Managerial Sensemaking of Climate Policy Uncertainty: Environmental Management Accounting and Climate Risk Disclosure in Zimbabwean Firms

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Posted Date: 19 May 2026

doi: 10.20944/preprints202605.1262.v1

Keywords: environmental management accounting; climate risk disclosure; climate policy uncertainty; macroeconomic resilience; sustainable growth

 doi:10.20944/preprints202605.1262.v1

Article

Managerial Sensemaking of Climate Policy Uncertainty: Environmental Management Accounting and Climate Risk Disclosure in Zimbabwean Firms

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Abstract

The purpose of this study is to explore how Zimbabwean firms use Environmental Management Accounting (EMA) and climate risk disclosure in times of policy uncertainty and how these relate to sustainable growth and macroeconomic stability. The study was couched in the interpretivist research philosophy and adopted the inductive research approach. A case study research design, which aligns with a qualitative research design, was chosen for the study. The study employed in-depth interviews with management accountants, finance executives, and industry leaders across firms in Harare. The study adopted the cross-sectional time horizon and analysed data using thematic analysis to develop insights into the role of EMA and climate risk disclosure in times of policy uncertainty. The study's findings show that climate policy uncertainty compels business leaders to reconfigure management accounting systems to integrate environmental performance measures and scenario-based capital planning. The findings indicate that strategic EMA is essential because it enhances cost visibility, which, in turn, supports proactive risk management and stabilises investment decision-making within an enterprise. Firms that have integrated climate disclosure frameworks were found to demonstrate stronger stakeholder confidence and had high adaptability capacity. In an uncertain policy environment, firm-level adjustments support macroeconomic resilience and sustainable growth by lowering regulatory shock sensitivity and reducing the costs they impose. The study contributes to the literature by connecting the discussions of macroeconomic stability with micro-level accounting procedures and providing a process-based approach and understanding of how strategic EMA disclosure serves as a transmission mechanism between economic resilience and climate policy uncertainty. The study contributes to the emerging discourse on climate risk accounting within the fragile macroeconomic context of developing countries. It is therefore recommended that the regulatory institutional pillar be strengthened to reduce uncertainty and enhance the EMA's strategic adaptation.

Keywords: environmental management accounting; climate risk disclosure; climate policy uncertainty; macroeconomic resilience; sustainable growth

1. Introduction

Climate policy uncertainty has increasingly influenced how organisations approach sustainability, risk management, and strategic decision-making [1]. Organisations are operating in unstable institutional environments characterised by erratic regulatory frameworks, volatile economies, and heightened stakeholder pressure for environmental responsiveness and climate change accountability, particularly in emerging economies [2]. In these circumstances, Environmental Management Accounting (EMA) and climate risk disclosure are progressively transitioning from compliance-oriented functions towards a strategic apparatus that supports organisations' adaptation, legitimacy, and resilience [3].

In Zimbabwe, climate-related uncertainty is worsened by a weak institutional framework, changing policies, and economic instability, factors that have created a complex working

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environment that requires firms to balance economic survival and environmental responsiveness [4]. On this basis, management accounting is anticipated to play an increasingly crucial role in integrating environmental costs, climate risks, and long-term sustainability factors into strategic planning and investment decisions [5]. In addition, climate disclosure has become an essential tool for communicating environmental initiatives, managing stakeholder expectations, and strengthening investor confidence, especially amid uncertain regulatory frameworks [6].

Even though previous studies have investigated sustainability and environmental accounting practices, they have mainly focused on quantitative disclosure practices and regulatory compliance in developed, stable institutional environments [7]. Consequently, there is limited understanding of how managers in emerging economies perceive climate policy uncertainty and how it is integrated into an organisation's EMA and climate risk disclosure processes [8]. This is crucial for understanding that organisational responses to uncertainty are at most influenced by managerial sensemaking processes, which, in the end, impact strategic adaptation, stakeholder confidence, and sustainability decision-making [9].

To bridge the identified research gap, this study explores how managers in emerging economies make sense of climate policy uncertainty and how their understanding of it influences EMA and climate risks disclosure practices using Zimbabwe as a case study. This study offers qualitative, context-specific insights into sustainability accounting in an emerging economy, focusing on managerial lived experiences and organisational change. The study also contributes to the body of knowledge by extending the growing discussion of the role of management accounting practices in enhancing organisational resilience and supporting sustainable growth under uncertain policy environments. The study was thus guided by the following research questions in undertaking it:

a) How do managers in Zimbabwean firms interpret and respond to climate policy uncertainty?

b) How does climate policy uncertainty shape EMA and climate risk disclosure practices?

c) In what ways do EMA and climate risk disclosure support organisational resilience and sustainable growth?

2. Literature Review

This section examines existing debates and discussions on climate policy uncertainty, EMA, climate risk disclosure, and organisational resilience in the context of sustainability accounting research. The literature review focuses on organisational interpretations of the uncertain climate-related regulatory framework and how these understandings influence sustainability reporting adaptations, disclosure practices, and strategic organisational responses. The review methodologically outlines the conceptual, empirical, and contextual limitations in current studies, especially the scant qualitative emphasis on volatile institutional settings in developing countries. This section of the study will also integrate Sensemaking Theory and Institutional Theory to establish a grounded theoretical framework that underpins the study and explains how managerial interpretations of uncertainty affect organisational legitimacy, resilience, and sustainability-focused decision-making.

2.1. Environmental Management Accounting and Climate Policy Uncertainty

EMA has emerged as an essential strategic vehicle for integrating environmental considerations into managerial decision-making, budgeting, risk management, and performance evaluation [10]. Current sustainability demands have increasingly pressured firms to move away from traditional accounting practices, which focus on financial performance, toward modern sustainability reporting frameworks that integrate social and environmental issues, climate-related risks, and long-term sustainability factors [11]. In some countries, policies have crafted EMA as an emerging strategic organisational capability capable of assisting organisational adaptation, resilience, and legitimacy [8].

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Studies have shown that organisations operating in uncertain regulatory frameworks encounter challenges integrating environmental risks into their accounting systems due to inconsistent climate-related regulations that are politically contested and selectively, and at times poorly, enforced [12]. In these situations, managers are expected to assess prevailing uncertainty with the aim of proactively restructuring their accounting systems to enable the organisation to respond to and adapt to environmental demands, while protecting its image and fostering its survival [13]. This, therefore, implies that managerial understanding and interpretation of the uncertainty surrounding organisational operations shape the growth of EMA practices [14].

Most studies on EMA, however, have focused on developed and stable economies, with very little on emerging economies [15,16]. Besides being concentrated in developed and stable economies, most previous studies adopted quantitative research methodologies and compliance-oriented perspectives that focused on disclosure levels, reporting scores, and/or environmental performance indicators at the expense of managerial experience and organisational adaptation processes [17–19]. Consequently, there is very little understanding of how managers in volatile emerging economies make sense of climate policy uncertainty and integrate these into sustainability reporting systems [20,21]. This identified research gap is crucial to the Zimbabwean setup as an emerging economy, where climate-related uncertainty intersects with macroeconomic volatility, institutional fragility, and resource constraints.

2.2. Climate Risk Disclosure and Organisational Legitimacy

Climate risk disclosure has been identified as a bridge to sustainability governance, driven by stakeholder demand for greater transparency into organisational exposure to climate-related risks [22]. Driven by this demand, firms are expected to communicate how climate uncertainty is shaping their strategic planning processes, operational resilience, environmental performance, and long-term sustainability disclosures [23]. Ultimately, climate disclosure practices have evolved from their traditional symbolic regulatory practices into strategic mechanisms for managing legitimacy, investor confidence, and stakeholder trust [24].

