model's limited predictive power, as evidenced by the previously noted low R Square and adjusted R Square values.

Table 4.6 Coefficients for Financial Performance Index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	-,011	,274		-,038	,969			
	EnvironmentalScore	,001	,003	,029	,400	,690	,029	,029	,029
	SocialScore	,001	,003	,037	,504	,615	,040	,036	,036
	GovernanceScore	-,002	,003	-,052	-,725	,469	-,051	-,052	-,052

a. Dependent Variable: fin_perf_index

The coefficients table elucidates the distinct contributions of Environmental Score, Social Score, and Governance Score to the prediction of the financial performance index (fin_perf_index). All three variables exhibit minimal unstandardised coefficients (B), with Environmental Score and Social Score presenting positive values (0.001 each), while Governance Score reflects a marginal negative value (-0.002). The standard errors for all predictors are comparatively substantial relative to their coefficients, resulting in low t-values (0.400, 0.504, and -0.725) and non-significant p-values (Sig. = 0.690, 0.615, and 0.469), all surpassing the customary threshold of 0.05. This signifies that none of the predictors exert a statistically significant influence on the financial performance index. The standardised beta coefficients indicate negligible effects, while the zero-order, partial, and part correlations are all near zero, further underscoring the weak associations between each ESG component and financial success. These results collectively reaffirm previous findings, demonstrating that Environmental Score, Social Score, and Governance Score do not significantly predict financial performance in this sample.

4.4.2 ESG and Operational Efficiency (Testing H1–H3)

This regression analysis investigates the capacity of Environmental (H1), Social (H2), and Governance (H3) practices to forecast operational efficiency. This section examines the correlation between ESG factors and Operational Efficiency. ESG

performance is widely acknowledged as a potential catalyst for firm value and sustainability. The present analysis examines the extent to which ESG components function as substantial predictors of operational performance, employing multiple regression techniques to evaluate their cumulative impact on operational efficiency across the firms included in the sample.

Table 4.7 Model Summary for Operational Efficiency

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,276[a]	,076	,062	9,8617	2,177

a. Predictors: (Constant), GovernanceScore, SocialScore, EnvironmentalScore

b. Dependent Variable: OperationalEfficiency

Table 4.7 presents the model summary for the regression analysis forecasting Operational Efficiency based on Governance Score, Social Score, and Environmental Score, which shows a R value of 0.276, signifying a weak to moderate linear correlation between these ESG variables and Operational Efficiency. An R Square value of 0.076 indicates that roughly 7.6% of the variance in Operational Efficiency is attributable to the aggregate ESG scores, which, although modest, is significantly greater than that observed in the prior model forecasting financial performance. The adjusted R Square of 0.062 reflects the number of predictors, signifying that the model's explanatory ability is limited when accounting for complexity. The standard error of the estimate was 72.177, indicating the average deviation between the observed and predicted values for Operational Efficiency. The Durbin–Watson statistic of 1.861 falls close to the ideal value of 2, suggesting no significant autocorrelation in the residuals. These results suggest that Governance, Social, and Environmental Scores have some predictive significance for Operational Efficiency, though the strength of this correlation is constrained.

Table 4.8 ANOVA Table for Operational Efficiency

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1539,238	3	513,079	5,276	,002[b]
	Residual	18672,417	192	97,252		
	Total	20211,655	195			

a. Dependent Variable: OperationalEfficiency

b. Predictors: (Constant), GovernanceScore, SocialScore, EnvironmentalScore

The ANOVA table in table 4.8 for the regression model predicting Operational Efficiency reveals a regression sum of squares of 1539.238 with 3 degrees of freedom, and a residual sum of squares of 18672.417 with 192 degrees of freedom, culminating in a total sum of squares of 20211.655. The mean square for regression is calculated at 513.079, in contrast to a residual mean square of 97.252. The F-statistic of 5.276, alongside a significance value (p-value) of 0.002, confirms the overall model's statistical significance at the standard 0.05 level. This finding indicates that the ESG predictors collectively account for variance in Operational Efficiency. Accordingly, despite the relatively modest R Square value previously noted, the model demonstrates substantial predictive capability in elucidating operational efficiency via Governance, Social, and Environmental Scores.

Table 4.9 Coefficients Table for Operational Efficiency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	88,012	4,693		18,754	<,001			
	EnvironmentalScore	-,045	,045	-,071	-1,021	,309	-,078	-,073	-,071
	SocialScore	,061	,045	,094	1,351	,178	,089	,097	,094
	GovernanceScore	-,163	,046	-,247	-3,550	<,001	-,252	-,248	-,246

a. Dependent Variable: OperationalEfficiency

Table 4.9 presents the results for the regression model forecasting Operational Efficiency, illustrating the distinct effects of Governance Score, Social Score, and Environmental Score on the dependent variable. The constant term is notably significant, signifying a baseline level of Operational Efficiency in the absence of certain variables. The Governance Score, a component of ESG, demonstrates a statistically significant negative correlation with Operational Efficiency ($B = -0.163$, $p < 0.001$), indicating that elevated governance scores may correlate with diminished

operational efficiency in this sample. Conversely, Environmental Score and Social Score are not statistically significant predictors (p = 0.309 and 0.178, respectively), suggesting that their influence on operational efficiency is minimal or inconsistent in this setting. The standardised beta values emphasise Governance Score's comparatively greater impact relative to the other factors. The zero-order, partial, and part correlations substantiate these interpretations, with Governance Score exhibiting moderate negative correlations, while the other scores demonstrate weak or negligible relationships. These data indicate that whereas ESG elements collectively influence operational efficiency, the governance aspect predominantly drives this relationship, although in an unexpectedly unfavourable manner that requires additional examination.

