

From CSR and Resilience to Sustainable Competitive Advantage: The Mediating Role of Enterprise Risk Management

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ABSTRACT

Organizations in the Energy and Natural Resources (ENR) sector face increasing pressures from climate change, geopolitical instability, regulatory change, resource scarcity, and rising stakeholder expectations. This study examines how Corporate Social Responsibility (CSR), Enterprise Risk Management (ERM), and Organizational Resilience (OR) contribute to Sustainable Competitive Advantage (SCA) in Tanzania's ENR sector. Drawing on Stakeholder, dynamic capability and the Resource-Based View theories, the study conceptualizes CSR as a stakeholder-oriented capability, ERM as a strategic resource's mechanism, and OR as an adaptive dynamic capability. Using survey data from 312 respondents and Partial Least Squares Structural Equation Modeling (PLS-SEM), the study examines the direct effects of CSR and OR on SCA and the mediating role of ERM in the CSR and SCA relationship. The findings indicate that CSR has a positive effect on SCA and organization resilience positively influences SCA. ERM partially mediate the relationship between CSR and SCA. The findings suggest that ENR firms should integrate CSR, ERM, and resilience into strategic decision-making rather than treating them as separate compliance-oriented activities.

1. Introduction

The Energy and Natural Resources (ENR) sector plays a pivotal role in global economic development and environmental sustainability. It provides essential inputs for industrial production, transportation, electricity generation, and economic growth. The sector also is responsible for a substantial share of greenhouse gas emissions and natural resource consumption (Tao et al., 2024, Lamb et al., 2021; Haberl et al., 2020). Accordingly, the sector has a significant position to enable achievement of the global sustainable

development and climate transition objectives. In recent years, firms in the Energy and Natural Resources (ENR) sector have operated in increasingly complex and uncertain environments. Geopolitical conflicts, trade restrictions and sanctions, supply-chain disruptions, climate-related shocks, and evolving energy policies have exposed vulnerabilities across energy markets and infrastructure, increasing operational and strategic uncertainty (International Energy Agency, 2026; World Economic Forum, 2026). These disruptions have increased energy and commodity-market uncertainty, contributed to supply shortages and price volatility, and affected firms' production and investment decisions, thereby increasing their exposure to operational and financial risks (Yilmazkuday, 2024; Chiaramonte et al., 2025).

Beyond geopolitical risks and other sources of uncertainty, ENR firms face increasing pressure to balance economic performance with environmental and social responsibilities. Growing regulatory requirements and stakeholder expectations have made ESG considerations increasingly important in corporate strategic decision-making (Yucel & Yucel, 2024; Wang, 2025; Wang et al., 2025). Failure to adequately manage sustainability-related risks can expose firms to reputational and regulatory risks, intensify stakeholder pressures, and adversely affect organizational performance (Abdul Razak et al., 2024; Khan, 2025; Jitmaneeroj & Tonghui, 2026). These challenges are particularly pronounced in emerging and developing economies, where financing constraints, regulatory uncertainty, policy volatility, and persistent investment gaps can amplify existing vulnerabilities (UNCTAD, 2025). Despite possessing abundant natural resources, African countries continue to experience significant investment gaps in both conventional and renewable energy infrastructure (Cheikh et al., 2024; UNCTAD, 2025). The recent global energy crisis, coupled with persistent political, regulatory, and financial risks, has constrained Africa's ability to scale up clean energy investment. Energy investment across the continent has declined, reaching less than US\$90 billion in 2022, while clean energy investment stood at approximately US\$25 billion, accounting for only about 2% of global clean energy investment (IEA, 2023).

Despite significant investments in Tanzania's energy sector, substantial financing requirements remain. The IEA estimates that Tanzania requires almost US\$80 billion in cumulative energy-supply investment between 2019 and 2040 to achieve its energy and climate objectives (IEA, 2023, 2024). Financing constraints are further intensified by the high cost of capital in African energy markets, where the cost of capital is reported to be at least two to three times higher than in advanced economies and China (IEA, 2023). These financing constraints reinforce the vulnerability of the sector and highlight the importance of organizational capabilities for managing uncertainty, maintaining resilience, and sustaining competitive advantage.

Corporate social responsibility has evolved from a predominantly voluntary and socially oriented concept toward more structured sustainability practices increasingly accompanied by measurable Environmental, Social and Governance (ESG) criteria (Zervoudi et al., 2025). CSR and ESG have increasingly become strategic considerations in corporate decision-making, with their effects on financial performance shaped by governance, institutional, industry, and firm-level conditions (Cardillo & Basso, 2025). Firms that successfully integrate sustainability into their core business strategies are better positioned to create long-term value for both shareholders and stakeholders (Yang et al., 2024). Recent research highlights the interconnected roles of innovation, sustainability, and resilience in sustainable development (Raman et al., 2024).