Previous studies have shown that organisations use climate disclosure as a mechanism to signal accountability and responsiveness to environmental accountability [25,26]. The challenge, however, is that the frameworks used to prepare sustainability reporting are not developed in neutral environments and are rather influenced by institutional pressures, organisational interpretations, and strategic considerations [27]. This has thereby resulted in organisations operating in uncertain regulatory frameworks experiencing tensions between environmental compliance expectations and resource constraints, and fighting for survival [28]. These tensions are exacerbated in emerging economies where climate governance frameworks are weak and institutional enforcement mechanisms are selectively applied and unreliable [29].

Even though the growing body of literature now recognises the significance of climate disclosure, current studies have, at most, focused on quantitative disclosure metrics and reporting frameworks at the expense of qualitative narratives [30,31]. A few studies have examined how organisational managers interpret climate disclosure requirements under conditions of uncertainty [25]. Ultimately, the existing studies provide an inadequate understanding of the organisational interpretation processes that influence disclosure decisions with volatile emerging economies [32–34]. This study closes this gap by contributing to the body of knowledge by expanding the literature through examining climate disclosure through the lens of sensemaking rather than treating it solely as a technical reporting outcome.

2.3. Organisational Resilience, Sustainability and Strategic Adaptation

Organisational resilience denotes a company's ability to foresee, withstand, and adapt to environmental, regulatory, and economic challenges while preserving operational continuity and long-term sustainability [35]. Scholars have suggested that resilience depends on an organisation's ability to fuse environmental risks into strategic planning, investment decisions, and management

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control systems, particularly in a climate-related context [36]. In this regard, EMA and climate disclosure are widely regarded as vehicles that support organisational learning, adaptive decision-making, and sustainability-oriented transformation [37].

Research studies show that firms that integrate environmental accounting systems into their strategic planning processes typically exhibit stronger adaptive capacity and greater stakeholder confidence than those that do not [38]. For firms to foresee climate-related disruptions and develop mitigatory measures, organisations have been called to continuously monitor environmental costs, engage in scenario planning, and adopt sustainability-oriented budgeting practices [39]. It must therefore be recognised that resilience is not determined solely by technical systems, but also by managerial interpretations of uncertainty and the strategic choices that flow from them [40].

There are few studies in emerging economies examining how firms in volatile institutional environments strategically adapt their accounting practices amid climate policy uncertainty, despite growing interest in sustainability and resilience [23,41,42]. Most current research treats resilience as an organisational outcome and has not explored the managerial processes through which it is socially constructed [43]. This study, therefore, addresses this research gap by examining how managerial sensemaking influences strategic adaptation, environmental accounting practices, and organisational resilience in Zimbabwean firms.

2.4. Theoretical Framework

This study draws on Institutional Theory, and Sensemaking theory underpins it. The Sensemaking Theory provides that organisational actors understand and interpret uncertainty and vague environments through socially constructed meaning-making processes that influence organisational and strategic action [44,45]. Based on this Sensemaking Theory, managers are therefore called upon to consistently monitor and comprehend ever-changing regulations, environmental expectations, and prevailing institutional constraints [46]. These understandings and interpretations help the organisations understand how they must respond to climate uncertainty and thereby shape the development of EMA and climate risk disclosure practices [8].

Sensemaking theory is an essential key to this study because it enables the study to understand how managers interpret climate policy uncertainty and how these interpretations influence the adoption of sustainability reporting [47]. What makes the theory interesting and aligns with this study is its ability to visualise sustainability reporting practices as socially constructed organisational responses that emerge from managerial interpretations of uncertainty, rather than viewing them as purely technical mechanisms [48].

Sensemaking Theory is complemented by Institutional Theory, which suggests that organisations tend to respond to coercive, normative, and mimetic pressures in their environments to maintain legitimacy and social acceptance [49]. The theory holds that climate risk disclosure and environmental accounting practices are influenced not only by economic rationality but also by institutional factors, expectations surrounding sustainability, and environmental accountability [50].

This study argues that integrating Sensemaking Theory and Institutional Theory provides a robust analytical framework for understanding how managers in Zimbabwean firms interpret institutional pressures, mediate uncertainty, and strategically adapt sustainability accounting systems. Therefore, the theoretical integration strengthens the study's focus on managerial interpretation, organisational adaptation, legitimacy, and resilience in the context of climate policy uncertainty.

2.5. Literature Synthesis and Research Gap

The reviewed literature has demonstrated that EMA and climate risk disclosure are growing in importance as techniques that support organisational sustainability, legitimacy, and resilience. However, the major gap identified was that prior studies have predominantly privileged quantitative, compliance-oriented studies, which have prioritised disclosure metrics and reporting

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outcomes at the expense of interpretivist, qualitative managerial experiences and organisational interpretation processes.

In addition, most research on the subject matter under consideration has been conducted in developed economies, which are characterised by stable institutional and regulatory environments. As a result, there is a constrained understanding of how managers operating in volatile, uncertain policy contexts make sense of climate-related uncertainty and strategically adapt accounting systems in response. Previous studies have also failed to explain how managerial interpretations influence organisational resilience and sustainability-oriented decision-making under conditions of risk and institutional instability.

The study addressed this gap by adopting an interpretivist qualitative research design to explore managerial sensemaking in Zimbabwe, an emerging economy. The study contributed a process-oriented understanding of how managers interpret climate policy uncertainty and integrate these interpretations and understandings into EMA and climate risk disclosure practices, drawing on Sensemaking Theory and Institutional Theory. The study therefore contributes empirical, contextual, and theoretical novelty to sustainability accounting literature.

3. Materials and Methods

The study's research methodology was designed to explain how managers in Zimbabwean firms make sense of climate policy uncertainty, how that sensemaking influences EMA and climate risk disclosures, and how these practices relate to organisational resilience and sustainable growth. The methodological novelty of this study lies in conceptualising accounting adaptation as a socially meaningful process within firms rather than solely as a reporting outcome, while maintaining the study's qualitative orientation.

3.1. Philosophical Position and Research Approach

This study adopted the interpretivist research philosophy because the phenomenon under consideration is not climate policy uncertainty as an objective external condition alone, but rather how organisational actors interpret, negotiate, and act upon that uncertainty in practice. The interpretivist qualitative inquiry was chosen for this study because it is appropriate for questions focused on meaning, context, and lived organisational experiences, while interpretivist case study designs prioritise reflexive, comprehensive, and holistic analysis based on participants' narratives rather than abstract generalisations [51]. This method is methodologically appropriate for this study, as it seeks to understand managerial interpretations, accounting responses, and organisational adaptation in unclear policy circumstances [52].

An inductive research approach was deemed appropriate for this study, as the evaluation does not start with testing a theory but with extracting categories and process explanations from interview narratives, thereby transitioning from language-informed insights to elevated conceptual insights (theory development) [53]. In this study, inductive reasoning was deemed appropriate because climate policy uncertainty in Zimbabwe had to be interpreted through context-specific managerial interpretations and understandings that quantitative disclosure metrics would not capture.

3.2. Research Design and Time Horizon

The study adopted a multiple-case study research design, which aligns with the interpretivist research philosophy. The multiple case study design was selected for this study because it often provides more compelling and substantial evidence when used through replication logic, unlike statistical sampling [54]. In this regard, each participation was treated as a case, allowing both within-case interpretations and cross-case comparisons of managerial sensemaking, EMA adaptation, and climate disclosure practices. A qualitative case design was preferred in this study because it is superior to survey-based inquiry, given the research questions' processual nature: how managers perceive uncertainty, how accounting practices are reshaped, and how these practices contribute to

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resilience. These are the "how" questions that require an in-depth investigation of the matter to obtain its contextual details and access organisational reasoning.

