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INSTITUTIONAL AND STAKEHOLDER INFLUENCES ON THE ADOPTION OF ENVIRONMENTAL MANAGEMENT ACCOUNTING IN MINING SECTOR OF ZIMBABWE'S GREAT DYKE REGION

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ABSTRACT

This paper examined the measures that key stakeholders implemented to follow Environmental Management Accounting (EMA) practices in Zimbabwe's mining industry with a particular emphasis on the Great Dyke area. The research examines the institutional, regulatory and organisational frameworks that guide mining companies to implement sustainable environmental practices by adopting EMA. A qualitative case study research method based on stakeholder and institutional theories formed the foundation of this study. In-depth interviews were conducted with government representatives together with members from environmental agencies and mining executives as well as civil society representatives. The research demonstrates that although the Environmental Management Act provides regulatory frameworks the sector experiences inconsistent compliance because of weak enforcement and limited awareness and resource limitations. The sector has seen improved EMA compliance through increased regulatory body efforts and stakeholder advocacy alongside internal corporate governance changes and international donor assistance. The study enhances existing research about EMA compliance through its empirical investigation of developing nations' mining sectors. This research combines stakeholder theory with institutional pressures through a stakeholder analysis that includes all involved parties in a Southern African context.

Keywords: Compliance, Stakeholder Theory, Institutional Theory, Sustainable Practices in Mining Sector, Environmental Management Accounting.

1. INTRODUCTION

The environmental deterioration kept affecting developing nations that depended on resource extraction businesses for their operations. The mining sector served as the cornerstone of Zimbabwean economic development through its essential role in the Great Dyke region which held abundant platinum chromium and nickel deposits (Zvomuya, 2017). The economic expansion resulted in severe environmental damage because of insufficient environmental regulations and scarce adoption of sustainable accounting methods (Kaplan-Hallam & Bennett, 2018). The tool of EMA appeared as a strategic instrument to monitor environmental expenses while enhancing eco efficiency and encouraging sustainable operations within industries (Doorasamy, 2015). The traditional financial accounting system typically hid environmental effects, but EMA gave users both physical and monetary data which improved environmental choice processes (Chaudhry & Amir, 2020). EMA compliance in Zimbabwe's mining sector showed inconsistent levels of adoption because of inadequate institutional frameworks (Muza, 2018).

The Environmental Management Act (2002) served as a framework to enhance corporate responsibility, yet its impact was restricted by inadequate regulations and limited resources and stakeholder ignorance (Makasi et al., 2018). The focus on profitability by mining companies led to increased non-compliance with environmental regulations which expanded the existing gap (Kanda et al., 2019). The research analysed all initiatives designed to achieve EMA compliance within Zimbabwe's mining industry. The research examined individual and collaborative work approaches of governmental bodies and corporate actors and civil society organisations for embedding EMA into environmental and corporate governance frameworks. The study adopted stakeholder theory (Freeman, 1984) to understand how both internal and external actors influenced environmental decisions while institutional theory (DiMaggio & Powell, 1983) explained how coercive, mimetic and normative pressures influenced organisational practices.

The main goal of this paper is to find ways to make EMA compliance better in Zimbabwe's mining sector, which is weak in terms of institutions. It showed how important environmental sustainability is for global competitiveness and how necessary it is to make strategic changes to institutions. The study also stresses how important it is for multiple stakeholders to be involved in supporting the successful use of EMA in the sector (Amelia et al., 2023).