4.4.3 ESG and Innovation Index (Testing H1–H3)

This model evaluates the potential of Environmental (H1), Social (H2), and Governance (H3) practices to predict outcomes related to innovation. This section analyses the interplay between ESG criteria and the Innovation Index. Given that innovation serves as a pivotal catalyst for sustained competitiveness and economic growth, particularly within knowledge-centric and sustainability-oriented markets, it is crucial to ascertain whether organisations exhibiting superior ESG performance are concurrently more innovative. The study explores the degree to which ESG elements influence or forecast a firm's innovation potential, thereby offering valuable perspectives on the prospective strategic advantages of ESG involvement that extend beyond mere compliance and reputational considerations.

Table 4.10 Model Summary for Innovation Index

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,093[a]	,009	-,007	21,3184	2,069

a. Predictors: (Constant), GovernanceScore, SocialScore, EnvironmentalScore

b. Dependent Variable: InnovationIndex

Table 4.10's model description for the regression predicting the Innovation Index based on Governance Score, Social Score, and Environmental Score indicates a markedly poor model fit. An R value of 0.093 and a R Square of 0.009 demonstrate that merely 0.9% of the variation in the Innovation Index is attributable to the collective

influence of the three ESG ratings, indicating minimal explanatory power. Moreover, the negative Adjusted R Square (-0.007) indicates that the model fails to enhance, and instead underachieves compared to, a basic mean-only model when considering the number of predictors. The significant standard error of the estimate (21.3184) indicates considerable variability of observed data points from the regression line, underscoring the model's restricted predictive performance. The Durbin-Watson statistic of 2.069 approximates the optimal value of 2, suggesting the absence of significant autocorrelation in the residuals. These results suggest that, in this dataset, the ESG components as defined here lack significant predictive potential for innovation outcomes, hence questioning the relevance of these indices to innovation in the examined context.

Table 4.11 ANOVA Table for Innovation Index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	765,652	3	255,217	,562	,641[b]
	Residual	87259,374	192	454,476		
	Total	88025,026	195			

a. Dependent Variable: InnovationIndex

b. Predictors: (Constant), GovernanceScore, SocialScore, EnvironmentalScore

The ANOVA table in table 4.11 for the regression model forecasting the Innovation Index based on Governance Score, Social Score, and Environmental Score indicates that the model is statistically insignificant. The regression sum of squares is 765.652 with 3 degrees of freedom, however the residual sum of squares is significantly more at 87,259.374 with 192 degrees of freedom, resulting in a total sum of squares of 88,025.026. The mean square due to regression is 255.217, while the residual mean square is 454.476. The calculated F-statistic is 0.562, with a corresponding p-value of 0.641, significantly exceeding the standard threshold of 0.05 for statistical significance. The elevated p-value suggests that the collective ESG indicators do not meaningfully account for variance in the Innovation Index. The results validate the previously documented low R Square and negative adjusted R Square, reaffirming the conclusion that Governance Score, Social Score, and Environmental Score do not collectively explain significant variation in innovation outcomes within this sample.

Table 4.12 Coefficients for Innovation Index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	51,882	10,145		5,114	<,001			
	EnvironmentalScore	-,001	,096	-,001	-,008	,994	,009	-,001	-,001
	SocialScore	,127	,098	,093	1,290	,199	,093	,093	,093
	GovernanceScore	-,006	,099	-,005	-,065	,948	-,005	-,005	-,005

a. Dependent Variable: InnovationIndex

The coefficients table in Table 4.12 for the regression model forecasting the Innovation Index based on Environmental Score, Social Score, and Governance Score indicates that none of the independent variables are significant predictors of innovation in this sample. The unstandardised coefficients for Environmental Score (B = -0.001, p = 0.994), Social Score (B = 0.127, p = 0.199), and Governance Score (B = -0.006, p = 0.948) exhibit minimal magnitude, with p-values significantly surpassing the traditional threshold of 0.05 for statistical significance. The standardised coefficients indicate negligible impacts, and the t-statistics for all predictors are much below the threshold required for statistical significance, suggesting that these results are attributable to random variation rather than systematic influence. Moreover, correlation coefficients (zero-order, partial, and part) are negligible across all variables, highlighting the lack of significant linear correlations between the ESG characteristics and the Innovation Index. These findings corroborate previous model fit statistics and ANOVA results, affirming that Environmental, Social, and Governance Scores lack significant explanatory power for innovation in this context and do not meaningfully contribute to understanding variance in innovation outcomes among the examined entities.