A cross-sectional time horizon was adopted for the study, which required capturing sensemaking and accounting reactions at a specific policy juncture rather than examining them longitudinally. A cross-sectional time horizon provides a snapshot of events, which in this case are beliefs and behaviours at a particular point in time [52].

3.2. Sampling and Data Collection

Purposive sampling was chosen for this study, as participants had to have experience and occupy positions in which climate uncertainty was interpreted and translated into accounting disclosures and strategic decisions. On this basis, senior managers or executives, management accountants or finance personnel, risk reporting officers, or sustainability personnel were deemed the most relevant participant categories in this study. This study focused on firms operating in Harare across the manufacturing, mining, financial institutions, and agribusiness sectors, which were purposively selected due to their significant exposure to climate-related risks, environmental accountability pressures, and sustainability reporting expectations. What motivated the selection of these sectors was their ability to provide diverse organisational contexts through which managerial interpretations of climate policy uncertainty and accounting adaptation could be comparatively explored.

The data for the study were generated through in-depth semi-structured interviews, which ensured consistency among participants while allowing flexibility to explore their understanding of policy ambiguity, modifications to internal accounting systems, and the strategic use of disclosure [55]. Given the homogeneous participant profile intentionally selected through purposive sampling and the focused research question, the study's sample consisted of 13 in-depth interviews conducted across four firms operating in the quarry mining, manufacturing, financial services, and food processing sectors in Harare. Participants in this study were selected based on their roles and participation in issues related to the subject matter, including sustainability reporting, management accounting, environmental governance, and strategic decision-making. Sample adequacy for the study was determined through data saturation, in which the interviews continued until no new themes emerged [55]. Data saturation was reached with interview number 11, with the additional two used to confirm that no new substantial themes were emerging from the data. The emphasis of this study was not on large samples; rather, it was on depth, contextual richness, and analytical insights from participants rather than statistical representativeness.

3.2. Data Analysis and Theoretical Framing

Interviews, which lasted between 45 and 60 minutes, were conducted at participants' convenience, and the researcher audio-recorded them with participants' signed and verbal informed consent. The audio recordings were later transcribed verbatim by hand. Following transcription, the qualitative data were analysed using thematic analysis, which started by repeatedly reading the transcription to familiarise with participants' experiences, interpretations, and organisational responses relating to climate policy uncertainty, EMA, and climate risk disclosures. The coding process aligned with the study's research questions and interview protocol while also allowing new insights to emerge inductively from participants' narratives.

Subsequently, axial coding, which facilitated the aggregation of analogous codes into overarching categories to discern links and patterns within participants' narratives. This process, therefore, enabled the development of themes (**Table 1**) that reflected managerial sensemaking, strategic adaptation of sustainability reporting systems, stakeholder legitimacy concerns, climate disclosure practices, and organisational resilience under conditions of policy uncertainty. The process was continuous, refining themes through constant comparison between transcripts and emerging interpretations, ensuring analytical coherence and alignment with participants' interpretations of their lived experiences. To ensure consistency across managerial interpretations of uncertainty, the

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accounting adaptation process, climate disclosure practices, and organisational resilience outcomes, the themes were always aligned with the research questions.

The thematic analysis was informed by Sensemaking Theory and Institutional Theory. In this regard, Sensemaking Theory assisted in understanding how managers interpreted and responded to climate policy uncertainty within their organisational environments, while simultaneously, the Institutional Theory provided an understanding of how the pressure exerted by the regulatory framework, stakeholder expectations, and legitimacy issues influenced EMA and climate risk disclosure practices. The integration of the theoretical framework reinforced the analytical interpretation of organisational adaptation and sustainability-oriented decision-making with Zimbabwean firms.

3.2. Trustworthiness and Ethics

Trustworthiness was infused throughout the research process to enhance the study's quality, achieved through credibility and integrity. The credibility of this study was strengthened by the length of participants' engagement during in-depth interviews, probing of responses, and continuous comparison of perspectives across firms and participants' roles. In this regard, the researcher strengthened credibility by continuously reading transcripts and reflective interpretations of participants' accounts, thereby ensuring that the study's findings accurately reflected participants' lived organisational experiences.

The transferability of the study was enhanced by providing rich contextual descriptions of the Zimbabwean business environment, organisational settings, and participant roles, which enabled readers to assess the applicability of the study's findings to similar emerging economies. The use of a structured interview protocol, systematic coding procedures, a clear audit trail documenting the progression of data interview transcripts into codes, detailed analytical memos, categories, and final themes strengthened dependability. Reflexive journaling and continuous documentation of analytical decisions throughout the study process to strengthen the confirmability of the study, reduce the researchers' bias, and increase interpretive transparency.

The researcher acknowledges that data interpretation was influenced by continual engagement with participants' narratives, contextual realities, and the theories underpinning the study, given the study's interpretivist and qualitative nature. Reflexivity was therefore maintained throughout the study, from the analytical to the critical examination of emerging themes, by minimising subjective bias and strengthening analytical transparency.

The study received ethical clearance from the Walter Sisulu University Ethical Clearance Committee (FREC), with approval number 07/03/10/2025/PG and approval date 2025-02-10 prior to data collection. Before participating in this study, participants were provided with information sheets explaining the study's aim, their right to withdraw without penalty, and that participation was voluntary. This was followed by getting both verbal and written informed consent from the participants. Participants were also assured of confidentiality and that all identifiers would be removed from the study, which in the end resulted in the use of pseudonyms and participant codes instead of names and organisational identities throughout the study report. The interview residue, including audio recordings, coding documents, and interview transcripts, was safely stored on a password-protected file and a laptop, accessible only by the researcher. Care was also taken in this study to avoid reporting information that could expose participants and their organisations to reputational and professional risks, given the potentially sensitive nature of climate disclosure issues in emerging economies.

4. Results

This section of the results presents the findings of a study conducted with 13 participants across four firms in Harare Province, Zimbabwe: financial institutions (P1-P4), a manufacturing firm (P5-P7), a quarry mining firm (P8-P10), and a food processing firm (P11-P13). The overall position across the cases is that managers described the Zimbabwean climate-policy landscape as directional but

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unevenly executed, with policy commitment visible at the national level, though the details of implementation, timing, enforcement intensity, and reporting expectations are very unclear. Five themes were developed across the case, and these included (**Table 1**): climate policy uncertainty was experienced as implementation ambiguity rather than policy absence; EMA was unevenly evolving from hidden overhead treatment towards clearer environmental costs visibility; climate risk disclosure, which was initially internally oriented, had become more formal due to external pressures from regulators and investors; resilience was built through adaptive budgeting, structured investment, operational redesign, and selective disclosure; managers linked firm-level accounting adaptation to broader sustainable growth.

These configurations were mostly formalised in the financial and manufacturing sectors, transitional in food processing, and mostly reactive in quarry mining. The relative formalisation of the financial sector reflects stronger supervisory expectations stemming from the Reserve Bank of Zimbabwe's policy guidelines, which require financial institutions to pay attention to governance, strategy, risk management, and disclosure of climate-related risks.

