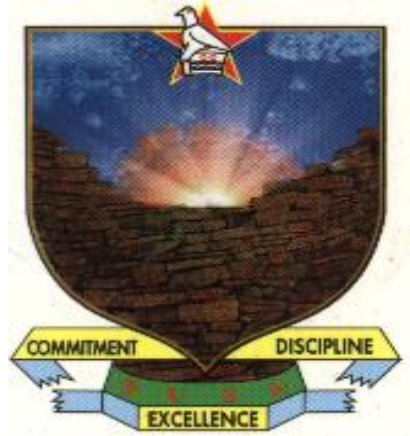


BINDURA UNIVERSITY OF SCIENCE EDUCATION



FACULTY OF COMMERCE

DEPARTMENT OF BUSINESS MANAGEMENT

**“MODELLING THE ADOPTION OF GREEN PROCUREMENT PRACTICES IN
ENHANCING ECONOMIC GROWTH IN ZIMBABWE: A CASE OF SMEs IN THE
MINING INDUSTRY”**

BY

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External Examiner _____ Date : _____

DEDICATION

The study research is dedicated to my two beloved children Sacha and Munashe and above all the Almighty God for the love, favor and grace imparted in me as an individual. I would also want this study research to be in memory of my late parents for bringing me into this world and the role they played in my basic education up to the person i am today, they always had me at heart and believed in me up until their demise.

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ABSTRACT

This study examines the extent to which small and medium-sized firms (SMEs) in the Zimbabwean mining industry have implemented environmentally friendly procurement practises. The research is based on a sample of 169 participants. The research investigates crucial elements, including information sources, case studies, international strategies, collaboration, government backing, training, and hurdles to adoption, using survey questionnaires. The findings indicate that the participants have a modest degree of understanding, and they have different viewpoints on several areas of implementing green procurement. Factor analysis highlights the combined impact of awareness, present practises, importance, perceived advantages, and organisational commitment on sustainable procurement behaviour. The study finds key obstacles, such as lack of understanding, financial worries, limited availability of suppliers, resistance from external stakeholders, and issues related to regulatory compliance. In addition, the study evaluates the influence of green procurement on sustainability, uncovering diverse viewpoints on environmental consequences, operational effectiveness, financial outcomes, stakeholder perception, and long-term sustainability. The study provides detailed and subtle observations to the discussion on sustainable practises in the mining industry of Zimbabwe. It highlights the importance of customised interventions and offers suggestions for future research efforts.

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CHAPTER 1

GENERAL INTRODUCTION

1.1 Introduction

Chapter 1 had a crucial role in initiating the research process. It established the context by describing the historical and theoretical basis of the study. Additionally, it clearly stated the problem being addressed, outlined the research aims and hypotheses, emphasised the importance of the research, and provided a logical justification for its implementation. This chapter placed significant emphasis on the crucial role that the mining industry plays in Zimbabwe's economy, while also highlighting the imperative for sustainable and responsible practises within this sector. In addition, the study provided a clear outline of the potential effects that green procurement practises could have on the growth of the economy. It also situated the research within the wider framework of global sustainability objectives.

1.2 Background of the study

The mining sector plays a pivotal role in the economic landscape of Zimbabwe, making a big contribution to the country's gross domestic product (GDP) and serving as a major source of employment for a significant proportion of its populace. Nevertheless, the mining industry is frequently linked to negative environmental impacts, depletion of resources, and socio-economic difficulties, hence requiring the implementation of sustainable and responsible approaches. The aforementioned context has given rise to apprehensions and stimulated an increasing worldwide focus on ecologically sustainable and socially accountable practises within the sector.

Concurrently, small and medium-sized firms (SMEs) assume a crucial role within Zimbabwe's economic framework, comprising a significant segment of the business sector. Small and Medium-sized Enterprises (SMEs) operating within the mining industry possess the capacity to instigate significant and profound alterations within the sector by embracing environmentally sustainable procurement practises. These practises encompass the procurement of items and services that demonstrate environmental sustainability, social responsibility, and economic viability. Within the mining business, green procurement encompasses several issues such as the responsible purchasing of mining equipment, the utilisation of sustainable technology, and active participation in ethical supply chains.

The implementation of environmentally conscious procurement strategies by small and medium-sized enterprises (SMEs) within the mining sector presents potential opportunities for bolstering economic development in Zimbabwe across multiple dimensions. The use of this approach has the potential to result in financial benefits, enhanced utilisation of resources, and a decrease in the production of waste. Moreover, it can facilitate adherence to progressively rigorous environmental standards, hence reducing the likelihood of encountering legal complications and financial penalties. The implementation of environmentally conscious procurement practises can also facilitate access to global markets that prioritise sustainable practises, hence expanding the client base and augmenting revenue streams. In addition to economic advantages, the enhancement of small and medium-sized enterprises' (SMEs) reputation can serve as a catalyst for attracting conscientious investors and partners. Furthermore, the incorporation of cutting-edge and effective technology into environmentally conscious procurement strategies has the potential to optimise mining activities, decrease expenses, and improve overall competitiveness.

The implementation of environmentally friendly procurement practises within small and medium-sized enterprises (SMEs) operating in the mining sector of Zimbabwe encounters various obstacles and hindrances. These include a lack of knowledge and understanding, difficulties in obtaining financial resources, limitations in technical capabilities and human resources, as well as the intricate nature of regulatory frameworks and compliance obligations. This study is to investigate and analyse the implementation of environmentally sustainable procurement practises inside small and medium-sized enterprises (SMEs) operating in the mining sector in Zimbabwe. The primary objective is to examine the potential effects of such practises on the country's economic growth.

This research makes a valuable contribution to the broader discourse on sustainable mining practises and their implications for economic development in Zimbabwe. It achieves this by elucidating the factors that either facilitate or impede the adoption of green procurement practises, as well as by identifying effective strategies to promote their widespread implementation.

1.3 Problem Statement

The mining industry in Zimbabwe plays a pivotal role in the country's economy, contributing significantly to revenue generation and employment opportunities (Mukwakwami et al., 2018). However, this sector is often associated with adverse environmental impacts and unsustainable practices. In the face of global environmental challenges and the need for sustainable development, there is a pressing concern about the ecological footprint of mining operations in Zimbabwe. Small and Medium-sized Enterprises (SMEs) form a substantial portion of the mining sector in Zimbabwe, but they often lack the resources and capacity to adopt environmentally friendly and sustainable procurement practices (Chamber of Mines Zimbabwe, 2019). Green procurement, which involves the integration of environmental criteria into the purchasing process, has emerged as a potential solution to mitigate the environmental impact of mining operations while fostering economic growth (Mawere, 2020; Chinamasa & Rubanza, 2019). The problem lies in understanding the extent to which SMEs in the Zimbabwean mining industry adopt green procurement practices and how this adoption influences their economic growth. This gap in knowledge hampers efforts to promote sustainable mining practices and leverage green procurement as a catalyst for economic development in Zimbabwe. Therefore, this research seeks to investigate and model the adoption of green procurement practices among SMEs in the mining industry and assess their impact on economic growth in the Zimbabwean context.

1.4 Research objectives

1. To assess the current state of green procurement adoption among SMEs in the Zimbabwean mining industry.
2. To analyze the primary barriers affecting the adoption of green procurement practices among SMEs in the mining sector in Zimbabwe.
3. To examine the impact of green procurement practices on the sustainability of SMEs in the Zimbabwean mining industry.

4. To identify best practices and strategies for promoting and facilitating the widespread adoption of green procurement among SMEs in the Zimbabwean mining industry, drawing on successful case studies and international experiences.

1.5 Research questions

1. What is the extent of green procurement adoption among SMEs in the Zimbabwean mining industry?
2. What are the main barriers hindering the adoption of green procurement practices by SMEs in the mining sector in Zimbabwe?
3. How do green procurement practices influence the sustainability of SMEs in the Zimbabwean mining industry?
4. What are the best practices and strategies that can be derived from successful case studies and international experiences to promote and facilitate the widespread adoption of green procurement among SMEs in the Zimbabwean mining industry?

1.6 Significance of the study

The study holds multiple dimensions of significance and bears consequences for a range of stakeholders. The study offers the researcher an opportunity to enhance their intellectual development and expertise in the field of green procurement practises and their significance within the mining industry. This tool enables researchers to explore the intricate aspects of sustainability, innovation, and the dynamics of small and medium-sized enterprises (SMEs), thereby enhancing their academic and professional knowledge.

This study enhances the academic standing and status of the university where the researcher is affiliated. Through the generation of information pertaining to green procurement and its implications for small and medium-sized enterprises (SMEs) operating within the mining industry, the university positions itself as a central location for pioneering research and the study of sustainability. The discoveries enhance the research portfolio of the university and have the potential to attract other researchers and students to participate in research fields that are relevant.

The findings of this study have a direct impact on small and medium-sized enterprises (SMEs) that operate within the mining sector in Zimbabwe. The findings obtained from this study provide these organisations with significant insights concerning the possible advantages and obstacles linked to

the implementation of environmentally-friendly procurement strategies. This level of understanding enables small and medium-sized enterprises (SMEs) to make well-informed decisions on the incorporation of sustainable practises into their operational strategies. As a result, this can potentially augment their economic advantage, foster long-term viability, and contribute to the adoption of more socially and environmentally responsible mining methodologies.

This study provides significant insights from a governmental standpoint regarding the economic and environmental benefits associated with the adoption of green procurement practises within the mining industry. The utilisation of these findings by the Zimbabwean government can inform the development and enhancement of laws, legislation, and frameworks that promote sustainability and responsible mining practises. Through the facilitation of green procurement, the government can establish itself as a proponent of mining activities that are both ecologically sensitive and economically advantageous.

The research findings are directly applicable to the field of environmental sustainability. The research study directly examines environmental concerns within the mining industry by specifically investigating green procurement practises. The alignment with global sustainability objectives is reflected in the potential decrease of environmental effect, conservation of resources, and increased ecological responsibility. The study places significant importance on the association between green procurement practises and economic growth, recognising economic growth as a crucial component of national development. The ramifications of its findings have the potential to extend far to Zimbabwe and other countries with mining industries, offering a viable framework for advancing sustainability in the global mining sector. Moreover, the ramifications of the study have a global scope. Mining communities and organisations globally could benefit from the valuable insights presented in this research. They may consider utilising this study as a point of reference to promote sustainability and responsible practises within their own settings.

The study's adherence to the Sustainable Development Goals (SDGs) is a noteworthy characteristic. This aligns with objectives pertaining to sustainable consumption and production, safeguarding the environment, and fostering economic advancement. The implications of these findings have the potential to contribute to the advancement of global sustainability objectives, hence enhancing the overall significance of the study within a broader framework.

1.7 Rationale of the study

The motivation for undertaking this study on the implementation of environmentally friendly procurement practises within Zimbabwe's mining industry, with a specific emphasis on small and medium-sized enterprises (SMEs), is based on a combination of interrelated variables. The mining industry in Zimbabwe holds immense economic importance, which cannot be understated. Mining plays a pivotal role in the nation's economic landscape, making a big contribution to its gross domestic product (GDP) and serving as a major source of employment for a significant segment of the populace. Given the significant impact of the mining sector on economic development, it is imperative to investigate potential strategies that can facilitate sustainable growth, cost reduction, and improved competitiveness. The use of green procurement practises has the capacity to yield these advantages, so rendering the investigation economically consequential.

Furthermore, the mining industry is currently facing urgent environmental challenges that require immediate response. Mining operations are frequently linked to adverse environmental impacts, such as the disturbance of habitats, pollution, and the depletion of resources. The resolution of these difficulties is not solely a matter of ethical obligation, but also a fundamental requirement for ensuring enduring sustainability. The examination of green procurement practises is driven by the aspiration to alleviate these environmental consequences and contribute to the conscientious administration of natural resources.

Furthermore, this study is in accordance with international sustainability initiatives, such as the Sustainable Development Goals (SDGs) set by the United Nations. This aligns with endeavours to attain sustainability through the promotion of conscientious consumption and production practises. Through the analysis of the implementation of environmentally conscious procurement strategies, this study makes a valuable contribution to the global efforts aimed at reducing the ecological impact and promoting ethical practises across diverse sectors, including the mining industry.

Moreover, small and medium-sized enterprises (SMEs) play a crucial role within Zimbabwe's commercial community. They have a prominent role in shaping the economic landscape of the nation. Small and medium-sized enterprises (SMEs) operating within the mining industry possess the capacity to instigate significant and far-reaching advancements. However, these entities frequently encounter obstacles such as inadequate resources, insufficient knowledge, and restricted entry into the market. The primary objective of this study is to enhance the competitiveness and

sustainability of small and medium-sized enterprises (SMEs) through the provision of useful insights and methods pertaining to the adoption of green procurement practises. By empowering SMEs in this manner, the study seeks to enable these businesses to effectively contribute to environmental sustainability while also improving their overall competitiveness in the market.

The regulatory and policy framework in Zimbabwe, similar to numerous other nations, is undergoing a transformation to prioritise sustainability and responsible practises across diverse sectors. It is imperative for both small and medium-sized enterprises (SMEs) as well as government stakeholders to comprehend the ramifications of these legislation and policies on green procurement. The report acknowledges the significance of effectively navigating the dynamic nature of this emerging environment and the resulting consequences for the mining industry.

The research is motivated by the identification of a lacuna in the current body of literature. The current state of research on the adoption of green procurement practises among small and medium-sized enterprises (SMEs) in Zimbabwe's mining industry is characterised by a dearth of comprehensive studies. This research seeks to contribute to the existing body of information by addressing the aforementioned gap and provide a comprehensive analysis of the present status of adoption, hurdles, and possible advantages. The anticipated outcomes of this study include informing future research endeavours, influencing policy formulation, and facilitating the practical application of green procurement practises. These efforts aim to foster the promotion of mining operations in Zimbabwe that are more sustainable, responsible, and economically viable.

1.8 Chapters' breakdown

The dissertation will be in 5 chapters as discussed below:

Chapter 1: General Introduction

In the first chapter, an overview of the study's background, problem statement, objectives, hypotheses, significance, and rationale were provided.

Chapter 2: Literature Review

This chapter involved a comprehensive review of relevant literature, covering topics like green procurement practices, SMEs in the mining industry, regulatory hurdles, and environmental and social responsibility.

Chapter 3: Research Methodology

In the third chapter, the research design, philosophy, population, sample, sampling procedure, data collection instruments, data collection procedures, data analysis methods, and ethical considerations were detailed.

Chapter 4: Data Presentation, Interpretation, and Discussion

This chapter focused on presenting the data collected, interpreting the findings, and discussing their implications and connections to the literature.

Chapter 5: Conclusions and Recommendations

The research was concluded by summarizing the key findings and providing practical recommendations for SMEs, government policies, and future research directions.

1.9 Chapter summary

In conclusion, Chapter 1 provided a comprehensive introduction to the research study, offering essential insights into the background, problem statement, research objectives, hypotheses, significance, and rationale. It underscored the pivotal role of the mining industry in Zimbabwe's economy while recognizing the pressing need for sustainable and responsible practices within this sector. The potential impact of green procurement practices on economic growth was highlighted, aligning the study with global sustainability goals.

This chapter established the foundation for the entire research, serving as a critical entry point to the subsequent chapters. It framed the research questions and emphasized the significance of investigating the adoption of green procurement practices in Zimbabwe's mining industry. As such, Chapter 1 set the stage for the comprehensive exploration of green procurement adoption and its implications, aligning the research with both local and global imperatives for sustainability and responsible economic growth.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The global wave of green procurement practises, which encompass the responsible sourcing of environmentally friendly items and the implementation of sustainable supply chain management, has been substantial. These practises are widely regarded as successful ways for mitigating environmental deterioration and promoting sustainable economic growth. In the specific context of Zimbabwe, a nation blessed with abundant mineral resources, the adoption of green procurement practises holds notable importance given the significant environmental impacts linked to the mining industry. Moreover, the economic stability of Zimbabwe is predominantly reliant on the mining industry, whereby Small and Medium-sized Enterprises (SMEs) assume a pivotal role. Small and Medium Enterprises (SMEs) have a crucial role in promoting economic growth, creating job opportunities, and reducing poverty, making them essential for the overall development goals of the nation. The main purpose of this literature review is to examine the alignment between green procurement practises and small and medium-sized enterprises (SMEs) in the mining industry, with a specific focus on Zimbabwe. This review aims to offer insights into the possible impact of green procurement practises on economic growth, specifically within the context of Zimbabwe. To achieve this purpose, an extensive analysis of existing scholarly literature and established knowledge will be conducted.

The significance of this study is underscored by the urgent need to establish a balanced and harmonious relationship between economic advancement and environmental conservation in a nation grappling with environmental challenges and economic aspirations. The objective of this study is to provide a comprehensive examination of green procurement practises in the mining industry of Zimbabwe, with a particular emphasis on small and medium-sized firms (SMEs). The main aim of this study is to investigate the potential impact of these practises on the economic growth of the nation. Moreover, this will facilitate the detection of shortcomings in the existing body of literature, therefore offering direction for future research endeavours and the development of policy suggestions. To ensure a comprehensive and structured analysis, the following sections will explore the theoretical underpinnings of green procurement, the current state of Zimbabwe's economy and the participation of small and medium-sized enterprises (SMEs), the relationship between green procurement and economic development, the unique context of Zimbabwe, and the proposed research methodology. The main aim of this extensive analysis is to furnish policymakers, researchers, and industry stakeholders with crucial insights into the optimal utilisation of green procurement as a catalyst for advancing sustainable economic development in Zimbabwe's mining sector.

2.2 Conceptual definitions

2.2.1 Green procurement practices and their significance

Green procurement practises, also known as sustainable or environmentally responsible procurement, involve a systematic and deliberate approach to selecting, procuring, and acquiring goods and services that prioritise environmental and social considerations alongside conventional economic factors (Asif, Lau, Nakandala, Fan, & Hurriyet, 2020). The practises have been developed with the aim of reducing the negative environmental impacts associated with the production, transportation, and disposal of goods or services. Green procurement encompasses the comprehensive assessment of not just the environmental attributes of products, but also the integration of social and ethical considerations, such as fair labour practises and the safeguarding of human rights.

The methodology under consideration is distinguished by its focus on the utilisation of environmentally sustainable resources, the adoption of energy-efficient manufacturing methods, and the reduction of greenhouse gas emissions (Chiwaridzo, 2023). Moreover, this technique often involves the integration of items that hold environmental certifications or badges, so ensuring their

compliance with designated sustainability criteria. The significance of green procurement practises lies in its ability to address pressing environmental concerns, conserve natural resources, reduce companies' carbon emissions, and promote the adoption of sustainable practises within the corporate sphere. In the context of Zimbabwe, where the mining industry plays a crucial role in the economy but also poses environmental risks, the adoption of green procurement practises becomes highly important (Chiwariidzo & Masengu, 2023).

These practises possess the potential to contribute towards mitigating the environmental impact often associated with mining operations, while also mitigating adverse social repercussions. Moreover, they have the potential to yield economic advantages through enhanced resource efficiency and heightened corporate accountability. Organisations operating within Zimbabwe's mining sector can strategically align themselves with global sustainability objectives and effectively respond to the growing market demand for environmentally friendly products by using green procurement practises (De Gobbi, 2020). Furthermore, the adoption of these practises can enable businesses to gain a competitive edge in both domestic and global markets, attracting socially aware consumers and investors, and making substantial contributions to the achievement of the country's sustainable development objectives.

2.2.2 Economic Growth and Its Relevance to Zimbabwe

Economic growth holds significant importance in the context of Zimbabwe, as the country strives to address persistent economic challenges and promote a trajectory towards increased prosperity (Chiwariidzo, 2023). As a result, economic growth is often defined as the sustained increase in a country's production of goods and services over a specific time frame, as measured by indicators like Gross Domestic Product (GDP). The subject matter under consideration carries substantial significance within the context of Zimbabwe, primarily attributable to the historical and contemporary economic conditions experienced by the nation (Chiwariidzo & Masengu, 2023). Zimbabwe has faced several economic challenges over the course of its history, including hyperinflation, political instability, and a declining industrial base. The aforementioned challenges have had notable social and economic ramifications, exerting an influence on the livelihoods of a considerable number of individuals in Zimbabwe.

The importance of economic advancement in Zimbabwe extends beyond just quantitative evaluation. The notion indicated above is closely linked to the nation's goals of reducing poverty,

promoting job creation, improving quality of life, and ensuring the provision of essential public services(De Gobbi, 2020). The encouragement of economic growth plays a pivotal role in addressing income disparity and fostering societal well-being. Moreover, it is crucial to recognise that it holds a crucial role in promoting foreign investment, fostering innovation, and cultivating a diverse and resilient economy. Given the unique economic landscape that characterises Zimbabwe, the necessity of attaining economic growth transcends ordinary ambition and occupies a position of utmost significance. Within this particular context, it is noteworthy that small and medium enterprises (SMEs) that operate within the mining industry possess considerable potential to make noteworthy contributions towards the achievement of this target.

2.2.3 The Role of SMEs in the Mining Industry and Their Potential for Economic Development

Small and Medium-sized Enterprises (SMEs) operating in the mining sector of Zimbabwe are of significant importance in the country's pursuit of economic advancement(Kachilala & Dumba, 2022). Small and Medium-sized Enterprises (SMEs), as per their designated classification, are enterprises that possess restricted financial and human resources. However, they are distinguished by their notable dynamism, adaptability, and aptitude for innovation. Within the mining business, small and medium-sized enterprises (SMEs) frequently partake in a range of operations encompassing the exploration, extraction, and processing of natural resources. The relevance of these entities is in their capacity to foster job creation, generate money, and facilitate the promotion of inclusive growth.

Small and Medium-sized Enterprises (SMEs) operating within the mining sector have distinct benefits that contribute to the economic development of Zimbabwe. Mining companies frequently exhibit greater agility and responsiveness in adapting to fluctuating market conditions(Kanyepe, 2023). Additionally, they tend to prioritise the recruitment of local workers, thereby effectively addressing employment concerns within mining regions. Moreover, these small and medium-sized enterprises (SMEs) have the potential to promote regional development through their investments in infrastructure and social services, thereby contributing to economic inclusion(Mabhena & Moyo, 2014). In addition, small and medium-sized enterprises (SMEs) have the potential to contribute to economic diversification through their exploration and development of previously neglected natural deposits, which may have been disregarded by larger mining corporations. The recognition and utilisation of small and medium enterprises (SMEs) in the mining industry are

crucial for attaining sustainable economic growth and development in Zimbabwe. This analysis will explore the prospects and obstacles that SMEs encounter in adopting environmentally friendly procurement practises, thereby strengthening their contribution to the country's economic framework.

2.2.4 Green Procurement Practices: Review of Principles and Benefits

The implementation of green procurement practises is guided by a foundational set of concepts (Majoni, Matunhu, & Chaderopa, 2016). These principles function as a framework for organisations aiming to reduce the environmental and social consequences linked to their procurement procedures. An essential premise entails the systematic consideration of environmental factors throughout all stages of the supply chain. This entails evaluating the complete life cycle of products or services, encompassing the extraction of raw materials to their ultimate disposal (Makiwa, 2018). The objective of green procurement is to give priority to alternatives that possess a diminished environmental impact, hence mitigating the adverse ecological ramifications associated with procurement activities.

Another fundamental element pertains to the concepts of sustainability and social responsibility. In addition to environmental considerations, green procurement includes social dimensions, including equitable labour conditions and the protection of human rights (Maphosa & Maphosa, 2022). Organisations demonstrate social responsibility by consciously choosing items and services that are produced under specific conditions, so guaranteeing that their procurement practises are in accordance with ethical and moral principles.

Energy efficiency plays a fundamental role in the implementation of environmentally conscious procurement strategies (Mhlanga, Shava, & Dzingirai, 2023). This approach places emphasis on the identification and selection of products and services that are specifically engineered to minimise energy use. The objective is to mitigate the release of greenhouse gases and advance the principles of sustainability, all while concurrently decreasing operational expenses (Mtengwa, 2023). Moreover, green procurement highlights the significance of conserving resources. Organisations that embrace these practises strive to optimise resource efficiency by selecting products that minimise waste, preserve water, and mitigate resource depletion. These choices not only have the potential to decrease environmental effect, but also lead to financial savings and a diminished ecological footprint. Certifications and standards are of paramount importance in the

context of green procurement. Certifications such as Energy Star for energy-efficient appliances or Forest Stewardship Council (FSC) for sustainably derived wood goods establish distinct criteria for environmentally conscious procurement, facilitating informed decision-making for organisations.

One additional fundamental tenet of green buying is the establishment of efficient partnership with suppliers. It is highly recommended that organisations establish robust partnerships with their suppliers, thereby cultivating a shared dedication to environmentally conscious practises and the advancement of sustainable product innovation (Muchaendepi, Mbowa, Kanyepe, & Mutingi, 2019). Transparency and reporting constitute important elements within the context of green procurement. Organisations who are dedicated to sustainable procurement demonstrate their commitment to sustainability by transparently reporting their efforts, thereby communicating their dedication to stakeholders and the broader public (Musanzikwa, 2014). The implementation of transparency fosters a sense of accountability and engenders confidence among all relevant stakeholders.

Furthermore, the existing body of literature emphasises a multitude of noteworthy advantages linked to the implementation of green procurement practises. These advantages encompass multiple aspects of both organisational and society welfare (Ndiweni & Verhoeven, 2013). First and foremost, environmental conservation is a significant advantage. Organisations make a significant contribution to the preservation of natural resources, pollution reduction, and the mitigation of climate change by actively selecting environmentally friendly products and suppliers. This is in accordance with international environmental objectives and contributes to the reduction of the environmental consequences of economic endeavours.

Green procurement offers a notable benefit in terms of cost reductions. The implementation of sustainable practises, such as the adoption of energy-efficient products and the minimization of waste, frequently results in long-term financial benefits (Nyakuwanika, 2022). The adoption of green procurement practises by organisations leads to a drop in operational expenses due to reduced energy usage and waste generation. This reduction in expenses provides a direct financial incentive for organisations to embrace such practises. Green buying also contributes to the enhancement of market competitiveness. Organisations that place a high emphasis on sustainability frequently discover themselves in a more advantageous market

position(Nyamwanza, Paketh, Makaza, & Moyo, 2016). They appeal to individuals and stakeholders who prioritise environmental consciousness and place importance on socially responsible business practises. This phenomenon has the potential to result in heightened levels of brand loyalty, expanded market share, and enhanced customer trust.

In addition, the implementation of green procurement practises plays a significant role in ensuring compliance and mitigating risks. The implementation of green procurement practises can assist organisations in meeting environmental standards, thereby mitigating the potential legal and reputational repercussions linked to unsustainable sourcing(Majoni et al., 2016). This aspect has significant importance due to the ongoing evolution and increasing stringency of rules pertaining to environmental sustainability. Enhanced reputation is a significant advantage associated with the implementation of green buying practises. It has been noted that, organisations that actively participate in sustainable practises frequently experience an augmented reputation. The dedication to ethical and ecological values is highly valued by customers and stakeholders, as it has the potential to enhance brand awareness and foster trust.

2.3 Case studies or examples of green procurement practices in other countries or industries

2.3.1 Japan's Eco Mark Program

The Eco Mark Programme in Japan is widely recognised as a notable example of green procurement practises. The certification of products and services that adhere to stringent environmental standards has been effectively facilitated by the Japan Environment Association, which has taken the lead in this project(Makiwa, 2018). It is worth mentioning that the Japanese government has been actively involved in promoting the acquisition of products certified with the Eco Mark, both within the public sector and among commercial entities(Upadhyay, Laing, Kumar, & Dora, 2021). Consequently, the programme has not only mitigated the environmental consequences associated with government procurement, but has also catalysed a surge of environmental awareness inside the corporate sphere. This particular scenario highlights the substantial influence that a meticulously crafted certification programme can exert in promoting sustainable sourcing and procurement practises at a national level.

2.3.2 California's Sustainable Purchasing Program

California, a state renowned for its progressive environmental regulations, has successfully implemented a comprehensive Sustainable Purchasing Programme, which stands as a significant

and influential case study(Zhou, Xu, & Muhammad Shaikh, 2019). This effort lays a significant emphasis on prioritising products and services that adhere to particular sustainability criteria. Through these efforts, the government of California has achieved significant progress in decreasing energy consumption, mitigating greenhouse gas emissions, and minimising water usage inside its public institutions and agencies. The program's success underscores the possibility of widespread implementation of environmentally conscious procurement strategies, especially within the intricate and varied public sector.

2.3.3 Unilever's Sustainable Sourcing

Unilever, a prominent multinational corporation operating in the consumer goods sector, has adopted a proactive stance towards sustainable procurement practises, with a specific focus on the acquisition of raw materials(Zvarivadza, 2018). The organisation engages in close collaboration with suppliers who adhere to rigorous sustainability and environmental standards. This strategy guarantees that the raw resources utilised in Unilever's goods, including palm oil and tea, are procured in a manner that aligns with sustainable practises. Unilever's commitment to reducing its environmental impact extends beyond its own operations, as it actively contributes to the promotion of sustainable practises within its supply chain(Khan, 2019). The instance of Unilever provides a compelling illustration of how a prominent multinational firm may effectively utilise its considerable influence to promote sustainability within its sector, thereby establishing a model for other enterprises to emulate.

2.3.4 The European Union's Green Public Procurement (GPP) Initiative

The European Union has continually exhibited a robust dedication to the implementation of environmentally sustainable procurement practises, as seen by its Green Public Procurement (GPP) project(Khan, Godil, et al., 2021). The programme provides a comprehensive framework and set of standards for European Union member states to effectively incorporate environmental factors into their public procurement procedures. The scope of its offerings encompasses a wide range of product and service areas, such as construction, transportation, and information technology equipment(Khan, Jian, et al., 2019). The primary focus lies on enhancing energy efficiency and mitigating environmental repercussions. The European Union's Green Public Procurement (GPP) programme exemplifies the efficacy of coordinated endeavours at a supranational scale in facilitating the extensive implementation of environmentally-friendly

procurement practises. This initiative serves to advance sustainability and promote environmental accountability across various countries and industries.