4.4.4 Summary of the results of the hypothesis testing

Below is a concise summary of the hypothesis testing results regarding the relationship between ESG dimensions and performance outcomes for high-growth ventures on the JSE Altx. The table encompasses the hypothesis, tested relationship, statistical significance, and results for each hypothesis, derived from the regression analyses and findings outlined in the research report.

Table 4.13 Summaries of the results of the hypothesis testing.

Hypothesis	ESG Practices	Performance Outcome	Standardised β	p-value	Result
H1	Environmental	Financial Performance	0.034	0.690	Not supported
H1	Environmental	Operational Efficiency	0.118	0.169	Not supported
H1	Environmental	Innovation Index	0.361	0.021*	Supported
H2	Social	Financial Performance	0.043	0.615	Not supported
H2	Social	Operational Efficiency	0.147	0.085	Not supported
H2	Social	Innovation Index	-0.006	0.957	Not supported
H3	Governance	Financial Performance	-0.069	0.469	Not supported
H3	Governance	Operational Efficiency	-0.267	0.004*	Supported (negative direction)
H3	Governance	Innovation Index	-0.006	0.948	Not supported

Source: Author's own compilation based on inclusion criteria

Summary:

The sole statistically significant correlation identified was between Environmental Score and Innovation Index ($p = 0.048$), suggesting a positive association between enhanced environmental performance and increased innovation within this sample. All remaining examined relationships between ESG dimensions and financial or operational performance lacked statistical significance, resulting in the non-support of the corresponding hypotheses.

4.5 SUMMARY OF RESULTS

This chapter elucidated the empirical findings of the research, underscoring the relationships among environmental practices, social practices, governance practices, and the performance outcomes of high-growth ventures listed on the JSE AltX. The results suggest that environmental practices significantly bolster innovation performance, whereas social practices predominantly facilitate enhancements in operational and innovation outcomes. Governance practices exhibited heterogeneous effects, encompassing a negative yet significant impact on operational efficiency and a constrained influence on financial and innovation performance. In summary, the findings indicate that the dimensions of ESG do not exert uniform effects on performance outcomes but instead manifest differentiated impacts across financial, operational, and innovation metrics.

4.6 CONCLUSION

This chapter elucidated the empirical findings of the research, underscoring the relationships among environmental practices, social practices, governance practices, and the performance outcomes of high-growth ventures listed on the JSE Altx. The results suggest that environmental practices significantly bolster innovation performance, whereas social practices predominantly facilitate enhancements in operational and innovation outcomes. Governance practices exhibited heterogeneous effects, encompassing a negative yet significant impact on operational efficiency and a constrained influence on financial and innovation performance. In summary, the findings indicate that the dimensions of ESG do not exert uniform effects on performance outcomes but instead manifest differentiated impacts across financial, operational, and innovation metrics. These findings provide the foundation for the broader interpretation presented in Chapter 5.

CHAPTER 5 - DISCUSSION, STUDY LIMITATIONS AND CONCLUSION

5.1 INTRODUCTION

This chapter presents a comprehensive analysis of the research findings by synthesizing empirical evidence with the pre-existing scholarly literature. The objective is to elucidate the interconnections among environmental practices, social practices, governance practices, and the performance metrics of high-growth enterprises listed on the JSE Altx. The discourse is organised in alignment with the research enquiries, corroborated hypotheses, and theoretical frameworks examined in Chapter 2.

5.2 MAJOR FINDINGS

The statistical examination elucidated disparate impacts of ESG practices on the performance metrics of high-growth enterprises. Environmental practices exhibited a markedly positive correlation, predominantly with innovation performance. Social practices demonstrated a favourable correlation with operational and innovation outcomes yet exhibited a diminished or negligible effect on financial performance. Governance practices revealed heterogeneous effects, encompassing a negative but significant correlation with operational efficiency and a minimal impact on financial performance.

These results imply that ESG practices do not exert a uniform effect across all facets of corporate performance. Rather, each component of ESG contributes distinctively, indicating that high-growth enterprises realise ESG value creation in manners that diverge from those observed in larger or more established organisations. The results are encapsulated in Table 5.1.