Overall, the findings of this study address the research questions in an integrated way, where managers interpreted climate risk policy uncertainty as a matter of survival, adaptability, and institutional vagueness (RQ1), uncertainty was viewed as influencing the development of EMA systems and the extend of climate risk disclosure RQ2), and firms with stronger environmental cost visibility being viewed as capable of absorbing regulatory shocks (RQ3). The findings from the study therefore underscore the study's central position that EMA and climate disclosure function as technical reporting tools, but rather as socially interpretive and institutional mechanisms through which firms' volatile environmental contexts stabilise decisions, uphold legitimacy, and cultivate resilience.

4.1. Overview of the Cases and Analytical Structure

The 13 participants, purposefully selected for this study, came from management accounting, finance, risk, sustainability, operations, and administration, and all had direct or indirect involvement in budgeting, sustainability reporting, risk management, compliance, and strategic decision-making. In a small, sector-specific sample, participant narratives were aggregated, with quotations edited for readability and de-identified to protect the anonymity of all participants. Cross-case comparison showed that the financial sector exhibited the most formalised climate-oriented risk and disclosure routines, with the manufacturing sector serving as a transitional model in which environmental costs became more visible. The food processing sector occupied an intermediate position, in which environmental and climate information had not yet been fully integrated into a mature EMA, but was present through operational metrics. The quarry mining case was reactive, with environmental costs recognised following a major disruption to the firm's operations.

Table 1. The coding development and structure.

Initial codes	Categories	Final themes
Unclear enforcement; changing thresholds; uneven implementation; tariff volatility	Interpreting the external policy environment	Policy uncertainty as implementation ambiguity
Shorter budgeting cycles; contingency buffers; phased investment; flexible planning	Strategic responses to uncertainty	Policy uncertainty as implementation ambiguity
Environmental costs in general overheads, variance-triggered	Low-formalisation environmental accounting	Uneven evolution of EMA

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recognition, and no dedicated modelling function		
Separate cost visibility, energy and waste tracking, environmental metrics, scenario analysis	Strategic environmental costing and planning	Uneven evolution of EMA
Risk registers; management reports; internal board reporting	Internal disclosure routines	Pragmatic and legitimacy-seeking disclosure
Investor confidence; lender requirements; transparency; credibility	External legitimacy and access to finance	Pragmatic and legitimacy-seeking disclosure
Diversification; supplier shifts; digitalisation; infrastructure upgrades; no-regret investments	Adaptive operational and financial resilience	Accounting-enabled resilience
Reduced shock sensitivity; sustainable investment; stable capital allocation; economic resilience	System-level interpretation of firm practice	From firm adaptation to sustainable growth
Need for standardised guidance, stronger enforcement, incentives, and institutional coordination	Perceived institutional enablers	From firm adaptation to sustainable growth

4.2. Demographic Profile of Participants

The sample comprised 13 participants, drawn from diverse sectors of the Zimbabwean economy, including financial institutions, manufacturing, food processing, and quarry mining (**Table 2**). These participants held positions in management accounting, finance, sustainability management, operations, compliance, and strategic planning, and, as a result, provided diverse insights into organisational responses to climate policy uncertainty and EMA practices. In this regard, the diversity of participants contributed depth to the findings and enabled cross-sectoral perspectives on the subject matter under consideration. This study benefited from both emerging and experienced managerial viewpoints, as participants' work experience ranged from 4 to 24 years. The gender composition is balanced, thereby strengthening the breadth and credibility of the qualitative insights generated in this study.

Table 2 below presents the demographic profile of participants who were purposefully selected for this study, including sector, sex, age, role, and work experience. It was deemed crucial to present participants' profiles in qualitative studies because it provides contextual understanding of participants' interpretation and thereby enhances the credibility and richness of the findings.

Table 2. Demographic Profile of participants.

Participant	Sector	sex	Age	Role	Experience
P1	Financial institution	Female	45	Investment and risk manager	+18
P2	Financial institution	Female	42	Sustainability and Compliance Officer	+12

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P3	Financial institution	Male	55	Finance Executive	+15
P4	Financial institution	Female	38	Branch manager	+8
P5	Manufacturing	Male	62	Operations and Procurement Manager	+24
P6	Manufacturing	Male	53	Environmental Accounting Officer	+14
P7	Manufacturing	Female	69	Management Accountant	+20
P8	Quarry mining	Male	51	Administrator	+11
P9	Quarry mining	Male	48	Environmental Accounting Officer	+16
P10	Quarry mining	Male	44	Geologist	+13
P11	Food processing	Female	41	Accountant	+9
P12	Food processing	Male	53	Manager	+17
P13	Food processing	Female	40	Operations and Procurement Manager	+5

4.3. THEME 1: Policy Uncertainty as Implementation Ambiguity

4.3.1. Subtheme: Direction Without Operational Clarity

The cross-case pattern of this study identified that most participants (P1, P2, P3, P5, P8, P9, P11, P12, P13) acknowledge the existence of climate policy, though they all agreed that it was difficult to implement. These participants viewed uncertainty as pragmatic rather than theoretical, since it influenced the timing of the investment, compliance preparation, budgeting cycles, and the degree of caution built into the strategy. In this regard, participants indicated that they were more worried about whether they could trust climate governance policies in place and place confidence in anticipating how they translate into cost standards, thresholds, and enforcement. To reinforce the importance of this discussion, some participants said:

"*Although there is a climate-related policy in Zimbabwe, it still needs to be adjusted to reflect the Zimbabwean context. Our regulators are doing a copy and paste of policies from the developed world, which are becoming too difficult for us to implement locally*." (**P1**)

An identical interpretation came from the manufacturing sector, where it was said:

"*The greatest challenge we have is that environmental regulations are selectively applied; they lack clarity, consistency, and in the end, we have adopted a flexible, phased environmental planning*." (**P5**)

This trend was more visible in operationally exposed sectors such as manufacturing, quarry mining, and food processing, where climate-related disruptions directly affected supply chains, investment planning, and production costs. Most participants indicated they were forced to adopt a flexible, cautious decision-making approach due to uncertainty in climate policy and climate change risks, including flooding, water shortages, and energy instability. Even though many firms relied on contingency budgeting, phased investments, and adaptive operational strategies to manage

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environmental shocks, participants indicated that climate uncertainty had played an essential role in shaping sustainability reporting practices by forcing managers to track environmental costs, monitor resources, and adopt sustainability-oriented planning. To reinforce this aspect of the discussion, one participant remarked:

"*I would describe climate change and sustainability as a deal breaker that has forced us to develop an interest in climate-related issues. Previously, we were not concerned at all, but frequent droughts and flooding have adversely impacted our operations, prompting us to adjust and be prepared to respond*." (**P7**)

In this regard, organisational actors therefore interpreted uncertainty in relation to their organisational exposure and strategic priorities. Participants in this study have realised that ambiguity in policy is a standard feature of the economic environment, compelling them to make decisions based on incomplete and changing policies. Therefore, most organisational actors relied on judgements, prior experience, and anticipated policy changes to guide investment, budgeting, and sustainability-related decisions. This aspect of the research finding reflects an ongoing sensemaking process in which organisations continually had to adjust and respond to policy shifts to maintain resilience under uncertain policy conditions.