Nevertheless, the strategic benefits of CSR are not necessarily automatic. Emerging evidence suggests that the value created through CSR depends on complementary organizational capabilities that enable firms to convert sustainability initiatives into superior organizational outcomes. Previous studies have identified various mediating mechanisms including green dynamic capability, innovation capability, social capital, and organizational capabilities to explain how CSR contributes to competitive advantage and organizational performance across different contexts (Saleem & Bashir, 2024; Aftab et al., 2024; Zhang et al., 2019). These findings suggest that the strategic value of CSR is contingent upon the organizational capability through which it is operationalized rather than arising directly from CSR initiatives themselves. Enterprise Risk Management (ERM) represents one such capability. The efficacy of CSR extends beyond a company's reputation for managing social and environmental concerns; in particular, it can influence other business practices such as risk management (Lu et al., 2020).

CSR emphasizes proactively addressing emerging stakeholder expectations to mitigate the risk of unmet future demands. (Gangi et al., 2021). Organizations use ERM strategically to proactively identify, assess, and respond to climate-related risks, thereby protecting stakeholder interests (Megeid, 2024; Lu et al., 2020). There are strong arguments supporting the risk management and performance benefits of CSR engagement, highlighting its role in reducing costs related to sustainability risks (Ozkan et al., 2023). ERM may provide the organizational mechanism through which CSR initiatives are translated into sustained competitive advantage by ensuring that sustainability objectives are effectively aligned with risk management and corporate strategy. ERM focuses primarily on identifying and managing enterprise-wide risks, organizations (COSO, 2017; ISO 31000, 2018), organization must also possess the capacity to withstand, adapt to, and recover from unexpected disruptions (Hillmann & Guenther, 2021). The increasing complexity of the external environment requires energy firms to develop organizational capabilities that enable them to anticipate, adapt to, and respond effectively to disruptions. (Yilmazkuday, 2024; Chiaramonte et al., 2025). Drawing upon Dynamic Capabilities Theory, organizational resilience enables firms to continuously adapt to changing environmental conditions, maintain operational continuity, and sustain competitive advantage despite ongoing disruption (Hillmann & Guenther, 2021; Teece, 2007).

Substantial number of past studies have independently examined CSR, ERM, organizational resilience, and organizational performance. There is limited research has integrated these constructs within a single theoretical framework to explain how firms operating in the ENR sector achieve sustainable competitive advantage. More specifically, empirical evidence regarding the mediating role of ERM in the relationship between CSR and Sustainable Competitive Advantage remains limited. Moreover, the contribution of organizational resilience to sustainable competitive advantage has received comparatively little attention within emerging economies. Addressing these gaps, the present study develops and tests an integrated framework linking CSR, ERM, organizational resilience, and sustainable competitive advantage. Accordingly, this current study examines whether CSR enhances sustainable competitive advantage directly and indirectly through ERM in the Tanzania Energy and Natural Resources sector. In addition, the study also evaluating the contribution of organizational resilience to sustainable competitive advantage.

2. Literature Review

2.1 Corporate Social Responsibility and Firm Performance

Corporate social responsibility is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis (European Commission, 2001). CSR goes beyond simply complying with laws and regulations; it involves voluntarily taking responsibility for the interests and expectations of stakeholders. From a stakeholder theory perspective, organizational decisions should therefore consider how business activities affect the broader range of stakeholders not just shareholders. Moreover, Stakeholder Theory highlights the ongoing relationship between firms and their diverse stakeholders and provides a basis for understanding how stakeholder interests shape corporate activities (Lv et al., 2020). CSR, according to stakeholder theory, is a method for businesses to maximize profits (Suttipun & Nuttaphon, 2014). In a fiercely competitive business environment, organizations actively pursue any opportunity to enhance their organizational performance, as the objective of business is to maximize profits for all stakeholders (Singh & Misra, 2021).