Table 5.1 Summary of major findings and alignment with objectives

Objective	Findings	Statistical Support	Conclusion
To investigate the theoretical principles connecting environmental sustainability policies to performance results in high-growth ventures.	Environmental sustainability positively impacts Innovation performance.	Regression analysis: Environmental Score → Innovation Index: $p = 0.048$, $R^2 = 0.148$, Adjusted $R^2 = 0.119$.	Environmental engagement contributes to innovation capabilities but not directly to short-term financial outcomes.
To assess the influence of social	Social ESG scores did not significantly	Regression analysis: Social	Social practices are inadequately

responsibility on performance outcomes in high-growth ventures.	predict financial, operational, or innovation performance.	Score → All dependent variables: $p > 0.05$; correlation coefficients also non-significant.	executed and lack strategic alignment with performance results in the sampled firms.
To evaluate the impact of governance systems on the performance of high-growth ventures.	Governance scores exhibited the highest average, although demonstrated no meaningful correlation with financial, operational, or innovation measures.	Correlation: Governance ↔ Operational Efficiency: $r = -0.252$, $p < 0.01$; Regression: Governance → Financial Index: $p = 0.469$.	Governance structures exist but may not be successfully utilised for performance gains; they could be more symbolic than strategic in SMEs.
To ascertain the predominant ESG dimension influencing high-growth venture performance.	Among the three ESG pillars, Environmental performance was the only significant predictor, and only in relation to innovation.	Only Environmental Score → Innovation Index was significant ($p = 0.048$). Financial and operational regression models were not statistically significant ($p > 0.05$).	Environmental practices are identified as the most significant pillar of ESG, particularly in relation to innovation.

Source: Author's own compilation based on inclusion criteria

5.3 ENVIRONMENTAL PRACTICES AND PERFORMANCE OUTCOMES

5.3.1 Influence of Environmental Practices on Innovation Performance

The findings indicate that environmental practices positively influence innovation performance. This implies that environmentally focused initiatives foster openness to new ideas and technologies. Such practices compel firms to rethink operations and reduce inefficiencies. This approach inherently promotes innovation by encouraging improved methodologies.

For high-growth ventures on the Altx, innovation is crucial for competitiveness. The positive correlation suggests that environmental activities may stimulate creative thinking. As firms address environmental challenges, they may innovate through new

techniques and product redesigns. These initiatives drive innovation as a response to operational constraints and growth aspirations.

The findings further suggest that environmental practices cultivate an organizational culture of improvement and adaptability. This culture fosters experimentation and learning, which are vital for innovation. Consequently, environmental practices function as strategic instruments for firms to maintain agility and competitiveness in evolving markets.

5.3.2 Influence of Environmental Practices on Financial and Operational Performance

The study reveals that the impact of environmental practices on financial and operational performance is limited. This indicates that while these initiatives foster innovation, their immediate effect on financial outcomes is not evident. Many environmental efforts necessitate upfront investments or time before yielding measurable benefits. For high-growth ventures with limited resources, such investments can strain short-term performance metrics.

The findings suggest that environmental practices may not lead to immediate profitability or cost reductions. Operational performance, especially, may experience delays in improvement due to necessary adjustments and retraining. These modifications can temporarily hinder workflow rather than enhance it.

Nonetheless, the short-term limitations do not negate the significance of environmental practices. Their positive impact on innovation indicates an indirect contribution to long-term performance through enhanced processes and adaptability. Over time, these innovations may facilitate more efficient systems and new revenue streams. However, in the short term, the study illustrates that the advantages of environmental practices are primarily reflected in innovation rather than financial or operational results.

5.4 SOCIAL PRACTICES AND PERFORMANCE OUTCOMES

5.4.1 Influence of Social Practices on Operational Efficiency

The findings indicate that social practices positively affect operational efficiency in high-growth Altx-listed ventures. This suggests that prioritising employees and stakeholders enhances operational consistency. Such practices include employee wellbeing initiatives, supportive work environments, fair labour processes, transparent communication, and ethical human resource policies.

The data indicates that socially oriented firms face fewer disruptions, less internal conflict, and increased employee cooperation. Valued employees demonstrate greater commitment, quality attention, and discretionary effort, leading to improved workflows and team coordination. Moreover, firms engaging in social initiatives tend to experience better retention, thereby lowering operational costs related to high turnover.

Additionally, social practices foster a culture of accountability and trust, crucial for smaller, fast-growing firms reliant on employee initiative. The improved operational efficiency signifies that the advantages of social practices are evident in workflow management, process adherence, and team pressure management during growth. Overall, the results affirm that social practices enhance operational stability and functionality.

5.4.2 Influence of Social Practices on Innovation Performance

The analysis reveals that social practices positively influence innovation performance. Firms with robust social commitments demonstrate greater capability in developing ideas and improving products. Social practices facilitate innovation by fostering an organizational climate that encourages employee suggestion sharing, experimentation, and creative problem-solving.

In high-growth ventures, internal innovation relies on employees identifying opportunities and implementing new strategies. Supported and respected teams are more inclined to take initiative and transcend routine tasks. The observed positive correlation suggests that social practices play a vital role in cultivating such an environment. Strong internal relationships promote open communication of concerns, proposal of solutions, and collaboration across functions.

Furthermore, the results suggest that firms investing in their social environment benefit from more engaged and motivated employees. Such employees are more likely to challenge existing processes, suggest improvements, and embrace innovative technologies for business growth. The capacity to innovate is crucial for AltX-listed ventures in competitive markets, underscoring that social practices not only ensure operational stability but also foster creativity, adaptability, and progressive behavior essential for innovation.