4.3.2. Subtheme: Buffers, Shorter Horizons and Phased Commitment

Several participants (P2, P3, P5, P6, P8, P9, P10, P11, P12, P13) in this study showed that sensemaking translated into temporal strategies. These participants noted that, due to ongoing policy uncertainty, they have resorted to short-term investments, shortened budgeting horizons, and staged investments. To reinforce this aspect of the discussion, some participants had this to say:

"*Regular policy changes have created a lot of uncertainty, which has created confusion among investors. An announcement in policy shift has the effect of changing the risk profile of the entire investment*." (P2)

While another participant said:

"*Uncertainty has created a challenging environment to operate in. Financial planning now includes a contingency buffer and shorter budgeting cycles to align with the prevailing situation. You cannot be seen making a long-term investment under these circumstances*." (**P6**)

This aspect of the finding shows that policy uncertainty did not paralyse decision-making, but rather changed the decision-making process, as organisational actors had to shift from fixed, linear planning towards more provisional, scenario-based approaches. This aspect of the finding therefore addresses RQ1 by showing that managerial response was interpretive, socially constructed, strategic, and adaptive rather than a passive approach.

4.4. Theme 2: Uneven Evolution of EMA

4.4.1. Subtheme: From Hidden Overheads to Visible Environmental Costs

All participants in this study agreed that environmental costs had traditionally been treated as overhead costs and were not visible. Participants indicated that, due to regulatory pressures and investor and other stakeholder demands, attempts are being made to make environmental costs more visible, as this will also assist management in comparing investment projects, justifying adaptation spending, and anticipating regulatory exposure. The major difference in how environmental costs are treated lies between quarry mining and the manufacturing sector. One participant from the mining sector remarked:

"*Traditionally, we used to regard environmental costs as expenses reducing our profits, though of late we have started recognising them as key costs, but we have not yet come to a stage where we are specifically tracking them or measuring them in advance, but rather we are reactive when they are incurred*." (**P8**)

This aspect of the finding depicts a reactive accounting model in which sustainability information becomes visible only to management following a major disruption to the production process or supply chain. Several participants in this study indicated that climate-related costs were absorbed into overhead and general operational budgets rather than systematically tracked through EMA systems, making them less visible. This therefore implied that organisations tended to respond

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to environmental risks following an operational interruption, regulatory pressures, or unplanned cost increases, thereby prompting proactive responses and adaptation.

By contrast, the manufacturing sector showed a clearer move towards making environmental costs visible. This was demonstrated by one participant who stated:

"*We are facing increased pressure from both the regulator and investors, and we are trying our level best to make environmental costs more visible, and we have moved from treating them as overhead costs to environmental costs*." (**P7**)

The response from participants indicated that though they have not reached a stage where the system in use could be explicitly labelled EMA, there was progress in tracking and monitoring costs in different categories of energy, waste, package losses and compliance-related costs, and as a result making it easier to identify them.

4.4.2. Subtheme: Cost Visibility as a Factor for Scenario Planning and Capital Ranking

Most participants (P1, P2, P3, P4, P5, P8, P9, P11, P13) in this study linked cost visibility to scenario planning and capital investment appraisal. These participants indicated that it was essential to systematically track environmental costs, as this would enable organisations to anticipate and assess regulatory risks, energy volatility, and infrastructure vulnerabilities they were likely to face. In the end, participants argued that this would inform the organisation's investment in energy-efficient technologies and climate-resilient infrastructure, while simultaneously supporting the organisation's strategic mission. A participant from the manufacturing remarked:

"*Tracking of environmental costs is key because it makes it easier to compare projects, and it's obvious that when environmental costs are attributable to an investment, those with a higher initial outlay but with lower future environmental and regulatory costs become easier to defend in board meetings*." (**P6**)

While another participant from the financial sector said:

"*When we know environmental costs, it becomes easier for us to avoid high-energy investment projects due to their long-term financial implications*." (**P3**)

The cross-case trend points towards an uneven maturity rather than full adoption of EMA practices. When compared, firms in the financial and manufacturing sectors have shown structured approaches to sustainability management, with environmental costs increasingly integrated into management accounting practices such as budgeting, investment appraisal, and strategic planning. At the same time, food processing firms occupy a transitional position, reflecting the growing awareness of environmental risks, even though they still rely on partially developed sustainability reporting systems and reactive cost management practices. In contrast, the quarry mining sector is worrisome because it has remained event-driven, with environmental costs becoming visible only after catastrophic disruption, institutional pressure, or infrastructure damage, prompting investigations into their causes and the best ways to respond. Of interest is the acknowledgement of participants across all sectors of the growing importance of moving from non-recognition to recognition of environmental costs and embarking on efforts to make them more visible. The findings address RQ2 by showing that climate policy uncertainty influenced the collection of environmental information, its classification, and its strategic utilisation within the decision-making process.

4.5. THEME 3: Pragmatic and Legitimacy-Seeking Disclosure

4.5.1. Subtheme: Internal Disclosure Came First

Across the cases, most participants (P1, P2, P3, P4, P5, P8, P9, P11) in this study indicated that they never understood climate risk disclosure as purely an external reporting exercise, but rather as an internal decision-making tool. These participants admitted that climate disclosure began internally through the production of management reports, board updates, budget memoranda, and operational dashboards, and would consider external disclosure only when stakeholder pressure and demands were exerted.

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The financial sector proved to be the best benchmark for increasingly formalised internal and external climate risk disclosure practices. Participants in the sector agreed that although the disclosures have not yet fully aligned with global best practices, organisations in the financial sector are mandated to integrate climate-related risks into their broader risk management and annual reporting. In this regard, climate-related risks have been slowly integrated into governance discussions, enterprise assessments, sustainability reporting language, and ESG oversight structures, thereby increasing their visibility and improving the sector's image. The participants in this sector pointed out that they have been pushed to do good because of growing regulatory expectations, investor scrutiny, and, above all, international financing requirements that call upon firms to improve quality, consistency, and transparency on issues regarding climate-related disclosures, which have left them with no option but to adhere. Although this trend was consistent with stronger climate risk expectations placed on them by the Reserve Bank of Zimbabwe, which is the regulator, participants indicated that they were still experiencing some challenges, which included limited technical expertise, inconsistent reporting frameworks, and uncertainty brought by changing regulations, suggesting that the disclosure systems were still evolving and had not yet been institutionalised.

In the quarry mining sector, disclosure was more tentative. One participant had this to say:

"*Maybe the reason why we have been reactive and not taken a proactive approach to sustainability disclosure is due to the fact that Zimbabwe does not have a standard guideline that has been structured for the Zimbabwean context, and what is prescribed to us are standards developed from stable economies, which, when we try them, do not work here.*"(**P10**)

The food processing sector exhibited a similar trend of partial development in sustainability disclosure. Participants within this sector described disclosure systems that captured environmental metrics and operational trends and emphasised that climate-risk integration was still in its infancy but was developing.

These narratives from participants suggest that internal data generation may precede external disclosure by a considerable margin, as in many firms, environmental and climate risk-related data were already being collected but not appearing in structured external sustainability disclosures. Participants in this study pointed out that firms utilised internal environmental data for operational control, cost management, and strategic planning, rather than for external disclosure. These findings suggest that climate-related disclosure is evolving and must first satisfy internal needs before becoming formalised and externally visible to all stakeholders.

4.5.2. Subtheme: External Disclosure as Credibility, Accountability, and Finance Access

Several participants (P1, P2, P3, P5, P6, P8, P9, P10, P11, P12, P13) in this study associated risk disclosure with improved organisational reputation and access to finance, thereby signalling managerial competence to external stakeholders. These participants noted that organisations have become increasingly aware of climate-related risks and are managing long-term environmental uncertainty. Participants indicated that in sectors like manufacturing and finance, with stronger stakeholder scrutiny, climate disclosure enhanced investor confidence, strengthened relationships with regulators and financial institutions, and, in the end, would improve opportunities to access sustainability-linked funding. In this regard, disclosure was viewed as a compliance and strategic mechanism intended to reinforce legitimacy, accountability, and organisational credibility under conditions of policy uncertainty. One participant remarked:

"*Even if it's in some instances the disclosure symbolic, we have come to learn that it enhances stakeholder confidence and reduces information asymmetry and perceived risk.*" (**P7**)

Similarly, another participant stated:

"*Climate risk disclosure is essential now because lenders and financial institutions demand it and have become a requirement if you require a loan.*" (**P12**)

The aspect of this research finding is that disclosure was not treated as an end in itself, but rather as a mechanism through which an organisation could gain credibility, be accountable, and secure legitimacy under uncertain policy conditions.