CSR has been extensively studied by researchers in association with firm value. The relationship between CSR and corporate performance is one of the most argumentative in the CSR literature. Many theoretical explanations and empirical studies portraying the relationship as either positive, negative or neutral. Corporate Social Responsibility (CSR) has increasingly been associated with firm performance through its potential to create value for both firms and their stakeholders. From a stakeholder perspective, responding to stakeholder needs can generate organizational benefits such as higher employee productivity, stronger employee and customer trust, improved corporate reputation, and enhanced competitiveness (Jamali et al., 2008; Jamali, 2008). CSR may also contribute to firm performance by reducing financial and operational risks, improving reputation and brand equity, strengthening stakeholder confidence, reducing information asymmetry and agency costs, and limiting exposure to political and regulatory pressures (Broadstock et al., 2020; Haque & Ntim, 2018, 2020; Ntim & Soobaroyen, 2013; Salehi et al., 2018; Salehi & Bashirimanesh, 2024). These mechanisms suggest that CSR can generate economic value beyond its immediate social and environmental benefits. Consistent with these arguments, several empirical studies have reported a positive relationship between CSR and firm performance across different contexts (Al-Shammari et al., 2022; Arendt & Brettel, 2010; Famiyeh, 2017; Fatemi et al., 2017; Ghardallou & Alessa, 2022; Hou, 2019; Khuong & Anh, 2023; Lindgreen et al., 2009; Naseem et al., 2020; Rahman & Fang, 2019; Salehi et al., 2018).

However, the relationship between CSR and firm performance has not been consistently established across studies, with recent meta-analytic evidence describing the empirical findings as inconsistent and inconclusive (Liu et al., 2026). Recent empirical evidence reports both insignificant and negative effects. For example, Lawuyi (2025) found no significant relationship between CSR expenditure and financial performance among Nigerian insurance companies. Jancenelle (2025) reported that environmental CSR was negatively associated with firm performance and that social/community CSR had no significant effect. Similarly, Yoon et al. (2024) found a negative relationship between overall ESG performance and both ROA and Tobin's Q among Korean firms. These findings suggest that the performance consequences of CSR may vary according to the type of responsible activity, institutional context, and performance measure. These findings

indicate that CSR does not automatically translate into superior firm performance. Rather, its economic consequences may depend on how CSR investments are managed, the competing demands faced by firms, and the organizational context in which CSR is implemented. This unresolved relationship provides a basis for examining whether CSR contributes to a broader strategic outcome Sustainable Competitive Advantage particularly in the Energy and Natural Resources sector. Thus, this study develops the following hypothesis

H1: There is a positive significant relationship between CSR and sustainable competitive advantage.

2.2 CSR, ERM and Sustainable Competitive Advantage

An alternative perspective is that CSR may not function primarily as a direct driver of organizational performance but rather as an enabling mechanism through which other organizational capabilities generate value. Lan et al. (2021), for example, challenge the conventional view of CSR as a direct determinant of firm performance and conceptualize it instead as an enabler that strengthens the performance effects of other organizational investments. This perspective is particularly relevant to understanding the mechanisms through which CSR can create strategic value. Recent research similarly emphasizes the importance of examining the mechanisms through which CSR influences firm value rather than assuming a direct effect. CSR is closely connected to corporate risk management because responsible business practices can influence how firms identify and respond to risks arising from their relationships with stakeholders. Naseem et al. (2020) conceptualize ERM as an important channel through which CSR can influence firm performance. Similarly, Lu et al. (2022) discuss how CSR engagement can encourage firms to incorporate broader stakeholder-related considerations into their risk-management practices. From a stakeholder perspective, attention to the interests of different stakeholder groups can therefore broaden the range of risks considered in organizational decision-making (Boatright, 2011; Godfrey et al., 2009). The risk-management perspective of CSR further suggests that responsible corporate practices can serve as a means of protecting firms against potential risks and adverse consequences (Orlitzky & Benjamin, 2001). Effective risk management can, in turn, protect organizational value by helping firms avoid or mitigate losses, financial distress, and reputational damage (Baxter & Vermeulen, 2013).

Stakeholder Theory provides the foundation for understanding why Corporate Social Responsibility may influence ERM. Firms depend on multiple stakeholders for resources, legitimacy, continued operations, and social acceptance. Consequently, responding proactively to stakeholder expectations through CSR can increase organizational awareness of emerging social, environmental, regulatory, and reputational risks. As firms seek to safeguard stakeholder interests and maintain the legitimacy required for their continued operation, they may develop more systematic approaches to identifying and managing risks arising from stakeholder expectations. Enterprise Risk Management (ERM) provides such an approach by bringing diverse sources of risk into organizational decision-making and strategic planning. Consistent with this perspective, Lu et al. (2022) found that firms with stronger CSR performance are more likely to adopt ERM practices. Furthermore, Ozkan et al. (2023) highlight the extensive evidence linking CSR engagement with lower levels of firm risk. Previous studies similarly indicate that stronger CSR performance is associated with reduced corporate risk (Chen et al., 2018; Cheng et al., 2012; Dhaliwal et al., 2012; Zhang et al., 2015b).