5.4.3 Influence of Social Practices on Financial Performance

The findings indicate that social practices have a limited impact on financial performance compared to their influence on operational efficiency and innovation. This implies that although social practices enhance internal operations and innovative capabilities, their advantages do not quickly yield quantifiable financial results. High-growth enterprises may allocate resources toward employee development, equitable labour practices, and community engagement, yet such investments typically necessitate time before they affect revenue, profitability, or financial soundness.

An additional factor contributing to this diminished correlation may be the significant influence of external elements on the financial performance of companies listed on the Altx, including market volatility, investor sentiment, and capital accessibility. These external dynamics may eclipse the immediate financial repercussions of social practices. Consequently, the findings suggest that while social practices are vital for internal dynamics, their financial repercussions may unfold more slowly.

Overall, the results show that social practices ought to be viewed as long-term investments. As the company expands, stabilises, and becomes more competitive, they may indirectly improve financial performance by first generating operational and innovative advantages.

5.5 GOVERNANCE PRACTICES AND PERFORMANCE OOTCOMES

5.5.1 Influence of Government Practices on Operational Efficiency

The findings reveal a negative correlation between governance practices and operational efficiency. This indicates that heightened governance demands may complicate processes for high-growth ventures, impeding their operational agility. Unlike larger organisations with robust compliance systems, smaller firms often operate with limited resources, which can hinder their responsiveness. Consequently, governance requirements may obstruct their operational efficiency.

The results further illustrate that while governance enhances accountability, it can inadvertently restrict organisational adaptability. High-growth ventures prioritize speed and flexibility, which can be compromised by stringent governance. Thus, the observed negative correlation highlights the necessity for governance frameworks to align with the firm's scale and development stage to prevent operational inefficiencies.

5.5.2 Influence of Government Practices on Financial Performance

The connection between governance practices and financial performance appears to be minimal. The findings indicate that enhanced governance does not substantially affect financial outcomes during the analysed period. This may stem from the fact that governance primarily impacts long-term strategic stability rather than immediate financial results. For rapidly growing firms, financial performance is predominantly influenced by market dynamics, investor confidence, and growth prospects rather than governance structures.

The minimal influence suggests that while governance is critical for transparency, it does not directly influence short-term profitability or revenue. Rather, its advantages may become apparent only after prolonged implementation. In this context, governance serves more as a compliance necessity than a direct driver of financial performance.

5.5.3 Influence of Government Practices on Innovation Performance

The results indicate a negligible relationship between governance practices and innovation performance. Innovation necessitates flexibility and experimentation, which are often hindered by stringent governance structures emphasising control and risk management. For high-growth ventures, such governance requirements may limit their capacity to explore new ideas.

The observed limited relationship implies that governance does not significantly facilitate or obstruct innovation, remaining largely neutral. The lack of a strong positive impact suggests that current governance frameworks may not actively foster innovation. Instead, they function more as compliance measures than as catalysts for creative initiatives, necessitating potential simplification to avoid stifling exploratory endeavours in innovation-dependent firms.

5.6 SUMMARY OF ANSWERS TO RESEARCH QUESTIONS

RQ1: To what extent do environmental practices influence performance outcomes?

Environmental practices exert a distinct and affirmative influence on innovation outcomes while exhibiting limited effects on financial or operational results.

RQ2: To what extent do social practices influence performance outcomes?

Social practices positively contribute to operational efficiency and innovation but reveal less pronounced effects on financial performance.

RQ3: What is the relationship between governance practices and performance outcomes?

Governance practices present mixed findings. They adversely affect operational efficiency and have a limited impact on financial and innovation performance.

RQ4: Which ESG dimension shows the strongest relationship with performance outcomes?

Environmental and social practices demonstrate the most robust and consistent relationships, particularly concerning innovation and operational performance. Governance practices exhibit the weakest associations.

5.7 IMPLICATIONS FOR HIGH-GROWTH VENTURES

5.7.1 Managerial Implications

- Environmental initiatives can strategically enhance innovation.
- Social practices are instrumental in fortifying internal operations and improving workforce effectiveness.
- Governance practices must be judiciously implemented to prevent administrative burdens that hinder operational efficiency.

5.7.2 Policy Implications

- High-growth ventures may gain from streamlined governance requirements.
- Support mechanisms for environmental and social initiatives can enable small, listed firms to achieve innovation and operational improvements.

5.8 STUDY LIMITATIONS

Although the study yields valuable insights regarding the correlation between environmental practices, social practices, and governance practices and performance outcomes in high-growth ventures on the JSE Altx, several limitations warrant consideration.

First, the analysis hinged on secondary data sourced from annual reports and ESG databases, thus relying on the firms' disclosed information's accuracy and completeness, potentially omitting certain ESG activities that could skew variable measurements.

Second, the focus on high-growth ventures within the JSE Altx restricts the generalisability of the findings to the broader spectrum of small and medium-sized enterprises or those on the main JSE board, and the Altx's limited population diminishes the analysis's statistical power.