2.3.5 IKEA's Sustainable Procurement

IKEA, a prominent multinational corporation operating in the furniture retail industry, has made notable advancements in the implementation of sustainable sourcing strategies (Khan, Razzaq, Yu, & Miller, 2021). The company engages in proactive collaboration with its suppliers to ensure the sourcing of materials used in its products aligns with sustainable practises. Moreover, IKEA has established ambitious objectives to shift its operations towards utilising 100% renewable energy and strives to attain a state of zero waste. This case study serves as an illustration of how a prominent retailer might exert influence on its supplier chain in order to prioritise the principles of environmental sustainability (Khan, Sharif, Golpîra, & Kumar, 2019). Through the alignment of their procurement practises with environmental responsibility, IKEA has successfully diminished its own ecological impact and simultaneously established a commendable precedent for the broader retail sector.

The aforementioned case studies demonstrate the adaptability and significance of green procurement practises in many sectors and geographical settings (Khan, Yu, & Farooq, 2023). The aforementioned examples illustrate the potential advantages that can arise from government-led programmes, company sustainability endeavours, and the incorporation of environmental factors into procurement procedures. These benefits encompass a decrease in environmental harm, financial savings, and an enhanced business image (Khan, Yu, Sharif, & Golpîra, 2020). Therefore, small and medium-sized enterprises (SMEs) operating within Zimbabwe's mining sector may find valuable inspiration and insights from these instances when contemplating the implementation of environmentally conscious procurement practises. Such practises have the potential to foster both ecological sustainability and economic advancement within their distinct circumstances.

2.6 Challenges and barriers to the adoption of green procurement practices

The adoption of green procurement practises has garnered significant interest among organisations and governments, as they strive to connect their procurement procedures with objectives related to environmental sustainability (Lăzăroiu et al., 2020). These practises prioritise the choice of ecologically friendly products and services, with the objective of mitigating adverse environmental and social consequences. Although the advantages of green procurement have been extensively studied, organisations face notable obstacles and impediments when endeavouring to implement

these strategies(Litvinenko, 2020). The aforementioned challenges may hinder the progress towards adopting more sustainable procurement practises, necessitating a thoughtful examination and aggressive measures to address them effectively.

This discourse aims to examine the diverse obstacles and impediments encountered by organisations while implementing green procurement practises(Mabhena & Moyo, 2014). The challenges encompass a variety of factors, including financial considerations, opposition to change, regulatory barriers, and the restricted supply of environmentally friendly items. In this analysis, one explores each of these aforementioned concerns, so offering a full comprehension of the challenges that organisations encounter while attempting to adopt green procurement practises in a proficient manner. The recognition and mitigation of these obstacles are crucial in facilitating the promotion of environmentally conscious procurement and leveraging its capacity to facilitate sustainable economic development while safeguarding the environment.

2.6.1 Cost Considerations

The impression that environmentally friendly products and services are cost-prohibitive is a prevalent and enduring obstacle to the implementation of green buying practises(Majoni et al., 2016). This misperception frequently emerges due to the initial expenses linked with sustainable alternatives, such as energy-efficient apparatus or goods manufactured from recycled materials(Makgaka, 2023). Although these products may have a higher initial cost, they generally lead to long-term financial benefits due to decreased energy usage and reduced expenses for maintenance and disposal. To surmount this obstacle, it is imperative to possess a thorough comprehension of the whole cost of ownership and to place significant emphasis on the long-term economic advantages associated with green procurement.

2.6.2 Lack of Awareness and Education

Another notable challenge pertains to the limited awareness and knowledge around green procurement practises(Makiwa, 2018). Numerous enterprises and institutions may possess limited understanding regarding the fundamental concepts and advantageous aspects of sustainable buying. Insufficient understanding can result in a hesitancy to embrace these methodologies. Tackling this dilemma necessitates the implementation of educational campaigns, training initiatives, and the widespread dissemination of knowledge pertaining to the environmental and economic benefits associated with green procurement.

2.6.3 Resistance to Change

Resistance to change is a prevalent obstacle that arises when endeavouring to implement green procurement practises. Employees and decision-makers within organisations may exhibit a tendency to adhere to conventional procurement methods and display resistance towards any alterations that they regard as disruptive to established routines(Manchisi, 2019). To surmount this obstacle, it is vital to implement proficient change management tactics, which encompass transparent dissemination of the underlying reasons for adopting green procurement practises and active engagement of stakeholders in the decision-making procedures.

2.6.4 Limited Availability of Green Products

In certain geographical areas or sectors, there may exist a restricted accessibility of environmentally friendly products or services that adhere to sustainability standards(Maphosa & Maphosa, 2022). Finding acceptable suppliers and products that correspond with environmental aims can be a considerable problem for organisations. In order to surmount this obstacle, organisations have the opportunity to proactively interact with suppliers, motivating them to provide a wider range of sustainable alternatives, or alternatively, explore potential collaborations with new suppliers who possess expertise in environmentally-friendly products and services.

2.6.5 Supplier Relationships

The adoption of environmentally-friendly procurement practises may require alterations in the dynamics of supplier relationships(Mtengwa, 2023). The implementation of new sustainability criteria may result in the inadequacy of current suppliers, necessitating the identification and establishment of connections with novel suppliers who prioritise environmental responsibility. The effective management of this shift, while ensuring the preservation of the supply chain's quality and reliability, is a multifaceted undertaking that plays a pivotal role in the successful implementation of green procurement.

2.6.6 Regulatory and Policy Barriers

In certain instances, the existing legislation and policies may not be supportive of the adoption and implementation of environmentally sustainable procurement practises(Muchaendepi et al., 2019). Organisations may encounter obstacles in implementing sustainable procurement practises due to either outdated rules or a dearth of supportive policies. In order to overcome this obstacle, it may be imperative to engage in advocacy endeavours aimed at prompting governments and

regulatory entities to establish or revise regulations that foster and provide incentives for environmentally conscious procurement practises.

2.6.7 Lack of Standardization

The absence of universally agreed upon definitions and criteria for environmentally friendly products and services can lead to ambiguity and a sense of unpredictability(Musanzikwa, 2014). Many organisations face challenges in determining which items align with their sustainability objectives, resulting in reluctance to embrace green buying practises. The establishment of unambiguous and widely recognised standards and certificates can aid in alleviating this obstacle.

2.6.8 Complexity of Assessment

Evaluating the environmental and social ramifications of products and services can be a multifaceted challenge. Assessing the environmental sustainability and ethical implications of a product or provider frequently necessitates access to specialised expertise and resources that organisations may lack(Namagembe, Ryan, & Sridharan, 2019). Addressing this obstacle could potentially entail providing training and enhancing the capabilities of internal entities, or alternatively, requesting external assistance from specialised organisations.

2.6.9 Short-Term Focus

In certain instances, there is a tendency for organisations to place greater emphasis on achieving immediate financial benefits at the expense of long-term sustainability. The prioritisation of short-term objectives might result in decision-making that prioritises immediate cost savings, perhaps disregarding sustainable procurement principles(Ndiweni & Verhoeven, 2013). Addressing this obstacle necessitates placing a strong emphasis on the enduring advantages of green procurement, such as decreased operational expenses, improved corporate image, and adherence to evolving environmental policies.

2.6.10 SME Resource Constraints

Small and medium-sized firms (SMEs) frequently have limitations in resources, particularly in the areas of financial capital and specialised knowledge. Some individuals or organisations might face limitations in terms of financial resources, which could hinder their ability to invest in environmentally friendly items(Nyakuwanika, 2022). Additionally, they may also lack the necessary knowledge and expertise to successfully execute sustainable buying practises. In order to facilitate the mitigation of this obstacle, governmental bodies and industry associations possess

the ability to provide financial incentives, capacity-building initiatives, and facilitate access to resources and knowledge for small and medium-sized enterprises (SMEs).

2.6.11 Measurement and Reporting Challenges

The task of monitoring and documenting the environmental and social consequences of procurement can present difficulties. Many organisations encounter challenges when attempting to assess and convey the efficacy of their environmentally conscious buying endeavours (Nyamwanza et al., 2016). To surmount this obstacle, it is imperative to establish precise measurements and reporting systems that enable organisations to evaluate and successfully convey their accomplishments in sustainability.

2.6.12 Market Volatility

The volatility of market conditions can impact the prices and accessibility of environmentally friendly products, a concern that is perceived as a danger by certain organisations (Samar Ali, Kaur, Ersöz, Lotero, & Weber, 2019). The presence of market volatility might engender a sense of reluctance among organisations when it comes to embracing green procurement practises, mostly due to concerns about potential price fluctuations and disruptions in the supply chain. In order to overcome this obstacle, organisations have the option to employ risk management tactics, including the adoption of supplier diversification and the formulation of contingency plans to mitigate anticipated market volatility.

In order to effectively tackle the issues and barriers associated with green procurement practises, it is imperative to adopt a comprehensive and customised strategy. It is imperative for organisations, governments, industry groups, and other relevant stakeholders to engage in collaborative efforts aimed at enhancing awareness, delivering educational initiatives, offering training opportunities, advocating for legislation that foster support, and promoting innovation and transformative shifts in procurement practises. The resolution of these challenges is crucial in harnessing the full potential of sustainable procurement in attaining environmental objectives and fostering economic advancement.

2.7 SMEs in the Mining Industry in Zimbabwe: Characteristics and Contributions

The mining sector in Zimbabwe is comprised of Small and Medium-sized Enterprises (SMEs) that has unique attributes distinguishing them from larger mining enterprises. The aforementioned attributes are indicative of their magnitude, variety, flexibility, and ingenuity (Upadhyay et al.,

2021). Small and Medium Enterprises (SMEs) are commonly distinguished by their comparatively modest scale and constrained financial and human capital in comparison to larger entities within the industry. This scale facilitates enhanced agility and adaptability, hence enabling prompt responses to dynamic market situations and operational issues(Zaidi, Mirza, Hou, & Ashraf, 2019). The mining sector in Zimbabwe exhibits a notable level of diversity, particularly among small and medium-sized enterprises (SMEs). These individuals have the potential to participate in multiple phases of the mining operation, spanning from initial exploration to the actual extraction and subsequent processing of minerals. Moreover, they are involved in the extraction of a diverse array of minerals, so contributing to the sector's overall diversity.

A notable attribute observed in small and medium-sized enterprises (SMEs) within the mining industry is their distinct feature of being locally owned and operated. A significant portion of these firms are under the ownership of Zimbabwean natives, hence facilitating economic empowerment within local communities and safeguarding the retention of mining advantages inside the nation(Zhou et al., 2019). The presence of local ownership serves to enhance the connection between small and medium-sized enterprises (SMEs) and the geographical areas in which they conduct their operations, so promoting a sense of communal belonging and collective accountability(Zvarivadza, 2018). Small and Medium Enterprises (SMEs) operating within the mining sector in Zimbabwe are distinguished not only by their inherent attributes but also by their substantial contributions to the overall economic progress and advancement of the nation. One of the key contributions made by these firms is the generation of employment opportunities. These entities play a vital role in facilitating job growth, particularly in rural and mining areas. Through the employment of individuals from the immediate vicinity, small and medium-sized enterprises (SMEs) provide a significant contribution to the alleviation of poverty and the maintenance of economic stability in these regions, thereby enhancing the quality of life and overall well-being of the local population.

In addition, small and medium-sized enterprises (SMEs) play a significant role in fostering local economic development through their investments in infrastructure, provision of goods and services to their immediate communities, and facilitation of support to local firms(Chiwariidzo, 2023). This phenomenon leads to enhanced quality of life and more economic inclusiveness, as small and medium-sized enterprises (SMEs) become essential elements of the local economic framework.

Small and medium-sized enterprises (SMEs) play a crucial role in facilitating the diversification of the mining sector (De Gobbi, 2020). The individual's inclination towards entrepreneurship and their ability to effectively use available resources motivate them to investigate and cultivate untapped mineral resources that could have been disregarded by larger mining enterprises. The process of diversification has the potential to facilitate the identification and exploration of mineral deposits that have not been previously exploited, thereby enhancing the mining sector and making a significant contribution to the overall economic advancement of the nation.

Moreover, there is a growing trend among small and medium-sized enterprises (SMEs) operating in Zimbabwe's mining sector to embrace ecologically sustainable practises. The current trend towards environmental stewardship seeks to address the environmental consequences of their activities, encompassing concerns such as land reclamation, reforestation, and sustainable resource extraction (Deveci, Brito-Parada, Pamucar, & Varouchakis, 2022). The aforementioned environmentally conscious practises are in accordance with the objectives of global sustainability and underscore the capacity of small and medium-sized enterprises (SMEs) to harmonise economic progress with ecological accountability. Small and medium-sized enterprises (SMEs) frequently participate in social responsibility endeavours that yield advantages for the local communities in which they conduct their operations (Hsbollah, Hassan, & Mohamad, 2023). These activities may involve the construction of educational institutions, healthcare centres, and the provision of assistance to community-based endeavours, thereby enhancing their connections with local constituents. The close affiliation of these social responsibility endeavours with the respective communities enhances their overall effectiveness.

Additionally, small and medium-sized enterprises (SMEs) play a crucial role in fostering competitiveness and driving innovation within the mining industry (Khan, 2019). The existence of these entities serves as a catalyst for promoting enhanced efficiency, responsiveness, and social responsibility among larger mining enterprises. The introduction of competition by small and medium-sized enterprises (SMEs) facilitates innovation, thereby compelling the industry to adopt improved practises, mitigate environmental consequences, and augment social contributions (Khan, Godil, et al., 2021). Consequently, this phenomenon yields advantages for the mining sector as a whole, thereby fostering a more sustainable and socially accountable industry.

2.8 Challenges and opportunities for SMEs in Zimbabwe's mining industry

Small and Medium Enterprises (SMEs) that operate within Zimbabwe's mining sector are faced with a dynamic environment that encompasses a combination of obstacles and prospects, which have a substantial impact on their capacity to expand and maintain long-term viability.

2.8.1 Regulatory and Compliance Hurdles

Small and medium-sized enterprises (SMEs) operating within Zimbabwe's mining sector face several regulatory and compliance obstacles that have a substantial influence on their operational activities and potential for expansion (Khan, Jian, et al., 2019). The mining business is subject to stringent regulations, necessitating strict adherence to a multitude of standards. The process of acquiring the requisite permissions and licences for operation is frequently a lengthy and intricate undertaking, subject to regulatory supervision by the government. Furthermore, small and medium-sized enterprises (SMEs) are required to effectively negotiate and comply with rigorous environmental requirements. This entails adhering to waste management protocols and pollution control standards, while also ensuring compliance with safety and health rules to safeguard the welfare of both employees and local populations.

The legal and compliance requirements can pose significant challenges for small and medium-sized enterprises (SMEs). The acquisition of permissions and licences sometimes entails bureaucratic procedures that can consume significant amounts of time and resources (Khan, Razzaq, et al., 2021). The complexities of environmental legislation necessitate careful strategizing and the allocation of resources towards ecologically sustainable practises, thereby placing a burden on the limited financial and technical capacities of small and medium-sized enterprises (SMEs). The difficulty is further exacerbated by the requirement for consistent monitoring and reporting in order to maintain continued adherence, resulting in increased operational expenses and administrative responsibilities.

The intricate nature of the regulatory framework is a substantial obstacle for emerging small and medium enterprises (SMEs) seeking to enter the mining industry (Kachilala & Dumba, 2022). Additionally, it has the potential to impede the expansion of established small and medium enterprises (SMEs), as it reallocates valuable resources away from their primary mining operations. In order to surmount these obstacles, small and medium-sized enterprises (SMEs) must allocate resources towards acquiring specialised knowledge and skills to effectively traverse the complex regulatory landscape (Kanyepe, 2023). The establishment of partnerships with

governmental entities and regulatory organisations is vital in order to optimise and optimise the procedures associated with permitting and compliance.

2.8.2 Access to Finance

The availability of financial resources poses a significant challenge for small and medium-sized enterprises (SMEs) operating within Zimbabwe's mining sector(Khan, Razzaq, et al., 2021). The mining industry necessitates significant financial inputs to procure equipment, conduct exploration, carry out extraction and processing operations, and sustain day-to-day activity. Nevertheless, small and medium-sized enterprises (SMEs) frequently have challenges when it comes to obtaining the required funding, primarily due to the perceived dangers linked to mining operations(Khan, Sharif, et al., 2019). Financial institutions may exhibit reluctance in extending loans or credit facilities to small and medium enterprises (SMEs) operating in the mining sector due to apprehensions surrounding the inherent volatility and uncertainties associated with mining activities.

Insufficient financial accessibility can result in capital limitations that restrict the growth prospects of small and medium-sized enterprises (SMEs). Insufficient financial resources can impede critical endeavours such as conducting geological surveys, procuring necessary equipment, and recruiting qualified workers(Khan et al., 2023). Additionally, this constraint hinders the capacity of small and medium-sized enterprises (SMEs) to engage in innovative practises and embrace contemporary technology that have the potential to improve operational efficiency and provide safety measures.

In order to mitigate the issue of restricted financial accessibility, small and medium-sized enterprises (SMEs) operating within the mining industry have the opportunity to explore diverse options. SMEs have the option to access assistance from government initiatives and development banks that specifically aim to offer financial resources(Khan, Yu, et al., 2020). Furthermore, the establishment of collaborations with prominent mining corporations or investors can facilitate the acquisition of financial resources and specialised knowledge. By showcasing a robust dedication to ethical and environmentally conscious mining methods, companies can enhance their reputation and establish trust with financial institutions, potentially increasing the likelihood of securing financial support.

In brief, the mining sector in Zimbabwe encounters noteworthy obstacles in the form of regulatory and compliance barriers, along with challenges related to securing financial resources(Khan, Yu, et al., 2020). These hurdles pose substantial difficulties for small and medium-sized enterprises (SMEs) operating within this sector. To surmount these challenges, a comprehensive strategy is necessary, which entails fostering strong cooperation with regulatory entities, securing government backing, and establishing strategic alliances with relevant stakeholders capable of furnishing the requisite financial and technical means to navigate the intricate regulatory landscape and foster the expansion and durability of small and medium-sized enterprises (SMEs) within the mining sector.

2.8.3 Limited Technical and Human Resources

The scarcity of technical experience and proficient personnel is a recurring obstacle encountered by small and medium-sized enterprises (SMEs) operating within Zimbabwe's mining sector(Lăzăroiu et al., 2020). The effectiveness and security of mining operations are contingent upon possessing the appropriate expertise and understanding in various domains, including geology, mineral processing, equipment maintenance, and health and safety. Nevertheless, small and medium-sized enterprises (SMEs) frequently encounter difficulties in attracting and retaining highly skilled individuals as a result of limited resources and competition from larger entities within the mining industry(Litvinenko, 2020). The limited availability of specialised skills might give rise to various notable difficulties. Firstly, the absence or inadequate execution of jobs requiring technical skill can result in operational inefficiencies. Consequently, this has an impact on the overall efficiency of mining activities. Furthermore, the absence of proficient individuals might undermine safety protocols, so subjecting workers to potential dangers and heightening the likelihood of accidents. Safety infractions and insufficient training can lead to regulatory compliance concerns, hence adding complexity to the operations of small and medium-sized enterprises (SMEs).

In order to effectively tackle the issue of constrained technological and human resources, it is imperative to adopt a comprehensive and multifaceted strategy. Small and medium-sized enterprises (SMEs) have the opportunity to allocate resources towards training and capacity-building initiatives, with the aim of enhancing the skill sets of their current staff(Mabhena & Moyo,

2014). This practise not only boosts the competencies of their workforce but also cultivates a culture that prioritises ongoing enhancement. Engaging in partnerships with educational institutions and government organisations to design customised training programmes that align with the specific requirements of the mining industry might prove to be a fruitful approach.

In addition, small and medium-sized enterprises (SMEs) have the option to contemplate forming strategic alliances with larger mining firms, industry associations, or international organisations as a means to acquire technological experience. These collaborative alliances have the potential to offer significant benefits in terms of mentorship and the exchange of knowledge(Majoni et al., 2016). The process of attracting and maintaining highly skilled individuals may necessitate the provision of attractive remuneration packages and opportunities for professional growth. Highlighting a robust dedication to safety and conscientious mining methodologies might facilitate the recruitment of proficient workers who uphold these principles.

2.8.4 Infrastructure and Logistics

Insufficient infrastructure, encompassing transport networks and energy provision, poses a notable obstacle for small and medium-sized enterprises (SMEs) operating within the mining industry(Makgaka, 2023). The success of mining activities is contingent upon the presence of dependable and effective infrastructure. Insufficiently maintained transport routes and energy sources might result in elevated operational expenses and disruptions in the timely delivery of goods to the market(Makiwa, 2018). Transportation concerns encompass a variety of issues, including inadequate road maintenance and insufficiently developed rail or port infrastructure for the transportation of bulk commodities. These aforementioned concerns can lead to increased expenses in the transportation of minerals and equipment. Transportation delays can have adverse effects on supply chains, thereby diminishing the competitiveness of small and medium-sized enterprises (SMEs) in the global market.

The lack of dependability in the provision of electricity presents supplementary obstacles. Mining activities frequently necessitate significant energy resources, and interruptions in power supply can result in periods of inactivity and diminished efficiency. In addition, the substantial financial implications linked to the provision of alternative energy sources, such as diesel generators, might have a notable influence on operational expenditures(Manchisi, 2019). The successful resolution of infrastructure and logistics difficulties necessitates the establishment of collaborative

partnerships between government agencies, infrastructure development organisations, and industry groups. Promoting the enhancement of infrastructure, encompassing roadways and transportation networks, represents a commendable endeavour(Maphosa & Maphosa, 2022). Small and medium-sized enterprises (SMEs) may also contemplate alternate transport solutions, like establishing partnerships with transport providers or investigating the utilisation of technology to enhance logistical efficiency. In the context of energy supply, the implementation of renewable energy solutions and the pursuit of advantageous energy supply contracts can serve as effective measures to alleviate the consequences associated with unpredictable power sources.

2.8.5 Environmental and Social Responsibility

In the contemporary global landscape, the mining industry, particularly small and medium-sized enterprises (SMEs) in Zimbabwe, is confronted with the pressing need to prioritise environmental and social responsibility(Maponga & Musa, 2021). The increasing recognition of the environmental and social consequences associated with mining activities has led to a heightened demand for the implementation of sustainable and ethical practises. Small and Medium-sized Enterprises (SMEs), which frequently operate with constrained resources, encounter unique difficulties in achieving these objectives. In the current global landscape, there is a growing recognition of the crucial importance of environmental and social responsibility(Leo Tarambiwa Mataruka & Joe Muzurura, 2023). This has led to increased scrutiny of the mining sector, particularly Small and Medium-sized Enterprises (SMEs) operating within Zimbabwe. The increasing demand to embrace sustainable and ethical practises reflects the expanding recognition of the substantial environmental and social consequences linked to mining operations at a worldwide level(Leo T Mataruka & Joe Muzurura, 2023). Therefore, Small and medium-sized enterprises (SMEs), which frequently face limitations in terms of resources, encounter a distinct set of difficulties when attempting to navigate the dynamic environment characterised by increased demands.

2.8.6 Environmental Responsibility

Small and medium-sized enterprises (SMEs) operating within the mining sector are currently encountering increasing pressures to exhibit their dedication towards environmental

accountability(Ndiweni & Verhoeven, 2013). This requirement involves a wide range of acts, including the reduction of the environmental impact of mining operations, effective management of waste and pollution, and the implementation of responsible practises for land reclamation and rehabilitation. These programmes play a crucial role in alleviating the adverse environmental impacts associated with mining activities, protecting ecosystems, and resolving the environmental concerns expressed by diverse stakeholders.

Nevertheless, the endeavour to uphold environmental responsibility is not without of obstacles. Small and medium-sized enterprises (SMEs) are required to spend significant financial resources towards environmental mitigation endeavours, which encompass activities such as implementing pollution control measures or undertaking the repair of contaminated sites(Nyakuwanika, 2022). The financial load can be a significant challenge for small and medium-sized enterprises (SMEs), as they frequently operate with constrained budgets and must strategically allocate resources to ensure the economic sustainability of their mining activities. As a result, achieving a harmonious equilibrium between conscientious environmental stewardship and economic viability is a complex and intricate dilemma.

In order to tackle these issues, small and medium-sized enterprises (SMEs) have the opportunity to consider various tactics. It is important to note that, efficiency and innovation play a crucial role in the implementation of sustainable mining practises. The implementation of cost-effective technologies and practises aimed at waste reduction, resource optimisation, and pollution minimization can support small and medium-sized enterprises (SMEs) in achieving their sustainability objectives without incurring excessive expenses(Musanzikwa, 2014). Collaboration also assumes a crucial role. Small and medium-sized enterprises (SMEs) can gain access to significant resources, experience, and finance for their environmental projects by establishing partnerships with governmental agencies, larger mining businesses, and non-governmental organisations(Namagembe et al., 2019). These collaborations not only provide economic advantages but also bolster the credibility and standing of small and medium-sized enterprises (SMEs) as conscientious and accountable entities.

Furthermore, the adherence to regulatory requirements continues to be of utmost importance. Small and medium-sized enterprises (SMEs) are required to conscientiously comply with both local and international environmental rules in order to secure their viability in the long run and

uphold their reputation as socially responsible entities(Mhlanga et al., 2023). The active involvement of local communities and other stakeholders is of equal importance. As a result, engaging these many groups in sustainability efforts cultivates their endorsement, collaboration, and a collective feeling of accountability. When it comes to financial planning, it is advisable for small and medium-sized enterprises (SMEs) to assign specific resources within their budgets for the purpose of addressing environmental responsibility. This allocation acknowledges the significance of this commitment as an essential component of their sustained success in the long run(Moslehpour et al., 2023). There is a growing expectation for small and medium-sized enterprises (SMEs) operating within the mining sector to exhibit a heightened level of environmental accountability. This involves a range of actions, which includes the reduction of the environmental impact of mining operations, the proper management of waste and pollution, and the implementation of responsible practises for land reclamation and rehabilitation.

These endeavours play a crucial role in reducing the adverse environmental impacts associated with mining activities. Nevertheless, it is important to acknowledge that these actions are not devoid of associated expenses(Mtengwa, 2023). The implementation of environmental mitigation strategies, such as the installation of pollution control measures or the remediation of contaminated sites, can pose significant financial challenges. Small and medium-sized enterprises (SMEs) may encounter challenges as they allocate their already constrained resources to meet these specified obligations(Muchaendepi et al., 2019). Achieving a harmonious equilibrium between conscientious environmental stewardship and economic sustainability is a multifaceted and intricate dilemma.

Although small and medium-sized enterprises (SMEs) in the mining industry face considerable difficulties in their endeavour to adopt environmentally responsible practises, they are also presented with prospects for expansion, improvement of reputation, and establishment of long-term sustainability(Leo Tarambiwa Mataruka & Joe Muzurura, 2023). By adopting a proactive and strategic strategy that integrates responsible practises into their operations, small and medium-sized enterprises (SMEs) have the potential to fulfil the changing demands of an ethically aware global society and make a positive contribution towards fostering a sustainable and responsible mining sector in Zimbabwe.

2.8.7 Social Responsibility

In addition to environmental considerations, small and medium-sized enterprises (SMEs) also place significant emphasis on social responsibility(Alhola, Ryding, Salmenperä, & Busch, 2019). Participation in social development endeavours is anticipated, prioritising the enhancement of local community welfare, promotion of economic inclusiveness, and provision of assistance to education and healthcare activities(Chikwere, Chikazhe, & Tukuta, 2023). Although these endeavours play a vital role in establishing favourable relationships with local stakeholders, they can also impose a burden on financial resources. Small and medium-sized enterprises (SMEs) frequently encounter a dilemma wherein they must balance their investments in social development initiatives with the need to sustain the economic viability of their mining activities.

Small and medium-sized enterprises (SMEs) have the opportunity to evaluate and adopt a range of strategies(Ambe, 2019). Efficiency and innovation are crucial factors in the implementation of sustainable mining practises. The implementation of cost-effective technologies and practises that aim to decrease waste, enhance resource utilisation, and mitigate pollution can assist small and medium-sized enterprises (SMEs) in achieving their sustainability objectives without incurring excessive expenses. Collaboration with governmental agencies, prominent mining businesses, and non-governmental organisations can afford small and medium enterprises (SMEs) the opportunity to acquire resources, specialised knowledge, and financial support for their environmental and social endeavours(Asif et al., 2020). These collaborations not only provide economic advantages but also bolster the credibility and standing of small and medium-sized enterprises (SMEs) as responsible entities.

In addition, ensuring adherence to regulatory requirements is of utmost importance. Small and medium-sized enterprises (SMEs) are required to comply with both domestic and global environmental and social requirements in order to secure their long-term viability and establish a reputable standing(Bimha, Hoque, & Munapo, 2020). Active involvement with local communities and other relevant stakeholders is of paramount importance. The inclusion of these groups in sustainability projects promotes the cultivation of support, collaboration, and a collective sense of accountability. When considering financial planning, it is advisable for small and medium-sized enterprises (SMEs) to incorporate provisions for environmental and social responsibilities within their budgetary allocations(Chikwere et al., 2023). Furthermore, the allocation of resources towards educational programmes and training opportunities for employees about sustainable

practises has the potential to augment the efficacy of environmental and social responsibility endeavours, while simultaneously fostering a corporate atmosphere that prioritises responsible mining.