From the Resource-Based View, the strategic value of ERM extends beyond its conventional role as a mechanism for risk control. ERM can develop into an organizational capability that supports the identification of threats, coordination of responses, protection of strategic resources, and more effective allocation of resources under uncertainty. Recent evidence supports this capability-based perspective: Saleem et al. (2025) found that ERM contributes significantly to sustainable competitive advantage, with knowledge management capability providing an important mechanism through which this value is realized. Similarly, Jidda et al. (2025) apply RBV to show how ERM integration can contribute to organizational outcomes through resilience capability. Thus, the RBV provides a basis for viewing ERM not merely as a defensive control system but as an organizational capability through which firms can protect and redeploy valuable resources and sustain competitive advantage under conditions of uncertainty.

Together, Stakeholder Theory and RBV suggest a sequential mechanism through which CSR may contribute to sustainable competitive advantage. Stakeholder Theory explains how CSR encourages firms to recognize and respond to stakeholder-related risks, thereby creating incentives for stronger ERM practices. RBV subsequently explains how ERM, once embedded as a firm-specific capability, enables organizations to protect and leverage valuable resources in ways that support sustainable competitive advantage. Accordingly, ERM is proposed as the organizational mechanism through which CSR can be translated into sustainable competitive advantage. Existing literature provides limited evidence on the mediating role of ERM in the CSR–performance relationship. As highlighted by Farooq et al. (2025), the mechanisms through which CSR creates firm value remain an important area for further investigation. Moreover, the relationship between CSR and risk management continues to raise questions concerning their interdependence and the direction of influence between the two constructs (Cornejo, 2023). Therefore, it remains unclear whether ERM can serve as a mechanism through which CSR contributes to sustainable competitive advantage, particularly in emerging-economy contexts. This study addresses this gap by examining the mediating role of ERM in the relationship between CSR and SCA and proposes the following hypotheses:

H2: Corporate Social Responsibility has positive significant relationship with ERM.

H3: ERM has positive significant relationship with sustainable competitive advantage

H4: ERM has a mediating effect on the relationship between CSR and sustainable competitive advantage.

2.3 Organization Resilience and Sustainable Competitive Advantage

In increasingly dynamic business environments, sustainable competitive advantage depends not only on the resources firms possess but also on their ability to continuously adapt, reconfigure, and deploy those resources in response to changing environmental conditions (Liu & Zhang, 2024; Wang et al., 2025; Dukhaykh & Alangri, 2026). In the relative stable and certain environment existing resources and routine may support competitive advantage for extended period of time. On contrary environmental dynamism can reduce the effectiveness of established resources and routines as environmental conditions change (Sun et al., 2024). Therefore, to ensure competitive advantage over period of time the firms should not depends only on the resources they possess. The firms should also improve their capacity to anticipate, absorb, adapt to, and recover from environmental changes. This perspective is consistent with Dynamic Capabilities Theory.

Dynamic capability theory emphasizes the capacity of firms to sense changes in their environment, seize emerging opportunities, and reconfigure resources and capabilities in response to changing conditions so as to sustain competitive advantage (Teece, 2007). Organizational resilience represents an important organizational capability for responding to the environmental dynamism. Most of the contemporary research conceptualize organization resilience not just as recovery from disruptive events. Rather as a broader capability involving the anticipation of threats, effective responses to disruptions, adaptation to changing conditions, and the ability to maintain or renew organizational functioning over time (Duchek, 2020; Hillmann & Guenther, 2021). Thus, organizational resilience enables firms to remain viable and responsive when environmental conditions challenge existing strategies, resources, and routines.

Recent research conceptualizes organizational resilience as involving both proactive and reactive capabilities that enable firms to prepare for, respond to, and recover from disruptions in volatile environments (Shojaee et al., 2025). Its strategic significance lies in the ability to preserve and renew the organizational capabilities underlying competitive advantage as environmental conditions change. Organization resilience is particularly relevant to the Energy and Natural Resources sector. Energy and Natural Resources firms increasingly operate in an environment characterized by geopolitical tensions, commodity-market volatility, climate-related disruptions, supply-chain vulnerabilities, regulatory uncertainty, and accelerating structural changes associated with the global energy transition (IEA, 2025; Zhu et al., 2025). In such an environment, competitive advantage cannot depend exclusively on static resources or established market positions. Energy Firms must continually adapt their resource configurations, operating processes, and strategic responses to changing conditions. Organizational resilience therefore represents a potentially important capability through which ENR firms can sustain competitive advantage despite persistent environmental turbulence.