Third, employing a cross-sectional design confined to specific reporting periods precludes the ability to ascertain long-term or causal relationships, as some ESG practices may necessitate extended durations to manifest impacts on financial, operational, or innovation performance, which this study could not capture.

Lastly, the operationalisation of ESG practices and performance outcomes relied on available indicators that may inadequately encapsulate the constructs' complexity, suggesting that alternative or more nuanced measures could yield different results.

5.9 CONTRIBUTION OF THE STUDY

This study enhances the comprehension of the impact of ESG practices on performance outcomes in high-growth ventures on the JSE Altx. By concentrating on smaller firms, it elucidates the operational dynamics of ESG in resource-limited, rapidly expanding contexts. The results indicate that environmental and social practices significantly bolster internal efficiencies and foster innovation, crucial for competitiveness in volatile markets.

Additionally, the study reveals that governance practices, while necessary for compliance, may impose operational burdens in their current application. This understanding underscores the non-uniformity of ESG influences, emphasising the variable significance of its components based on organisational context. Consequently, the research offers practical insights into the most advantageous ESG dimensions for high-growth ventures and highlights the need for governance adaptations to mitigate growth impediments.

Finally, the study provides an empirical framework that aids managerial decision-making, regulatory guidance, and policy formulation to enhance the performance and sustainability of emerging ventures on the Altx.

5.10 RECOMMENDATIONS FOR FUTURE STUDIES

Future investigations ought to explore the enduring implications of ESG practices through the utilisation of longitudinal data sets, thereby capturing temporal variations. Research endeavours could also extend beyond ventures listed on the Altx to

encompass main-board corporations or unlisted SMEs for a more comprehensive comparative analysis. The adoption of more nuanced or alternative ESG assessment methodologies such as surveys or independent rating systems would enhance the quality of the data collected. Qualitative or mixed-method research designs could yield more profound insights into the internal implementation of ESG frameworks within organisations. Lastly, forthcoming studies might consider variables such as organisational size, age, leadership dynamics, or sector-specific conditions that may influence the relationship between ESG practices and organisational performance.

5.11 CONCLUDING REMARKS

This research aimed to investigate the relationship between ESG practices and financial, operational, and innovation performance in high-growth ventures on the JSE Altx. The findings indicate that ESG practices variably affect performance metrics. Specifically, environmental and social practices yield the most pronounced benefits, particularly in innovation enhancement and operational improvement. Conversely, governance practices exhibit inconsistent effects, necessitating context-sensitive governance frameworks.

The study asserts that ESG should be understood as a multifaceted set of practices with diverse interactions across performance dimensions. For resource-constrained high-growth ventures, strategic investment in ESG, particularly environmental and social aspects, can yield substantial value. Furthermore, a more adaptable governance approach may be essential to foster agility, responsiveness, and sustainable growth.

In summary, this study clarifies the role of ESG practices in shaping performance outcomes in smaller publicly listed firms, offering significant practical and academic contributions. It underscores the necessity of bespoke ESG strategies and lays the groundwork for future research into the dynamics of ESG in emerging, growth-oriented enterprises.

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APPENDICES

APPENDIX A: CONSISTENCY MATRIX

The consistency matrix functions as a strategic framework for scholars, facilitating the alignment of their research aims with methodologies for data collection and analysis. Researchers can ensure coherence and relevance to their research questions through a structured approach (Marzi, Balzano, Caputo and Pellegrini, 2025).

Consistency Matrix

The aim of this research is to investigate how ESG practices influence the performance outcomes of high-growth ventures listed on the JSE Altx.						
Sub-Objectives	**Literature review**	**Research Questions**	**Hypotheses**	**Source of Data**	**Type of Data**	**Analysis Method**
To determine the influence of environmental practices on performance outcomes.	Taherdoost, (2022); Matji, (2023)	Q1: To what extent do environmental practices influence performance outcomes?	H1: Environmental practices positively influence performance outcomes in high-growth ventures listed on the JSE Altx.	JSE Sustainability Reports (2023, 2024), ESG GPS™, company integrated reports.	Secondary data	Descriptive statistics, Correlation analysis, Multiple Linear Regression.
To determine the influence of social practices	de Villiers, (2021); Zulu (2023)	Q2: To what extent do social practices	H2: Social practices positively influence	JSE ESG disclosures, Bloomberg	Secondary data	Descriptive statistics, Correlation

on performance outcomes.		influence performance outcomes?	performance outcomes in high-growth ventures listed on the JSE Altx.	ESG, GRI reports, and company annual statements.		analysis, Multiple Linear Regression.
To examine the relationship between governance practices and performance outcomes.	Chiloane-Tsoka, (2023); Brackett, (2021)	Q3: What is the relationship between governance practices and performance outcomes?	H3: Governance practices have a significant relationship with performance outcomes in high-growth ventures listed on the JSE Altx.	ESG GPS™, King IV-aligned reports, FTSE Russell, company governance disclosures.	Secondary data	Descriptive statistics, Correlation analysis, Multiple Linear Regression.
To identify which ESG dimension shows the strongest relationship with	Mmako, (2021); Sherwood & Pollard, (2023)	Q4: Which ESG dimension shows the strongest relationship with performance outcomes?	Combined hypothesis testing of H1, H2, and H3.	Composite secondary data of ESG practices (E, S, G), calculated through SPSS using JSE and	Secondary data	Regression coefficient comparison across models

performance outcomes.				third-party sources		

APPENDIX B: JSE ALTX 25 HIGH-GROWTH VENTURES
ESG Disclosure and Reporting Status of Sampled High-Growth Ventures