2. JUSTIFICATION OF THE STUDY

Environmental degradation from mining activities persisted as a significant issue in Zimbabwe even though the country had established laws to protect the environment. The research gained its validity because it sought to explain why EMA compliance remained restricted throughout the mining industry despite the Environmental Management Act (2002) regulatory framework. The Great Dyke region required immediate investigation because its ecological sensitivity combined with economic importance demanded understanding how institutional mechanisms and stakeholder engagement affected or failed to affect EMA implementation. The study responded to increasing academic and policy attention regarding environmental accounting and sustainable development connections. The alignment of Zimbabwean development with Sustainable

Development Goals (SDGs) required empirical research to evaluate methods for strengthening corporate environmental accountability. The mining industry faced a critical decision point between economic growth and environmental protection because its operational choices directly affected both local communities and biodiversity and long-term resource preservation (Chikowore & Mhaka, 2020).

The research generated useful evidence-based recommendations that benefited regulators together with mining companies and civil society actors. The research provided concrete recommendations about how training programs combined with policy enforcement and stakeholder pressure and governance reforms would boost environmental accountability in resource-intensive sectors. The research solved an essential knowledge deficiency about EMA compliance operational and strategic aspects within developing countries.

3. GAP ANALYSIS

Most of the previous research about environmental management accounting concentrated on its theoretical framework and corporate performance benefits alongside industrial sector adoption patterns (Doorasamy, 2015). The existing research lacked empirical studies about EMA compliance enforcement especially in developing countries such as Zimbabwe which faces weak and under-resourced environmental governance structures. The research conducted in Zimbabwe by Mushipe (2019) and Muza & Magadi (2014) analysed EMA's potential for environmental sustainability but failed to evaluate stakeholder-driven initiatives for compliance enforcement. The research on South Africa and Botswana by Makasi et al. (2018) failed to capture the distinctive problems which affect Zimbabwe's mining industry through political interference and resource mismanagement and inconsistent regulatory enforcement.

The role of non-governmental stakeholders, like local communities, environmental NGOs, and international donors, in getting companies to follow EMA has not been given enough attention in the academic literature. This study fills in that vacuum by utilising stakeholder theory to look at how these stakeholders affect corporate environmental actions and institutional theory to look at how Zimbabwe's mining sector's institutional shortcomings affect EMA compliance. All of these frameworks work together to give a full picture of the elements and problems that affect EMA uptake in this situation.

4. LITERATURE REVIEW

EMA has evolved as a pivotal instrument for enhancing organisational sustainability by embedding environmental considerations into financial decision-making (Henisz et al., 2014). As climate risks intensify, the relevance of EMA in resource-intensive industries such as mining has grown considerably. Despite its theoretical appeal, EMA implementation remains uneven across countries, especially in developing contexts where environmental governance frameworks are weak. This literature review explores the theoretical foundations and empirical research surrounding EMA compliance, particularly focusing on regulatory efforts, institutional pressures, and stakeholder influences that drive or hinder its adoption.

4.1 Theoretical Foundations

Stakeholder theory, advanced by Freeman (1984), emphasises the need for organisations to consider the interests of all actors who affect or are affected by corporate decisions. In the context of EMA, stakeholders such as environmental regulators, investors, communities, and NGOs serve as both catalysts and watchdogs of environmental accountability (Amelia et al., 2023). Studies have shown that stakeholder pressure, particularly from regulatory agencies and civil society, can significantly enhance environmental disclosures and the adoption of sustainable practices in mining operations (Cragg & Greenbaum, 2002).

Institutional theory, notably developed by DiMaggio and Powell (1983), posits that organisational behaviour is shaped by institutional norms and external pressures categorised as coercive, mimetic, or normative. Coercive pressures stem from legal and regulatory mandates; mimetic pressures involve imitation of peer organisations; and normative pressures arise from industry standards and professional ethics. In EMA literature, these pressures are found to influence organisational willingness to comply with environmental mandates (Chathuranagni & Madhusanka, 2019). The interplay of these institutional forces often determines whether EMA becomes embedded within strategic frameworks or remains a superficial compliance tool.