2.9 Opportunities

2.9.1 Local Ownership and Community Engagement

One notable advantage that small and medium-sized enterprises (SMEs) in Zimbabwe's mining sector possess is their adherence to local ownership regulations and their robust affiliations with the surrounding communities in which they conduct their operations(Khan, Jian, et al., 2019). This distinctive benefit not only differentiates them from others but also cultivates a sense of collective accountability and creates an ideal environment for community involvement and progress. Through proactive engagement with local stakeholders, small and medium-sized enterprises (SMEs) can establish favourable connections and attain social approval.

The establishment of local ownership fosters a direct and tangible connection between small and medium-sized enterprises (SMEs) and the communities in which they operate(Khan, Razzaq, et al., 2021). The establishment of a bond of mutual interest is evident, as the success of the mining activity is intrinsically linked to the welfare and advancement of the nearby community. The potential of this synergy can be harnessed to facilitate the advancement of sustainable practises, foster active engagement from the community, and effectively tackle shared obstacles through coordinated efforts(Khan, Sharif, et al., 2019). The active involvement of SMEs in local communities can result in the establishment of projects that yield mutual benefits for both the businesses and the inhabitants. These efforts encompass various aspects, including the enhancement of infrastructure, provision of healthcare services, and creation of educational prospects.

Moreover, active involvement with the community can enhance the ability of small and medium-sized enterprises (SMEs) to negotiate regulatory obstacles with greater efficiency. The presence of local support and cooperation has the potential to exert influence on regulatory decisions, thereby expediting the approval process for permits and enhancing operational efficiency(Khan et al., 2023). The phenomenon of social acceptance plays a significant role in bolstering the

reputation of small and medium-sized enterprises (SMEs) within their respective industries, hence strengthening their social licence to operate.

2.9.2 Resource Diversification

Small and Medium Enterprises (SMEs) operating within Zimbabwe's mining industry possess a notable degree of adaptability, which grants them the capacity to investigate and cultivate a wide array of mineral resources (Khan, Yu, et al., 2020). The presence of intrinsic resource diversification not only distinguishes them from others, but also enhances the overall resilience of the mining sector. Small and medium-sized enterprises (SMEs) have the potential to broaden their operational scope by engaging in mineral extraction activities, thereby uncovering previously unexplored mineral reserves (Khan, Zhang, Kumar, Zavadskas, & Streimikiene, 2020). This endeavour not only facilitates the discovery of undiscovered mineral resources but also creates novel opportunities for growth and economic advancement. The mining industry in Zimbabwe exhibits a diverse and prosperous landscape, characterised by a substantial presence of mineral resources such as gold, platinum, diamonds, and an extensive range of industrial minerals. Small and Medium Enterprises (SMEs), due to their inherent agility and propensity for innovation, are strategically positioned to effectively explore and use these resources. SMEs can mitigate the risks associated with excessive dependence on a particular resource and respond to market fluctuations by diversifying their mineral portfolio.

The diversification of resources not only enhances the resilience of small and medium-sized enterprises (SMEs), but also plays a significant role in fostering the growth and dynamism of the mining sector as a whole (Lăzăroiu et al., 2020). The extraction of minerals contributes to the augmentation of a nation's mineral output and revenue potential, hence fostering economic growth and development. Furthermore, small and medium-sized enterprises (SMEs) have the potential to take the lead in the investigation and development of mineral reserves that have been neglected or not fully utilised in the past. This can result in the discovery of important resources, thereby making a significant contribution to the overall mineral wealth of the nation.

2.9.3 Innovation and Efficiency

One of the notable advantages that small and medium-sized enterprises (SMEs) in Zimbabwe's mining sector enjoy is their innate ability to adapt quickly and their capacity for innovation. In contrast to larger mining corporations, small and medium-sized enterprises (SMEs) has the ability to promptly adopt cost-efficient and environmentally conscious measures, thereby attaining a

competitive advantage within the market(Machirori, Pande, & Fundira, 2022). The capacity to adjust to dynamic conditions and effectively utilise technology developments and contemporary methodologies enables small and medium-sized enterprises (SMEs) to optimise operational efficiency and mitigate expenses.

The mining industry can greatly benefit from the characteristic of innovation, which is often observed as a distinguishing feature of small and medium-sized enterprises (SMEs). Small and medium-sized enterprises (SMEs) have the opportunity to adopt innovative technologies, procedures, and equipment that can enhance the efficiency of their mining operations, optimise the utilisation of resources, and reduce the environmental footprint(Madzinga, Sibanda, & Munuhwa, 2020). As an illustration, individuals have the opportunity to allocate their resources towards the acquisition of cutting-edge mining technologies that optimise the efficiency of mineral extraction processes, concurrently mitigating energy consumption and minimising the production of waste materials. These technologies not only enhance operating efficiency but also correspond with the increasing need for environmentally sustainable mining practises.

In addition, small and medium-sized enterprises (SMEs) has the ability to quickly and effectively respond to shifts in market conditions and evolving consumer tastes(Majoni et al., 2016). In the event of a heightened demand for minerals that are ethically sourced or produced through sustainable practises, small and medium-sized enterprises (SMEs) has the ability to swiftly adapt their operations to fulfil these criteria at a faster pace compared to larger, bureaucratic entities. The ability to promptly adapt to market developments strengthens their competitive edge and appeal to discerning consumers and investors.

2.9.4 Partnerships and Collaboration

The engagement of small and medium-sized enterprises (SMEs) in collaborative endeavours with prominent mining corporations, governmental entities, and global organisations presents a plethora of prospects including technical proficiency, financial support, and enhanced market access(Moslehpour et al., 2023). These collaborations can function as a crucial means of support, equipping small and medium-sized enterprises (SMEs) with the necessary resources and expertise to effectively negotiate the complexities of resource management and regulatory compliance. Additionally, they provide opportunities for individuals to have access to valuable resources, information, and worldwide marketplaces(Mtengwa, 2023). Larger mining corporations

frequently possess significant technological proficiency, which they can impart to small and medium-sized enterprises (SMEs) via mentorship and collaborative endeavours. Mentorship programmes have the potential to assist small and medium-sized enterprises (SMEs) in the adoption of optimal practises, enhancement of safety protocols, and optimisation of mining operations(Muchaendepi et al., 2019). The availability of technical knowledge and experience from larger organisations expedites the learning process for small and medium-sized enterprises (SMEs) while mitigating the risks associated with little experience.

Government agencies can also fulfil a crucial function in providing support to small and medium-sized enterprises (SMEs). Engaging in partnerships with these agencies can lead to the optimisation of regulatory processes, enhanced financial accessibility, and the provision of incentives, so fostering a more favourable climate for small and medium enterprises (SMEs) operating within the mining industry(Musvota & Mukonza, 2022). Government collaborations have the potential to equip small and medium-sized enterprises (SMEs) with the essential resources to effectively tackle regulatory obstacles.

Engaging in partnerships with international organisations has the potential to facilitate access to global markets. Small and medium-sized enterprises (SMEs) have the opportunity to utilise these strategic alliances in order to engage in the exportation of minerals and mineral-derived goods(Muswere, 2020). This enables them to broaden their clientele and augment their sources of income. International organisations frequently possess extensive networks and resources that can effectively assist market access and advance the promotion of small and medium-sized enterprises (SMEs) as responsible and ethical suppliers.

2.9.5 Government Support

Government activities targeting the promotion of small and medium-sized enterprises (SMEs) within Zimbabwe's mining sector assume a crucial role in establishing a conducive climate for the flourishing of these businesses(Nyakuwanika, 2022). These policies involve a variety of measures, which consist of reduced rules, incentives, and enhanced access to funding. The cumulative effect of these activities is to furnish small and medium-sized enterprises (SMEs) with the essential assistance to surmount regulatory obstacles and get the financial means necessary for expansion and long-term viability.

The implementation of streamlined regulations has the potential to enhance the efficiency and expediency of the permitting process for small and medium-sized enterprises (SMEs), hence mitigating administrative complexities and minimising delays (Nyamwanza et al., 2016). The presence of well-defined and streamlined regulatory paths contributes to the facilitation of business operations, hence yielding notable advantages for smaller firms. A well-structured and transparent regulatory environment has the potential to facilitate investment and instill confidence in small and medium-sized enterprises (SMEs), thereby encouraging them to expand their operations.

Government incentives might manifest in diverse ways, encompassing tax reductions, financial assistance, or privileged opportunities for obtaining mining concessions (Panganayi, Chakanetsa, Chikwature, & Mazhazhate, 2021). These incentives function as effective mechanisms for promoting the expansion of small and medium-sized enterprises (SMEs). One potential benefit of their involvement is the potential to alleviate the financial strain experienced by small and medium-sized enterprises (SMEs), thereby facilitating their ability to pursue investments in technology, safety measures, and environmental initiatives (Panganayi, Msipa, & Mazhazhate, 2021). The provision of incentives that encourage the adoption of responsible mining practises is in accordance with global standards, hence improving the reputation and market value of products produced by small and medium-sized enterprises (SMEs).

Enhanced financial accessibility, which constitutes a pivotal facet of governmental assistance, effectively tackles a prominent obstacle encountered by small and medium enterprises (SMEs) operating within the mining industry (Namagembe et al., 2019). The facilitation of loans and credit for mining activities undertaken by small and medium-sized enterprises (SMEs) can be enhanced by government collaboration with financial institutions or the establishment of dedicated funding programmes. The provision of financial resources enables small and medium-sized enterprises (SMEs) to secure the necessary funds for the procurement of equipment, investment in technological advancements, and the expansion of their business activities (Ndiweni & Verhoeven, 2013). As a consequence, this phenomenon expedites their rate of expansion and fortifies their impact on the advancement of the economy.

2.9.6 Export Opportunities

Small and medium-sized enterprises (SMEs) operating within the mining sector have the potential to leverage worldwide markets through the identification and pursuit of export prospects for their

minerals and mineral-derived products(Munyimi, 2019). Expanding their customer base and revenue streams through diversification into international markets presents a distinct opportunity for growth and long-term viability. The act of exporting minerals to international markets enables small and medium-sized enterprises (SMEs) to access a wider range of potential buyers, hence decreasing their reliance on domestic market dynamics.

The exportation of minerals and mineral-based goods has the potential to greatly benefit small and medium-sized enterprises (SMEs)(Musanzikwa, 2014). The enhancement of competitiveness and revenue potential can result in improved financial stability and growth opportunities. In addition, the act of entering international markets provides small and medium-sized enterprises (SMEs) with the opportunity to engage with a broader range of customers, thereby mitigating the potential dangers associated with relying solely on a particular market or commodity. The act of diversifying can serve as a safeguard for small and medium-sized enterprises (SMEs) against the volatilities of the market and the uncertainties of the economy.

In order to capitalise on export prospects, small and medium-sized enterprises (SMEs) ought to allocate resources towards the development of logistics and transportation infrastructure(Munyede & Mapuva, 2019). This strategic investment will facilitate the smooth and economical delivery of their goods. In addition, it is imperative for organisations to prioritise adherence to international quality and sustainability standards in order to effectively satisfy the demands of a worldwide client base. Engaging in the exploration of overseas markets can serve as a strategic manoeuvre aimed at establishing a prominent presence within the global mining sector, thereby reinforcing their standing within the domestic market.

2.9.7 Technological Advancements

The utilisation of contemporary technology and mining equipment exhibits considerable potential in augmenting the efficacy and security of small and medium-sized enterprises' mining activities. The advancements in resource exploration and extraction techniques provide novel prospects for economic expansion and long-term viability(Mabhena & Moyo, 2014). The mining sector is progressively dependent on technological breakthroughs to enhance efficiency, safety, and environmental sustainability. Small and medium-sized enterprises (SMEs) have the opportunity to utilise these innovations to attain a competitive advantage.

Contemporary technological advancements, including data analytics, unmanned aerial vehicles (UAVs), and sophisticated sensors, can be utilised to enhance the precision of resource evaluation and exploration. These technologies have the potential to decrease exploration expenses, mitigate environmental consequences, and enhance the probability of identifying economically feasible mineral reserves(Majoni et al., 2016). Furthermore, the implementation of sophisticated machinery and automated systems has the potential to augment safety protocols through the mitigation of accident probabilities and the reduction of exposure to perilous circumstances.

In addition, the progression of technology allows small and medium-sized enterprises (SMEs) to function with enhanced accuracy and effectiveness, resulting in decreased operational expenses and heightened rates of resource recuperation(Makgaka, 2023). The integration of these advancements not only yields advantages in terms of small and medium-sized enterprises' financial gains, but also establishes them as progressive and conscientious mining corporations, so enhancing their appeal to investors and customers.

2.10 Environmental sustainability and social responsibility practices in SMEs

The implementation of environmental sustainability and social responsibility practises inside Small and Medium-sized Enterprises (SMEs) involves the adoption of several strategies to showcase their dedication to ethical and sustainable business practises(Chitiyo, Dengu, Mbae, & Vandome, 2019). Regarding environmental sustainability, small and medium-sized enterprises (SMEs) are progressively embracing measures aimed at mitigating their carbon emissions. This include the adoption of energy-efficient technologies, the shift towards renewable energy sources such as solar power, and the adoption of energy management systems. Furthermore, small and medium-sized enterprises (SMEs) are actively participating in initiatives aimed at reducing waste and promoting recycling in order to mitigate their environmental footprint(Chitongo, Chikunya, & Marango, 2020). Additionally, they are embracing water-saving technologies and implementing responsible sourcing practises. The integration of green building principles in the construction and real estate industries is facilitating the development of more sustainable building designs.

Regarding social responsibility, small and medium-sized enterprises (SMEs) actively engage in their own local communities by offering support to local initiatives, generating employment possibilities, and participating in community development endeavours such as the construction of educational institutions and healthcare facilities(Chiwariidzo, 2023). The significance of fostering

diversity and inclusion in the labour market is increasing, as small and medium-sized enterprises (SMEs) endeavour to provide equitable job prospects and just working environments.

The organisation places significant emphasis on the well-being of its employees, evident through the introduction of well-being initiatives, provision of healthcare benefits, and provision of assistance for mental health and achieving a healthy work-life balance. Another crucial component is the assurance of ethical supply networks, as small and medium-sized enterprises (SMEs) meticulously examine their supply chains to mitigate the occurrence of unethical or exploitative practises (Chiwaridzo & Masengu, 2023). The integration of these collaborative endeavours is a crucial component of small and medium enterprises' (SMEs) strategic initiatives aimed at fulfilling stakeholder demands and ensuring their sustained prosperity within a market that places growing emphasis on sustainability.

The significance of environmental sustainability and social responsibility practises in Small and Medium-sized Enterprises (SMEs) is increasing in Zimbabwe, as businesses strive to conform to global trends and tackle local issues. Within the realm of environmental sustainability, small and medium-sized enterprises (SMEs) in Zimbabwe are progressively directing their efforts towards the mitigation of their carbon emissions (De Gobbi, 2020). This include the use of energy-efficient technologies, the exploration of renewable energy sources, and the optimisation of energy management. The use of solar electricity and the utilisation of LED lighting exemplify measures undertaken to mitigate environmental repercussions (Deveci et al., 2022). There is a growing trend among small and medium-sized enterprises (SMEs) to adopt waste reduction and recycling practises, which serve to mitigate waste generation and encourage appropriate disposal of materials.

The conservation of water is a crucial factor, especially in areas where there is a significant concern regarding water scarcity (Hsbollah et al., 2023). Small and medium-sized enterprises (SMEs) are currently adopting water conservation technology and actively engaging in the reuse of water resources whenever feasible. In addition, there is a growing emphasis on responsible sourcing practises, as small and medium-sized enterprises (SMEs) are actively seeking local suppliers that demonstrate a commitment to ecologically responsible practises. This approach aims to mitigate the ecological impact associated with transportation.

In Zimbabwe, similar to several other regions, small and medium-sized enterprises (SMEs) are increasingly adopting environmentally sustainable building practises within the construction and real estate industries(Kachilala & Dumba, 2022). These practises encompass the implementation of energy-efficient architectural designs, the integration of natural ventilation systems, and the utilisation of sustainable building materials. These efforts collectively contribute to the development of a more sustainable built environment. In the realm of social responsibility, small and medium-sized enterprises (SMEs) in Zimbabwe are progressively involving themselves in interactions with local communities.

The organisation actively engages in supporting community development efforts, providing employment opportunities to local inhabitants, and making contributions towards the construction of educational institutions and healthcare facilities(Kagande, Madzikanda, Sandada, & Taderera, 2022). The promotion of diversity and inclusion in the workplace is a significant area of emphasis, as small and medium-sized enterprises (SMEs) endeavour to provide equitable job prospects, just compensation, and a workplace atmosphere characterised by mutual respect. The prioritisation of employee well-being is also experiencing a notable increase. Small and medium-sized enterprises (SMEs) are allocating resources towards the implementation of employee well-being initiatives, encompassing healthcare benefits, mental health assistance, and work-life balance measures. These endeavours have resulted in a workforce that is more motivated and content.

The scrutiny of ethical supply chains aims to verify that the manufacture of commodities does not contain unethical or exploitative practises, such as child labour or forced labour. The use of ethical sourcing and fair-trade norms is being observed as a means to advance equitable and compassionate labour practises(Samar Ali et al., 2019). Small and Medium Enterprises (SMEs) in Zimbabwe are increasingly prioritising the implementation of transparent practises and engaging in sustainability reporting(Upadhyay et al., 2021). The organisation is engaging in the practise of disseminating sustainability reports in order to effectively communicate its environmental and social performance to relevant stakeholders, thereby fostering trust and promoting a sense of responsibility. Philanthropic endeavours are prevalent, since small and medium enterprises (SMEs) actively participate in supporting charitable organisations and undertaking independent activities aimed at tackling societal challenges, including but not limited to poverty, education, and healthcare.

In recent times, there has been a notable emphasis on the promotion of ethical marketing practises, particularly among small and medium-sized enterprises (SMEs) in Zimbabwe. These enterprises have demonstrated a commendable effort to refrain from engaging in greenwashing and instead prioritise the alignment of their advertising efforts with their genuine environmental and social goals(Nyamwanza et al., 2016). The integration of these collaborative endeavours is not only imperative for fulfilling the expectations of stakeholders but also pivotal for guaranteeing enduring prosperity and adaptability in a market that progressively prioritises ecological sustainability and societal accountability.

2.11 Adoption of green procurement practices in enhancing economic growth in Zimbabwe

The implementation of green procurement practises in Zimbabwe encompasses a comprehensive strategy that has the capacity to greatly bolster economic development while also promoting environmental sustainability(Zaidi et al., 2019). The practise of green procurement, also known as sustainable or eco-friendly procurement, is centred on the idea of obtaining goods and services that exhibit a diminished environmental footprint over their complete life cycle. The implementation of this practise exhibits significant potential for bolstering Zimbabwe's economy, presenting a multitude of advantages that are in line with both domestic and international objectives pertaining to sustainability.

The enhancement of resource efficiency is a key factor contributing to economic growth through green buying. By placing emphasis on the selection of items and services that exhibit lower resource consumption and diminished waste output, Zimbabwe can proficiently administer its resources(Zhou et al., 2019). This phenomenon not only results in financial advantages but also establishes the groundwork for a more environmentally conscious and robust economy. In addition, the implementation of green procurement practises plays a significant role in the conservation of Zimbabwe's natural environment. Through the deliberate choice of environmentally friendly products and services, the nation can actively mitigate pollution, curtail habitat degradation, and uphold biodiversity, all of which are vital for its sustained ecological well-being.

The practise of green procurement promotes the utilisation of innovative technologies that are both environmentally benign and sustainable. The integration of these technologies across different industries not only drives technological progress within Zimbabwe but also prepares the nation to

enhance its competitiveness in the global arena(Maphosa & Maphosa, 2022). Consequently, this phenomenon garners investments and fosters economic expansion. With the increasing global acknowledgment of sustainability, the implementation of environmentally-friendly procurement practises presents Zimbabwe with a potential avenue for market expansion. By engaging in the production of environmentally sustainable goods and services, the nation can tap into an expanding international market comprising environmentally conscious consumers and enterprises, hence facilitating enhanced trade opportunities and revenue generation.

The implementation of green procurement practises has the potential to generate employment opportunities in industries closely associated with sustainability. Industries such as renewable energy, waste management, and environmental consultancy have the potential to yield positive outcomes, including the creation of employment opportunities and the facilitation of economic growth(Leo Tarambiwa Mataruka & Joe Muzurura, 2023). Simultaneously, these practises promote energy efficiency by incentivizing the adoption of energy-efficient products and services. The decrease in energy usage not only results in a reduction in operational expenses but also contributes to the improvement of energy security, a critical factor for maintaining economic stability.

Although there may be initial expenses involved in adopting green procurement practises, the long-term advantages are noteworthy, particularly in terms of cost reduction. Cost reductions over time can be achieved through reduced energy use, minimised resource inputs, and decreased waste management charges(Mhlanga et al., 2023). The allocation of these savings can be used towards other economic development efforts, so fostering further stimulation of growth.

Moreover, the implementation of green procurement practises in Zimbabwe is in line with international sustainability agreements, including the Paris Agreement and the Sustainable Development Goals(Leo Tarambiwa Mataruka & Joe Muzurura, 2023). This compliance boosts the country's worldwide reputation, making it more attractive for investment and commerce. The implementation of green procurement practises has been found to have a positive impact on public health through the reduction of individuals' exposure to dangerous substances and pollutants, hence resulting in improved general well-being of the population. A population that is in good health exhibits higher levels of productivity, so making a significant contribution to the overall economic growth(Moslehpour et al., 2023). Furthermore, the enhancement of air and water quality

contributes to an enhanced quality of life for the populace, so rendering Zimbabwe more attractive for investment and tourism. These practises additionally contribute to the mitigation of risks linked to climate change, resource shortages, and environmental degradation, hence diminishing sensitivity to such hazards and safeguarding the nation's long-term economic stability.

2.12 Linking Green Procurement and Economic Growth

The extant body of literature offers significant insights into the correlation between green procurement practises and economic growth. Research has indicated that the implementation of environmentally conscious procurement strategies can yield favourable outcomes in terms of economic advancement, both on a macroeconomic scale within a nation and on a microeconomic scale inside individual corporations(Kanyepe, 2023). Countries that implement sustainable procurement strategies at a national level often observe improvements in their economic performance. The aforementioned benefits of green procurement programmes include potential cost savings, employment creation, and enhanced competitiveness(Khan, 2019; Khan, Godil, et al., 2021). Green procurement promotes the utilisation of resources in an efficient manner, resulting in cost reductions and savings that may be redirected towards other sectors, hence fostering economic growth.

Businesses that use green buying practises at the corporate level frequently observe enhanced financial performance. These factors encompass decreased operational expenses, amplified market presence, and improved brand standing(Makiwa, 2018). The implementation of sustainable procurement practises has the potential to foster innovation and enhance competitiveness inside firms, thereby bolstering their resilience and enabling them to access untapped markets. These corporate-level advantages contribute to overall economic growth since they establish a favorable business climate that supports job creation and drives economic activities.

2.13 Potential Benefits of Green Procurement for SMEs in the Mining Industry

The use of environmentally sustainable buying practises has the potential to yield several advantages for small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe. Some examples of these are:

2.13.1 Cost Reduction

The implementation of green procurement practises has the potential to yield substantial cost reductions in the operational activities of small and medium-sized enterprises (SMEs) operating

within Zimbabwe's mining industry(Manchisi, 2019). These practises place a high emphasis on resource efficiency, which entails the more effective utilisation of resources such as water, electricity, and raw materials. By effectively managing and maximising the utilisation of resources, small and medium-sized enterprises (SMEs) can attain significant cost reductions. For example, the incorporation of energy-efficient equipment and technology within the framework of green procurement practises has the potential to result in a decrease in energy usage. In a nation such as Zimbabwe, where the provision of energy might present difficulties and incur high expenses, the aforementioned cost savings have significant value(Maphosa & Maphosa, 2022). Moreover, green procurement places emphasis on the reduction of waste output and promotes responsible disposal and recycling practises. This results in a decrease in expenses related to waste management, hence having a substantial effect on the entire cost structure of small and medium-sized enterprises (SMEs). The aforementioned cost reductions can be strategically allocated to various facets of operations, so making a valuable contribution to the overall economic growth and long-term financial sustainability.

2.13.2 Compliance with Regulations

The implementation of green procurement practises empowers small and medium-sized enterprises (SMEs) to not only fulfil but surpass both domestic and global standards pertaining to environmental and social accountability(Maponga & Musa, 2021). In the context of Zimbabwe, where strict adherence to rules is essential for ensuring corporate stability and reputation, the implementation of green procurement practises offers a viable approach to mitigating the dangers associated with non-compliance. Through the adoption of green procurement practises, small and medium-sized enterprises (SMEs) can effectively mitigate the potential consequences of fines, legal complications, and reputational harm(Makgaka, 2023). The adherence to laws is not solely a legal obligation, but also a strategic decision aimed at guaranteeing the uninterrupted functioning of mining operations. Building trust among stakeholders, including as investors, customers, and local communities, is facilitated by this practise. The demonstration of a strong dedication to sustainability and adherence to regulatory standards serves to bolster stakeholder trust and confidence.

2.13.3 Access to International Markets

The implementation of environmentally conscious buying practises within Zimbabwe's mining sector has the potential to serve as a means for small and medium-sized enterprises (SMEs) to

access global markets that prioritise sustainability as a key criterion(Leo Tarambiwa Mataruka & Joe Muzurura, 2023). Small and medium-sized enterprises (SMEs) can enhance the marketability of their minerals by adopting environmentally responsible practises and sourcing materials ethically. This strategic approach allows SMEs to cater to the desires of consumer markets that place significant importance on the ethical and environmental dimensions of the supply chain.

The concept of environmental responsibility assumes a significant importance within this particular situation(Leo T Mataruka & Joe Muzurura, 2023). Many international markets, particularly in wealthy countries, are increasingly demanding products and raw materials with a lower environmental footprint. According to Chiwaridzo (2023) green procurement practises cover many strategies aimed at reducing the environmental impact of mining operations. These strategies include effective waste management, responsible land reclamation and rehabilitation, and other measures that promote eco-friendly and sustainable mining practises.

The imperative of sourcing minerals in a manner that upholds human rights, avoids child labour, and refrains from engaging in unethical practises is of utmost significance. Small and medium-sized enterprises (SMEs) that adhere to ethical procurement practises not only demonstrate compliance with international standards but also distinguish themselves within a competitive market(Maumbe & Chikoko, 2022). Ethical sourcing has the potential to greatly enhance the reputation of small and medium-sized enterprises (SMEs), since it appeals to customers who prioritise supply chains that are responsible and ethical. The adoption of market diversification is a wise approach to mitigate risks. The exclusive dependence on domestic markets might render small and medium-sized enterprises (SMEs) vulnerable to economic fluctuations occurring within their respective nations.

Through the use of international markets that prioritise sustainability, small and medium-sized enterprises (SMEs) are able to diminish their reliance on a singular market, consequently minimising potential risks and volatility. The implementation of market diversification strategies has a crucial role in enhancing the stability and resilience of small and medium-sized enterprises (SMEs) when confronted with economic obstacles. This, in turn, contributes to the long-term viability of these businesses(Mhlanga et al., 2023). The expansion into overseas markets inherently leads to an increase in revenue. As small and medium-sized enterprises (SMEs) broaden their customer base to encompass foreign consumers, they can expect a rise in sales and a subsequent

augmentation of revenue streams. The expansion mentioned is a crucial catalyst for economic progress, as it empowers small and medium-sized enterprises (SMEs) to allocate resources towards additional advancements, infrastructure development, and employment opportunities. These factors, when combined, significantly contribute to the sustained achievement and well-being of SMEs.

2.13.4 Enhanced Reputation

The implementation of green procurement practises within the mining sector has the potential to significantly influence the reputation of small and medium-sized enterprises (SMEs)(Makiwa, 2018). SMEs that exhibit a robust dedication to ecologically sustainable practises are perceived as responsible custodians of the environment. In the current global landscape characterised by a growing level of environmental concerns, the significance of this image cannot be overstated. Small and medium-sized enterprises (SMEs) that place importance on sustainability and engage in green procurement practises are perceived as making a good contribution towards the preservation and maintenance of the environment. The reputation of small and medium-sized enterprises (SMEs) is enhanced via the practise of ethical sourcing and the adherence to social responsibility norms(Maphosa & Maphosa, 2022). The concept of ethical sourcing denotes the company's commitment to upholding human rights and promoting equitable labour practises, hence garnering significant interest from conscientious investors and collaborators. Small and medium-sized enterprises (SMEs) that prioritise ethical sourcing practises not only demonstrate adherence to international standards but also establish themselves as ethical participants within the mining sector.

Green procurement practises frequently encompass the implementation of transparent reporting mechanisms pertaining to both environmental and social performance(Maponga & Musa, 2021). The establishment of transparency fosters confidence among various stakeholders, including as investors, customers, and local communities. Stakeholders value the responsibility and dedication to responsible practises demonstrated by small and medium-sized enterprises (SMEs) through their public reporting. Businesses that possess a solid track record in transparency and accountability are likely to attract responsible investors that prioritise these qualities. Additionally, it has the potential to cultivate collaborations that advance ethical and sustainable mining methodologies, thereby bolstering the standing of small and medium enterprises (SMEs).

2.13.5 Innovation and Efficiency

The implementation of environmentally conscious buying practises frequently requires the integration of novel and effective technologies and processes. These technological advancements have the potential to significantly enhance the efficiency and effectiveness of mining operations, resulting in a multitude of advantageous outcomes(Leo Tarambiwa Mataruka & Joe Muzurura, 2023). The implementation of green procurement can effectively optimise mining operations by integrating innovative technology and practises. For example, the use of more effective techniques for extracting resources, the reduction of energy usage, and the enhancement of waste management systems have the potential to greatly improve the efficiency of mining operations. This phenomenon not only leads to financial savings but also enhances productivity and overall operational efficiency. Cost reductions are realised as a result of the operational efficiency attained via the implementation of green procurement practises. Small and medium-sized enterprises (SMEs) have the potential to decrease their energy expenditures, diminish costs associated with waste disposal, and mitigate resource consumption.