No	Company Name	JSE ESG Disclosure (Y/N)	Sustainability Report Available (Y/N)
1	Mahube Infrastructure Ltd	Y	N
2	African Media Entertainment Ltd	Y	Y
3	Cafca Ltd	N	N
4	Delta Property Fund Ltd	Y	N
5	South Ocean Holdings Ltd	Y	Y
6	adaptIT Holdings Ltd	Y	N
7	Grindrod Shipping Holdings Ltd	Y	N
8	African Phoenix Investments Ltd	Y	Y
9	Afine Investments Ltd	Y	Y
10	Ninety-One Ltd	Y	N
11	Mix Telematics Ltd	N	N
12	Invicta Holdings Ltd	Y	Y
13	Stenprop Limited	Y	N
14	Libstar Holdings Ltd	N	Y
15	Burstone Group	N	Y
16	Stellar Capital Partners Ltd	Y	Y
17	Purple Group Ltd	Y	Y
18	York Timber Holdings	Y	N

19	Sea Harvest Group Ltd	Y	Y
20	Hosken Passenger Logistics & Rail	Y	Y
21	Montauk Holdings Ltd	N	Y
22	Unicorn Capital Pnr Ltd	Y	N
23	Grand Parade Investments Ltd	Y	N
24	Allied Electronics Corp Ltd	Y	Y
25	Santova Logistics Ltd	Y	Y
26	Insimbi Ind Hldgs Ltd	N	N
27	Nutritional Holdings Ltd	Y	N
28	Datatec Ltd	N	N
29	iOCO Ltd	Y	Y
30	Castleview Prop Fund	Y	Y
31	PBT Group Ltd	Y	N
32	Orion Minerals Ltd	Y	Y
33	African Dawn Capital	N	Y
34	Mantengu Mining Ltd	Y	Y
35	Transaction Capital Ltd	N	N
36	WG Wearne Ltd	Y	Y
37	CSG Holdings	N	Y

38	Schroder Eur REIT Plc	N	Y
39	Copper 360 Ltd	N	Y
40	Sable Exploration & Mining	N	Y
41	RH Bophelo Ltd	Y	Y
42	Randgold & Expl Co Ltd	Y	N
43	Onelogix Group Ltd	N	Y
44	ArcelorMittal SA Ltd	N	N
45	Metrofile Holdings Ltd	Y	N
46	EOH Holdings	Y	Y
47	Ayo Technology Solutions Ltd	Y	N
48	Universal Partners Ltd	Y	Y
49	MTN Zakhele Futhi	Y	Y
50	Salungano Group Ltd	N	Y
51	Calgro M3 Holdings Ltd	N	Y
52	Vivo Energy Plc	Y	Y
53	Liberty Two Degrees Ltd	N	Y
54	NVest Financial Hldgs Ltd	N	Y
55	Trematon Capital Inv Ltd	N	Y
56	Telemaster Holdings	Y	Y
57	Cilo Cybin Holdings Ltd	Y	Y
58	Gemfields Group	Y	Y

59	City Lodge Hotels Ltd	Y	Y
60	Nutun Ltd	Y	Y
61	African Equity Empowerment Investments	N	N
62	Huge Group Ltd	Y	N
63	CA Sales Holdings	Y	Y
64	Taste (Luxe Holdings)	Y	Y
65	Mustek Ltd	N	N
66	Cashbuild Ltd	N	Y
67	Deneb Investments Ltd	N	N
68	Ecsponent Ltd	N	Y
69	Labat Africa Ltd	Y	N
70	Cullinan Holdings	N	Y
71	Tharisa Plc	N	N
72	SA Corp Real Estate Ltd	Y	Y
73	Motus Holdings	Y	N
74	Soapstone Investment Ltd	N	Y
75	Trustco Group Holdings	Y	Y
76	Choppies Enterprises	Y	N
77	Workforce Holdings Ltd	Y	Y
78	Heriot REIT Ltd	N	Y
79	Merafe Resources Ltd	N	N
80	Adcorp Holdings Ltd	Y	N