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Cross-case comparison shows that legitimacy was sectorally differentiated: the financial sector experienced greater regulatory pressure to align with reporting structures and governance frameworks, whereas in the manufacturing sector, it was linked to financing, partnerships, and market credibility. In the mining and food processing sector, compliance remained oriented, even though participants anticipated stronger stakeholder pressure in the long term. This aspect of the finding addresses RQ2 by showing that uncertainty influenced environmental accounting systems and their disclosure styles, including the audiences they serve.

4.6. THEME 4: Accounting -Enabled Resilience

4.6.1. Subtheme: Adaptive Budgeting and Phased Investment

Many participants (P2, P3, P5, P6, P8, P10, P12) acknowledged that EMA disclosures contributed to organisational resilience. These participants described resilience as an evolving capability that responded to uncertainty created by changing policies and was influenced by continuous budget adjustments, revised procurement strategies, operational redesign, and more disciplined capital planning. In this regard, participants across cases indicated that firms had increasingly adapted their financial and operational systems as responses and mitigatory strategies to climate-related disruptions and uncertain regulatory expectations. Participants indicated that when environmental costs were systematically tracked and disclosure processes were more structured, responses became more anticipatory, enabling organisations to identify vulnerabilities at their earliest opportunity and make more informed, impactful decisions. Participants from the financial sector stated that resilience took the form of diversification, cautious capital allocation, and scenario-based planning, while in the manufacturing sector, it appeared through supplier and material adjustment. One participant remarked:

"*Organisations have become more selective in environmentally vulnerable regions, and they have shown greater interest in initiatives to mitigate future climate risks*." (**P2**)

Another participant said:

"*We have had to adjust, and due to stakeholder demand, we now prioritise working with material suppliers that are certified by the Standard Association of Zimbabwe, as a communication that we have also gone green*." (**P5**)

4.6.2. Subtheme: Operational Redesign and Post-Incident Learning

Across cases, quarry mining has shown a more reactive resilience pathway, in which firms' mitigatory strategies are influenced by catastrophic events such as flooding, infrastructure damage, operational disruptions, and compliance pressures. Some of the participants (P3, P5, P8, P9, P10, P11, P12, P13) in this study have shown that, before an interruption that would have resulted in losses, environmental costs would not be visible, and remedial action would follow later. In this regard, it means budget adjustments and operational changes would be implemented in response to the pressure exerted on an organisation following the catastrophic disaster, rather than long-term environmental risk planning. One participant remarked:

"*It's true that climate-related costs influenced decision-making, though in my sector it's reactionary as that will be through post-incident adjustments*." (**P9**)

Participants indicated that concerns about potential penalties also influenced their decision-making, particularly on operational procedures such as waste management, storage practices, and environmental compliance monitoring. This aspect of the study indicates that the regulatory framework was increasingly shaping operational behaviour within firms that had remained reactive in their environmental planning.

What is essential from this finding is that resilience strength depended on the degree of coupling between environmental information and managerial routines, with stronger resilience in situations where environmental tracking was strong. When environmental information was not made visible and was buried in overhead, the response was most likely triggered by a disruption rather than

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planned. The aspect of this finding therefore addresses RQ3 by showing how EMA and disclosure do support organisational resilience in practice.

4.7. THEME 5: From firm Adaptation to Sustainable Growth

4.7.1. Subtheme: Micro-Level accounting CHANGE as a Contribution to Wider Stability

Most participants agreed that adopting sustainable development was associated with a country's macroeconomic stability. Participants (P1, P2, P3, P5, P6, P8, P9, P10, P11, P12, P13) pointed out that stronger environmental performance and climate disclosure had the potential to improve investment discipline, business continuity, and resource allocation, which they viewed as crucial in unlocking global funding and subsequent growth of the sectors and the economy in general. These participants indicated that the regulator must desist from imposing copy-and-paste policies from advanced, stable economies and develop a regulatory framework that aligns with the Zimbabwean context, as efforts by firms alone were insufficient.

Participants in the financial and manufacturing sectors were very clear regarding the broader strategic role of EMA and climate risk disclosure. Participants within the financial sector pointed out that they play a critical role in economic development by allocating investment required by firms, and hence, having in place a stable and stronger regulatory framework was going to shape stronger environmental risk accounting practices, which was also going to shape lending decisions, investment priorities, and the flow of finance towards more sustainable business activities. The aspect of this finding suggests that climate-related accounting practices have grown in importance to the extent that they are no longer viewed solely as internal management tools, but also as a vehicle shaping broader patterns of corporate behaviour and corporate sustainability. To reinforce the discussion, one participant stated:

"*If EMA and climate risk are adopted consistently across all economic sectors, there is a chance that this will help in unlocking global funding through increased investor confidence, which in the end can contribute to economic development and the broader sustainable growth*." (**P5**)

This aspect of the finding shows that participants associated organisational accounting adaptation with broader macroeconomic outcomes, arguing that enhanced environmental cost visibility, disciplined risk management, and improved sustainability disclosure could collectively strengthen long-term economic resilience across sectors. These narratives from participants underscore the argument that incremental accounting modifications at the firm level could influence similar organisations to follow suit, thereby producing broader, systematic impacts when implemented across several sectors under uncertain environmental and regulatory policies.

4.7.2. Subtheme: Institutional Clarity as the Missing Condition

Participants from the less formalised sustainability reporting firms concurred that EMA and climate risk disclosure were valuable to an entity and that a firm can unlock their holistic benefits if it moves beyond reactive environmental management accounting approaches and becomes proactive in environmental management. A participant from the mining sector stated:

"*We could not be enjoying the benefits associated with EMA adoption since we are reactive in terms of our approach…. we stand to benefit if we adopt a proactive systems approach, which could be supported with dedicated environmental cost centres and futuristic environmental modelling*." (**P8**)

Similarly, in the food, one participant had this to say:

"*Our greatest challenge is that we are concerned with regulatory compliance, which has hindered sustainability innovation. Sustainability should move beyond compliance and be viewed as a strategic driver of long-term value and resilience to an organisation*." (**P11**)

The aspect of this finding therefore shows that participants increasingly view sustainability-oriented accounting practices as an essential vehicle for strengthening a firm's adaptation and long-term competitiveness.

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A recurring issue concerned the institutional conditions required to integrate EMA and climate disclosure practices. All participants across the cases underscored the need for clearer policy direction, context-based, standardised accounting and disclosure frameworks, enhanced engagement between regulators and firms, phased implementation approaches, and the provision of incentives to environmental performers. One participant said:

"*Policy change has brought a lot of confusion to us. Our request is for the government to come up with a clear, consistent policy direction*." (**P7**)

Although all participants in this study acknowledged the growing importance of sustainability-oriented accounting practices and the increased pressure from various stakeholders, they contended that without a consistent, stronger regulatory framework, sustainability goals would remain a dream. Participants noted that uncertainty around sustainability disclosure expectations and future regulatory requirements has hindered innovation and the transition from compliance to formal accounting systems. The aspect of this study, therefore, shows that organisational actors have become increasingly aware of the association between EMA, disclosure, resilience, and sustainable growth, but argue that this association relies on the quality, consistency, and predictability of the institutional environment.