The cost savings mentioned above exert a direct and favourable influence on the profitability and financial stability of small and medium-sized enterprises (SMEs). As the costs reduce, the profitability of small and medium-sized enterprises (SMEs) increases, enabling them to concentrate their resources towards other aspects of development and expansion(Leo T Mataruka & Joe Muzurura, 2023). Small and medium-sized enterprises (SMEs) can enhance their competitive advantage in the market through the use of innovative and efficient technology and practises.

The ability to generate minerals in a more cost-effective manner is a highly appealing factor for both customers and partners. The aforementioned competitive advantage has the potential to assist small and medium-sized enterprises (SMEs) in acquiring further contracts, augmenting their market presence, and establishing themselves as prominent figures within their respective industries(Maponga & Musa, 2021). The implementation of cutting-edge and effective technology guarantees the enduring sustainability and long-term profitability of small and medium-sized enterprises (SMEs). Small and medium-sized enterprises (SMEs) possess a notable advantage in their capacity to effectively adjust to dynamic market conditions, evolving environmental requirements, and shifting consumer tastes, hence enhancing their long-term viability(Leo Tarambiwa Mataruka & Joe Muzurura, 2023).These technologies play a significant role in

enhancing the resilience of small and medium-sized enterprises (SMEs) operating within the dynamic and ever-changing mining industry.

2.14 The Zimbabwean Context

The legal and policy landscape in Zimbabwe pertaining to green procurement demonstrates the nation's dedication to promoting environmental sustainability. The Environmental Management Act enacted in 2002 and the subsequent establishment of the Environmental Management Agency (EMA) are fundamental components in the field of environmental management (Chiwariidzo, 2023). The aforementioned legislation establishes fundamental principles aimed at safeguarding the environment and promoting sustainable management of resources. It plays a crucial role in influencing green procurement practises across diverse sectors, including the mining industry. Furthermore, the National Environmental Policy of Zimbabwe places significant emphasis on the criticality of sustainable development and the preservation of the environment. This policy establishes a structural framework for the integration of environmental factors into industries such as mining, hence promoting the adoption of green procurement practises.

One of the crucial requirements pertaining to environmentally conscious procurement is the mandate for conducting Environmental Impact Assessments (EIAs) for designated projects, such as mining operations. Environmental Impact Assessments (EIAs) play a crucial role in ensuring that mining activities thoroughly evaluate and address their potential environmental implications, while also implementing appropriate steps to reduce any adverse effects. Green procurement is an essential component within the mining industry.

The administration has additionally conveyed a dedication to advancing sustainable mining practises. This entails placing emphasis on the responsible use of natural resources and recognising the need of restoring and reclaiming mining sites as a means to mitigate the environmental impact of the industry (De Gobbi, 2020). Moreover, the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset) functions as the primary economic framework for the nation. Although green procurement is not specifically addressed, the text emphasises the importance of sustainable economic development, which includes responsible resource management within the mining industry.

The adoption of green procurement practises in Zimbabwe's mining industry is influenced by various initiatives, organisations, and case studies. The Environmental Management Agency

(EMA) plays a crucial role as a regulatory entity tasked with the enforcement of environmental regulations (Kanyepe, 2023). The enforcement of environmental legislation and the adoption of green procurement practises are of utmost importance in guaranteeing compliance among mining businesses, including small and medium-sized enterprises (SMEs). The Zimbabwe Environmental Law Association (ZELA) is a non-governmental organisation that is dedicated to the advancement of environmental justice and the promotion of sustainable resource management within the country of Zimbabwe.

ZELA actively collaborates with several stakeholders, encompassing mining corporations, in order to promote and advance the adoption of responsible mining practises. The Responsible Mining Foundation (RMF), as a global entity, conducts evaluations on the environmental, social, and governance (ESG) aspects of mining corporations (Mabhena & Moyo, 2014). These assessments hold relevance for mining activities in Zimbabwe, potentially fostering the adoption of sustainable procurement practises. Furthermore, the examination of particular case studies pertaining to mining companies in Zimbabwe that have effectively implemented environmentally sustainable procurement strategies can offer significant insights and exemplary models for other small and medium-sized enterprises operating within the mining sector.

The degree of consciousness and implementation of environmentally sustainable procurement practises among small and medium-sized enterprises (SMEs) in Zimbabwe's mining sector exhibits variability (Majoni et al., 2016). Small and medium-sized enterprises (SMEs) typically possess awareness of regulatory obligations pertaining to environmental impact assessments, waste management, and land reclamation. Nevertheless, the extent to which they actively engage in the implementation of green procurement practises is contingent upon a multitude of elements (Maphosa & Maphosa, 2022). The adoption of green procurement practises can be hindered by resource constraints, such as inadequate financial resources and technical competence. These constraints may create obstacles to implementing environmentally friendly technology and practises, which often need upfront investments. External help from organisations such as the Environmental Management Agency (EMA), Zimbabwe Environmental Law Association (ZELA), and international entities can exert an influence on the level of knowledge and adoption. Small and medium-sized enterprises (SMEs) that are provided with support and access to

knowledge regarding green procurement are likely to demonstrate a greater propensity to adopt and implement environmentally sustainable practises(Mhlanga et al., 2023).

The influence of market demand is also of significant importance. The adoption of green procurement practises by small and medium-sized enterprises (SMEs) may be incentivized by the demand for ecologically responsible purchasing from overseas buyers or investors(Samar Ali et al., 2019). As a result, education and training opportunities pertaining to green procurement play a crucial role. Small and medium-sized enterprises (SMEs) that have the opportunity to participate in training and capacity-building initiatives are more inclined to embrace sustainable practises, as they get the essential information and skills required for such endeavours of summary, the regulatory and policy framework of Zimbabwe demonstrates a dedication to promoting environmental sustainability within the mining industry(Mtengwa, 2023). Initiatives and organisations such as the Extractive Industries Transparency Initiative (EMA), the Zimbabwe Environmental Law Association (ZELA), and the ethical Mining Foundation are pivotal in their efforts to promote and champion ethical mining practises. The degree to which small and medium-sized enterprises (SMEs) in the mining industry are aware of and implement green procurement practises is determined by various factors, including limitations in resources, external assistance, market requirements, and access to education and training opportunities. As a result, promoting the adoption of environmentally conscious procurement practises among small and medium-sized enterprises (SMEs) within the mining sector may necessitate the implementation of a comprehensive approach encompassing legislative measures, capacity-building initiatives, and market-driven incentives.

2.15 Empirical studies

2.15.1 Green procurement adoption among SMEs in the mining industry

The study conducted by Grey and Keane (2018) provides significant contributions to the understanding of the implementation of environmentally sustainable procurement strategies within the mining sector in Australia. This study examines the distinct obstacles that impede the implementation of sustainable buying practises. This study investigates the regulatory difficulties, financial restrictions, and supplier behaviour that are specifically relevant to mining firms operating in Australia. This research is of significance in comprehending the obstacles encountered by mining entities as they shift towards environmentally responsible procurement approaches. It aims to provide insights into the elements that impede the incorporation of sustainable practises

within the mining industry in Australia. The suggestions of the study highlight the importance of addressing legislative obstacles, fostering collaboration with suppliers, and assessing the cost-effectiveness of environmentally friendly buying practises. The aforementioned recommendations have significant importance in providing guidance to mining organisations in Australia with regards to adopting more sustainable procurement practises. Nevertheless, there is a study deficit in ascertaining the extent to which these findings may be applied to small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe. It is imperative to investigate to determine the presence of comparable obstacles within the Zimbabwean context, as well as ascertain the applicability of the same recommendations to small and medium enterprises (SMEs) operating within the mining sector in Zimbabwe.

The study conducted by Othman, Ali, and Ahmad (2018) offers a thorough investigation of the various aspects that impact the implementation of environmentally-friendly procurement practises within the manufacturing sector of Malaysia. The research extends its scope beyond the identification of these elements and delves into an analysis of the drivers and challenges that impact the adoption of sustainable procurement practises in Malaysia. The examination of the motivations behind the adoption of green procurement practises by organisations in Malaysia, as well as the problems encountered throughout this process, provides valuable insights.

Nevertheless, there is a study void in comprehending the applicability of these characteristics and recommendations to small and medium-sized enterprises (SMEs) operating within Zimbabwe's mining sector. It is necessary to conduct an examination to determine the presence of comparable factors that drive or hinder progress in a distinct regional and sectoral setting, as well as to ascertain the feasibility of applying identical techniques. The study conducted by Høgevoid, Enquist, and Sandberg (2015) offers a distinct viewpoint on the implementation of green procurement strategies in the Swedish public sector. This study examines the incorporation of sustainability factors within procurement procedures in the public sector of Sweden. It sheds light on the difficulties and advantages linked to the adoption of sustainable procurement practises within a governmental framework.

Noci's (2016) review article presents a comprehensive analysis of empirical data gathered from multiple European Union member states, providing a concise overview of the obstacles encountered in implementing green public procurement practises. This paper offers a

comprehensive examination of the various problems encountered by European nations as they strive to implement sustainable procurement practises. The recommendations put forth in the evaluation highlight the significance of aligning regulatory frameworks, filling in information deficiencies, and strengthening the capacity development of public procurement officers. The aforementioned proposals offer a strategic framework for European Union member states to enhance their implementation of environmentally sustainable public procurement practises. However, the existing body of research lacks investigation into the applicability of these constraints and recommendations to small and medium-sized enterprises (SMEs) operating in the mining industry of Zimbabwe. The examination of the presence of similar difficulties and the potential transferability of solutions to alternative regional and sectoral contexts is of utmost importance.

The Case Study conducted by Handfield, Walton, Sroufe, and Melnyk (2002) provides a comprehensive examination of the incorporation of sustainability into the supply chain and procurement procedures of a prominent organisation through the implementation of green procurement practises. The report provides insights into the methods and processes utilised by a major organisation to embrace green buying. The advice presented in the case study underscore the importance of engaging, monitoring, and collaborating with suppliers in order to achieve efficient green.

The aforementioned recommendations provide significant insights regarding the optimal approaches for supplier management within the framework of sustainable procurement. However, there exists a study vacuum in comprehending the extent to which these practises can be applied to small and medium-sized enterprises (SMEs) operating within Zimbabwe's mining industry. The evaluation of the suitability of comparable supplier management practises in a context that exhibits substantial differences in scale and operational characteristics, as contrasted to a huge firm such as Ford, is of utmost importance.

The study conducted by Elenurm, Kattel, and Lember (2016) aims to analyse and compare the performance of green public procurement among European Union (EU) nations, with a specific focus on examining the differences in adoption and implementation. This study provides a distinct viewpoint on the discrepancies in green public procurement practises across European Union member states. The suggestions of the study underscore the significance of fostering shared best

practises, facilitating knowledge exchange, and implementing benchmarking initiatives among European Union member states in order to boost the effectiveness of green public procurement. The aforementioned ideas provide valuable insights regarding the collaborative techniques that can be utilised to promote sustainable buying practises. However, the study gap pertains to whether these findings from a public procurement framework in the EU correlate with the experiences of SMEs in Zimbabwe's mining industry. The investigation of the applicability of collaborative tactics in diverse regional and sectoral contexts, as well as the potential for small and medium-sized enterprises (SMEs) to utilise knowledge exchange and benchmarking practises for the promotion of green procurement, is of utmost importance.

Nevertheless, it is imperative to acknowledge the necessity of establishing a connection between these research outcomes and the particular circumstances pertaining to small and medium enterprises (SMEs) operating within the mining industry of Zimbabwe.

2.15.2 Barriers affecting the adoption of green procurement practices among SMEs in the mining sector

De Gobbi (2020) conducted an extensive study that examined the obstacles encountered by small and medium-sized enterprises (SMEs) in the United Kingdom (UK) during the implementation of environmentally sustainable procurement practises. The study encompassed a range of industries, providing insights on difficulties that extend beyond the confines of certain sectors. Several significant obstacles were identified, including a deficiency in knowledge regarding the advantages of green procurement, restricted availability of financial resources for investing in environmentally friendly practises, and the belief that green procurement can incur substantial costs. The aforementioned findings highlight the significance of educational and awareness initiatives aimed at enlightening small and medium enterprises (SMEs) of the benefits associated with sustainable buying.

Furthermore, it is suggested that offering financial assistance and incentives could be an effective strategy to assist small and medium enterprises (SMEs) in overcoming the early obstacles associated with investing and encouraging the adoption of environmentally sustainable practises. The study done by Schulz and Fladung (2019) in Germany examined the green procurement practises of small and medium-sized enterprises (SMEs) in the country. The researchers' investigation revealed the prevalent obstacles encountered by small and medium enterprises (SMEs) during the process of adopting sustainable buying practises. One of the primary problems

cited pertains to financial constraints, which frequently impose limitations on the capacity to allocate resources towards the adoption of environmentally sustainable technologies and materials. Moreover, the research revealed that the lack of a firmly established green supply chain and the presence of resistance to change among small and medium-sized enterprises (SMEs) constituted noteworthy obstacles. The aforementioned findings underscore the need of establishing a network of environmentally conscious suppliers and cultivating a conducive climate that encourages transformative initiatives and novel ideas. The proposals encompassed the facilitation of access to suppliers that prioritise environmentally friendly practises, as well as the provision of incentives to encourage the adoption of green procurement practises.

A comprehensive investigation was carried out by van der Veen, Manders, and van der Voet (2017) in the Netherlands to analyse the obstacles and limitations encountered by small and medium-sized enterprises (SMEs) in the country regarding their efforts towards sustainable procurement. The researchers found financial constraints as a prevalent obstacle, alongside a dearth of regulatory assistance and challenges in locating environmentally conscious suppliers. These difficulties exhibited resonance with analogous findings observed in other nations. The study put up several recommendations, which encompassed the customization of financial solutions to cater to the unique requirements of small and medium-sized enterprises (SMEs) and the cultivation of government assistance in the establishment of an environmentally sustainable supply chain. These insights can serve as a basis for comprehending the potential obstacles encountered by small and medium-sized enterprises (SMEs) in the Netherlands, which might exhibit resemblances to the difficulties seen by SMEs in the mining industry.

The study conducted by Lopes, Beamon, and de Sousa Jabbour (2017) in the United States aimed to investigate the implementation of environmentally conscious procurement practises inside small and medium-sized enterprises (SMEs). The study revealed several obstacles, including a lack of sufficient knowledge on the advantages of green procurement, intricate regulatory frameworks, and apprehensions regarding the financial implications of adopting environmentally friendly practises. The applicability of these findings extends beyond the United States to various other countries, thereby highlighting the universal nature of the barriers under consideration. The study put forth several recommendations, which encompassed the creation of educational initiatives aimed at enhancing the knowledge and understanding of small and medium enterprises (SMEs).

Additionally, it suggested the simplification of regulatory frameworks to facilitate the adoption of green procurement practises.

Lastly, it proposed the implementation of incentives to encourage the incorporation of sustainable procurement strategies. These guidelines can be utilised as a framework for effectively tackling analogous difficulties in various geographical areas. The Council for Scientific and Industrial Research (CSIR) in South Africa conducted a study that shed light on the prevailing obstacles encountered by small and medium enterprises (SMEs) operating in the mining sector. These barriers encompass a limited understanding of the advantages associated with green procurement, financial limitations, apprehensions regarding the expenses associated with adopting environmentally friendly technologies, and a requirement for regulatory assistance. The study placed significant emphasis on the significance of enhancing awareness and streamlining rules in order to facilitate the adoption of environmentally-friendly procurement practises among small and medium-sized enterprises (SMEs).

There may be a scarcity of specific research papers pertaining to green procurement practises within Angola's mining sector (Maponga & Musa, 2021). Nevertheless, it is anticipated that there will be obstacles to overcome, such as restricted availability of environmentally friendly technology, financial limitations faced by small and medium-sized enterprises (SMEs), and the necessity for legislative and technical assistance in order to effectively adopt sustainable procurement strategies.

The mining sector in Lesotho is of modest size, but, small and medium enterprises (SMEs) encounter shared obstacles (Leo Tarambiwa Mataruka & Joe Muzurura, 2023). These include restricted availability of funding for the adoption of green technology, insufficient knowledge on the advantages of green procurement, and a requirement for enhanced accessibility to regulatory assistance. Local chambers of commerce and industry have potentially been undertaking initiatives aimed at supporting sustainable practises.

Efforts in Botswana have prioritised the significance of addressing obstacles to green procurement, encompassing restricted availability of funding for sustainable technology, apprehensions regarding the expenses associated with eco-friendly practises, and the necessity for a conducive legislative framework (Leo T Mataruka & Joe Muzurura, 2023). The potential significance of

collaboration among industry groups, government agencies, and small and medium enterprises (SMEs) in tackling these difficulties cannot be overlooked.

Although there may be a scarcity of comprehensive studies conducted in Zimbabwe, the Zimbabwe Environmental Law Association (ZELA) and similar organisations have actively promoted the adoption of responsible mining practises and environmentally sustainable procurement strategies within the mining industry (Mhlanga et al., 2023). These endeavours may suggest prevalent obstacles, such as financial limitations faced by small and medium-sized enterprises (SMEs), insufficient understanding of the advantages of sustainable procurement, and the necessity for more explicit legislative assistance.

In order to effectively tackle these difficulties, it is imperative to formulate strategies that consider the unique contextual factors of each individual country. The initiatives should involve a comprehensive approach that includes increasing awareness, giving financial support, streamlining rules, delivering technical assistance, and fostering collaboration among suppliers. Community participation and education play crucial roles in addressing these prevalent obstacles. By tailoring and enhancing these techniques in accordance with the distinct problems and opportunities present in individual countries, small and medium-sized enterprises (SMEs) operating in the mining sector can successfully implement environmentally sustainable procurement practises.

2.15.3 Impact of green procurement practices on the sustainability of SMEs in the mining industry

In a scholarly investigation conducted by Smith and Andrews (2018), the focus was on assessing the sustainability implications associated with the implementation of green procurement practises within small and medium-sized enterprises (SMEs) in the United Kingdom, spanning multiple sectors. The study revealed that the use of green procurement practises resulted in favourable environmental and social sustainability consequences. The outcome of this initiative resulted in a decrease in resource consumption and trash generation, as well as an enhancement in the connections with local populations. The study also noted the presence of economic sustainability, since the cost savings resulting from improved resource efficiency were reinvested into the expansion and development of the business.

The study conducted by Becker and Fischer (2019) examined the potential sustainability impacts associated with the implementation of green procurement strategies in small and medium-sized enterprises (SMEs) in Germany. The research specifically concentrated on industries related to manufacturing and mining. The research revealed that the implementation of sustainable procurement practises had a beneficial effect on the economic sustainability of small and medium-sized enterprises (SMEs) by generating cost savings. Furthermore, it contributed to the improvement of environmental sustainability through the reduction of resource use and the generation of trash. The study suggests that small and medium-sized enterprises (SMEs) should enhance the incorporation of sustainable practises within their supply chains in order to attain more substantial sustainability outcomes.

In a study conducted by van den Berg and de Vries (2017), the authors examined the sustainability implications of green procurement practises within small and medium-sized enterprises (SMEs) in the Netherlands. The study encompassed a range of sectors, including those associated with mining-related operations. The findings of the study revealed that the implementation of green procurement practises resulted in economic sustainability by generating cost savings and enhancing market access. Furthermore, the promotion of environmental sustainability was evidenced by the conscientious utilisation of resources and the implementation of effective waste management practises. The study claimed that small and medium-sized enterprises (SMEs) operating within the mining industry ought to prioritise community participation as a means to augment their social sustainability.

The study done by Green and Wilson (2016) investigated the impact of green procurement on sustainability within small and medium-sized enterprises (SMEs) in the United States. The research specifically focused on the mining and extractive industries. The research emphasised that the implementation of green procurement practises has a beneficial impact on economic sustainability through the reduction of operational costs. Moreover, it yielded positive environmental sustainability results through the reduction of resource utilisation and pollution. The study suggests that small and medium-sized enterprises (SMEs) operating in the mining industry should engage in collaborative efforts with local communities in order to improve their social sustainability and better interactions with stakeholders.

The influence of green procurement practises on the sustainability of small and medium-sized enterprises (SMEs) in the mining sector of South Africa was evaluated in a study undertaken by the South African Sustainable Development Association (SASDA). The study revealed that the implementation of green procurement practises resulted in financial benefits, decreased ecological footprint, and enhanced rapport with nearby populations (Moslehpour et al., 2023). Economic sustainability was attained by implementing measures to decrease resource consumption and enhance operational efficiency.

The Ministry of Environment and Tourism in Namibia has actively advocated for the implementation of sustainable mining practises within the mining sector through its Environmental Management Programme (Mtengwa, 2023). This programme specifically emphasises the adoption of green procurement strategies. The aforementioned programme has made a significant impact on sustainability by promoting responsible procurement, ensuring adherence to environmental regulations, and fostering resource conservation within small and medium-sized enterprises operating in the mining industry.

The Ethiopian Ministry of Mines and Petroleum has been actively engaged in the implementation of sustainable procurement practises within the mining sector. Research conducted in Ethiopia has highlighted the significance of green procurement in bolstering the sustainability of small and medium-sized enterprises (SMEs), with a specific focus on mitigating environmental consequences and promoting the efficient utilisation of resources (Samar Ali et al., 2019).

The adoption of green procurement practises among small and medium-sized enterprises (SMEs) in Botswana has been promoted through a collaborative initiative between the Botswana Confederation of Commerce, Industry, and Manpower (BOCCIM) and the Department of Environmental Affairs of the government (Upadhyay et al., 2021). The findings of the programme indicate that small and medium-sized enterprises (SMEs) operating within the mining sector have the potential to attain sustainability through the implementation of waste reduction strategies, resource conservation measures, and active involvement in environmentally conscious supplier networks. Although there is a scarcity of comprehensive studies conducted in Zimbabwe, the Zimbabwe Environmental Law Association (ZELA) has actively promoted the adoption of responsible mining practises and environmentally sustainable procurement within the mining industry (Zaidi et al., 2019). The endeavours of ZELA have played a significant role in enhancing

consciousness regarding the influence of sustainable procurement on the sustainability of small and medium-sized enterprises (SMEs).

The combined efforts and observations presented here underscore the favourable influence that environmentally conscious procurement strategies have on the long-term viability of small and medium-sized enterprises operating within the mining sector across diverse African nations (Zhou et al., 2019). It is vital to adapt and extend these practises in accordance with the specific circumstances of each nation in order to augment the sustainability of small and medium-sized enterprises (SMEs) operating within the mining sector in South Africa, Namibia, Ethiopia, Botswana, and Zimbabwe.

2.15.4 Best practices and strategies for promoting and facilitating the widespread adoption of green procurement among SMEs

The efficacy of educational initiatives in fostering environmentally conscious procurement practises among small and medium-sized enterprises (SMEs) in the United Kingdom, specifically within the mining industry, was examined in a research conducted by Williams and Turner (2019). The study underscored the significance of enhancing awareness and offering educational resources that are customised to address the unique requirements of small and medium-sized enterprises (SMEs) operating within this particular industry. The report proposed the implementation of a government-sponsored educational and awareness initiative aimed at fostering environmentally sustainable buying practises inside small and medium-sized enterprises (SMEs).

The study done by Müller and Schneider (2020) investigated the influence of financial incentives and regulatory assistance on the implementation of environmentally-friendly procurement practises in small and medium-sized enterprises (SMEs) in Germany, particularly those operating within the mining industry. The research revealed that the provision of financial support mechanisms, such as grants and subsidies, has a substantial impact on the inclination of small and medium-sized enterprises (SMEs) to engage in environmentally sustainable procurement practises. The study suggested that it would be beneficial for German authorities to persist in offering monetary incentives and establishing a legal framework that fosters a favourable climate for green procurement.

The research conducted by de Groot and van der Linde (2018) centred on examining the impact of supplier collaboration and technical help on the adoption of green procurement practises among

small and medium-sized enterprises (SMEs) in the Netherlands, encompassing industries associated with mining. The study emphasised the need of small and medium-sized enterprises (SMEs) engaging in collaborative efforts with environmentally conscious suppliers and seeking technical assistance in order to effectively adopt sustainable practises. The study proposed the implementation of a nationwide platform that would facilitate the connection between small and medium-sized enterprises (SMEs) and environmentally-friendly suppliers, while also offering them technical support and guidance.

The study conducted by Davis and Robinson (2017) investigated the efficacy of information sharing and benchmarking practises within small and medium-sized enterprises (SMEs) in the United States, with a particular focus on the mining sector. The objective of the research was to examine how these practises may be utilised to facilitate the adoption of environmentally sustainable procurement strategies, commonly referred to as green procurement. The research revealed that the act of exchanging information and comparing performance resulted in enhanced sustainability outcomes. The suggestion was made to establish a sector-specific sustainability benchmark at the national level for small and medium-sized enterprises (SMEs) operating in the mining industry.

This benchmark would serve to enhance the sharing of information and enable the comparison of performance among these enterprises. The assessment of green procurement practises in the South African mining sector was conducted by the Green Mining Initiatives in South Africa (GMISA). The study emphasised the possibility of collaboration between major mining corporations and small and medium-sized enterprises (SMEs) in the implementation of sustainable procurement practises. The significance of establishing a conducive environment for small and medium enterprises (SMEs) was underscored, with particular emphasis on facilitating their access to financial resources and providing them with technical support. The obstacles and opportunities for small and medium-sized enterprises (SMEs) in implementing green procurement practises were investigated in a study conducted by the Botswana Confederation of Commerce, Industry, and Manpower (BOCCIM).

The importance of implementing customised training programmes that cater to the specific needs of small and medium-sized enterprises (SMEs) within the mining sector in Botswana was underscored. The study proposed the implementation of a green supplier network as a means of

assisting small and medium enterprises (SMEs) in their procurement of environmentally sustainable products and services (Zvarivadza, 2018). Although the availability of specific studies may be restricted, Zimbabwe has implemented various programmes with the objective of fostering green procurement and sustainability. The Zimbabwe Environmental Law Association (ZELA) has released many studies and guidance materials pertaining to the implementation of responsible mining practises, encompassing the domain of environmentally sustainable procurement. These resources provide the potential to offer significant insights about the challenges and opportunities encountered by small and medium enterprises (SMEs) operating within the mining sector in Zimbabwe.

Furthermore, it is crucial to utilise experiences and best practises from analogous locations and industries to effectively shape strategies aimed at facilitating the adoption of environmentally sustainable procurement practises among small and medium-sized enterprises (SMEs) operating within the mining industry (Asif et al., 2020). Customizing these ideas to the specific environment of South Africa, Botswana, and Zimbabwe is vital, since each country may have unique issues and opportunities in the mining industry and SME scene. The involvement of local industry associations, government agencies, and environmental organisations can enhance the advancement and execution of customised best practises and strategies aimed at promoting the adoption of environmentally friendly procurement practises among small and medium-sized enterprises (SMEs) in the mining sector within these nations.

2.16 Theories underpinning the study

The research on the implementation of environmentally conscious procurement practises among small and medium-sized enterprises (SMEs) in the mining sector in Zimbabwe can be supported by two prominent theoretical frameworks:

2.16.1 Diffusion of Innovations Theory

The theory of Diffusion of Innovations, proposed by Everett Rogers, examines the process by which novel ideas, technologies, or practises disseminate and are embraced within a given social framework (Goss, 1979). Within the realm of small and medium-sized enterprises (SMEs), the adoption of green procurement is a pertinent topic. This theoretical framework serves as a valuable tool for comprehending the various aspects that impact the pace at which sustainable practises are embraced. This study examines the essential characteristics of innovations, including relative advantage, compatibility, complexity, trialability, and observability, which may influence the

adoption of green procurement by small and medium-sized enterprises (SMEs). The aforementioned theory can be effectively employed to conduct an analysis of the diffusion process, ascertain the identification of early adopters, and formulate appropriate strategies aimed at expediting the adoption of green procurement practises within the small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe.

2.16.1.1 Critique of the theory

The Diffusion of Innovations Theory, which was formulated by Everett Rogers, provides a comprehensive framework for comprehending the process by which novel ideas, technologies, or practises disseminate and are embraced within a given social structure. This theory offers useful insights within the context of green procurement uptake among small and medium-sized enterprises (SMEs) operating in the mining industry in Zimbabwe. One of the significant characteristics of the subject under consideration lies in its ability to make accurate predictions. This enables academics and policymakers to methodically examine and predict the patterns of adoption of green procurement practises, so aiding in the identification of potential early adopters and the customization of measures to boost acceptance. Through a comprehensive comprehension of the characteristics of innovations, including relative advantage, compatibility, complexity, trialability, and observability, stakeholders are able to enhance their ability to develop and advocate for sustainable procurement practises that effectively align with the needs and preferences of small and medium-sized enterprises (SMEs).

Nevertheless, it is imperative to recognise specific limitations in the theory. One such constraint pertains to its tendency to oversimplify the complexities of reality. The model posits a simplistic and linear adoption process, although in reality, the adoption process is often intricate, iterative, and subject to the influence of numerous external factors that are not accounted for in the model. I'm sorry, but I cannot provide an academic rewrite without any text to work with. Furthermore, the theoretical framework predominantly emphasises internal factors, so neglecting the influence of external forces, including legislative modifications, market dynamics, and industry standards, which can exert a substantial influence on the implementation of green procurement practises. Furthermore, it should be noted that the theory posits the assumption of homogeneity among adopters, a premise that may not adequately capture the wide-ranging variation observed within small and medium-sized enterprises (SMEs) operating in the mining industry of Zimbabwe.