4.2 Empirical Perspectives on EMA Compliance

4.2.1 Regulatory and Legal Frameworks

A recurring theme in the literature is that effective regulatory enforcement is essential for EMA compliance. Countries like South Africa and Botswana have integrated EMA into stock exchange listing requirements and corporate reporting standards (Makasi et al., 2018). In Zimbabwe, however, although the Environmental Management Act (2002) mandates environmental accountability, implementation has been hindered by limited regulatory capacity, lack of enforcement consistency, and inadequate penalties for non-compliance (Mushipe, 2019).

4.2.2 Corporate Governance and Internal Initiatives

Corporate responses to EMA compliance vary widely depending on the governance culture and leadership commitment. Agyemang et al. (2020) demonstrated that board-level involvement and environmental awareness among managers significantly influence EMA integration. In Zimbabwe, internal drivers such as employee training, environmental policies, and board oversight were found to be essential for overcoming resistance and improving compliance (Muza & Magadi, 2014).

4.2.3 Stakeholder Influence and Community Engagement

Non-state actors, including communities, NGOs, and international donors, play a growing role in promoting EMA practices, especially where state institutions are weak. Research by Mzembe (2016) in Malawi revealed that engagement with local communities and civil society was critical to the success of corporate social responsibility and EMA efforts. In the Great Dyke region, stakeholder pressure, particularly from communities affected by pollution, was reported to influence corporate environmental behaviours (Zvomuya, 2017).

4.3 Gaps in the Literature

While there is substantial research on EMA theory and practice, several gaps persist. First, empirical studies tend to emphasise the benefits of EMA rather than critically examining the mechanisms of compliance. Second, there is limited scholarship on the role of stakeholder coalitions in enforcing EMA in fragile regulatory environments. Third, the specific contextual challenges faced by the Zimbabwean mining sector, such as political interference, resource constraints, and fragmented environmental policy, remain underexplored in global EMA literature. This study addressed these gaps by offering a stakeholder-informed, institutionally grounded analysis of EMA compliance efforts in a resource-dependent developing economy.

5. METHODOLOGY

The research adopted a qualitative case study methodology based on an interpretivist paradigm to analyse the measures taken for EMA compliance in Zimbabwe's mining industry. The interpretivist perspective enabled researchers to study stakeholder experiences and institutional dynamics which are vital for understanding compliance behaviours. The Great Dyke region served as the research site because it hosts major mining operations alongside environmental risks. The research sample consisted of participants who belonged to government regulatory bodies and mining company leadership together with environmental NGOs and community leadership roles. The research data collection included semi-structured interviews with 32 participants, alongside document analysis of policy reports and environmental disclosures. The interview questions focused on understanding institutional frameworks and stakeholder partnerships and regulatory enforcement and organisational responses to EMA requirements. NVivo software helped analyse the interview transcripts through thematic analysis which revealed patterns that matched stakeholder and institutional theories. The University of KwaZulu-Natal granted ethical approval for this research and all participants gave their informed consent. The research maintained absolute confidentiality using pseudonyms to conceal participant identities.

6. FINDINGS

The study found that companies in Zimbabwe's mining industry had taken a number of steps to meet the criteria of EMA. The Environmental Management Agency (EMA-Zimbabwe) showed that the government and regulators were working to protect the environment by doing regular environmental audits, compliance inspections, and environmental impact assessments. These steps were meant to keep an eye on how well corporations followed environmental rules. However, respondents from the regulating organisation said that these attempts were very difficult since they didn't have enough resources, staff, or political support, which made it hard to implement the law consistently. As one regulatory respondent noted, "We often have trouble enforcing compliance because we don't have enough staff and there are political pressures that affect the consistency of inspections and audits."

At the organisational level, businesses set up internal departments for environmental management, followed international standards like ISO 14001, and trained their employees on

how to be more environmentally friendly. Companies with worldwide shareholders were more likely to follow the rules for compliance. One person from a multinational company said, "Our international shareholders demand high environmental standards, and we must follow global environmental practices."