5. Discussion

The findings of this study on climate policy uncertainty in Zimbabwe show that, despite the presence of climate disclosure policies, participants perceived them as a policy vacuum due to inconsistent implementation and enforcement difficulties. Although organisational actors across the four cases acknowledged that uncertainty becomes more calculable through EMA and climate disclosure, they emphasised that shifting from reactive compliance to anticipatory adaptation required strategic sectoral pressure, making environmental costs visible, and a strong institutional environment. The discussion supports an evolving sustainability accounting system that views EMA and climate disclosure not as fixed tools but as shaped by the interpretation of climate signals, strategic decisions, and initiatives aimed at building resilience under volatile conditions.

5.1. Integrated Discussion

In relation to the first research question, the study's findings suggested that although climate regulation existed, organisational actors perceived climate policy uncertainty as an implementation challenge, as they found it difficult to understand continuously changing policies. What is crucial is the understanding that organisational actors acknowledge the visibility of climate disclosure policy and confront its direction by questioning its enforceability and its practical implications for investment, reporting, and operations, which they argue remain chaotic.

Examined through the Sensemaking Theory, which asserts that organisations function in challenging environments and need to interpret the prevailing situation to formulate viable courses of action [56]. To keep abreast of changing policies that had created uncertainty, managers shortened their planning horizons, used phased investment commitments, and relied on provisional decisions to strategise. Analysed through Institutional theory, when firms faced coercive, normative, and mimetic pressures, it was found that firms responded differently, and the financial and manufacturing sectors moved towards formalisation, while quarry mining and food processing sectors remained more contingent, reactive, and operationally driven.

The theoretical contribution of the study was its extension of Sensemaking Theory, from its traditional role of explaining how managers interpret uncertain events, to show that, in volatile institutional settings, organisational actors can go a step further by interpreting the credibility of the institutions that produce the signals. The aspect of the finding that aligns with prior studies is crucial, as it shows that climate-policy uncertainty is higher in emerging economies due to institutional reliability [57]. The findings of the study show that Institutional Theory is relevant in this context, but the institutional pressure exerted on an organisation becomes crucial and impactful when it is

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consistent and sufficiently enduring, transforming internal calculative routines rather than remaining a background source of compliance anxiety.

The second question for the study concerned how uncertainty shapes EMA and climate-risk disclosure. The findings of the study show the evolution from an internal to an external focus, in which, in its infancy, environmental and climate data were intended to enhance internal decision-making by informing budgeting, operational monitoring, capital screening, dashboard reporting, and risk assessment. Under stakeholder demand, though unevenly, the practices have shifted to satisfy all stakeholders by becoming a formal public practice. The study's interesting contribution is its ability to shift the way we understand and interpret disclosure beyond a mere external reporting perspective. Previous studies align with this finding by suggesting that climate-related systems become strategically essential when physical and monetary environmental accounting information is first integrated into internal management routines [58]. The aspect of this finding is reinforced by noting that when environmental costs were aggregated into overhead costs, disclosure was poor; when costs were tracked and became visible and routinised, disclosure became more structured and credible, which, in the end, shows that visibility preceded disclosure maturity.

Regarding legitimacy disclosure, the findings of this study, which align with the literature, indicate that organisations are primarily motivated to disclose climate information to maintain credibility, secure acceptance, and signal competence [59]. The study findings show that participants linked disclosure to reputation, unlocking of finance and improved stakeholder confidence, although suggestions are that disclosure was strongest when based on prior internal accounting rather than solely as communication. The use of Sensemaking Theory helped explain how climate disclosure becomes sufficient for integration into management reports, cost categories, and investment appraisal, and when these interpretations will later be translated into external disclosure, while Institutional Theory gives a clarification on why this translation was more advanced in sectors which were subjected to a stronger regulatory framework and scrutiny. The aspect of the finding which aligns with the literature shows that disclosure quality depended on built internal organisational infrastructures capable of producing reliable information, which needed to be complemented by institutional pressures [60].

The third research question for the study concerned how EMA and disclosures supported organisational resilience and sustainable growth. The findings of this study indicate that resilience was a capability developed through routines rather than a stable organisational trait. This implies that when environmental costs were tracked and became visible, when the reporting process became formalised, when capital allocation before disruption intensified, and when climate-related information influenced procurement and budgeting, it means firms became more anticipatory. The study shows that quarry mining followed a reactive pathway, with environmental costs becoming visible and adaptation following a disruptive, catastrophic event. On the other hand, the food processing sector followed a hybrid pathway, characterised by improved operational metrics and an understanding of seasonality, though it displayed minimal formalisation. The financial and manufacturing sectors had internal environmental information closely integrated with strategic planning and disclosure, thereby closer to anticipatory resilience. The difference across cases was not based on whether organisational actors recognised climate risk, but on whether they could easily sense it, seize the response (adaptation strategy), and reconfigure routines on time.

The findings of this study do not indicate a clear association among firm-level accounting changes, sustainable growth, and macroeconomic stability. The study shows a conditional pathway in which participants saw a plausible connection between environmental cost visibility and disciplined investment decisions, stronger disclosure credibility, and resultant wider resilience across all economic sectors. Organisational actors emphasised that this depended on clear institutional prerequisites, such as clear regulatory policies. The study's findings, which agree with previous studies, showed that clear policy direction, phased implementation, context-oriented guidance, better regulator-firm engagement, and incentives linked to environmental performance were the

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mechanisms through which micro-level adaptation was likely to trigger broader developmental value [61].

5.2. Implications

The theoretical contribution of the study is integrating Sensemaking Theory and Institutional Theory in a procedural rather than cumulative method, whereby Sensemaking Theory elucidates the process by which ambiguous climate policy signals are transformed into practical strategies within organisations, while Institutional Theory provides a grounding explanation for the reasons for the variability of such cues' influence across different sectors of the economy.

The study's findings add to the limited qualitative insights from an emerging economy that has not been deeply researched and are analytically insightful. In this regard, Zimbabwe offers dynamics that are less apparent in more stable economies: internal data prior to disclosure, the coexistence of reactive and anticipatory approaches, and the role of institutional reliability in shaping accounting transformation.

The study's practical contribution is that firms should prioritise internal environmental cost visibility before expecting disclosure to become strategically useful. Besides raising expectations, regulators should also consider phased implementation, enhanced coordination within firms, and support for sector-specific guidance. Ultimately, policymakers should regard the enhancement of accounting capabilities as their primary and integral objective within the climate governance framework, rather than a secondary technical issue.

5.3. Conceptual Framework

The framework (**Figure 1**) below presents this study as a process model by illustrating how climate policy uncertainty in Zimbabwe is interpreted and understood through sensemaking, and how this shapes EMA and disclosures, how those routines produce different resilience pathways across different sectors of the economy, and how different institutional conditions determine whether form-level adaptation can scale into wider sustainable growth. Its design is consistent with the study's cross-case evidence and with the current policy emphasis on governance, reporting, scenario analysis and disclosure.

6. Conclusions

This study showed that organisational actors in Zimbabwean firms do not perceive climate policy solely as a matter of lack of direction; rather, they confront a context in which the policy exists, but its implementation is obscured by a lack of clear guidelines, inconsistent enforcement, and fluctuating institutional legitimacy. Mitigatory measures to address uncertainty were suggested to include ensuring environmental costs are made visible, disclosing climate costs, and selective adaptation, thereby ensuring that EMA and climate disclosure are not just reporting tools. In this regard, EMA techniques were described as the vehicle through which organisational actors would interpret climate signals, strategise, and hence protect organisational continuity.