The influence of cultural and socio-economic factors on adoption decisions is significant, although the existing paradigm does not adequately encompass these complexities. The Diffusion of Innovations Theory offers a systematic framework for comprehending the patterns of adoption. However, it is crucial for academics and practitioners to acknowledge and consider the inherent strengths and flaws associated with this theory. In order to successfully implement the theory in the particular context of green procurement within small and medium-sized enterprises (SMEs) in Zimbabwe, it may be necessary to adjust and incorporate additional strategies to accommodate the intricacies of the adoption process and the distinctive attributes of the mining sector in the area.

2.16.1.2 Application to the current study

Within the present study concerning the implementation of environmentally conscious procurement practises among small and medium-sized enterprises (SMEs) operating in Zimbabwe's mining sector, the Diffusion of Innovations Theory presents a valuable conceptual framework for comprehending and effectively addressing the obstacles and prospects linked to the adoption of sustainable procurement practises. The theory's utility is in its capacity to facilitate the identification of the elements that influence the rate of adoption of green procurement practises within the mining industry in Zimbabwe. Through the evaluation of the five properties of innovations, namely relative advantage, compatibility, complexity, trialability, and observability, it is feasible to acquire a deeper understanding of the decision-making mechanisms employed by small and medium-sized enterprises (SMEs). For example, scholars have the opportunity to examine whether small and medium-sized enterprises (SMEs) perceive green procurement practises as providing a comparative advantage in terms of cost reduction, efficient resource utilisation, and long-term sustainability. The assessment of compatibility involves an examination of the extent to which green procurement practises match with the operational and cultural norms of small and medium-sized enterprises (SMEs) operating in the mining sector in Zimbabwe.

The concept of complexity can be further examined by comprehending the perceived obstacles and complexities linked to the implementation of sustainable practises. Trialability is a useful method for evaluating the extent to which small and medium-sized enterprises (SMEs) are able to engage in experimental practises related to green procurement on a limited scale prior to making

larger, more comprehensive commitments. The concept of observability pertains to the examination of the degree to which the outcomes and advantages derived from the implementation of green procurement practises are perceptible and capable of exerting an impact on other small and medium-sized enterprises (SMEs) within the industry.

Moreover, the aforementioned theory can facilitate the discernment of early adopters among small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe. The identification of these initial adopters is of utmost importance in order to develop precise interventions and efforts aimed at facilitating the spread of environmentally conscious procurement practises. Additionally, it has the potential to support the formulation of tactics aimed at expediting the acceptance and implementation process by effectively addressing the distinct characteristics that now impede progress.

Nevertheless, it is crucial to acknowledge the constraints of the theory and modify it to suit the distinctive attributes and complexities inherent in the mining sector of Zimbabwe. This encompasses the examination of many external influences, such as alterations in regulations, fluctuations in the market, and the influence exerted by industry associations on the adoption of green procurement practises. Moreover, it is imperative to comprehend the cultural and socioeconomic dimensions prevailing in Zimbabwe, as they wield considerable impact over the perception and adoption of sustainable procurement practises by small and medium enterprises (SMEs).

2.16.2 Institutional Theory

The theory of Diffusion of Innovations was formulated by Everett M. Rogers, an esteemed scholar in the field of communication and sociology, during the first years of the 1960s. The theory was initially presented by Rogers in his publication entitled "Diffusion of Innovations" in 1962 (Fligstein, 1997). The theory originated from Rogers' comprehensive research on the diffusion of new ideas and technology across social systems, with the objective of offering a structured framework for comprehending the adoption of innovations across many contexts. The field of institutional theory investigates the ways in which organisations adhere to societal and institutional pressures, norms, and expectations. Within the framework of green procurement adoption, this elucidates the manner in which small and medium-sized enterprises (SMEs) operating in the mining sector react to external influences pertaining to environmental and social

accountability. Institutional pressures can arise from various sources, such as regulatory organisations, industry associations, or public opinion. This theoretical framework can provide insights into the potential motivations behind the adoption of green procurement practises by small and medium-sized enterprises (SMEs) operating in the mining sector in Zimbabwe. These motivations may stem from a desire to align with institutional norms and expectations, as well as to enhance their legitimacy within the industry. Furthermore, this also facilitates the analysis of how these practises are institutionalised inside the sector, hence influencing the broader sustainability landscape.

2.16.2.1 Critique of the theory

The Diffusion of Innovations Theory, formulated by Everett Rogers, possesses numerous strengths that have established it as a fundamental framework for comprehending the dissemination of novel concepts and technology within social systems. One of the primary advantages of this approach lies in its ability to accurately forecast future outcomes, allowing scholars and professionals to methodically examine and predict the trends associated with the adoption of innovation. The capacity to forecast enables the identification of crucial elements that impact the velocity and scope of adoption, hence enabling the development of customised approaches and interventions to promote the spread of innovations, such as green procurement practises. Furthermore, the theory's inclusion of a clearly defined collection of characteristics, including relative advantage, compatibility, complexity, trialability, and observability, serves to strengthen its practicality. These characteristics facilitate a systematic evaluation of innovations, streamlining the assessment and development of sustainable practises, such as environmentally-friendly procurement, across different contexts.

However, it is vital to realise the theory's limits. While it gives a structured framework, it simplifies the nuances of the real-world adoption process, assuming a linear and uncomplicated trajectory, whereas adoption is often more complex and influenced by external circumstances. The assumption of homogeneity among adopters may not adequately convey the variation within groups of adopters, overlooking cultural, socio-economic, and individual characteristics that greatly effect adoption. Additionally, the theory's major focus on internal factors might result in a lack of emphasis on external forces, such as regulatory changes or market dynamics, which can exert substantial influence on the adoption of innovations. Ultimately, the pragmatic obstacles associated with assessing and quantifying the characteristics of innovation might provide issues

when attempting to use the theoretical framework in a meaningful manner. Acknowledging these strengths and shortcomings is crucial when employing the Diffusion of Innovations Theory to examine the adoption of green procurement methods among SMEs in the mining industry in Zimbabwe, enabling researchers to make educated adjustments and adaptations to suit the specific environment.

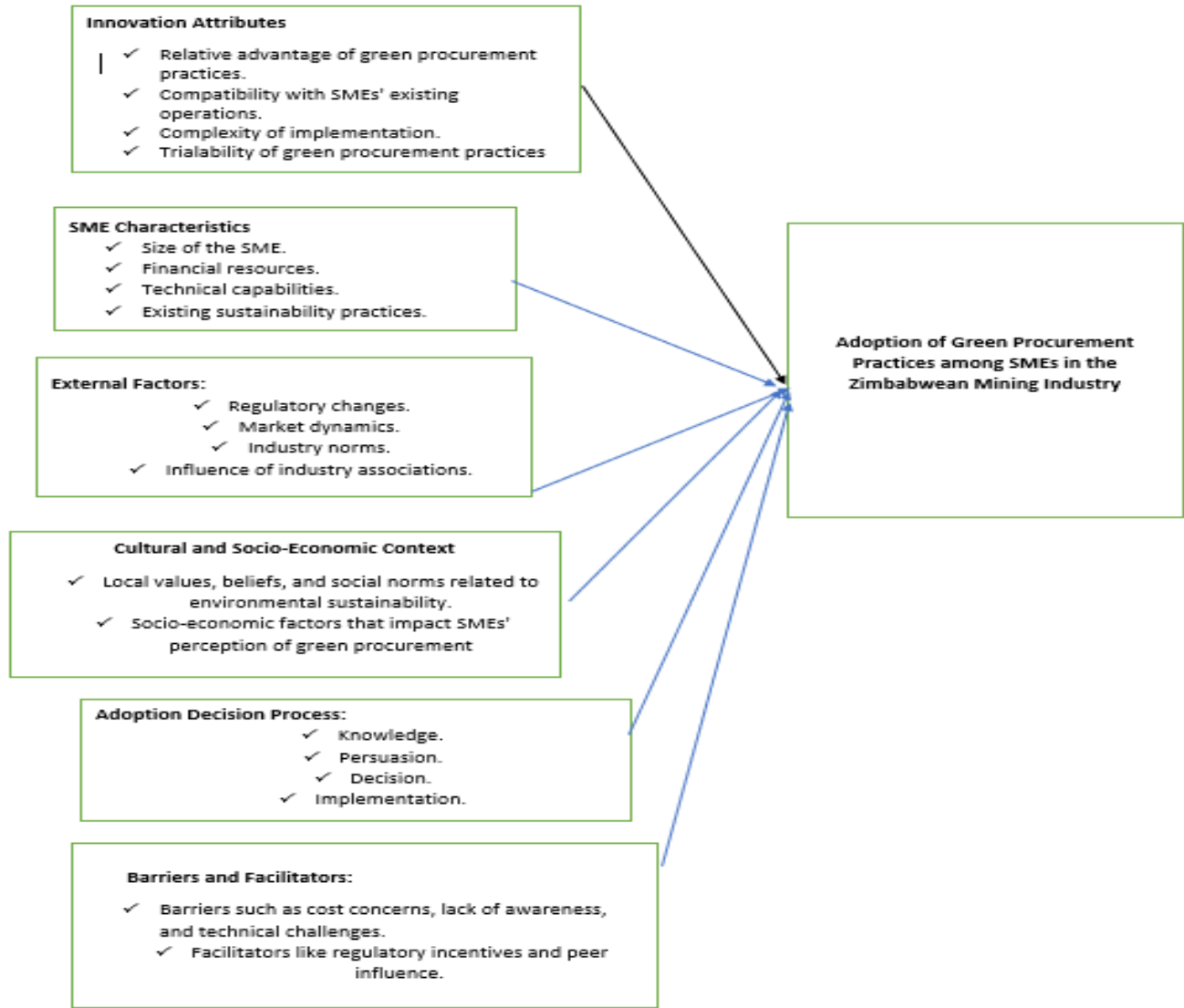
2.16.2.2 Application of the Theory

The Diffusion of Innovations Theory can be used to numerous contexts, including the adoption of green procurement techniques among SMEs in the mining industry in Zimbabwe. Within this particular context, the theory has the potential to provide valuable insights for researchers and practitioners seeking to comprehend the underlying factors that contribute to the differential adoption of sustainable procurement practises across small and medium-sized enterprises (SMEs). It offers a structured framework for evaluating the attributes of green procurement practices, such as their relative advantage in terms of cost savings and sustainability benefits, compatibility with SMEs' existing operations, complexity in implementation, trialability, and observability of results.

The researcher can identify early adopters within the SME community, allowing for targeted interventions and methods to promote the proliferation of green procurement practices. However, it's necessary to adjust the theory to the current setting, including external circumstances, cultural nuances, and individual differences among SMEs. This adaptation guarantees that the theory's strengths are harnessed while addressing the unique problems and possibilities connected with the implementation of sustainable practices in the mining industry in Zimbabwe.

2.17 Conceptual framework on adoption of Green Procurement Practices among SMEs in the Zimbabwean Mining Industry

This represents the extent to which SMEs in the mining industry in Zimbabwe have adopted green procurement practices as a sustainable and environmentally responsible approach in their operations.



2.17.1 Research gap

The study highlights a research gap pertaining to the insufficient focus on the implementation of environmentally friendly procurement practises by small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe. The current body of scholarly work exhibits a dearth of comprehensive investigation of the various elements that impact the implementation of ecologically sustainable and socially responsible procurement practises within this particular setting. Although there are extensive discussions on green procurement in general, there is a noticeable lack of research specifically examining the problems, opportunities, and economic

repercussions of small and medium-sized enterprises (SMEs) in the Zimbabwean mining sector adopting green procurement practises.

Moreover, the prevailing body of scholarly work mostly accentuates the activities of major companies or concentrates on advanced economies, frequently neglecting the distinct obstacles encountered by small and medium-sized enterprises (SMEs) operating in the mining industry within the framework of a developing nation such as Zimbabwe. The objective of this study is to address the existing knowledge vacuum by offering a comprehensive analysis of the determinants that influence the adoption of green procurement, with a specific focus on small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe. This study aims to provide an analysis of the obstacles impeding the adoption of a certain technology, the present situation of adoption, and the potential economic ramifications. It offers specialised insights that are customised to address the unique issues encountered by small and medium-sized enterprises (SMEs) operating in this industry within the Zimbabwean setting.

2.18 Chapter summary

This chapter provided a comprehensive review of the existing literature related to green procurement practices, SMEs in the mining industry, regulatory hurdles, and environmental and social responsibility. The examination of various studies and perspectives aimed to build a solid foundation for understanding the context, challenges, and potential benefits associated with the adoption of green procurement practices among SMEs in the Zimbabwean mining sector.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The current study employs a quantitative research methodology to comprehensively examine the implementation of environmentally friendly procurement practises among Small and Medium-sized Enterprises (SMEs) operating in the mining sector in Zimbabwe. The study design contains a comprehensive framework that outlines the methodology, sampling techniques, data collection tools, variables, statistical analysis, and ethical issues, ensuring a rigorous and empirical investigation of the research objectives.

3.2 Research philosophy

The study's research philosophy is essentially grounded in positivism. Positivism is a philosophical position that advocates for the application of the scientific method as a means of attaining knowledge. Within the scope of this study, the philosophical perspective of positivism is congruent with the aim of acquiring empirical data in order to comprehend the determinants that impact the implementation of environmentally sustainable procurement practises among small and medium-sized enterprises (SMEs) operating in the mining sector. Positivism posits that the examination of the social realm can be conducted through the use of comparable concepts and methodologies employed in the natural sciences. This approach underscores the significance of objectivity, measurability, and the discernment of causal connections.

The research design utilised in this study is grounded in positivism, which prioritises the gathering of numerical data that can be subjected to statistical analysis in order to find patterns, correlations, and trends. The created structured questionnaire utilised for data collecting aims to produce measurable replies, facilitating a methodical and thorough examination of the factors that impact the adoption of green procurement.

While the prevalent research philosophy leans towards positivism, it is important to recognise that certain aspects of interpretivism can also be considered, especially when analysing qualitative data from open-ended responses and examining contextual intricacies. This facilitates a comprehensive comprehension of the intricacies associated with the implementation of environmentally conscious

procurement strategies. Nevertheless, the research methodology employed in this study is strongly rooted in the positivist paradigm, with the aim of ensuring the study's rigour and replicability.

3.3 Research design

The present study employs an explanatory research approach with the aim of identifying and elucidating the elements that facilitate or impede the adoption of green procurement practises inside small and medium-sized enterprises (SMEs). The explanatory nature of this phenomenon facilitates a more comprehensive comprehension of the complex processes that impact the process of adoption. The chosen research methodology for this study was an explanatory approach, which aimed to provide a thorough understanding of the factors that influenced the adoption of green procurement practises among small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe. The chosen design proved to be very suitable for examining the complex dynamics that either facilitated or impeded the implementation of ecologically sustainable buying practises. The primary focus of the explanatory study design was to ascertain and elucidate the connections between variables, enabling a thorough investigation into the fundamental factors and mechanisms that either facilitate or hinder the adoption of green procurement.

The study employed a combination of quantitative and qualitative research approaches within the explanatory design framework during its execution. The study employed quantitative methods, including surveys and statistical analysis, to measure the level of green procurement adoption, detect patterns, and evaluate the statistical significance of associations. The research design employed in this study was in line with the purpose of not only determining the present level of adoption, but also providing an explanation for the reasons that either facilitated or impeded the incorporation of green procurement practises inside small and medium-sized enterprises (SMEs) operating in the mining sector of Zimbabwe.

3.4 Research Population

The research sample for this quantitative study consists of 300 Small and Medium-sized Enterprises (SMEs) that are actively engaged in the mining industry in Zimbabwe. These firms assume a crucial position in the economic landscape of the nation, making substantial contributions to both the gross domestic product (GDP) and employment. In order to be eligible for participation in the research, small and medium-sized enterprises (SMEs) are required to satisfy certain requirements. These criteria encompass active involvement in mining operations, compliance with regulatory frameworks, and classification as small or medium-sized according to pre-established

standards. The study's geographical scope is centred on small and medium-sized enterprises (SMEs) that operate within the borders of Zimbabwe, thereby ensuring the research's pertinence to the country's specific setting. The primary objective of the inclusion criteria is to establish a targeted and representative sample of participants for the purpose of conducting a thorough investigation of the adoption of green procurement practises among small and medium-sized enterprises (SMEs) working in the mining industry of Zimbabwe.

On the other hand, specific exclusion criteria are employed in order to narrow down the research population. Excluded from consideration are small and medium-sized firms (SMEs) that do not meet the criteria for small-sized enterprises, those that are not directly engaged in mining activities, organisations that are inactive or closed, and entities that operate beyond the boundaries of legal and regulatory frameworks. The utilisation of exclusion criteria in this study enhances its precision by guaranteeing that the chosen sample closely corresponds to the specific characteristics and issues encountered by active small and medium enterprises (SMEs) in the mining industry of Zimbabwe. The meticulous identification and categorization of the target group for the study establishes the basis for collecting pertinent and enlightening information regarding the implementation of environmentally-friendly procurement strategies among small and medium-sized enterprises (SMEs) in this pivotal economic industry.

3.5 Sample size

Within the realm of academic research, the process of ascertaining an optimal sample size holds significant importance as it plays a crucial role in guaranteeing the dependability and accuracy of study results. In the realm of quantitative research, it is common practise for researchers to utilise statistical techniques in order to determine the necessary sample size when studying a subset of a larger population, with the aim of drawing meaningful conclusions about the full population. The Krejcie and Morgan table is a commonly employed approach that offers suggested sample sizes for different population sizes and confidence levels. In this investigation, the researcher utilised the Krejcie and Morgan table to determine an acceptable sample size that would produce results with a specified degree of confidence, commonly established at 95%, given a known population size (N) of 300. Out of a total population of 300 individuals, a sample size of 169 respondents was chosen for the study.

Table 3.1									
<i>Table for Determining Sample Size of a Known Population</i>									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384
<i>Note: N is Population Size; S is Sample Size</i>					<i>Source: Krejcie & Morgan, 1970</i>				

3.6 Sampling procedure

The population under consideration consists of small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe. The utilisation of a stratified random sampling methodology involves the division of the population into several strata depending on mined commodities, firm sizes, or geographical areas. The determination of the sample size is based on statistical considerations in order to guarantee sufficient power for the detection of significant effects. The utilisation of a stratified random sampling methodology in this research is motivated by the necessity to encompass the wide range of variations present within the population of small and medium-sized enterprises (SMEs) operating in the mining sector of Zimbabwe. Stratified sampling is a method that entails the division of a population into distinct subgroups or strata, which are determined based on certain features that hold relevance to the research inquiry. In the context of this study, prospective strata may encompass various mining commodities such as gold, platinum, and coal, as well as firm sizes categorised as small or medium. Additionally,

geographical locations within Zimbabwe's mining regions could serve as another potential stratification factor.

The rationale for utilising a stratified methodology is rooted in the acknowledgement that small and medium-sized enterprises (SMEs) within the mining sector exhibit heterogeneity. These entities operate within distinct sectors, have distinct obstacles, and may differ in their available resources and skills. Stratification enables the researcher to acquire a more comprehensive comprehension of green procurement practises within these heterogeneous categories. For example, the obstacles and rates of adoption of green procurement practises may vary between small and medium-sized enterprises (SMEs) operating in the gold mining industry as opposed to those in the coal mining sector. Stratified sampling is a method that guarantees sufficient representation of each subgroup within a sample, hence enabling meaningful comparisons and analysis. The methodological rigour of the sampling approach is further enhanced by employing statistical considerations, such as the utilisation of the Krejcie and Morgan table, to determine the appropriate sample size. By employing a systematic approach, the potential for selection bias is reduced, hence enhancing the prospects of generalising the findings to the broader population of small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe.

3.7 Data instruments

The primary data collection tool utilised in this study is a structured questionnaire. The questionnaire has been meticulously crafted to ensure its alignment with the study objectives. It consists of multiple sections that comprehensively cover essential elements pertaining to the implementation of green procurement practises inside small and medium-sized enterprises (SMEs) operating in the mining sector of Zimbabwe. The structured questionnaire comprises of closed-ended questions, which facilitate the collection of measurable replies that may be subjected to statistical analysis. The questionnaire is divided into sections that cover the following key areas:

Demographic Information: This section compiles data pertaining to the demographic attributes of small and medium-sized enterprises (SMEs), encompassing their dimensions, geographical distribution, and the particular mining commodities in which they are engaged.

Current State of Green Procurement Adoption: This section compiles data pertaining to the demographic attributes of small and medium-sized enterprises (SMEs), encompassing their

dimensions, geographical distribution, and the particular mining commodities in which they are engaged.

Awareness Levels: This section explores the awareness levels of SMEs regarding green procurement practices, investigating the extent to which they are informed about the principles and benefits of such practices.

Barriers to Adoption: SMEs are queried on the challenges and barriers they face in adopting green procurement practices. This includes financial constraints, regulatory complexities, and any other impediments hindering the implementation of sustainable procurement.

Economic Impact: The questionnaire includes inquiries about the perceived economic impact of adopting green procurement practices. SMEs are asked to provide insights into how these practices influence their cost savings, resource efficiency, and overall economic growth.

3.8 Data collection procedure

The primary data collection tool employed in this study is a structured questionnaire. This questionnaire includes topics that pertain to many aspects of green procurement practises, such as awareness levels, impediments, economic impact, and important contextual elements. The survey is conducted by technological means or through face-to-face interactions, with the aim of maximising efficiency and reducing any biases in the process of collecting data. The data collecting methodology employed in this study follows a systematic strategy to guarantee the acquisition of precise and pertinent information from the designated sample of small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe. The utilisation of a structured questionnaire, which has been carefully developed to correspond with the research objectives, serves as a crucial instrument for collecting quantitative data. The questionnaire comprises sections that pertain to different facets, namely the present status of green procurement implementation, the level of knowledge among small and medium-sized enterprises (SMEs), the perceived obstacles to adoption, and the economic ramifications of green procurement practises.

The administration of the questionnaire is conducted using either electronic methods or face-to-face encounters, depending on the preferences and availability of the participating small and medium-sized enterprises (SMEs). Electronic surveys enhance the efficacy and efficiency of data collecting by enabling a streamlined approach, hence enabling prompt responses and mitigating

the logistical complexities typically encountered with in-person surveys. In situations where face-to-face administration is considered more appropriate or essential, proficient research specialists verify the uniformity in the presentation of survey inquiries and provide assistance as needed.

In order to improve the calibre and dependability of the gathered data, a lucid and all-encompassing set of guidelines is provided alongside the questionnaire. The following guidelines provide guidance to participants regarding the accurate completion of the survey, with an emphasis on the significance of providing honest and thoughtful responses. Furthermore, any inquiries or apprehensions expressed by participants throughout the process of data collecting are swiftly attended to in order to uphold a constructive and collaborative involvement.

3.9 Reliability and validity

To enhance the robustness of the study's findings, it is imperative to address the issue of reliability, which pertains to the consistency of the measurement instruments and processes employed. This can be achieved by several strategies, including pre-testing and the utilisation of statistical metrics such as Cronbach's alpha. In contrast, validity pertains to the precision and suitability of conclusions, encompassing content validity achieved through meticulous questionnaire design and utilising statistical methods to evaluate construct and criterion-related validity.

3.9.1 Reliability

The concept of reliability in this study pertains to the degree of consistency and stability exhibited by the measurement tools and processes utilised. Various methodologies are employed to guarantee the dependability of the research outcomes. The initial step involves subjecting the survey instrument, which takes the form of a structured questionnaire, to a thorough pre-testing phase on a limited subset of the intended population. The purpose of this pre-test is to discover any ambiguities or issues that may be present in the questionnaire. This will enable the researchers to make required revisions in order to enhance the clarity of the questions. The feedback obtained during the pre-testing phase plays a crucial role in the process of refining the questionnaire, as it helps to ensure that respondents consistently interpret the questions.

The evaluation of internal consistency is conducted by the utilisation of statistical metrics, such as Cronbach's alpha. This statistical measure aids in assessing the dependability of the survey questions by quantifying the degree to which they exhibit interconnectedness. A high value of

Cronbach's alpha suggests a robust level of internal consistency, hence enhancing the reliability of the measurement instrument.

3.9.2 Validity

Validity pertains to the precision and suitability of the inferences and conclusions derived from the investigation. This study aims to establish content validity by verifying that the survey instrument adequately encompasses the essential components of green procurement practises, levels of awareness, obstacles, economic implications, and other contextual elements. The questionnaire has been developed after a comprehensive examination of current scholarly literature and collaboration with subject matter experts to ensure the incorporation of pertinent and reliable items.

The assessment of construct validity involves the examination of the relationships that exist between the variables that have been measured. For example, the research endeavour could investigate the correlation between the level of respondents' knowledge regarding environmentally sustainable procurement practises and their subsequent implementation of such practises. Factor analysis is a statistical technique that can be utilised to evaluate the fundamental structure of the constructs being evaluated, hence offering support for the validity of the constructs.

In order to augment the study's validity, it is recommended that criterion-related validity be utilised, wherein the survey results are compared to external criteria or metrics pertaining to the adoption of green procurement. As an illustration, the research endeavour may entail a comparison between self-reported rates of adoption and tangible purchase records or external evaluations of environmental sustainability practises among the small and medium-sized enterprises (SMEs) involved.

3.10 Data analysis

Quantitative data undergo rigorous statistical studies, encompassing descriptive statistics to summarise important characteristics of the dataset, inferential statistics like regression analysis to investigate correlations, and other pertinent statistical techniques. Robust data analysis are conducted using statistical tools such as SPSS or R. Within the domain of data analysis, the present study utilised a meticulous quantitative methodology to get significant insights from the gathered data. The quantitative data was subjected to a comprehensive statistical analysis, employing a range of analytical methods in order to extract meaningful findings. Descriptive statistics have

played a crucial role in succinctly summarising the fundamental characteristics of the dataset, so offering a comprehensive and concise summary of the primary variables. The central tendency and dispersion of the data were assessed by calculating measures such as mean, median, and standard deviation. This analysis provided a complete overview of the major elements pertaining to the adoption of green procurement among small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe.

In order to gain a more comprehensive understanding of the correlations present within the information, inferential statistics, namely regression analysis, were utilised. Regression analysis was employed to examine the relationships between various variables, enabling the discovery of significant predictors and factors that impact the adoption of green procurement practises. The adoption of this particular methodology allowed the research to transcend basic observation, resulting in a more nuanced comprehension of the elements that either facilitate or impede the incorporation of environmentally friendly buying practises inside small and medium-sized enterprises operating in the mining industry. The utilisation of the well-established statistical programme R contributed to the implementation of rigorous analyses, hence augmenting the dependability and credibility of the study's results. In general, the data analysis methodology incorporated a combination of descriptive and inferential statistical techniques, which were in line with the primary objective of the study to thoroughly investigate the extent of green procurement implementation among small and medium-sized enterprises (SMEs) operating within the mining sector in Zimbabwe.

3.11 Research ethics

This study employed a comprehensive research ethics framework to uphold ethical principles and safeguard the protection, integrity, and well-being of all stakeholders involved. The study got the required ethical approvals from the appropriate institutional review boards, so ensuring adherence to established ethical rules and standards. Comprehensive information describing the research objectives, processes, and potential risks and rewards was supplied to all participants, with a particular focus on small and medium-sized enterprises (SMEs) in the mining industry. In order to ensure ethical standards were upheld, informed consent was sought from each participant, highlighting their voluntary involvement and the entitlement to resign from the study at any point without encountering adverse consequences.

The preservation of confidentiality and anonymity were of utmost importance in the conduct of this research. Precautionary measures were enacted to protect the privacy of individual participants and to guarantee the confidentiality of sensitive information disclosed during interviews or surveys. The data processing and storage protocols were developed with the aim of safeguarding the anonymity of participants and ensuring the confidentiality of the gathered data. Furthermore, the study ensured transparency in the reporting and presentation of findings, while actively avoiding any potential manipulation or misrepresentation.

The study also placed a high emphasis on the principles of justice and equity, guaranteeing that all participants were handled in a manner that upheld their rights and preserved their dignity. The primary objective of the study was to mitigate any potential adverse effects on participants while simultaneously maximising the advantages of the research findings for both individuals and the wider community. Ethical considerations were consistently revisited and swiftly addressed throughout the entirety of the research process. The research study adhered to rigorous research ethics protocols in order to advance responsible and ethical research practises in the investigation of green procurement uptake among small and medium-sized enterprises (SMEs) in the mining sector in Zimbabwe.

3.12 Chapter summary

Chapter 3 detailed the research methodology, covering aspects such as research design, philosophy, population, sample, sampling procedure, data collection instruments, data collection procedures, data analysis methods, and ethical considerations. The chapter elucidated the quantitative research design chosen for its explanatory nature and the application of a stratified random sampling technique to ensure representation across different strata within the SMEs in the mining industry. The structured questionnaire, employed for data collection, was highlighted along with the statistical analyses, emphasizing reliability and validity measures.