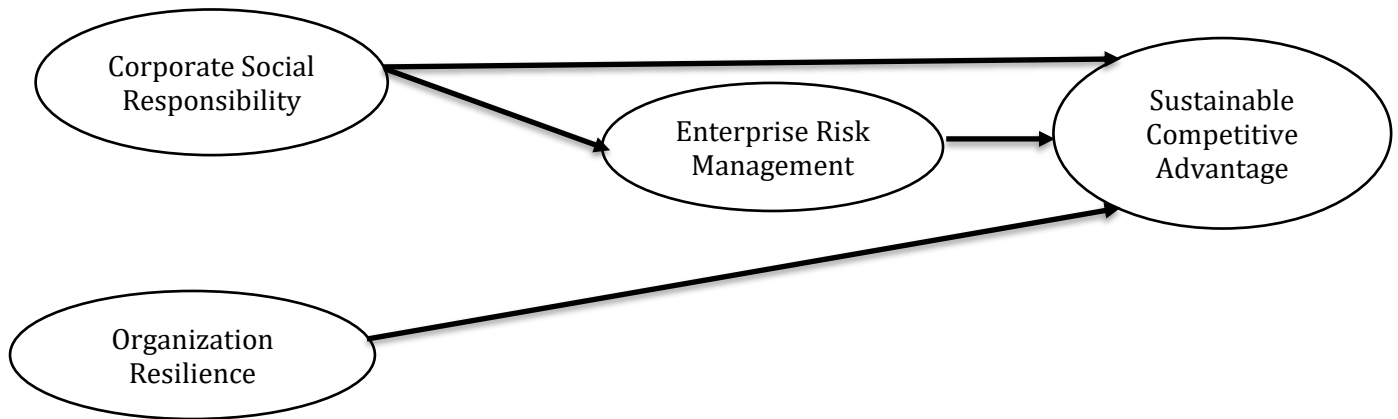
Recent empirical evidence increasingly positions organizational resilience as a strategic capability through which firms can maintain competitive advantage under conditions of environmental turbulence. Studies have demonstrated positive relationships between organizational resilience and competitive advantage across industrial and organizational contexts (Liu & Zhang, 2024; Iqbal et al., 2025; Ooi & Memon, 2025). This relationship appears particularly relevant in dynamic environments, where resilience enables organizations to adapt to disruptions and preserve strategic value as environmental conditions change (Wang et al., 2025).

Although recent empirical research has established a positive relationship between organizational resilience and sustainable competitive advantage, important contextual and theoretical gaps remain. Existing evidence has predominantly examined firms in Asian contexts, particularly China, and has explained the resilience-competitive advantage relationship through organizational learning, strategic formulation, and resource-integration capabilities (Liu & Zhang, 2024). However, limited evidence exists regarding whether organizational resilience generates similar competitive benefits in highly resource-dependent and environmentally turbulent sectors such as Energy and Natural Resources, particularly within emerging African economies. This limitation is important because the strategic value of resilience may vary according to the nature and intensity of environmental uncertainty, institutional conditions, and resource dependencies confronting firms. Accordingly, this study extends the existing literature by examining the effect of organizational resilience on sustainable competitive advantage among Energy and Natural Resources firms in Tanzania, with resilience conceptualized

through situational awareness, predictive capacity, and adaptability. Accordingly, this study develops the following hypothesis.

H5: Organizational resilience has a positive and significant effect on sustainable competitive advantage.

Figure 1: Conceptual Framework



3. Methodology

3.1 Research Design and Data Collection

This study adopted a quantitative, cross-sectional research design within a positivist philosophical paradigm. The target population comprised firms operating in Tanzania's Energy and Natural Resources sector, including mining, oil, gas, and power companies. The study identified a population of 1,219 firms across these subsectors. Using the Yamane (1967) formula at a 5% sampling error, the minimum required sample was estimated at 302 firms. A multistage sampling procedure was employed to achieve representation across subsectors and geographical zones. Firms were first stratified into mining, oil, gas, and power subsectors and subsequently distributed across five geographical zones of mainland Tanzania. Selected locations included Dar es Salaam, Dodoma, Arusha, Mwanza, and Mbeya. Firms were then selected using simple random sampling. Respondents were purposively selected based on their managerial responsibilities and presumed knowledge of organizational practices. Primary data were collected using a structured questionnaire. Measurement items were adapted from established instruments in the literature and contextualized to the Tanzanian Energy and Natural Resources firms.