The essential analytical contribution of the study was to show that the development of this within sectors was uneven, and that, in situations where environmental costs have become more visible and routinised, firms were better placed to shift from a reactive compliance approach to anticipatory adaptation. On the other hand, in situations where environmental information remains weakly formalised, adaptation and resilience tend to be learned after a strong disruption rather than being built in advance. The findings of this study, therefore, support a process model in which internal accounting changes that make environmental costs more visible precede external disclosures, and in which disclosures are most credible when they are founded on solid internal procedures rather than merely symbolic signalling.

 doi:10.20944/preprints202605.1262.v1

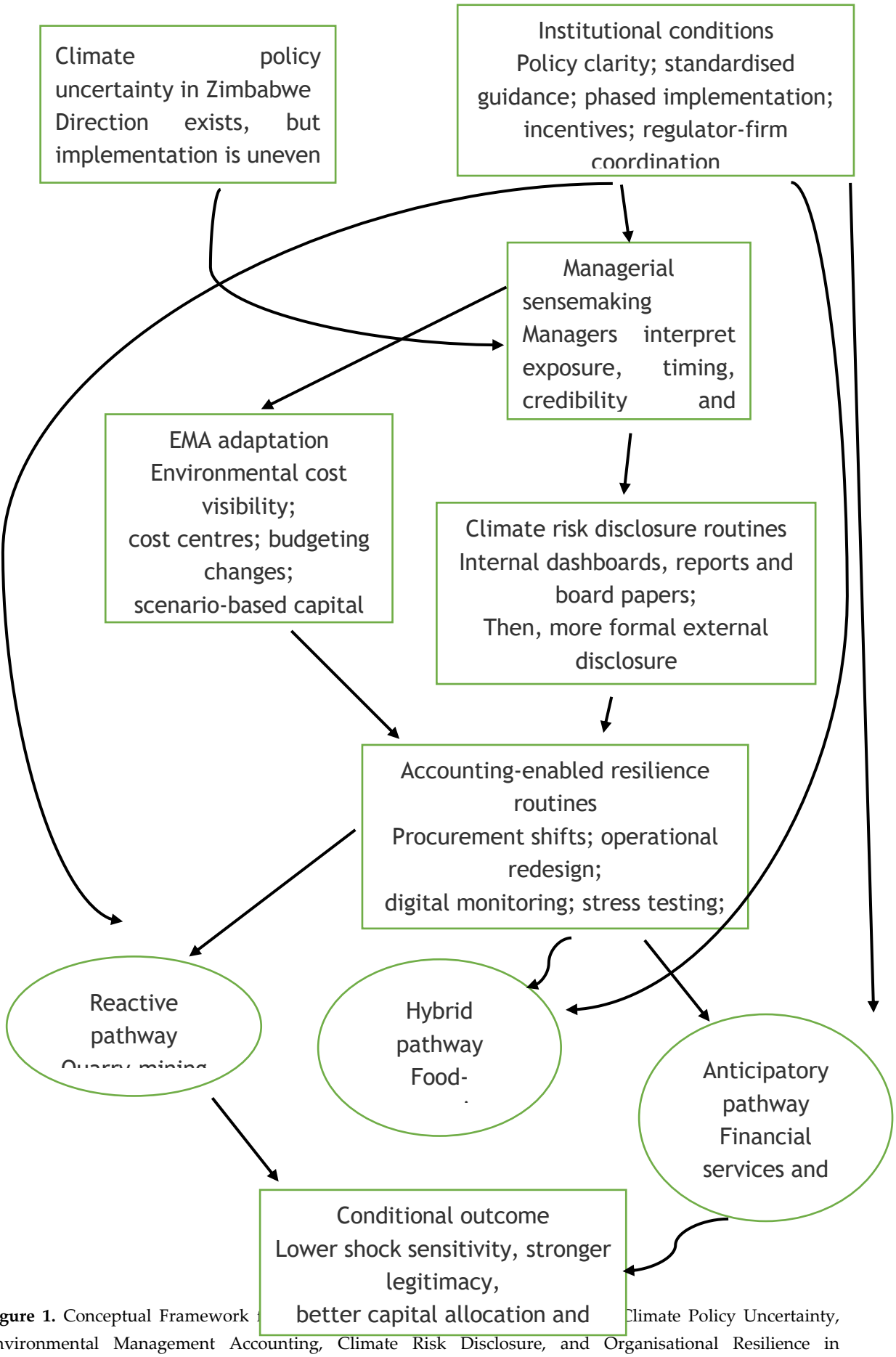

Figure 1. Conceptual Framework f Climate Policy Uncertainty, Environmental Management Accounting, Climate Risk Disclosure, and Organisational Resilience in Zimbabwean Firms.

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Ultimately, though conditional, the study delineates the association between firm-level adaptation and broader sustainable growth, recognising that EMA and climate-risk disclosure can strengthen resilience beyond the firm level, prompting others to copy, thereby driving wider sustainable growth and possible economic responses. It is recommended that the government develop contextually aligned guidance, ensure consistent implementation, and strengthen institutional coordination if micro-level improvements are to be realised in the broader context, rather than remain fragmented across sectors. Broadly, it can be concluded that the significant impact of sustainability accounting in volatile emerging economies characterised by uncertain policy is contingent not only on organisational actors but also on the quality of the institutional environment in which the initiatives are enacted.

The major limitation of this study is that it is based on a small qualitative sample and offers analytical depth rather than statistical generalisability. In addition, the study uses a cross-sectional time horizon and captures managerial interpretations at a single point in time, thereby falling short of showing how accounting routines stabilise, diffuse, or change as regulatory expectations evolve. Future research should adopt a longitudinal time horizon and track how firms shift from reactive to anticipatory pathways as climate-related initiatives become more established. Additionally, a cross-sectional comparative study across African countries could provide more robust empirical evidence on whether the institutional conditions identified in Zimbabwe are also present in other countries. Lastly, future research could benefit from using multiple data sources by combining interviews with internal accounting documents, disclosure texts, and financing outcomes, thereby examining how internal cost visibility becomes external credibility and, eventually, measurable resilience.

7. Patents

Funding: Walter Sisulu University's Postgraduate Studies Office for funding the publication fees associated with this manuscript.

Institutional Review Board Statement: The study was approved by the Walter Sisulu University Senate Research Ethics Committee (FREC), with approval number 07/03/10/2025/PG and approval date 10 February 2025.

Informed Consent Statement: All participants provided informed consent. Before participation, verbal informed consent was obtained, with participants informed of the study's purpose, assured of confidentiality, and informed of their right to withdraw at any time. All identifying information was anonymised to protect participants' identities. Participants have provided informed consent for the publication of anonymised excerpts from their narratives in this paper.

Data Availability Statement: The data supporting the findings of this case study are not publicly available due to privacy and ethical restrictions that protect participant confidentiality. Transcripts and raw interview data may contain identifiable information and are therefore accessible only to the principal investigator upon reasonable request, provided that appropriate ethical clearance has been obtained.

Acknowledgements: The authors gratefully acknowledge the support of Walter Sisulu University's Postgraduate Studies Office for funding the publication fees associated with this manuscript. Sincere thanks are extended to Manoj Panicker for his technical editing and valuable input during the preparation of this article.

Conflicts of Interest: The author declares no conflicts of interest**.**

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