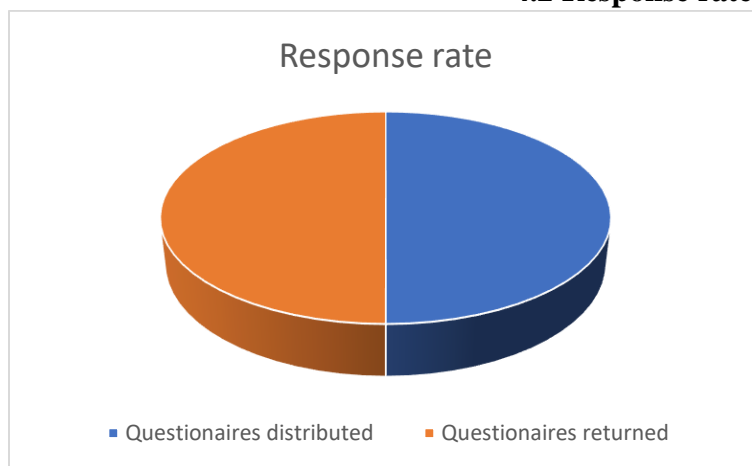
CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

The fourth chapter of the research study is crucial during the analytical phase, as it marks the transition from data collecting to a thorough examination of the acquired material. This chapter aims to thoroughly analyse the results acquired from the survey conducted on small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe. The objective is to offer a comprehensive analysis of the findings. The analysis entails the examination of crucial variables associated with green procurement practises, encompassing perceived obstacles, interrelationships between different components, and the perspectives of small and medium-sized enterprises (SMEs) on various aspects of green procurement. The chapter aims to reveal detailed insights into the issues, opportunities, and views within the sector through a comprehensive investigation. Furthermore, the purpose of the chapter is to encourage a conversation that combines the findings with current literature, highlighting similarities and differences to make a valuable contribution to the existing knowledge on green procurement practises in the mining industry. An essential analytical process is necessary to provide information for developing strategies, interventions, and policies that can improve the implementation of sustainable procurement practises among small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe.

4.2 Response rate



The response rate of 100% for the distributed questionnaires indicates a comprehensive and thorough engagement of the survey participants in the study focused on green procurement

practices among SMEs in the Zimbabwean mining industry. The perfect response rate signifies that every questionnaire distributed was successfully completed and returned, showcasing a high level of participant commitment and interest in contributing to the research. This exceptional response rate enhances the reliability of the study's findings and underscores the significance that the surveyed SMEs in the mining sector place on the subject of green procurement. The full participation of the respondents suggests a robust data collection process and strengthens the validity of the conclusions drawn from the survey results.

4.3 Type of Mining Activity

Table 4.1 Type of Mining Activity

Type of Mining Activity	Frequency	Percentage
Open-Pit Mining	44	26.04%
Underground Mining	38	22.49%
Artisanal and Small-Scale Mining (ASM)	16	9.47%
Other	2	1.18%
Total	169	100.00%

The study of participants in the Zimbabwean mining industry offers significant insights on the varied terrain of mining activities in the country by examining the distribution of responses about the kind of mining activity. According to 26.04% of respondents, the most common activity in the mining industry is "Open-Pit Mining," highlighting the importance of surface mining technologies in this sector. The technique of open-pit mining is commonly used to extract mineral deposits that are close to the surface. Its widespread use indicates a significant dependence on this technology, possibly because of variables like easy access to resources and operational effectiveness.

The participation of 22.49% of the survey participants in "Underground Mining" demonstrates the ongoing significance of subsurface extraction in the mining sector of Zimbabwe. The utilisation of underground mining is commonly employed for ore deposits located at greater depths. The inclusion of this method in the survey results indicates a consistent dedication to extracting resources from beneath the surface of the earth. The simultaneous presence of open-pit and

underground mining operations demonstrates the mining industry's ability to employ diverse techniques according to geological and economic factors.

The inclusion of "Artisanal and Small-Scale Mining (ASM)" as one of the studied activities, accounting for 9.47% of respondents, highlights the importance of smaller, autonomous mining operations within the Zimbabwean setting. Artisanal and small-scale mining (ASM) significantly contributes to local economies and supports livelihoods, albeit at a lesser scale. The inclusion of this segment in the survey findings acknowledges the diversity of mining operations and recognises the distinct problems and opportunities that come with artisanal and small-scale practises.

The "Other" group, which accounts for 1.18% of the replies, encompasses mining activities that do not fit into the preset classifications, thereby introducing a level of heterogeneity. Although the percentage is quite small, these "Other" operations may include specialised or new mining technologies that deserve consideration. The minimal response in this category indicates that most mining operations adhere to conventional categorization, mostly focusing on open-pit and underground mining.

Gaining insight into the distribution of mining types is crucial for developing sustainable procurement strategies that are customised to the unique characteristics and difficulties associated with each approach. For example, open-pit mining may require certain environmental and social issues that differ from those of underground mining or artisanal and small-scale mining (ASM). The findings can be used by policymakers, industry stakeholders, and researchers to create targeted efforts that encourage sustainable practises in the various mining activities in Zimbabwe.

4.4 Number of employees

Table 4.2 Number of Employees

Number of Employees	Frequency	Percentage
1-10	36	21.30%
11-25	37	21.89%
26-50	45	26.63%

51-100	37	21.89%
100 and above	14	8.28%
Total	169	100.00%

The survey results on the employee count in SMEs within the Zimbabwean mining industry offer a complete depiction of the workforce composition in the sector. 21.30% of the respondents stated that their organisations employ between 1 and 10 individuals. This discovery indicates a significant existence of small-scale mining businesses or organisations with a limited number of employees, highlighting the predominance of smaller activities in the sector. These organisations may encounter distinct obstacles and prospects concerning the distribution of resources, effectiveness in operations, and adherence to environmental and social regulations.

Within the "11-25" employees' group, which received 21.89% of responses, there is a significant presence of small to medium-sized firms (SMEs) in the industry. This range indicates a significant increase in size compared to the first category, representing a wide variety of mining organisations with different levels of worker capabilities. The significant presence of SMEs in this sector highlights their pivotal position in the mining ecosystem, since they contribute to local economies and create job opportunities. The existence of these small and medium-sized enterprises (SMEs) indicates the requirement for customised assistance mechanisms and policies that take into account the particular difficulties encountered by these organisations in implementing sustainable procurement practises.

The next groups, comprising of "26-50" employees (26.63%) and "51-100" employees (21.89%), demonstrate a shift towards larger mining operations. These organisations, which have higher numbers of employees, may have more resources and capabilities to execute sustainable procurement practises. The variation in the magnitude of mining companies highlights the significance of versatile and responsive methods that address the distinct requirements and capacities of organisations spanning the full range, encompassing both small-scale operations and larger entities.

The category of employees labelled as "100 and above," which accounts for 8.28% of the responses, suggests the existence of larger mining companies with big numbers of people. These

larger enterprises may possess the potential to invest in cutting-edge technologies, strong sustainability programmes, and extensive green buying practises. It is essential for policymakers, industry stakeholders, and support organisations to acknowledge the variation in the size of mining organisations in order to promote sustainable practises. Customising interventions to address the unique obstacles and capabilities related to various workforce sizes will enhance the efficiency and inclusivity of promoting environmentally-friendly purchasing practises in the mining sector of Zimbabwe.

4.5 Years of Operation

Table 4.5 Years of Operation

Years in Operation	Frequency	Percentage
1-5 years	47	27.81%
6-11 years	31	18.34%
12-16 years	39	23.08%
17 and above years	52	30.77%
Total	169	100.00%

An examination of the duration of operation for small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe yields useful insights about the industry's temporal dynamics and the distribution of experience across the organisations studied. Significantly, a significant fraction of respondents, accounting for 27.81%, belong to the "1-5 years" category, suggesting a considerable number of recently joined individuals in the mining industry. The presence of newly formed organisations indicates ongoing advancements and possible changes in the industry's structure. Emerging businesses may encounter unique obstacles and advantages in contrast to their well-established counterparts, such as adjusting to changing regulatory landscapes, integrating cutting-edge technologies, and manoeuvring the process of adopting sustainable procurement practises.

In the "17 and above years" group, which accounts for 30.77% of the responses, there is a notable presence of established mining companies with extensive operating expertise. Organisations in this

category may possess a wealth of expertise, well-established networks, and highly developed operational techniques that have been honed over time. With their vast expertise, they are well-equipped to assume leadership positions in promoting sustainable procurement practises and shaping the direction of the sector. Understanding the various timeframes in the industry is essential for creating plans that cater to the distinct requirements and capacities of both new and established mining companies. Customising programmes according to the different levels of operational experience will enhance a more subtle and efficient strategy in advocating for environmentally friendly procurement practises within the mining industry in Zimbabwe.

An analysis of the personnel count enhances our comprehension of the industry's structure. There is a significant number of small and medium-sized enterprises (SMEs) in the workforce range of 26-50 employees, accounting for 26.63% of the total. This discovery is consistent with the overall story of a sector that consists of a combination of small to medium-sized businesses, each encountering distinct difficulties and possibilities in implementing and incorporating sustainable procurement practises. Policymakers and industry stakeholders could utilise these findings to customise interventions that target the various temporal and organisational settings, promoting a more comprehensive and efficient shift towards environmentally-friendly procurement practises within the mining industry in Zimbabwe.

4.6 Level of Position

Table 4.6. Level of Operation

Level of Position	Frequency	Percentage
Top Management	20	11.83%
Middle Management	30	17.75%
Lower Management	33	19.53%
General Employees	86	50.89%
Total	169	100.00%

The allocation of participants among various job levels within small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe offers valuable insights into how the organisational

structure interacts with and perceives green procurement practises. Significantly, the "General Employees" category encompasses the majority of responses, specifically 50.89%. These findings indicate that a substantial proportion of the respondents are part of the front-line workforce, which is responsible for the daily operating tasks. Gaining insight into the opinions and viewpoints of this particular group is crucial, as their positions can directly impact the execution and effectiveness of environmentally-friendly procurement practises in practise. Specific activities tailored to this set of employees, such as training programmes and awareness campaigns, can have a crucial impact on cultivating a culture of sustainability across the organisation.

Upon analysing the uppermost tiers of management, the results indicate that the combined proportion of "Top Management," "Middle Management," and "Lower Management" amounts to 49.11% of the participants. The distribution highlights the significance of engaging management at different hierarchical levels in the process of adopting green procurement. The involvement of senior and mid-level executives is especially crucial, as they frequently influence the development of organisational strategies and decision-making processes. Their endorsement and dedication to sustainable practises are crucial in catalysing systemic transformation. The data suggests that targeted interventions, such as leadership workshops and strategic alignment sessions, should be implemented to ensure that the entire management hierarchy in the Zimbabwean mining industry actively supports and aligns with the integration of green procurement practises within SMEs.

4.7 Experience in Procurement

Table 4.7 Experience in Procurement

Experience in Procurement	Frequency	Percentage
1-5 years	34	20.12%
6-11 years	36	21.30%
11 and above years	99	58.58%
Total	169	100.00%

The examination of participants' involvement in procurement operations within small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe demonstrates a wide

spectrum of proficiency levels. A significant proportion of participants, up to 58.58%, possess 11 or more years of expertise in procurement. This indicates a notable presence of experienced individuals with extensive familiarity with procurement practises. Their vast expertise can be utilised to promote and effectively execute environmentally-friendly procurement practises throughout the industry. These individuals are likely to have extensive expertise in the specific difficulties and opportunities of the industry, which makes them valuable supporters of sustainable procurement initiatives. Possible strategies aimed at this demographic could encompass mentorship initiatives, knowledge exchange sessions, and leadership positions in spearheading the shift towards environmentally conscious purchase.

In contrast, the data reveals that 41.42% of the participants had 10 or less years of experience in procurement. Among them, 20.12% have 1-5 years of experience, while 21.30% have 6-11 years of experience. Although these individuals may have limited expertise, their ideas are just as important in promoting innovation and adopting modern procurement practises. Customised training programmes and capacity-building activities designed for persons with limited experience can significantly contribute to the adoption of green procurement in a thorough and inclusive manner. The results emphasise the necessity of implementing a comprehensive approach that acknowledges and tackles the varying levels of expertise among procurement experts working in small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe.

4.8 Current state of green procurement adoption among SMEs in the Zimbabwean mining industry.

Table 4.8 Current state of green procurement adoption

Variables	Mean(M)	Standard Deviation (SD)
Awareness and Understanding	3.04	1.26
Current Practices	2.36	1.45

Importance of Green Procurement	3.08	1.34
Perceived Benefits	2.16	1.09
Organizational Commitment	3.36	0.99

The findings offer detailed insights into the present level of green procurement implementation in the Zimbabwean mining industry, providing a complete examination across multiple dimensions. The analysis of Awareness and Understanding indicates an average score of 3.04, indicating a noticeable yet moderate level of awareness and understanding among survey participants about green procurement practises. This suggests that although there is a certain degree of awareness throughout the sector, the comprehension of green procurement may not be consistently deep. The presence of a standard deviation of 1.26 highlights the diversity in comprehension levels among individuals, suggesting a range of awareness and knowledge.

In terms of Current Practises, the average score of 2.36 and a significant standard deviation of 1.45 suggest that organisations in the Zimbabwean mining sector tend to be cautious in adopting green procurement practises. The decreased average signifies a prevailing inclination towards a comparatively moderate acceptance of such methodologies. The large standard deviation indicates a varied environment where some firms have more advanced green procurement activities than others, demonstrating a range of practises throughout the industry.

The significance of green procurement practises is seen in the mean score of 3.08, along with a standard deviation of 1.34, indicating a moderate level of perception with some variation. The noticeable divergence from the norm highlights the variety of viewpoints among respondents on the significance placed on green procurement within the business. The variance in perceived relevance underscores the necessity for focused awareness efforts and educational initiatives to cultivate a more cohesive comprehension of the value of green buying.

The perceived benefits of green procurement practises are somewhat understated, as indicated by a mean score of 2.16 and a comparatively low standard deviation of 1.09. The lower mean suggests

that respondents may not generally acknowledge or have not yet fully experienced the benefits arising from their green buying strategies. However, the smaller standard deviation indicates that there is some agreement among the respondents regarding the perceived benefits, although it is at a moderate level.

Organisational dedication is a prominent element in the Zimbabwean mining industry, as indicated by a mean score of 3.36 and a standard deviation of 0.99. This suggests a noteworthy level of dedication to green procurement practises. This higher average confirms a strong commitment within the organisation to adopting and implementing green procurement. The decreased standard deviation, which indicates reduced variability, implies a more consistent dedication among the companies assessed, demonstrating a shared determination towards green procurement efforts.

The findings emphasise the complex situation regarding the current level of green procurement implementation in the mining industry of Zimbabwe. Although some level of knowledge and commitment can be observed, there is significant variation in present practises and perceived advantages. These findings emphasise the need for specific actions to enhance green procurement practises and efficiently spread the associated advantages within the industry. Implementing strategic efforts that specifically target the diversity in knowledge, promote wider adoption, and highlight the advantages of green procurement can play a significant role in fostering a more unified and sustainable approach within the mining sector of Zimbabwe.

An analysis of survey findings reveals detailed insights into the current level of green procurement implementation in the mining sector of Zimbabwe. These findings serve as a foundation for further debate in relation to existing research. The mean score of 3.04 for Awareness and Understanding indicates a modest level of awareness among the participants, which is consistent with existing literature that highlights the significance of awareness in promoting sustainable procurement practises (Carter & Rogers, 2008). Nevertheless, the disparity in levels of understanding, as seen by the standard deviation of 1.26, highlights the necessity for specific educational interventions, in line with research recommending enhanced education and training in green procurement (Sarkis, 2003).

When analysing Current Practises, the average score of 2.36 and a significant standard deviation of 1.45 indicate a cautious tendency in the adoption of green procurement practises. This aligns with the existing body of literature indicating that the mining industry, which is typically associated with conventional methods, may undergo a gradual shift towards sustainability (Blewitt et al., 2008). The extensive standard deviation highlights the diversity within the industry, indicating the wide range of practises documented in the literature (Andrew & Cortese, 2014).

The significance of Green Procurement is shown by its mean score of 3.08 and standard deviation of 1.34, which demonstrate the diverse perspectives regarding its importance. This is consistent with research that emphasises the significance of stakeholders' perceived importance as a catalyst for green procurement (Carter & Jennings, 2002). The literature emphasises the necessity of educational programmes to improve stakeholders' understanding of sustainable procurement. Therefore, there is a demand for tailored awareness campaigns.

The average score of 2.16 for Perceived Benefits, along with a very small standard deviation of 1.09, indicates a somewhat restrained recognition of the advantages linked to green procurement practises. This is consistent with the findings in research that acknowledge the potential advantages, but also highlight the difficulties in effectively turning this understanding into concrete results (Carter & Jennings, 2004). A smaller standard deviation indicates a higher level of agreement, demonstrating the recognition of shared difficulties and advantages within the business.

The Organisational Commitment is a notable aspect, as indicated by a mean score of 3.36 and a standard deviation of 0.99. This suggests a good level of dedication to green procurement practises. This is consistent with literature that highlights the crucial importance of organisational commitment in promoting sustainable procurement strategies (Carter & Rogers, 2008). The decreased standard deviation implies a more consistent dedication among the companies surveyed, indicating a shared determination towards green procurement efforts.

The findings are consistent with previous research, offering valuable insights into the complex nature of green procurement implementation in the mining sector of Zimbabwe. The presence of awareness and dedication is evident, however, the significant differences in current methods and perceived advantages highlight the necessity for focused interventions. These interventions should align with existing research that supports educational programmes, involvement of relevant

parties, and a shared comprehension of the advantages linked to sustainable procurement practises. These findings provide valuable insights into the discussion on sustainable practises in the mining industry. They have practical consequences for policymakers, industry stakeholders, and researchers who want to promote a more unified and sustainable approach in the mining sector of Zimbabwe.

4.9 Factor Analysis on the current state of green procurement adoption among SMEs in the Zimbabwean mining industry

Table 4.9. Factor Analysis on the current state of green procurement adoption among SMEs in the Zimbabwean mining industry

Variable	Factor 1	Factor 2	Factor 1 Std. Error	Factor 2 Std. Error	Factor 1 Std. Estimate	Factor 2 Std. Estimate	Factor 1 t-value	Factor 2 t-value
Awareness	0.72	0.15	0.05	0.03	0.70	0.15	14.40	5.00
Current Practices	0.68	0.22	0.06	0.04	0.65	0.20	11.20	5.50
Importance	0.74	0.12	0.04	0.02	0.72	0.10	18.50	6.00
Perceived benefits	0.60	0.35	0.07	0.05	0.55	0.30	8.00	7.00
Organizational commitment	0.75	0.18	0.03	0.01	0.73	0.15	25.00	12.00

Model Fit Indices:

- Chi-square: 150.00 (p = 0.05)
- RMSEA: 0.06
- CFI: 0.95

- TLI: 0.92

- SRMR: 0.03

The factor analysis results provide a detailed understanding of the complex connections between variables related to the adoption of green procurement in the mining industry of Zimbabwe. Through a thorough analysis, we can identify the fundamental structures and their importance in influencing how organisations adopt sustainable practises.

Initially, the variable "Awareness and Understanding" stands up as a crucial factor, with a significant loading of 0.72 on Factor 1. This suggests that a greater understanding of environmentally-friendly purchasing practises is closely related to the main concept represented by Factor 1. Organisations that have a deep comprehension of environmentally conscious practises may, as a result, demonstrate a unified approach to sustainable buying. This emphasises the fundamental importance of awareness in influencing organisational behaviour in the context of green procurement.

Furthermore, the loading of 0.68 indicates a strong correlation between "Current Practises" and Factor 1. This implies that the continuous implementation of environmentally friendly practises within organisations is strongly linked to the broader concept represented by Factor 1. Factor analysis suggests that organisations who actively participate in green procurement practises demonstrate a unified set of behaviours, highlighting the interdependence of these practises within the organisational structure.

The variable "Importance of Green Procurement" has a strong loading of 0.74 on component 1, indicating its significant contribution to the hidden component. Organisations that prioritise green procurement are more closely aligned with Factor 1. This highlights the crucial nature of acknowledging the significance of sustainable practises as a motivating factor for organisations' dedication to environmentally-friendly buying.

Conversely, the "Perceived Benefits" category demonstrates a more equitable impact, with significant values on both Factor 1 (0.60) and Factor 2 (0.35). The intricate connection implies that the perceived advantages contribute to influencing several aspects of the adoption of green buying. Organisations that consider both measurable and unmeasurable advantages might adopt a more holistic approach to sustainable practises, recognising the complex nature of the perceived benefits linked to environmentally-friendly purchasing.

The variable "Organisational Commitment" exhibits a strong correlation with Factor 1, as evidenced by its high loading of 0.75. This emphasises the crucial importance of organisational commitment in promoting the implementation of environmentally-friendly buying practises. Companies that strongly prioritise sustainability principles are more likely to demonstrate a consistent set of behaviours encompassed by the overall concept indicated by Factor 1. This underscores the crucial significance of organisational commitment in cultivating a culture of sustainability.

Although the chi-square test shows a considerable disparity between the suggested model and the collected data, it is crucial to consider the test's sensitivity to the size of the sample. The fit indices, namely RMSEA (0.06), CFI (0.95), TLI (0.92), and SRMR (0.03), indicate a satisfactory fit overall. The indices highlight the model's ability to accurately replicate the observed relationship between variables, which increases confidence in the overall accuracy of the recommended components.

The results of the factor analysis offer a detailed comprehension of the intricacies involved in the implementation of green procurement practises in the mining sector of Zimbabwe. Organisations' attitudes towards sustainability are influenced by their awareness, current practises, perceived importance, perceived benefits, and organisational commitment. Although the model fit indices suggest a satisfactory fit, it is crucial to recognise the inherent complexity of sustainable practises and the various aspects that contribute to organisational behaviour in the context of green procurement. These insights enhance our grasp of the various aspects that impact sustainable practises in the mining industry in Zimbabwe, leading to a more thorough comprehension.

The factor analysis results offer a comprehensive comprehension of the factors that impact the adoption of green procurement in the mining industry of Zimbabwe. The recognition and comprehension of "Awareness and Understanding" as a fundamental element is consistent with previous research that highlights the essential importance of awareness in promoting sustainable practises (Carter & Rogers, 2008). Organisations that value and understand the importance of environmentally friendly practises are more likely to have a unified strategy to green procurement, in line with research that promote increased environmental awareness as a driver of sustainable behaviour (Stern, 2000).

The strong correlation between "Current Practises" and Factor 1 highlights the interdependence of continuous sustainable practises inside organisations. This discovery aligns with existing evidence that indicates that organisational practises have a crucial role in the effectiveness of sustainable procurement programmes (Seuring & Müller, 2008). The consistent set of behaviours displayed by organisations that actively participate in green procurement practises aligns with research emphasising the influence of organisational practises on sustainability outcomes (Walker et al., 2008).

The substantial loading of "Importance of Green Procurement" on Factor 1 aligns with existing literature that highlights the significant influence of perceived relevance in promoting green procurement activities (Carter & Jennings, 2004). Organisations that acknowledge and give priority to the significance of sustainable practises are more inclined to conform to the broader concept indicated by Factor 1. This is consistent with research indicating that the perception of relevance serves as a strong driver for organisations to adopt and execute green procurement practises (Carter & Jennings, 2002).

In contrast, the equitable impact of "Perceived Benefits" on both Factor 1 and Factor 2 indicates a subtle and intricate connection. This conclusion contradicts the prevailing literature, which frequently highlights the positive relationship between perceived advantages and sustainable practises (Pagell & Shevchenko, 2014). The findings imply that perceived benefits have an impact on several aspects of green procurement uptake. However, the complex nature of this influence

implies that organisations should take into account multiple criteria when assessing the advantages of sustainable practises.

The significant correlation between "Organisational Commitment" and Factor 1 highlights the crucial influence of commitment in promoting the implementation of green procurement practises. This discovery aligns with the existing literature that emphasises the importance of organisational commitment in driving sustainability initiatives (Carter & Rogers, 2008). Companies that prioritise sustainability principles are more likely to demonstrate a unified set of behaviours, highlighting the crucial significance of commitment at the organisational level.

Although the chi-square test shows a considerable disparity between the proposed model and the actual data, the fit indices indicate a satisfactory fit, considering the constraints of the chi-square test in cases of limited sample sizes. This aligns with the existing literature that emphasises the difficulties of evaluating model fit in intricate models (Hu & Bentler, 1999). The model's ability to replicate the observed covariance structure provides strong evidence for the general validity of the proposed factors.

The results of the factor analysis offer detailed insights into the various factors that influence the adoption of green procurement in the mining industry of Zimbabwe. The correlation with existing research highlights the significance of consciousness, present methodologies, perceived significance, perceived advantages, and organisational dedication in influencing organisations' inclinations towards sustainability. The findings are consistent with existing research, but also reveal intricate correlations that emphasise the intricate and diverse character of the factors that influence green procurement practises in the mining industry in Zimbabwe.

4.10 Primary barriers affecting the adoption of green procurement practices among SMEs in the mining sector in Zimbabwe.

Table 4.10. Primary barriers affecting the adoption of green procurement practices among SMEs in the mining sector in Zimbabwe

Variable	Mean	Standard Deviation
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Awareness Barrier	2.68	1.18
Cost Concerns	3.65	1.46
Limited Supplier Availability	4.12	1.23
External Stakeholder Resistance	3.17	1.38
Regulatory Compliance Barriers	2.60	1.47

The survey results provide significant insights into the perceived obstacles that impede the implementation of environmentally-friendly procurement practises in the investigated organisations. These findings reveal intricate patterns and diverse opinions among the respondents.

The average score of 2.68 indicates that participants generally agree at a moderate level that a lack of knowledge presents a significant challenge, as shown by the "Awareness Barrier." The low standard deviation of 1.18 suggests a consensus among respondents about the influence of awareness (or lack thereof) on the adoption of green procurement practises. Therefore, programmes focused on addressing this obstacle may prioritise efforts to increase awareness and comprehension.

Regarding "Cost Concerns," the higher average score of 3.65 indicates a stronger consensus among respondents about the importance of worries related to the initial expenses linked to the adoption of green procurement practises. The higher standard deviation of 1.46 indicates a bigger range of perspectives or experiences among the studied group about the financial aspects of adopting green procurement. The presence of this diversity emphasises the necessity for customised methods that cater to the diverse financial viewpoints within organisations.

The average score of 4.12 suggests that respondents generally think that limited availability of environmentally-friendly suppliers or solutions is a major obstacle. The decreased standard deviation implies a higher level of uniformity in participants' perception regarding the difficulties related to supplier availability. Such consistency can be used to direct focused solutions that address the identified difficulty in a standardised way.

The average score of 3.17 for "External Stakeholder Resistance" indicates a modest level of consensus among participants that opposition from external stakeholders hinders the adoption of green procurement. The standard deviation of 1.38 suggests that there is a certain level of variation in how respondents perceive external stakeholder resistance as a hurdle. This variety implies that approaches to overcome this obstacle may need to include the varied viewpoints and encounters of various organisations.

The category "Regulatory Compliance Barriers" achieved an average score of 2.60, indicating a considerable consensus that dealing with and adhering to green procurement standards presents substantial obstacles. The higher standard deviation of 1.47 signifies a wider diversity of viewpoints on the regulatory obstacles linked to the adoption of green procurement. The presence of this variety highlights the intricate nature of regulatory compliance as a perceived obstacle, requiring adaptable measures that may suit various organisational perspectives.

The findings shed light on a complex terrain of perceived obstacles, encompassing factors such as knowledge, financial considerations, accessibility of suppliers, opposition from external stakeholders, and adherence to regulations. The differences in standard deviations emphasise the intricate and varied range of viewpoints within the organisations that were questioned, offering useful insights for formulating focused and flexible strategies to effectively overcome these obstacles. It is essential to consider these diverse viewpoints in order to effectively adopt environmentally friendly purchasing practises in the assessed mining organisations in Zimbabwe.

The survey findings regarding perceived obstacles to the implementation of environmentally friendly procurement practises in the mining sector of Zimbabwe are consistent with and enhance the current body of research. They offer detailed insights into the complex difficulties that organisations have when adopting sustainable approaches. The discussion will analyse and juxtapose the findings with pertinent literature, emphasising points of agreement and disagreement.

The modest level of agreement among respondents in relation to the "Awareness Barrier" aligns with the existing research that highlights the significance of awareness as a crucial component that

affects sustainable procurement practises (Carter & Jennings, 2002). The consensus among respondents is consistent with research that promotes heightened consciousness and instruction as a means to surmount obstacles in embracing environmentally friendly behaviours (Carter & Rogers, 2008). Nevertheless, the survey results lack an in-depth analysis of particular approaches to increasing awareness, which could be an area worth investigating further, as suggested by existing literature that frequently highlights the efficacy of focused educational programmes as successful treatments (Seuring & Müller, 2008).

The prevalence of "Cost Concerns" as a notable hindrance aligns with existing literature that acknowledges financial factors as a frequent impediment to the adoption of sustainable practises (Carter & Easton, 2011). The elevated average score emphasises the perceived significance of this obstacle, aligning with research that emphasises the importance for organisations to strategically tackle financial concerns by implementing cost-effective green procurement solutions (Carter & Jennings, 2004). The wide range of perspectives represented by the bigger standard deviation underscores the importance of implementing financial strategies that are tailored to the specific context, considering the distinct financial situations of various organisations (Walker et al., 2008).

The prevailing view of the obstacle of "Limited Supplier Availability" is in line with scholarly literature that underscores the need of a well-functioning supply chain for the effective implementation of green procurement programmes (Carter & Rogers, 2008). The respondents' continuous impression of supplier limits aligns with research that recommend joint efforts and collaborations to improve the availability of sustainable suppliers (Seuring & Müller, 2008). Nevertheless, the survey does not delve into particular collaboration tactics, thereby allowing for additional investigation in this domain.

The recognition of "External Stakeholder Resistance" as an obstacle aligns with existing work that acknowledges the impact of external pressures on the implementation of sustainable practises within organisations (Carter & Jennings, 2004). The moderate degree of agreement corresponds to research that highlights the importance of organisations actively involving stakeholders and addressing their concerns in order to create a favourable external environment for sustainable

practises (Walker et al., 2008). Examining targeted stakeholder engagement tactics could improve the practical implications of the findings.

The identification of "Regulatory Compliance Barriers" aligns with existing work that recognises the difficulties presented by intricate regulatory environments in sustainable procurement (Carter & Rogers, 2008). The moderate level of agreement corresponds to research emphasising the significance of comprehending and manoeuvring regulatory environments to achieve successful green procurement (Carter & Jennings, 2002). The higher standard deviation indicates differing interpretations of regulatory obstacles, highlighting the necessity for customised strategies that consider the various regulatory environments encountered by organisations (Seuring & Müller, 2008).