3.2 Instrument Development and Measurement

All the indicators used to measure the latent variables of the study were adopted and adapted from previously validated and used items from different studies. The study questionnaire items were measured using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree, which has been widely adopted in organizational and strategic management research.

Corporate Social Responsibility (CSR) was measured using seven items adapted from previous studies. The items captured the firm's consideration of stakeholder interests, responsiveness to societal needs, transparency, operational and environmental

responsibility, stakeholder engagement, and employee development. Organizational resilience was operationalized as a second-order reflective-formative construct comprising three dimensions: situational awareness, adaptive capacity, and predictive capacity, which collectively capture the organization's ability to anticipate, absorb, adapt to, and recover from disruptions.

ERM was measured as a second-order reflective-formative construct based on the eight COSO ERM components: internal environment, objective setting, event identification, risk assessment, risk response, control activities, information and communication, and monitoring activities. SCA was measured across seven dimensions: product and service quality, innovation capability, managerial capability, profitability, corporate image, organizational flexibility, and organizational growth over the preceding three years, reflecting the firm's ability to achieve and sustain superior performance relative to competitors.

3.3 Data Analysis

Data analysis was conducted in two stages. First, IBM SPSS Statistics was used for data screening, including examination of missing observations, outliers, response quality and descriptive characteristics of the sample. Questionnaires containing excessive missing information were excluded before the final analysis. The retained dataset comprised 312 usable responses. Second, Partial Least Squares Structural Equation Modelling (PLS-SEM) was conducted using SmartPLS 4. PLS-SEM was selected because the study examines a theoretically grounded model involving multiple latent constructs and a mediation mechanism. The approach permits simultaneous assessment of the measurement properties of the constructs and the hypothesized structural relationships. The analysis therefore proceeded through assessment of the measurement model followed by evaluation of the structural model.

4. Findings

4.1. Demographic Statistics

The respondent profile was assessed primarily to establish the organizational and professional characteristics relevant to evaluating the study's conceptual model. As shown in table 1, the sample comprised 312 respondents drawn predominantly from private Energy and Natural Resources firms, with 55.1% representing mining, 34.3% oil, 9.6% power, and 1.0% gas. Most respondents were employed in medium-sized organizations with 50–499 employees (81.4%), while 69.5% of the organizations had operated for 5–20 years. Respondents were predominantly senior decision-makers, with managing directors accounting for 48.4% of the sample and finance, risk, compliance, and chief risk officers collectively representing a substantial proportion of respondents. Overall, the respondent profile indicates that the sample comprised predominantly experienced and appropriately positioned organizational decision-makers capable of providing informed assessments of CSR, ERM, organizational resilience, and sustainable competitive advantage.

Table 1: Demographic profile

Demographic Information	Category	Frequency	Percentage (%)
Type of Organization	Private	310	99.4
	Public-Private Partnership	2	0.6
Years in Operation	Less than 5 years	35	11.2
	5 to 10 years	122	39.1
	11 to 20 years	95	30.4
	More than 20 years	60	19.2
Organization Size	Less than 50 employees	43	13.8
	50 to 199 employees	145	46.5
	200 to 499 employees	109	34.9
Current Job Title	500 and above	15	4.8
	Managing Director	151	48.4
	Head of Risk Management	20	6.4
	Risk Manager	34	10.9
	Finance Director	43	13.8
	Compliance Manager	35	11.2
	Chief Risk Officer	5	1.6
	Head of Organization	1	0.3
Gender	Male	214	68.6
	Female	98	31.4
Years of Experience in Risk Management	Less than 3 years	91	29.2
	3 to 5 years	99	31.7
	6 to 10 years	115	36.9
Educational Background	More than 10 years	7	2.2
	Diploma	6	1.9
	Advanced Diploma	8	2.6
	Bachelor's Degree	150	48.1
	Master's Degree	144	46.2
Formal ERM Training	CPA	4	1.3
	Yes	128	41.0
Primary Sector of Operation	No	184	59.0
	Mining	172	55.1
	Oil	107	34.3
	Power	30	9.6
	Gas	3	1.0

N=312

4.2. PLS-SEM Analytical Procedure

PLS-SEM was employed using a disjoint two-stage approach to assess the measurement and structural models. In Stage 1, the lower-order constructs were estimated separately to assess indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The latent variable scores obtained for the validated lower-order constructs were subsequently used as indicators of the respective higher-order constructs in Stage 2. This approach enabled the second-order reflective-formative constructs, including Organizational Resilience and Enterprise Risk Management, to be estimated without directly repeating their constituent indicators. In Stage 2, the higher-order

measurement model and structural model were assessed simultaneously. The structural model was evaluated using path coefficients, bootstrapped significance tests and confidence intervals, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). The direct effects of CSR on SCA, CSR on ERM, ERM on SCA, and OR on SCA were assessed. The indirect effect of CSR on SCA through ERM was examined to establish the mediating effect of ERM.