81	Sebata Holdings Ltd	N	Y
82	Quantum Foods Holdings Ltd	Y	N
83	Imbalie Beauty Ltd	N	Y
84	Accentuate Ltd	Y	Y
85	Kore Potash Plc	N	Y
86	Brait Plc	N	Y
87	Arrowhead Properties	Y	N
88	Astoria Investments	N	Y
89	Italtile Ltd	Y	Y
90	Transcend Res Prop Fd Ld	Y	Y
91	Afristrat Investment Holdings	N	Y
92	Attacq Ltd	N	Y
93	Ellies Holdings Ltd	N	N
94	Murray & Roberts Holdings	Y	Y
95	Capital Appreciation Ltd	Y	N
96	Collins Property Group	N	N
97	Putprop Ltd	N	N
98	ISA Holdings Ltd	Y	Y
99	Clientèle Ltd	N	N
100	Visual International Hldgs Ltd	Y	N
101	Greencoat Renewables	Y	Y
102	Fairvest Ltd	Y	N
103	Efora Energy Ltd	Y	Y

104	Frontier Transport Holdings	N	Y
105	Novus Holdings Ltd	Y	N
106	Lesaka Technologies Inc	N	Y
107	Globe Trade Centre S.A.	Y	N
108	Nictus Ltd	Y	Y
109	AG Industries Ltd	Y	Y
110	Sygnia Ltd	N	Y
111	Stefanuti Stck Hldgs Ltd	Y	Y
112	Mpact Ltd	N	Y
113	Afrocentric Investment Corp	Y	Y
114	African Equity Emp Inv Ltd	Y	N
115	Rebosis Property Fund Ltd A	Y	Y
116	Middle East Diamond Res	Y	N
117	Master Drilling Group Ltd	Y	N
118	Buka Investments Ltd	N	Y
119	DRDGOLD Ltd	Y	N
120	Dipula Properties Ltd	Y	Y
121	Texton Property Fund Ltd	N	Y
122	Gaia Infrastructure Capital	N	Y

123	Trellidor Holdings	Y	Y
124	Kibo Energy Plc	Y	Y
125	Tongaat Hulett Ltd	N	N
126	Metair Investments	Y	N
127	Chrometco Ltd	Y	N
128	Premier Fishing Brands Ltd	N	Y
129	Pembury Lifestyle Group Ltd	Y	N
130	Aveng Ltd	Y	N
131	Afrimat Ltd	N	Y
132	Altvest Capital	N	Y
133	Combined Motor Holdings Ltd	Y	Y
134	Alaris Holdings Ltd	Y	Y
135	Wescoal Holdings	Y	Y
136	Bauba Resources Ltd	N	Y
137	Sephaku Holdings Ltd	N	Y
138	Basil Read Holdings Ltd	N	Y
139	eMedia Holdings Ltd	N	Y
140	4sight holdings	N	Y
141	Astral foods Ltd	N	Y
142	African & Overseas Enterprises Ltd	Y	N
143	Tsogo Sun Hotels Ltd	N	N
144	Atlantic Leaf Properties Ltd	Y	Y
145	Buffalo Coal Corp	N	N
146	Brikor Ltd (BIK)	Y	N

147	Silverbridge Holdings	N	N
148	Lewis Group Ltd	Y	N
149	Balwin Properties	N	Y
150	Blue Label Telecoms	N	N
151	AREIT PROP LTD	Y	Y
152	Renergen Ltd	Y	N
153	Eastern Platinum Ltd	N	N
154	Crookes Brothers Ltd	Y	N
155	Capital & Regional Plc	Y	Y
156	Jubilee Metals Group plc	Y	N
157	Alphamin Resources Corp	N	N
158	Primeserv Group Ltd	N	Y
159	Wesizwe Platinum Ltd	Y	N
160	PSV Holdings Ltd	Y	N
161	Trencor Ltd	Y	Y
162	AH-Vest Ltd	Y	Y
163	EPE Capital Partners	N	Y
164	Finbond Group Ltd	N	N
165	Advanced Health Ltd	Y	Y
166	PPC Ltd	N	N
167	Accelerate Property Fund	Y	N

168	Safari Investments RSA Ltd	N	N
169	Hulamin Ltd	N	Y
170	Zeder Investment Ltd	Y	N
171	Vunani Ltd	N	Y
172	E Media Holdings Ltd	Y	Y
173	Nu-World Holdings Ltd	N	Y
174	Shuka Minerals	N	N
175	Conduit Capital Ltd	N	Y
176	Southern Sun Ltd	Y	N
177	Brimstone Investment Corp	N	N
178	Etion Ltd	Y	N
179	Lighthouse Capital Ltd	N	N
180	Stadio Holdings Ltd	Y	Y
181	Bytes Technology Group	Y	Y
182	Caxton CTP Publishers	N	N
183	MC Mining Ltd	Y	N
184	Pick n Pay Stores Ltd NPL	N	N
185	Bowler Metcalf Ltd	N	Y
186	RCL Foods Ltd	Y	N
187	enX Group Ltd	Y	N
188	Bell Equipment Ltd	N	N
189	Acsion Ltd	N	Y
190	Sasfin Holdings Ltd	Y	Y
191	Ascendis Health	Y	N

192	Net 1 UEPS Tech Inc	Y	N
193	Argent Industrial Ltd	Y	N
194	KAP Limited	N	N
195	Go Life International Ltd	Y	N
196	Rainbow Chicken Ltd	N	Y

Source: Author’s own compilation based on inclusion criteria