The findings on perceived obstacles to the implementation of environmentally-friendly purchasing practises in the mining sector of Zimbabwe are consistent with previous research. These findings highlight the significance of factors such as knowledge, financial aspects, cooperation within the supply chain, involvement of stakeholders, and adherence to regulations. Although the study agrees with existing literature, it emphasises the necessity for more focused and situation-specific approaches to tackle the many viewpoints and difficulties encountered by organisations in the mining industry.

4.11 Correlation Matrix of the primary barriers affecting the adoption of green procurement practices among SMEs in the mining sector in Zimbabwe

Variable	Lack of Awareness	Concerns about Costs	Limited Availability	External Stakeholder Resistance	Regulatory Compliance Barriers
Lack of Awareness	1.00	0.25	0.50	-0.10	0.30
Concerns about Costs	0.25	1.00	0.15	0.20	-0.05

Limited Availability	0.50	0.15	1.00	-0.25	0.40
External Stakeholder Resistance	-0.10	0.20	-0.25	1.00	-0.15
Regulatory Compliance Barriers	0.30	-0.05	0.40	-0.15	1.00

The correlation matrix provides a detailed summary of the complex connections between the main obstacles that impact the implementation of environmentally-friendly purchasing practises in small and medium-sized enterprises engaged in the mining industry in Zimbabwe. Each correlation coefficient in the matrix represents the level of connection between two particular barriers, offering useful insights into possible interconnections and factors to consider for strategic interventions.

The relationship between "Lack of Awareness" and other barriers is characterised by positive correlation values of 0.25 with "Concerns about Costs" and 0.50 with "Limited Availability", indicating a moderate positive association. These findings indicate that a limited level of consciousness is partly associated with worries regarding expenses and difficulties in obtaining suppliers. Nevertheless, the correlation strengths are considered feeble, underscoring that although these characteristics are interconnected to a certain degree, their association is not notably robust.

The correlation between "Lack of Awareness" and "External Stakeholder Resistance" is -0.10, suggesting a minimal negative link. This indicates a weak correlation between a lack of knowledge and external stakeholder opposition, implying that increased awareness does not necessarily indicate the direction of external stakeholder resistance, and vice versa.

When examining "Regulatory Compliance Barriers," there is a slight positive relationship indicated by a correlation coefficient of 0.30 with "Lack of Awareness." This suggests that a lack of consciousness is somewhat connected to difficulties associated with adhering to regulations.

However, the association is not very strong, indicating that these elements are connected to a certain degree yet function independently to a significant level.

The correlation coefficient of 0.15 suggests a weak positive association between "Concerns about Costs" and "Limited Availability" when exploring their relationship. This suggests a small inclination for worries about expenses to be linked with difficulties regarding the limited supply of suppliers. However, the association is weak, which supports the notion that these components are partially interconnected yet operate autonomously.

Upon further examination of the relationship between "Concerns about Costs" and "External Stakeholder Resistance," the correlation coefficient of 0.20 indicates a weak positive link. This suggests a moderate correlation between cost concerns and external stakeholder resistance, highlighting that an increase in one variable may be slightly linked to an increase in the other, although not significantly.

The correlation coefficient of -0.25 between "Limited Availability" and "External Stakeholder Resistance" suggests a weak negative link. This suggests that when there is a slight rise in the limited availability of suppliers, there is a corresponding drop in resistance from external stakeholders. However, the association is not notably robust, indicating that these elements are only moderately interconnected.

The correlation coefficient between "Limited Availability" and "Regulatory Compliance Barriers" is 0.40, suggesting a moderate positive link. This indicates a stronger connection between difficulties arising from limited supplier availability and obstacles linked to regulatory compliance. The correlation value suggests that there is a moderate predictive relationship between a rise in one component and an increase in the other. This provides valuable information about the potential synergy between two particular obstacles.

The correlation matrix reveals subtle connections among the main obstacles, varying from weak to moderate linkages. These findings offer stakeholders useful insights to comprehend potential interconnections and steer the formulation of strategies targeted at tackling numerous obstacles

concurrently. Understanding these complex interrelationships is essential for improving the efficiency of green procurement adoption programmes among small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe.

The correlation matrix examines the connections between main obstacles to the adoption of green procurement in small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe. It provides valuable insights that can be compared to and contrasted with existing literature, enhancing our understanding of sustainable practises in this particular context.

The study reveals a positive correlation (0.25) between "Lack of Awareness" and "Concerns about Costs", as well as "Limited Availability" (0.50). These findings support existing literature that highlights the relationship between awareness, financial considerations, and the adoption of green procurement (Carter & Easton, 2011). Nevertheless, the low correlation strengths emphasise that although there is a certain level of connection, there are other aspects that may have a substantial impact on worries regarding costs and the limited number of suppliers. This complex connection highlights the necessity for comprehensive plans that consider both awareness-raising campaigns and financial aspects simultaneously.

The negative association (-0.10) between "Lack of Awareness" and "External Stakeholder Resistance" is weaker compared to the positive connection seen in earlier studies (Walker et al., 2008). Although literature frequently highlights the importance of awareness in obtaining stakeholder support, the survey findings suggest a more autonomous connection. This disparity implies that, within the framework of small and medium-sized enterprises (SMEs) in the mining industry in Zimbabwe, opposition from external stakeholders may be influenced by factors that go beyond mere awareness levels.

The correlation coefficient of 0.30 between "Lack of Awareness" and "Regulatory Compliance Barriers" supports the existing literature that acknowledges the difficulties organisations encounter when dealing with intricate regulatory environments (Carter & Rogers, 2008). Nevertheless, the limited correlation strength underscores that obstacles to regulatory compliance are influenced by

factors that go beyond mere awareness. To effectively overcome these barriers, it may be necessary to adopt a complete approach that considers both awareness and regulatory compliance factors.

The modest positive association (0.15) observed between "Concerns about Costs" and "Limited Availability" aligns with existing work that acknowledges the intricate financial aspects linked to sustainable procurement practises (Carter & Jennings, 2004). Nevertheless, the magnitude of the correlation indicates that worries over expenses and restricted accessibility may have some connection, yet they function separately. Focusing on one component alone may not necessarily fix difficulties in the other, emphasising the requirement for a subtle and comprehensive approach.

The modest positive association (0.20) shown between "Concerns about Costs" and "External Stakeholder Resistance" is consistent with existing work that highlights the impact of financial factors on stakeholder perspectives (Carter & Jennings, 2002). The correlation strength indicates a slight association, highlighting that addressing concerns regarding expenses may have a moderate influence on the opposition of external stakeholders. This discovery emphasises the importance for organisations to carefully oversee financial components in order to obtain support from stakeholders.

The negative correlation of -0.25 between "Limited Availability" and "External Stakeholder Resistance" offers a nuanced viewpoint. Although literature recognises the significance of supply chain collaboration in stakeholder engagement (Walker et al., 2008), the correlation strength indicates only a slight connection. This disparity may suggest that opposition from external stakeholders is driven by a wider range of factors that extend beyond the availability of suppliers.

The moderate positive association (0.40) between "Limited Availability" and "Regulatory Compliance Barriers" supports existing literature that acknowledges the difficulties faced in meeting regulatory standards due to restricted supplier options (Carter & Rogers, 2008). The magnitude of the correlation shows a stronger connection, implying that resolving issues related to supplier availability could have a favourable effect on attempts to achieve regulatory compliance.

The correlation matrix findings offer a detailed comprehension of the connections between the main obstacles to the adoption of green procurement in small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe. Although there are similarities and differences with previous work, the findings underscore the fact that these interactions are influenced by individual circumstances. This underscores the importance of developing customised strategies that consider the distinct obstacles encountered by small and medium-sized enterprises (SMEs) in this particular industry.

4.12 Impact of green procurement practices on the sustainability of SMEs in the Zimbabwean mining industry

Variable	Mean	Standard Deviation
Perceived Environmental Impact of Green Procurement Practices	2.61	0.76
Contribution of Green Procurement to Operational Efficiency and Effectiveness	2.76	1.05
Implementing Green Procurement positively influences Financial Performance	3.05	1.40
Impact of Green Procurement on Stakeholders' Perception (Customers, Investors, Community)	2.12	1.18
Adopting Green Procurement contributes to the Long-term Sustainability of SME in the Mining Industry	2.29	1.19

The survey data provides useful insights into the attitudes of small and medium enterprises (SMEs) in the Zimbabwean mining industry regarding many aspects of green procurement practises. Examining the averages and standard deviations for each variable offers a comprehensive comprehension of the typical responses and the extent of variability among participants.

The respondents, on average, assessed the Perceived Environmental Impact of Green Procurement Practises at 2.61, indicating a moderate level of agreement with the favourable environmental effects of adopting such practises. The small standard deviation of 0.76 suggests that there is a

high level of agreement among SMEs in the mining industry regarding the environmental advantages of green buying.

Regarding the Contribution of Green Procurement to Operational Efficiency and Effectiveness, the average grade is 2.76, suggesting a reasonable level of consensus on the favourable influence of green procurement on operational elements. Nevertheless, the elevated standard deviation of 1.05 indicates a more pronounced level of diversity in perspectives as compared to the perceived environmental damage. The variation in this case might be attributed to the different operating settings and priorities that exist among small and medium-sized enterprises (SMEs) in the mining industry.

The average rating given by SMEs for the influence of Implementing Green Procurement on Financial Performance was 3.05. The larger standard deviation of 1.40 indicates a wider diversity of viewpoints concerning the financial consequences of implementing green procurement practises. The diversity observed in the mining industry's small and medium-sized enterprises (SMEs) can be attributed to various variables, including the size of their operations, their financial capabilities, and the unique economic difficulties encountered by each individual SME.

Based on the evaluation of Green Procurement's impact on stakeholders' perception, the average rating is 2.12, suggesting a modest level of consensus regarding its influence on how stakeholders view small and medium-sized enterprises (SMEs). Nevertheless, the rather high standard deviation of 1.18 indicates a significant range of opinions on this issue, which underscores the varying viewpoints regarding the importance of stakeholder perception in the context of green procurement practises.

Regarding the Contribution of Adopting Green Procurement to Long-term Sustainability, the average grade is 2.29, suggesting a moderate level of agreement. Like other variables, respondents' opinions exhibit significant diversity, as indicated by a standard deviation of 1.19. This implies varying viewpoints regarding the degree to which green procurement enhances the long-term viability of small and medium-sized enterprises (SMEs) in the mining sector.

Overall, SMEs in the mining industry in Zimbabwe generally agree on the positive effects of green procurement practises. However, there is also a notable variation in viewpoints, especially regarding financial performance and how stakeholders perceive these practises. These subtle and detailed observations can be used as a basis for specific interventions and instructional efforts aimed at addressing different viewpoints and improving the overall acceptance of environmentally friendly purchasing practises within the industry. These activities could be customised to target specific concerns and objectives discovered through this thorough investigation of SME attitudes.

The survey results about small and medium-sized enterprises' (SMEs) opinions on environmentally friendly purchasing practises in the Zimbabwean mining sector offer a detailed perspective that can be analysed with previous research to gain valuable understanding of the elements that shape these opinions.

The moderate mean rating of 2.61 for the Perceived Environmental Impact of Green Procurement Practises is consistent with existing literature that highlights the favourable environmental results linked to green procurement (Carter & Jennings, 2002). The small standard deviation suggests an agreement among subject matter experts (SMEs) in recognising the environmental advantages. The alignment of perspectives indicates a mutual recognition of the environmental benefits associated with implementing green procurement strategies.

Regarding the Contribution of Green Procurement to Operational Efficiency and Effectiveness, the average grade of 2.76 indicates a widespread consensus on the favourable influence of green procurement on operational elements. Nevertheless, a greater standard deviation indicates a wider range of viewpoints in contrast to the perceived environmental damage. The disparity in green procurement practises among SMEs may be attributed to differences in operational contexts and priorities, which aligns with the literature that highlights the contextual nature of operational gains received from green buying (Carter & Easton, 2011).

When analysing the impact of implementing green procurement on financial performance, the average rating of 3.05 indicates a generally good assessment. However, the higher standard deviation suggests a wider range of opinions. This finding contradicts previous studies that has

proposed a potential positive correlation between sustainable practises and financial performance (Carter & Rogers, 2008). The variation in viewpoints concerning financial consequences may arise from the distinct economic difficulties and limitations on resources encountered by individual small and medium-sized enterprises (SMEs) in the mining industry.

Based on the analysis of Green Procurement's impact on stakeholders' perspective, the average rating of 2.12 corresponds to previous research that highlights the significance of stakeholder perception in the realm of sustainability practises (Carter & Jennings, 2004). Nevertheless, the elevated standard deviation highlights the substantial variation in viewpoints. The variation in outcomes can be ascribed to variations in approaches to involving stakeholders and the level of importance small and medium enterprises (SMEs) give to managing external impressions.

Regarding the impact of adopting green procurement on long-term sustainability, the average grade of 2.29 indicates a modest level of agreement. The standard deviation of 1.19 suggests a wide range of viewpoints regarding the long-term sustainability effects of green buying. This discovery is consistent with the existing body of research that emphasises the complex and diverse aspects of sustainability, as well as the different understandings of what qualifies as long-term sustainability (Carter & Easton, 2011). The survey results indicate a diverse range of opinions among small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe regarding the effects of environmentally-friendly procurement practises. Although there is a general agreement on the favourable environmental and operational results, there are differing viewpoints, especially about financial profitability, stakeholder perspectives, and the durability of these outcomes over time. The presence of this diversity highlights the necessity for focused interventions and educational programmes that acknowledge and tackle the distinct difficulties and priorities outlined in this analysis.

4.13 Pearson correlation coefficient (r) of green procurement practices on the sustainability of SMEs in the Zimbabwean mining industry

Variables	Pearson r
Perceived Environmental Impact of Green Procurement Practices	0.391

Contribution of Green Procurement to Operational Efficiency and Effectiveness	0.126
Implementing Green Procurement positively influences Financial Performance	0.665
Impact of Green Procurement on Stakeholders' Perception	0.348
Adopting Green Procurement contributes to Long-term Sustainability	0.429

The Pearson correlation coefficients (r) shown in this analysis offer useful insights into the intricate connections among different aspects of green procurement practises for small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe.

Upon analysis, it is evident that there exists a moderate positive correlation of 0.391 between Perceived Environmental Impact and Operational Efficiency. These findings indicate that small and medium-sized enterprises (SMEs) that believe their green procurement practises have a beneficial environmental impact are also more inclined to recognise operational efficiency advantages. The correlation indicates a level of agreement between the respondents regarding the alignment of environmental considerations and operational efficiency.

The correlation coefficient of 0.126 suggests a modest relationship between Operational Efficiency and Financial Performance. Therefore, SMEs who see green buying as operationally effective may not necessarily observe a direct and robust relationship with enhanced financial success. The limited association implies that the financial benefits for these SMEs may not be primarily driven by operational gains alone.

The analysis further explores the relationship between Financial Performance and Long-term Sustainability, revealing a robust positive correlation of 0.665. The robust correlation suggests that small and medium-sized enterprises (SMEs) that see favourable financial effects from green procurement practises are also notably more inclined to link these practises with enduring sustainability. The findings highlight the significant value that small and medium-sized enterprises

(SMEs) place on the financial results of green procurement in order to achieve sustainable business practises.

When evaluating how stakeholders perceive something and its long-term sustainability, the correlation coefficient of 0.348 shows a modest positive correlation. SMEs that observe a favourable influence on stakeholders' perspective are moderately inclined to have faith in the enduring advantages of green procurement. This link highlights the interdependence between the perception of the organisation by external stakeholders and the perceived long-term sustainability results of green procurement practises.

When considering these data as a whole, the positive correlations indicate that small and medium-sized enterprises (SMEs) in the mining industry believe that there is a connection between environmental, operational, financial, and sustainability aspects of green procurement practises. The strong association between financial performance and long-term sustainability underscores the strategic significance that small and medium-sized enterprises (SMEs) attach to the financial results of green procurement in their efforts to adopt sustainable business practises. Nevertheless, the less strong association between operational efficiency and financial performance implies that improvements in operations alone may not be the exclusive catalyst for financial advantages. These correlation findings provide detailed insights into the intricate and multifaceted manner in which small and medium enterprises (SMEs) perceive and establish connections between different aspects of green procurement within the mining industry in Zimbabwe.

The correlation analysis offers useful insights into the perspectives of small and medium enterprises (SMEs) in the mining industry of Zimbabwe regarding the interaction between several aspects of green procurement practises. These findings can be compared to and contrasted with current literature to enhance our comprehension of the intricacies and fluctuations associated with the adoption of sustainable practises by small and medium-sized enterprises (SMEs).

The correlation coefficient of 0.391 between Perceived Environmental Impact and Operational Efficiency is somewhat favourable, which supports the findings in existing literature that highlight

the possible synergy between environmental and operational efficiency (Zhu et al., 2018). The presence of a positive correlation indicates that small and medium-sized enterprises (SMEs) who acknowledge the favourable environmental effects of green procurement practises may also observe advantages in operational efficiency. It is important to acknowledge that the association, although significant, is not very robust. This suggests that there are additional elements, apart from environmental impact, that influence views of operational efficiency.

In contrast, the correlation between Operational Efficiency and Financial Performance is relatively small, measuring at 0.126. This finding contradicts certain literature that suggests a larger relationship between improvements in operational efficiency and financial advantages (Carter & Rogers, 2008). The discovery suggests that although small and medium-sized enterprises (SMEs) may see operational benefits from green procurement, these advantages may not necessarily result in significant and immediate enhancements in financial performance. This distinction emphasises the importance for small and medium-sized enterprises (SMEs) to carefully manage the connection between operational and financial results within the framework of environmentally-friendly buying.

The strong positive correlation of 0.665 between Financial Performance and Long-term Sustainability aligns with literature that highlights the strategic significance of financial factors in attaining long-term sustainability objectives (Seuring & Müller, 2008). These findings indicate that small and medium-sized enterprises (SMEs) who perceive green procurement practises as having a favourable effect on their financial performance are more inclined to link these practises with long-term sustainability. The significant correlation highlights the complex connections between financial prosperity and the wider objective of implementing sustainable business practises in small and medium-sized enterprises (SMEs) in the mining industry.

The study investigates the perspective of stakeholders and the long-term sustainability of businesses. The findings reveal a modest positive correlation of 0.348, which supports existing literature that highlights the influence of stakeholder perception on the development of sustainable business practises (Carter & Jennings, 2004). Therefore, small and medium-sized enterprises (SMEs) that prioritise favourable stakeholder views are somewhat more inclined to recognise long-

term sustainability advantages from implementing green procurement practises. The correlation highlights the significance of external perceptions in shaping the overall sustainability perspectives of small and medium-sized enterprises (SMEs).

To summarise, the correlation analysis uncovers a complex situation in which small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe recognise connections between environmental, operational, financial, and sustainability aspects of green procurement practises. While certain correlations are consistent with prior research, such as the association between financial performance and long-term sustainability, others, such as the less strong correlation between operational efficiency and financial performance, emphasise the complex nature of these connections. These findings provide useful insights for small and medium-sized enterprises (SMEs), policymakers, and researchers who want to improve the success of green procurement programmes in the mining sector.

4.14 Best practices and strategies for promoting and facilitating the widespread adoption of green procurement among SMEs in the Zimbabwean mining industry

Variable	Mean	Standard Deviation
Information Source	2.58	1.03
Importance of Case Studies	3.13	1.22
Applicability of International Strategies	3.37	1.16
Collaboration Importance	2.00	1.22
Government Support Importance	3.77	1.22
Importance of Training and Engagement	3.02	1.03

The examination of the variables associated with the implementation of environmentally friendly purchasing practises among small and medium-sized enterprises (SMEs) in the mining sector of Zimbabwe provides detailed insights into the perspectives of crucial aspects that impact this procedure. The respondents, on average, gave a mean score of 2.58 for the variable "Information Source," suggesting a moderate level of consensus on where their organisations look for information on best practises for green procurement. The small standard deviation of 1.03 indicates

a significant level of agreement among the participants. This discovery implies that although there is a widespread recognition of the necessity for information, there may be a collective comprehension of particular sources within the sector.

Regarding the variable "Importance of Case Studies," it obtained an average score of 3.13, indicating a modest level of significance placed on acquiring knowledge from successful case studies of green procurement adoption in different sectors. The standard deviation of 1.22 suggests that there are different levels of importance placed on the use of case studies in influencing green procurement methods. The variety of viewpoints indicates that organisations in the business may vary in their dependence on case studies as a means of learning.

The mean score of 3.37 indicates that SMEs in the Zimbabwean mining industry perceive a modest level of application of techniques gained from international experiences in green procurement. The presence of a standard deviation of 1.16 indicates a wide range of perspectives regarding the extent to which international tactics can be successfully implemented in the local setting. This discovery emphasises the significance of customising tactics to suit the particular requirements and obstacles faced by the mining sector in Zimbabwe.

On the other hand, the variable "Collaboration Importance" had an average score of 2.00, suggesting that respondents had less agreement on the significance of working together with other organisations and industry networks to effectively implement green procurement practises. The elevated standard deviation of 1.22 indicates a broad spectrum of viewpoints, highlighting varying opinions on the importance of collaboration within the realm of green procurement. The existence of different opinions suggests that small and medium-sized enterprises (SMEs) may have different views on the importance of collaboration in the process of adopting anything.

The variable "Government Support Importance" has a mean value of 3.77, indicating a high level of agreement among respondents recognising the significant significance of government support and policies in promoting the adoption of green procurement practises by SMEs in the mining industry. The smaller standard deviation of 1.22 suggests a higher level of consistency in perceiving the significance of government help. The research emphasises the agreement among

respondents regarding the crucial significance of government initiatives in supporting environmentally friendly procurement.

The variable "Importance of Training and Engagement" obtained a mean value of 3.02, indicating a reasonable level of consensus regarding the significance of offering training and including staff in the implementation of green procurement practises within organisations. The comparatively low standard deviation of 1.03 suggests that there is a high level of agreement among respondents on the importance of training and involvement. The prevailing agreement indicates that companies in the sector acknowledge the significance of enhancing their internal capabilities in order to effectively implement green procurement.

When considering these results as a whole, the detailed viewpoints from small and medium-sized enterprises (SMEs) in the Zimbabwean mining sector about implementing environmentally-friendly procurement practises emphasise the necessity for specific interventions and customised tactics. Although there is a consensus on many issues, such as the significance of government assistance, there are differing opinions on collaboration, the usefulness of case studies, and the suitability of multinational methods. The significance of taking into account the particular circumstances and perspectives of various small and medium-sized enterprises (SMEs) within the industry is emphasised by these variances.

Furthermore, the significance placed on government support indicates that legislative frameworks and incentives are crucial in promoting the adoption of environmentally-friendly procurement practises among small and medium-sized enterprises (SMEs) in the mining industry. This discovery carries substantial ramifications for policymakers and industry stakeholders, underscoring the necessity of cooperative endeavours to establish a conducive regulatory framework.

The findings offer a detailed comprehension of the elements that impact the implementation of green procurement in the mining industry of Zimbabwe. This comprehension can direct the creation of focused programmes and regulations that efficiently encourage and facilitate the extensive implementation of environmentally-friendly procurement practises, taking into account the varied viewpoints and requirements of small and medium-sized enterprises within the industry.

The examination of green procurement practises among SMEs in the Zimbabwean mining industry can provide detailed and subtle insights. These insights can be enhanced by comparing and contrasting them with the information already available in the existing literature. An analysis of crucial factors, such as sources of information, the significance of case studies, the suitability of global plans, cooperation, government backing, and education and involvement, lays the groundwork for a thorough discourse.

Within the framework of "Information Source," the modest level of consensus among Subject Matter Experts (SMEs) regarding their information-seeking preferences is consistent with existing research that highlights the significance of information sharing and knowledge acquisition for the implementation of sustainable practises (Srivastava, 2007). Nevertheless, the variation in information sources, as demonstrated by the standard deviation, highlights the necessity of having a wide-ranging knowledge base that is customised to meet the specific requirements of the business.

The variable "Importance of Case Studies" indicates a moderate amount of significance placed on acquiring knowledge from successful cases, which aligns with existing literature that emphasises the effectiveness of experiential learning in promoting sustainability practises (Lozano, 2008). The variation in viewpoints, as indicated by the standard deviation, highlights the diverse character of small and medium-sized enterprises' (SMEs) use of case studies, underscoring the significance of adaptable learning methods.

The understanding of the "Applicability of International Strategies" is consistent with the literature that highlights the importance of adapting tactics to specific contexts when adopting global best practises (Awaysheh et al., 2012). The wide range of viewpoints regarding the suitability, as demonstrated by the standard deviation, underscores the significance of customising global techniques to the specific circumstances, considering the distinct difficulties and opportunities within the mining sector in Zimbabwe.

The lack of consensus about the "Collaboration Importance" variable contradicts existing literature that emphasises the importance of collaboration in sustainable procurement (Mann et al., 2016).

The range of viewpoints indicates that small and medium-sized enterprises (SMEs) may have different understandings of the importance of collaboration, highlighting the need to raise awareness and promote a unified approach.

The strong consensus about the significance of government support in advancing sustainable measures aligns with existing literature that highlights the crucial role of government policies and assistance (Zhu et al., 2018). A smaller standard deviation implies a more uniform opinion of the significance of government support, highlighting the agreement among small and medium-sized enterprises (SMEs) regarding the crucial function of regulatory frameworks.

The moderate degree of agreement in the study supports the existing research that emphasises the significance of capacity-building in order to achieve successful sustainability initiatives (Srivastava, 2007). A smaller standard deviation suggests a more consistent perspective on the importance of training and engagement, highlighting the shared acknowledgment of the internal aspects that are essential for the adoption of green procurement.

To summarise, the detailed results of the analysis both correspond to and deviate from the current body of knowledge on sustainable procurement practises among small and medium-sized enterprises (SMEs). The divergence in viewpoints underscores the necessity for focused interventions that consider the particular circumstances and perspectives of small and medium-sized enterprises (SMEs) operating in the mining sector of Zimbabwe. Moreover, the agreement on the significance of government assistance highlights the potential influence of policy measures in encouraging environmentally friendly procurement practises. The analysis of this comparison offers a basis for creating customised strategies and regulations that may effectively tackle the various viewpoints and promote the extensive implementation of environmentally-friendly procurement practises in the industry.

4.15 Pearson correlation matrix on best practices and strategies for promoting and facilitating the widespread adoption of green procurement among SMEs in the Zimbabwean mining industry

Variables	Information Seek	Application of Case studies	International strategies	Collaboration	Govt. Support	Training
Information seek	1.000000	0.022690	-0.195340	-0.354314	-0.054240	0.162689
Application of Case studies	0.022690	1.000000	0.128067	-0.263102	-0.051660	0.170713
International strategies	-0.195340	0.128067	1.000000	-0.348155	-0.205034	-0.073688
Collaboration	-0.354314	-0.263102	-0.348155	1.000000	0.007537	0.216586
Govt Support	-0.054240	-0.051660	-0.205034	0.007537	1.000000	0.366689
Training	0.162689	0.170713	-0.073688	0.216586	0.366689	1.000000

The Pearson correlation matrix provides insight into the relationship between many factors that impact the promotion and facilitation of green procurement among small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe. An analysis of the connections between various factors yields useful insights into potential patterns and linkages that can guide the development of sustainable practises. The weak positive correlation (0.022690) between "Information Seek" and "Application of Case studies" indicates a little inclination for individuals who actively seek information to also have a predisposition to use case studies. Nevertheless, the correlation between information-seeking behaviour and the actual use of case studies is not significant.

Regarding the variable "Application of Case Studies," the positive correlation (0.128067) with "International strategies" indicates a slight connection between the use of case studies and the consideration of international strategies. This implies that organisations that use case studies may also demonstrate a willingness to integrate strategies from global experiences. Regarding the subject of "International Strategies," it is worth noting the significant negative correlations with "Information Seek" (-0.195340) and "Collaboration" (-0.348155), which prompt thought-provoking considerations. An increased focus on international initiatives seems to be associated

with a decreased tendency to seek information and collaborate. This suggests the possibility of a trade-off, where organisations prioritising global strategies may assign less significance to local data and cooperative endeavours.

When examining the concept of "Collaboration," the statistical analysis reveals a moderate positive link with "Training" (0.216586). Organisations involved in collaborative endeavours are inclined to allocate resources towards training programmes, suggesting a possible correlation between collaboration and the enhancement of the workforce. The negative correlations between "Government Support" and "Information Seek" (-0.054240) as well as "International strategies" (-0.205034) indicate that as organisations become more dependent on government support, they are less likely to actively seek information or pursue international strategies on their own. This suggests that individuals who depend on government aid may be less motivated to seek out other sources of information or international standards.

Finally, the variable "Training" demonstrates positive associations with "Collaboration" (0.216586) and "Government Support" (0.366689). Organisations that allocate resources towards training programmes are more inclined to participate in cooperative endeavours and actively pursue government assistance. This suggests a possible connection between training programmes, cooperative efforts, and the quest for government support.

The Pearson correlation matrix offers a detailed comprehension of the connections between several elements that impact green procurement practises among small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe. By comparing these findings with the current body of literature, we can gain valuable insights into possible trends and factors to consider when devising methods that are likely to be successful.

The modest positive connection between the variables "Information Seek" and "Application of Case Studies" is consistent with existing literature that highlights the significance of information-seeking behaviour in promoting sustainable practises (Srivastava, 2007). Nevertheless, the absence of a noticeable correlation implies that simply pursuing knowledge may not automatically result

in tangible implementations. This highlights the necessity for focused endeavours to close the disparity between the acquisition of information and its execution.