4.3. Measurement Model Assessment

The measurement model was assessed in accordance with the disjoint two-stage procedure. The first stage evaluated the reliability and validity of the lower-order reflective constructs, followed by assessment of the higher-order reflective-formative constructs in the second stage. Indicator reliability, internal consistency reliability, convergent validity, and discriminant validity were assessed for the reflective constructs. The higher-order constructs were evaluated in terms of indicator relevance, collinearity, and formative contribution.

4.4. Lower order measurements

As reported in Table 2, all indicator loadings were satisfactory, ranging from 0.755 to 0.817 for CSR and from 0.860 to 0.905 for SCA. The lower-order dimensions of ERM and organizational resilience also demonstrated strong indicator loadings. Cronbach's alpha and composite reliability (rho_c) exceeded the recommended 0.70 threshold for all constructs, while AVE values ranged from 0.633 to 0.830, exceeding the minimum threshold of 0.50. These results provide evidence of satisfactory internal consistency reliability and convergent validity.

Table 2: Reliability and convergent validity

Construct	No. of items	Loading range	Cronbach's α	rho_A	CR (rho_C)	AVE
Adaptive Capacity (ADC)	5	0.894–0.916	0.946	0.949	0.959	0.824
Control Activities (CA)	5	0.860–0.878	0.919	0.920	0.939	0.756
Corporate Social Responsibility (CSR)	7	0.755–0.817	0.903	0.905	0.923	0.633
Event Identification (EI)	5	0.834–0.891	0.915	0.915	0.937	0.747
Information & Communication (IC)	5	0.887–0.904	0.940	0.940	0.954	0.807
Internal Environment (IE)	5	0.857–0.888	0.922	0.923	0.941	0.762
Monitoring (MO)	5	0.862–0.897	0.924	0.924	0.942	0.766
Objective Setting (OS)	7	0.781–0.850	0.925	0.926	0.939	0.689
Predictive Capacity (PC)	5	0.867–0.897	0.929	0.929	0.946	0.778
Risk Assessment (RA)	5	0.829–0.903	0.929	0.935	0.946	0.779

Construct	No. of items	Loading range	Cronbach's α	rho_A	CR (rho_C)	AVE
Situational Awareness (SA)	4	0.908–0.914	0.932	0.933	0.951	0.830
Sustainable Competitive Advantage (SCA)	7	0.860–0.905	0.959	0.960	0.966	0.803

N=312

Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT). As shown in Table 3, all HTMT values were below 0.85, with the highest observed value being 0.801 between Control Activities and Information and Communication. The results therefore provide evidence that the constructs are empirically distinct from one another.

Table 3: HTMT Matrix

	ADC	CA	CSR	EI	IC	IE	MO	OS	PC	RA	SA	SCA
ADC	—											
CA	0.468	—										
CSR	0.410	0.694	—									
EI	0.513	0.625	0.521	—								
IC	0.522	0.801	0.656	0.658	—							
IE	0.424	0.713	0.656	0.643	0.689	—						
MO	0.632	0.684	0.548	0.692	0.705	0.648	—					
OS	0.463	0.693	0.571	0.667	0.700	0.720	0.661	—				
PC	0.716	0.623	0.648	0.623	0.685	0.589	0.700	0.617	—			
RA	0.550	0.694	0.488	0.694	0.719	0.668	0.661	0.735	0.649	—		
SA	0.561	0.639	0.558	0.557	0.611	0.571	0.634	0.577	0.743	0.614	—	
SCA	0.657	0.647	0.665	0.545	0.645	0.493	0.663	0.585	0.730	0.554	0.636	—

N=312

4.5. Higher-order formative measurement model

The second-order constructs, Organizational Resilience (OR) and Enterprise Risk Management (ERM), were assessed as reflective-formative constructs using the disjoint two-stage approach. Collinearity among the dimensions was assessed using outer VIF values. All VIF values were below 5, ranging from 1.847 to 3.272 for the higher-order dimensions, indicating that critical collinearity was not present. The formative assessment indicates that all three dimensions of Organizational Resilience made statistically significant contributions to the higher-order construct. For ERM, Control Activities, Information and Communication, Monitoring, Objective Setting, Risk Assessment, and Risk Response had significant outer weights. Event Identification and Internal Environment had nonsignificant weights. Nevertheless, all eight ERM dimensions revealed statistically significant outer loadings, ranging from 0.644 to 0.913, supporting their absolute relevance to the higher-order ERM construct.