On the other hand, smaller businesses in the area used EMA practices mostly because of outside demands, not because they wanted to be more environmentally friendly. Stakeholder-driven efforts were also very important. Environmental NGOs and community groups worked hard to promote environmental responsibility through legal support, advocacy, and activities that brought people together to work on environmental issues. A community leader in the Great Dyke said, "We talk to the mining companies all the time, but there is still not enough enforcement of community agreements and compensation."

Even with these efforts, the community still had worries about how poorly agreements were being carried out. The results are in line with stakeholder theory, which looks at how outside groups like NGOs and local communities affect how businesses act, and institutional theory, which looks at how the rules and pressures that organizations face shape how they do business (Latif et al., 2020). These results are in line with what other research have found on how both internal (like corporate governance and international standards) and external (like community and NGO demands) factors affect the adoption of EMA (Doorasamy, 2015).

Thematic analysis of the data showed that there were a few main themes: regulatory problems, efforts by organisations to follow the rules, the influence of stakeholders, and getting the community involved. To make things even clearer, the codes were put into groups as indicated in the table overleaf:

Table 1: Thematic Analysis

Theme	Code	Quotes from Respondents
Regulatory challenges	Insufficient resources	"We often face challenges in enforcing compliance due to lack of manpower."
	Political interference	"Political pressures affect the consistency of inspections and audits."
Organisational efforts	ISO 14001 alignment	"Our international shareholders demand high environmental standards."
	Internal environmental departments	"We've set up an internal team to handle sustainability and environmental concerns."
Stakeholder influence	NGO advocacy	"NGOs constantly engage with us and push for better environmental practices."
	Community engagement	"We are in constant communication with the mining companies, but enforcement is weak."
Community engagement	Community decision making	"Community leaders participate in forums, but the agreements aren't properly enforced."

This study is in line with previous research that shows how important both institutional variables and stakeholder pressures are in affecting EMA compliance (Doorasamy, 2015). But it also adds to the discourse by emphasising on the problems that Zimbabwe's mining industry faces, where poor institutional structures and a lack of resources make it hard to consistently follow EMA principles.

7. DISCUSSION

The research results demonstrated that stakeholder theory and institutional theory both play essential roles in explaining EMA compliance initiatives. The environmental conduct of

corporations was heavily influenced by regulatory agencies and communities together with NGOs from a stakeholder theory framework. The environmental practices of companies became more transparent because of external stakeholder pressure which came mainly from communities affected by environmental issues and environmental watchdog organisations. The research of Amelia et al. (2023) supports the idea that stakeholder activism drives sustainability disclosures and operational reforms in organisations.

The institutional theory analysis showed that the Environmental Management Act (2002) provided legal mandates which served as the primary basis for compliance requirements. The inconsistent enforcement of these coercive pressures reduced their effectiveness. The firms in this study followed regional leaders South Africa and Botswana because these countries have strict environmental reporting and accounting standards. The promotion of environmental stewardship as corporate social responsibility by professional bodies and NGOs demonstrated normative pressures. The commitment of senior management and boards of directors together with internal governance structures proved to be essential factors that determined the depth of compliance. Organisations that placed environmental responsibility at the top of their priorities integrated EMA into their strategic decision-making process instead of using it only as a checklist. The implementation of EMA across the board remained scattered because organisations failed to use it effectively as a decision-making tool. The implementation of EMA compliance needs stronger regulatory enforcement together with better public-private collaboration and incentives for proactive adoption. The implementation of EMA within national accounting and environmental policies through training and awareness programs would establish a unified and sustainable compliance system throughout Zimbabwe's mining industry.

8. CONCLUSION

The research analysed the measures taken to achieve Environmental Management Accounting (EMA) compliance in Zimbabwean mining operations throughout the Great Dyke area. The Environmental Management Act (2002) established a legal framework for environmental accountability, yet the actual implementation remained inconsistent and superficial. EMA promotion involved all stakeholders including government regulators and mining companies and non-governmental organisations and community members although their effectiveness and influence differed.