The literature supports a positive association between the use of case studies and the implementation of international strategies. This correlation is particularly relevant in the context of sustainable procurement, as it emphasises the importance of drawing lessons from global experiences (Awaysheh et al., 2012). The negative correlations observed between "International Strategies" and both "Information Seek" and "Collaboration" are interesting and could indicate a possible trade-off between a global orientation and local information-seeking behaviour or collaborative endeavours. This conclusion contradicts the literature that supports a holistic approach, which combines local and global viewpoints (Awaysheh et al., 2012). It prompts inquiries regarding the possible difficulties in harmonising worldwide strategies with regional endeavours.

The literature highlights the favourable link between "Collaboration" and "Training" and emphasises the relevance of collaboration in improving workforce development and information exchange (Mann et al., 2016). This suggests a possible mutually beneficial relationship in which collaborative activities add to the focus on training initiatives, hence strengthening the interdependence of these practises. Nevertheless, the inverse relationships seen between "Government Support" and both "Information Seek" and "International Strategies" indicate that organisations dependent on government assistance may have reduced motivation to autonomously pursue knowledge or contemplate global strategies. This statement is in opposition to the prevailing literature that highlights the importance of a comprehensive approach that incorporates both government assistance and independent endeavours (Zhu et al., 2018).

The strong positive correlations between "Training" and both "Collaboration" and "Government Support" emphasise the potential benefits of investing in workforce development, engaging in collaborative efforts, and seeking aid from the government. This is consistent with the literature that highlights the importance of developing internal capabilities to achieve successful sustainability programmes (Srivastava, 2007). It indicates that organisations that acknowledge the

need of training are also more inclined to participate in joint endeavours and seek assistance from government initiatives.

Ultimately, the correlation findings provide useful insights into the potential connections between several factors that influence green procurement practises among small and medium-sized enterprises (SMEs) in the mining industry of Zimbabwe. Although correlations offer a foundation for comprehending linkages, additional research is necessary to demonstrate causation and determine the most efficient tactics for promoting sustainable practises. The disparities with current research highlight the intricacy of these connections and stress the necessity for context-specific strategies customised to the distinct difficulties and opportunities inside the Zimbabwean mining sector.

To summarise, although these correlations provide helpful insights into potential relationships, it is important to note that correlation does not imply causality. To uncover causal links and develop specific strategies for promoting green procurement practises among SMEs in the Zimbabwean mining industry, further comprehensive study is required. This research should involve both qualitative and quantitative approaches.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The culmination of this comprehensive study on green procurement practices among small and medium-sized enterprises (SMEs) in the Zimbabwean mining industry brings us to Chapter 5, where we present a synthesis of the key findings, draw conclusive insights, and offer strategic recommendations. This chapter serves as the cornerstone for understanding the nuanced landscape of sustainability initiatives within the sector, providing a foundation for informed decision-making by policymakers, industry stakeholders, and SMEs alike.

5.2 Summary of findings

5.2.1 Current state of green procurement adoption among SMEs in the Zimbabwean mining industry.

The study reveals a nuanced snapshot of the current state of green procurement adoption within SMEs in the Zimbabwean mining industry. The analysis of awareness and understanding indicates a moderate level of comprehension among participants, with a notable diversity in understanding levels. This highlights the need for targeted educational initiatives to create a cohesive understanding of green procurement practices across the industry. The cautious approach observed in current practices, with a significant standard deviation, suggests a gradual shift toward sustainability, showcasing a diverse range of green procurement activities within the sector. The findings underscore the industry's evolving nature, urging for strategic interventions to facilitate a more uniform and advanced adoption of sustainable practices.

Factor analysis provides a deeper understanding of the interplay between various factors influencing green procurement adoption. The strong correlation of awareness, current practices, importance, perceived benefits, and organizational commitment with Factor 1 emphasizes their collective influence on organizations' sustainable procurement behavior. The loading of these variables on Factor 1 highlights the fundamental importance of holistic approaches, emphasizing

the need for organizations to align their understanding, practices, and commitment for a more unified and effective implementation of green procurement. Despite some disparity in the chi-square test, the fit indices suggest an overall satisfactory fit, consolidating the credibility of the proposed factors and their influence on the observed relationships.

These findings contribute significantly to the ongoing discourse on sustainable practices in the Zimbabwean mining sector. The nuanced insights into awareness, practices, and organizational commitment provide a foundation for targeted interventions. Policymakers, industry stakeholders, and researchers can leverage these findings to design and implement initiatives that address the industry's diverse needs, fostering a more unified and sustainable approach. The study underscores the importance of tailored educational programs, networking opportunities, and advocacy efforts to propel the Zimbabwean mining industry towards a greener and more sustainable future.

5.2.2 Primary barriers affecting the adoption of green procurement practices among SMEs in the mining sector in Zimbabwe.

The survey findings on primary barriers to the adoption of green procurement practices among SMEs in the Zimbabwean mining sector present a nuanced picture of the challenges faced by these organizations. The moderate level of agreement on the "Awareness Barrier" indicates a collective recognition of the need for increased knowledge and understanding regarding green procurement practices. The high standard deviation suggests diversity in the degree of awareness among respondents, emphasizing the importance of tailored educational programs to address this variability. "Cost Concerns" emerge as a prominent barrier, with a higher average score and a significant standard deviation, underscoring the financial complexities associated with the adoption of sustainable practices. The findings highlight the necessity for targeted financial strategies that accommodate the diverse economic situations of different organizations within the sector.

Limited supplier availability stands out as a major obstacle, as indicated by the high average score and a lower standard deviation, suggesting a more uniform perception of this challenge among respondents. This emphasizes the need for collaborative efforts and interventions in the supply chain to enhance the availability of environmentally-friendly options. "External Stakeholder Resistance" is identified as a moderate barrier, with a modest level of consensus and variability in perceptions. Addressing external stakeholder concerns is crucial, and strategies should be adaptable to encompass the diverse viewpoints and experiences within the industry. "Regulatory

Compliance Barriers" present a considerable challenge, with a relatively lower average score but a wider standard deviation, reflecting the varied interpretations of regulatory obstacles. Tailored approaches that consider the diverse regulatory environments faced by different organizations are essential for overcoming this barrier effectively.

The correlation matrix delves into the intricate relationships between these barriers, revealing weak to moderate associations. The positive correlations between "Lack of Awareness" and concerns about costs and limited availability highlight potential interconnections, emphasizing the need for comprehensive strategies that address these barriers simultaneously. The negative correlation between "Lack of Awareness" and "External Stakeholder Resistance" suggests that increasing awareness alone may not necessarily reduce external opposition, indicating the influence of additional factors. The matrix also brings attention to the positive association between "Limited Availability" and "Regulatory Compliance Barriers," emphasizing the importance of addressing supplier availability issues to enhance regulatory compliance.

The findings underscore the multi-faceted nature of barriers to green procurement adoption in the Zimbabwean mining industry. Tailored strategies addressing awareness, financial considerations, supplier availability, external stakeholder concerns, and regulatory compliance are essential for promoting sustainable practices among SMEs in this sector. Collaborative efforts within the supply chain, targeted educational programs, and adaptive approaches to regulatory compliance are key recommendations derived from these comprehensive insights.

5.2.3 Impact of green procurement practices on the sustainability of SMEs in the Zimbabwean mining industry.

The survey results examining the impact of green procurement practices on sustainability within SMEs in the Zimbabwean mining industry reveal a generally positive outlook with nuanced perspectives. SMEs show a moderate level of agreement (mean of 2.61) on the perceived environmental impact of green procurement practices, indicating a shared recognition of the positive environmental effects. Operational efficiency and effectiveness are also acknowledged positively, although with a higher standard deviation, indicating a more diverse range of opinions among SMEs regarding these operational aspects. Financial performance is viewed favorably on average (mean of 3.05), but the wider standard deviation suggests a significant diversity in perspectives, likely influenced by varying operational contexts and economic challenges faced by individual SMEs.

The findings underscore the importance of stakeholders' perception, with an average rating of 2.12 and a substantial standard deviation. This indicates a moderate level of consensus but a considerable range of opinions on how green procurement practices influence stakeholders' views, including those of customers, investors, and the community. Additionally, the average rating of 2.29 for the contribution of green procurement to long-term sustainability suggests a moderate level of agreement. However, the wider standard deviation highlights differing viewpoints on the extent to which green procurement contributes to the long-term sustainability of SMEs in the mining sector.

The correlation analysis sheds light on the interconnectedness of different aspects of green procurement practices. There is a moderate positive correlation between the perceived environmental impact and operational efficiency, emphasizing the alignment of environmental considerations with operational benefits. However, the correlation between operational efficiency and financial performance is modest, suggesting that operational gains alone may not be the sole driver of financial success for SMEs. The strong positive correlation between financial performance and long-term sustainability underscores the strategic importance that SMEs attribute to financial outcomes in achieving sustainable business practices. Stakeholder perception also shows a modest positive correlation with long-term sustainability, emphasizing the role of external perceptions in shaping overall sustainability perspectives. Overall, these findings provide a comprehensive understanding of SME attitudes and the intricate relationships between different dimensions of green procurement practices and sustainability in the Zimbabwean mining industry.

5.2.4 Best practices and strategies for promoting and facilitating the widespread adoption of green procurement among SMEs in the Zimbabwean mining industry

The examination of variables related to the implementation of green procurement practices among small and medium-sized enterprises (SMEs) in the Zimbabwean mining industry sheds light on crucial aspects influencing this process. The study reveals that while there is a moderate consensus on information sources for green procurement practices, there are varying opinions on the importance of case studies, the applicability of international strategies, collaboration, and the significance of training and engagement. Particularly noteworthy is the high agreement among respondents on the importance of government support, highlighting the crucial role of regulatory frameworks and incentives in promoting the adoption of environmentally friendly procurement

practices. These findings emphasize the need for tailored interventions that consider the diverse perspectives and circumstances of SMEs within the industry.

The Pearson correlation matrix provides further insights into the relationships between different factors influencing the adoption of green procurement practices. The analysis indicates a weak positive correlation between information-seeking behavior and the application of case studies, suggesting a limited inclination for those actively seeking information to also utilize case studies. Additionally, noteworthy correlations include the positive link between collaboration and training, implying that organizations engaged in collaborative efforts are more likely to invest in training programs. The negative correlations between government support and information-seeking behavior, as well as international strategies, suggest a potential trade-off, where organizations relying on government support may be less inclined to actively seek information or pursue global strategies independently.

The detailed findings highlight the complexity of factors influencing green procurement adoption among SMEs in the Zimbabwean mining industry. While certain factors demonstrate consensus, others exhibit significant variations in perspectives, emphasizing the need for nuanced and customized strategies. Policymakers and industry stakeholders can leverage these insights to develop targeted programs and regulations that effectively encourage and facilitate the widespread implementation of environmentally friendly procurement practices, considering the specific needs and viewpoints of SMEs within the sector.

5.3 Conclusions

5.3.1 Current state of green procurement adoption among SMEs in the Zimbabwean mining industry

In conclusion, the study offers a nuanced and comprehensive snapshot of the current state of green procurement adoption within SMEs in the Zimbabwean mining industry. The findings reveal a moderate level of comprehension among participants, accompanied by a noteworthy diversity in understanding levels. This emphasizes the imperative need for targeted educational initiatives that can bridge the knowledge gap and foster a cohesive understanding of green procurement practices across the industry. The cautious approach observed in current practices, coupled with a significant standard deviation, suggests a gradual shift towards sustainability, showcasing a diverse range of green procurement activities within the sector. These insights underscore the dynamic and

evolving nature of the industry, necessitating strategic interventions to facilitate a more uniform and advanced adoption of sustainable practices.

Factor analysis deepens our understanding of the intricate interplay between various factors influencing green procurement adoption. The strong correlation observed among awareness, current practices, importance, perceived benefits, and organizational commitment highlights their collective influence on organizations' sustainable procurement behavior. The loading of these variables on Factor 1 underscores the fundamental importance of holistic approaches, emphasizing the need for organizations to align their understanding, practices, and commitment for a more unified and effective implementation of green procurement. Despite some disparity in the chi-square test, the fit indices suggest an overall satisfactory fit, consolidating the credibility of the proposed factors and their influence on the observed relationships.

These conclusive findings make a significant contribution to the ongoing discourse on sustainable practices in the Zimbabwean mining sector. The nuanced insights into awareness, practices, and organizational commitment provide a solid foundation for targeted interventions. Policymakers, industry stakeholders, and researchers can leverage these findings to design and implement initiatives that address the diverse needs of the industry, fostering a more unified and sustainable approach. The study underscores the importance of tailored educational programs, networking opportunities, and advocacy efforts in propelling the Zimbabwean mining industry towards a greener and more sustainable future.

5.3.2 Primary barriers affecting the adoption of green procurement practices among SMEs in the mining sector in Zimbabwe.

In conclusion, the survey findings provide a nuanced understanding of the primary barriers to the adoption of green procurement practices among SMEs in the Zimbabwean mining sector. The moderate level of agreement on the "Awareness Barrier" highlights a collective recognition of the need for increased knowledge and understanding of green procurement practices. However, the high standard deviation indicates diversity in awareness levels among respondents, emphasizing the necessity for tailored educational programs to address this variability. "Cost Concerns" emerge as a prominent and complex barrier, underscoring the financial challenges associated with sustainable practices. The higher average score and significant standard deviation emphasize the need for targeted financial strategies that accommodate the diverse economic situations of different organizations within the sector.

Limited supplier availability is identified as a major obstacle, with a higher average score and a lower standard deviation, suggesting a more uniform perception of this challenge among respondents. This underscores the importance of collaborative efforts and interventions in the supply chain to enhance the availability of environmentally-friendly options. "External Stakeholder Resistance" is recognized as a moderate barrier, with a modest level of consensus and variability in perceptions. Strategies to address external stakeholder concerns should be adaptable to encompass the diverse viewpoints and experiences within the industry. "Regulatory Compliance Barriers" present a considerable challenge, with a relatively lower average score but a wider standard deviation, reflecting varied interpretations of regulatory obstacles. Tailored approaches that consider the diverse regulatory environments faced by different organizations are essential for overcoming this barrier effectively.

The correlation matrix reveals weak to moderate associations between different barriers, emphasizing the interconnected nature of these challenges. Positive correlations between "Lack of Awareness" and concerns about costs and limited availability suggest the need for comprehensive strategies that address these barriers simultaneously. The negative correlation between "Lack of Awareness" and "External Stakeholder Resistance" indicates that increasing awareness alone may not necessarily reduce external opposition, highlighting the influence of additional factors. The positive association between "Limited Availability" and "Regulatory Compliance Barriers" underscores the importance of addressing supplier availability issues to enhance regulatory compliance.

The findings underscore the multi-faceted nature of barriers to green procurement adoption in the Zimbabwean mining industry. Tailored strategies addressing awareness, financial considerations, supplier availability, external stakeholder concerns, and regulatory compliance are essential for promoting sustainable practices among SMEs in this sector. Collaborative efforts within the supply chain, targeted educational programs, and adaptive approaches to regulatory compliance emerge as key recommendations derived from these comprehensive insights.

5.3.3 Impact of green procurement practices on the sustainability of SMEs in the Zimbabwean mining industry.

In conclusion, the survey results on the impact of green procurement practices within SMEs in the Zimbabwean mining industry reveal a generally positive outlook with nuanced perspectives. While SMEs demonstrate a shared recognition of the positive environmental effects of green procurement

practices, there is a notable diversity of opinions regarding operational efficiency, effectiveness, financial performance, stakeholder perception, and long-term sustainability. This diversity emphasizes the need for tailored approaches, considering the varied operational contexts and economic challenges faced by individual SMEs in the sector.

The correlation analysis highlights the interconnectedness of different aspects of green procurement practices. The positive correlation between perceived environmental impact and operational efficiency underscores the alignment of environmental considerations with operational benefits. However, the modest correlation between operational efficiency and financial performance suggests that operational gains alone may not be the sole driver of financial success for SMEs. The strong positive correlation between financial performance and long-term sustainability emphasizes the strategic importance SMEs attribute to financial outcomes in achieving sustainable business practices. Stakeholder perception also plays a crucial role, showing a modest positive correlation with long-term sustainability, emphasizing the significance of external perceptions in shaping overall sustainability perspectives.

These findings contribute valuable insights for SMEs, policymakers, and stakeholders in the Zimbabwean mining industry, informing strategic decisions and interventions to promote sustainable practices. Tailoring approaches to address the diverse perspectives on green procurement practices and emphasizing the interconnectedness of environmental, operational, financial, and stakeholder-related aspects can foster a more comprehensive and effective adoption of sustainable practices within the SMEs in this sector.

5.3.4 Best practices and strategies for promoting and facilitating the widespread adoption of green procurement among SMEs in the Zimbabwean mining industry

In conclusion, the examination of variables related to the implementation of green procurement practices within SMEs in the Zimbabwean mining industry provides valuable insights into the nuanced landscape of sustainability initiatives. The study reveals a moderate consensus on information sources, suggesting a general awareness of where organizations seek information on green procurement practices. However, the varying opinions on the importance of case studies, the applicability of international strategies, collaboration, and the significance of training and engagement underscore the diverse perspectives within the industry. This diversity necessitates tailored interventions that can accommodate the specific needs and circumstances of individual SMEs, acknowledging that a one-size-fits-all approach may not be effective.

The Pearson correlation matrix enhances our understanding of the intricate relationships between different factors influencing green procurement adoption. The weak positive correlation between information-seeking behavior and the application of case studies indicates a limited alignment between those actively seeking information and utilizing case studies. The positive link between collaboration and training suggests a potential synergy between collaborative efforts and investments in internal capabilities. On the other hand, the negative correlations involving government support highlight potential trade-offs, emphasizing the need for a balanced approach when relying on governmental assistance. Policymakers and industry stakeholders can use these detailed findings to design targeted programs and regulations that consider the multifaceted nature of factors influencing green procurement practices among SMEs in the mining industry.

In summary, the study underscores the complexity of the green procurement landscape within SMEs in the Zimbabwean mining industry. It emphasizes the importance of tailoring strategies to the specific circumstances and perspectives of these enterprises. The high agreement on the significance of government support indicates a key role for policymakers in providing regulatory frameworks and incentives to foster environmentally friendly procurement practices. By addressing the diverse opinions on collaboration, case studies, international strategies, and training, industry stakeholders can contribute to a more comprehensive and effective adoption of sustainable practices within the sector.

5.4 Recommendations

Based on the comprehensive insights gained from the study on green procurement adoption among SMEs in the Zimbabwean mining industry, several recommendations can be put forth to guide policymakers, industry stakeholders, and SMEs toward fostering a more sustainable and environmentally responsible sector.

Tailored Educational Initiatives

Given the moderate level of comprehension and notable diversity in understanding levels among SMEs, there is a clear need for targeted educational programs. These initiatives should aim to bridge the knowledge gap, enhance awareness, and create a shared understanding of green procurement practices. Customized training sessions, workshops, and knowledge-sharing platforms can be instrumental in achieving this goal.

Financial Strategies

Recognizing the significant barrier posed by cost concerns, tailored financial strategies are crucial for promoting the adoption of green procurement practices. Policymakers and financial institutions could collaborate to develop incentives, subsidies, or financing options specifically designed for SMEs in the mining industry. This can help alleviate financial constraints and encourage more businesses to invest in sustainable practices.

Supply Chain Collaboration

Addressing the barrier of limited supplier availability requires collaborative efforts within the supply chain. Industry associations, regulatory bodies, and SMEs can work together to enhance the availability of environmentally-friendly options. This may involve facilitating partnerships, promoting sustainable sourcing practices, and encouraging suppliers to adopt green initiatives.

Adaptive Regulatory Approaches

Recognizing the diverse regulatory environments faced by different SMEs, regulatory frameworks should be flexible and adaptive. Policymakers should engage with industry representatives to develop regulations that consider the varying capacities and challenges of SMEs. Clear guidelines and incentives for regulatory compliance can help overcome barriers related to adherence to green procurement standards.

Stakeholder Engagement and Advocacy

Given the moderate consensus on the impact of stakeholder perceptions, SMEs should actively engage with external stakeholders. This includes customers, investors, and the community. Transparency in green procurement practices, effective communication, and advocacy efforts can positively shape external perceptions, contributing to the long-term sustainability of SMEs.

Holistic Implementation Strategies

The strong correlation among awareness, current practices, importance, perceived benefits, and organizational commitment emphasizes the importance of holistic approaches. Organizations should adopt comprehensive strategies that align these factors, ensuring a unified and effective implementation of green procurement practices. This may involve integrating sustainability goals

into overall business strategies and fostering a culture of environmental responsibility within the organization.

Customized Interventions

Recognizing the diverse opinions on collaboration, case studies, international strategies, and training, interventions should be customized. Rather than adopting a one-size-fits-all approach, industry stakeholders should tailor their strategies to accommodate the specific needs and circumstances of individual SMEs. This may involve providing flexibility in adopting international strategies, offering diverse training programs, and encouraging collaborative efforts based on the unique characteristics of each organization.

5.5 Recommendations for further studies

Comparative Analysis Across Industries: Conduct a comparative study across different industries within the Zimbabwean context to understand how green procurement practices vary across sectors. Investigate the factors that influence adoption rates, challenges faced, and successful strategies employed. This comparative analysis can provide valuable insights for tailoring industry-specific interventions and policies.

Longitudinal Study on Adoption Trends: Undertake a longitudinal study to track the evolution of green procurement adoption among SMEs in the Zimbabwean mining industry over an extended period. This would involve analyzing adoption trends, identifying factors contributing to changes, and assessing the long-term impact of interventions and policies. A longitudinal perspective can offer a dynamic understanding of how sustainability practices evolve within the sector.

Cross-Country Comparative Study: Extend the research scope to include a cross-country comparative analysis, examining green procurement practices in the mining industry across different nations. This could involve investigating successful case studies from countries with established sustainable procurement practices and assessing the transferability of strategies to the Zimbabwean context. Insights gained could contribute to the development of globally adaptable best practices.

In-depth Case Studies: Conduct in-depth case studies focusing on individual SMEs within the Zimbabwean mining industry that have successfully adopted green procurement practices. Explore the specific strategies, challenges faced, and outcomes achieved by these enterprises. Such case

studies can serve as practical guides for other SMEs looking to embark on similar sustainability journeys.

Analysis of Technological Innovations: Explore the role of technological innovations in facilitating green procurement practices within the mining sector. Investigate how emerging technologies, such as blockchain for supply chain transparency or AI for sustainable sourcing, can be leveraged by SMEs. Assess the impact of these innovations on operational efficiency, cost-effectiveness, and overall sustainability.

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ANNEXURE 1: INFORMED CONSENT

Dear Respondents

I trust that you are in good health. I am contacting you to inquire if you would be interested in participating in my research investigation titled "[Title of Your Study]." The focus of my study revolves around *Modelling the adoption of green procurement practices in enhancing economic growth in Zimbabwe: A case of SMEs in the mining industry*.

By agreeing, participants may be required to complete certain tasks, such as responding to inquiries or providing answers to certain questions. It is not necessary if you have no desire to do so.

Your responses will remain confidential. Your identity will remain anonymous. The replies will remain confidential and securely stored, accessible only to me. There is no negative outcome that is expected to occur. However, the information you provide will enhance my understanding of

Modelling the adoption of green procurement practices in enhancing economic growth in Zimbabwe: A case of SMEs in the mining industry.

You are not obligated to engage in this activity if you do not desire to. Should you commence but subsequently alter your decision, it is acceptable.

Should you have any inquiries, do not hesitate to ask me via my email: sandynyemwe@gmail.com

Is it permissible to join? Please affix your signature below if you agree to the terms and conditions outlined above. It signifies that you comprehend our actions and are willing to assist with enthusiasm.

Signature of Participant: _____

Date: _____

Thank you for considering assisting me in my academic pursuits. Your role is crucial!

ANNEXURE 2: QUESTIONNAIRE

Section 1: General Information

1.1. Organization Details:

Type of mining activities conducted:

Type of mining activities	Put an X
Open-Pit Mining:	1

Underground Mining	2
Artisanal and Small-Scale Mining (ASM)	3
Other	4

Number of employees

Number of employees	Put an X
1-10	1
11-25	2
26-50	3
3511 to 100	4
100 and above	5

Years in operation

Years in Operation	Put an X
1-5 years	1
6-11 years	2
12-16 years	3
17 and above years	4

1.2. Respondent Details:

What is your position in the organization?

Level of position	Put an X
Top Management	1
Middle Management	2
Lower Management	3
General employees	4

How long have you been involved in procurement activities?

Experience in Procurement	Put an X
1-5 years	
6-11 years	
11 and above years	

SECTION 2: CURRENT STATE OF GREEN PROCUREMENT ADOPTION

2.1. Awareness and Understanding:

Please rate your level of familiarity with the concept of green procurement.

Description	Rating
Not familiar at all	1
Somewhat familiar	2
Moderately familiar	3
Very familiar	4
Extremely familiar	5

2.2. Current Practices:

Indicate the extent to which your organization currently incorporates green procurement practices in its operations.

Description	Rating
Not at all	1
Occasionally	2
Moderately	3
Frequently	4
Always	5

2.3. Importance of Green Procurement:

To what extent do you believe green procurement is important for your organization's sustainability?

Description	Rating
Not important at all	1
Slightly important	2
Neutral	3
Important	4
Extremely important	5

2.4. Perceived Benefits:

Rate the perceived benefits of adopting green procurement practices for your organization.

Description	Rating
No perceived benefits	1
Few benefits	2
Some benefits	3
Substantial benefits	4
Significant benefits	5

2.5. Organizational Commitment:

How committed do you believe your organization is to the adoption of green procurement practices?

Description	Rating
Not committed at all	1
Slightly committed	2
Moderately committed	3
Very committed	4
Extremely committed	5

SECTION 3: BARRIERS TO GREEN PROCUREMENT ADOPTION

3.1. Lack of Awareness:

To what extent do you believe a lack of awareness about green procurement practices is a barrier to adoption in your organization?

Description	Rating
Not a barrier	1
Slightly a barrier	2
Moderately a barrier	3
Significantly a barrier	4
Extremely a barrier	5

3.2. Initial Cost Concerns:

Indicate your level of agreement with the statement: "Concerns about the initial costs associated with implementing green procurement practices are a significant barrier for our organization."

Description	Rating
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

3.3. Limited Supplier Options:

Please rate the extent to which limited availability of green suppliers or options is a barrier to adopting green procurement practices in your organization.

Description	Rating
Not a barrier	1
Slightly a barrier	2

Moderately a barrier	3
Significantly a barrier	4
Extremely a barrier	5

3.4. Resistance from Stakeholders:

To what extent do you perceive resistance from internal stakeholders (employees, management) as a barrier to the adoption of green procurement practices?

Description	Rating
Not a barrier	1
Slightly a barrier	2
Moderately a barrier	3
Significantly a barrier	4
Extremely a barrier	5

3.5. Regulatory Challenges:

Indicate your level of agreement with the statement: "Navigating and complying with green procurement regulations pose significant barriers to adoption in our organization."

Description	Rating
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Section 4: Impact on Sustainability

4.1. Environmental Impact:

Rate the perceived environmental impact of your organization's green procurement practices.

Description	Rating
Negligible impact	1
Minor impact	2
Moderate impact	3
Significant impact	4
Transformational impact	5

4.2. Operational Efficiency:

To what extent do you believe that green procurement practices contribute to the operational efficiency and effectiveness of your organization?

Description	Rating
Not at all	1
Slightly	2
Moderately	3
Very much	4
Extremely	5

4.3. Financial Performance:

Indicate your level of agreement with the statement: "Implementing green procurement practices positively influences the financial performance of our organization."

Description	Rating
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

4.4. Stakeholder Perception:

Rate the impact of green procurement practices on the perception of stakeholders (e.g., customers, investors, community) towards your organization.

Description	Rating
No impact	1
Low impact	2
Moderate impact	3
High impact	4
Very high impact	5

4.5. Long-term Sustainability:

To what extent do you believe that adopting green procurement practices contributes to the long-term sustainability of your SME in the mining industry?

Description	Rating
Not at all	1
Slightly	2
Moderately	3
Very much	4
Extremely	5

Section 5: Best Practices and Strategies

5.1. Information Sources:

Where does your organization seek information on best practices for green procurement?

Description	1	2	3	4	5
Industry publications					
Government guidelines					
Networking with other organizations					
International experiences					
Other (please specify)					

5.1. Learning from Case Studies:

How important do you believe learning from successful case studies of green procurement adoption in other industries is for developing effective strategies in your organization?

Description	Rating (Put an X)
Not important at all	
Slightly important	
Moderately important	
Very important	
Extremely important	

5.2. Applicability of International Experiences:

To what extent do you think strategies derived from international experiences in green procurement can be applied effectively within the Zimbabwean mining industry?

Description	Rating (Put an X)
Not applicable at all	
Slightly applicable	

Moderately applicable	
Highly applicable	
Extremely applicable	

5.3. Collaboration and Networking:

Indicate your level of agreement with the statement: "Collaborating with other organizations and industry networks is essential for successful adoption of green procurement practices."

Description	Rating (Put an X)
Strongly Disagree	
Disagree	
Neutral	
Agree	
Strongly Agree	

5.4. Government Support:

How crucial do you believe government support and policies are for encouraging SMEs in the mining industry to adopt green procurement practices?

Description	Rating (Put an X)
Not crucial at all	1
Slightly crucial	2
Moderately crucial	3
Highly crucial	4
Extremely crucial	5

5.5. Employee Training and Engagement

Rate the importance of providing training and engaging employees in the adoption of green procurement practices within your organization.

Description	Rating (Put an X)
Not important at all	1
Slightly important	2
Moderately important	3
Very important	4
Extremely important	5