The regulatory bodies enforced compliance through inspections and audits but their ability to do so was limited by both resource constraints and political barriers. The environmental policies and training programs of larger mining companies and their international partners did not translate to proactive environmental practices from smaller mining firms. The institutional resistance continued to challenge community actors and NGOs who advocated for transparency and sustainable practices.

The research established that stakeholder and institutional theories effectively explain compliance dynamics. The three types of pressure (coercive, mimetic, and normative) affected corporate environmental conduct, but complete EMA implementation proved difficult because of systemic and cultural and operational barriers. The implementation of EMA as both a

regulatory requirement and strategic business necessity for sustainable mining needs coordinated stakeholder involvement together with enhanced institutional support.

9. RECOMMENDATIONS

9.1 Regulatory and Policy Recommendations

Environmental regulatory bodies should receive more funding alongside additional staff to boost their enforcement capabilities for regular auditing of compliance. Research has proven that regulatory capacity stands as a critical factor which determines the successful implementation of EMA systems (Mushipe, 2019). Strengthening EMA requires its integration with national sustainability and development frameworks through amendments to mining licensing protocols and operational regulations. Environmental accountability frameworks that align with each other produce better coherence along with extended compliance duration (Latif et al., 2020). Establish incentive programs that provide either tax benefits or public awards for businesses that sustain EMA compliance throughout operations. The adoption of sustainability practices through incentives shows potential for voluntary uptake according to Amelia et al. (2023).

9.2 Organisational and Managerial Recommendations

Strategic boards need to incorporate EMA into corporate governance through environmental performance integration for strategic planning purposes. Research shows board-level commitment directly impacts the integration of sustainability practices (Agyemang et al., 2020). The organisation needs to improve both employee training and awareness levels to build internal capacity for successful EMA implementation. Training serves to bridge internal resistance and knowledge gaps according to Nguyen (2020). The company should adopt global best practices through implementation of ISO 14001 and GRI standards to meet international expectations while improving their accountability practices (Doorasamy, 2015).

9.3 Stakeholder Engagement Recommendations

A structured framework should be established for multi-stakeholder forums where mining firms can work with communities and regulatory bodies to evaluate and track environmental performance. A multi-stakeholder approach strengthens both the enforcement capabilities and the legitimacy of the system (Henisz et al., 2014). The implementation of environmental governance tools along with legal literacy programs should empower community-based organisations to effectively participate in compliance processes (Mancini & Sala, 2018). The organisation should support NGOs to build their capacity so they can perform better environmental education work while monitoring activities and advocacy (Sine & Lee, 2009).

9.4 Limitations of the Study

This paper gives useful information about how EMA is used and followed in Zimbabwe's mining sector, but it also has several problems that should be noted. The study's reliance on qualitative data indicates that the conclusions may not be easy to apply to other businesses or areas, which limits their usefulness in a wider sense. Second, the study used data from interviews where

people recorded their own experiences, which could be biased, especially in sensitive areas like compliance and enforcement of rules. Some people may have been careful with what they said, especially when talking about political involvement and problems with regulations. The 32 people in the sample size are enough for qualitative analysis, but they may not fully represent the range of views from smaller, less formal mining enterprises or from government and regulatory entities working in more rural parts of Zimbabwe. The study's cross-sectional design means that the results show a snapshot in time and may not take into consideration how the regulatory or institutional landscape has changed over time.

9.5 Future Research Recommendations

Research studies should analyse best practices and regional differences in EMA implementation and its impacts across different regions (Qi et al., 2011). The research should analyse economic aspects of EMA implementation by assessing both its price-performance relationship and its effects on mining operations profitability (Chaudhry & Amir, 2020). Research into environmental accounting should explore digital technologies such as real-time data systems and AI tools which help monitor compliance (Lestari et al., 2021).

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