The nonsignificant weights of Event Identification and Internal Environment were therefore interpreted in conjunction with their significant outer loadings and their theoretical status as core components of the COSO ERM framework. Similarly, the negative weights observed for Risk Assessment and Risk Response were retained because their

outer loadings were positive and statistically significant and because both dimensions constitute theoretically essential components of ERM. As shown in table 4, the results therefore support retaining the theoretically specified eight-dimensional COSO structure rather than eliminating dimensions only on the basis of their unique formative weights.

Table 4: Higher-order formative assessment

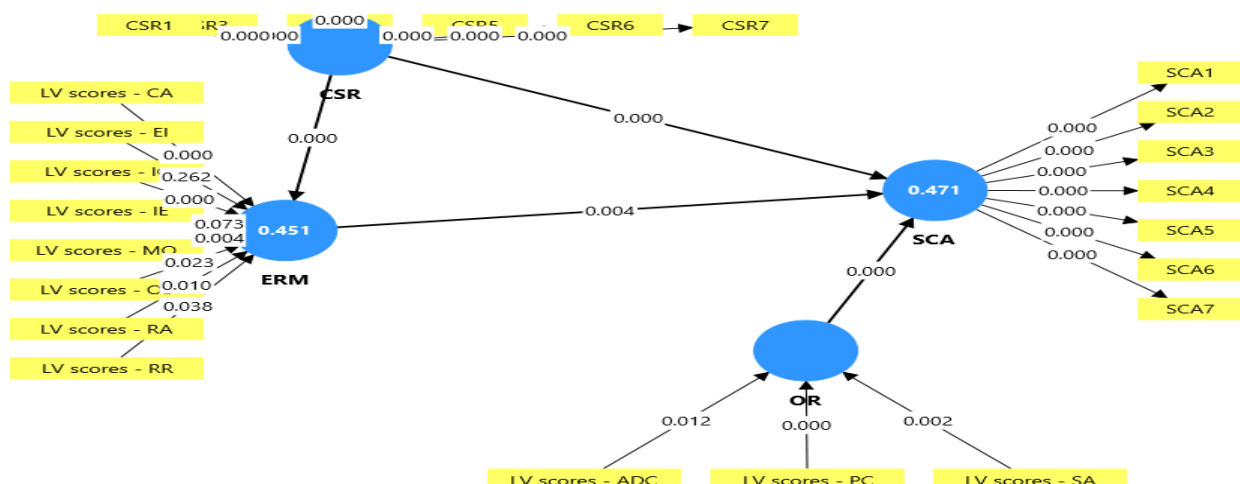
Higher-order construct	Dimension	Outer weight	t-value	p-value	Loading	VIF
OR	Adaptive Capacity	0.255	2.244	0.012	0.799	1.847
OR	Predictive Capacity	0.582	5.199	<0.001	0.955	2.564
OR	Situational Awareness	0.291	2.868	0.002	0.829	1.951
ERM	Control Activities	0.502	6.258	<0.001	0.913	2.933
ERM	Event Identification	0.058	0.638	0.262	0.675	2.239
ERM	Information& Communication	0.361	3.592	<0.001	0.884	2.991
ERM	Internal Environment	0.131	1.456	0.073	0.763	2.389
ERM	Monitoring	0.249	2.678	0.004	0.783	2.542
ERM	Objective Setting	0.188	1.998	0.023	0.773	2.559
ERM	Risk Assessment	-0.202	2.323	0.010	0.644	2.611
ERM	Risk Response	-0.174	1.777	0.038	0.728	3.272

N=312

4.6. Structural Model Assessment

Following the assessment of the measurement model, the structural model was evaluated to test the hypothesized relationships among Corporate Social Responsibility (CSR), Enterprise Risk Management (ERM), Organizational Resilience (OR), and Sustainable Competitive Advantage (SCA). The assessment included collinearity, direct and indirect effects, explanatory power, effect sizes, and out-of-sample predictive performance.

Figure 2: Structural Modelling Structure



Collinearity was assessed using the inner variance inflation factor (VIF). The VIF values ranged from 1.000 to 2.510 and remained below the threshold of 5, indicating that critical

multicollinearity was not present among the predictors in the structural model. The results are shown in table 5.

Table 5: Inner VIF Values

Endogenous construct	Predictor	VIF
ERM	CSR	1.000
SCA	CSR	1.877
SCA	ERM	2.510
SCA	OR	2.001

N=312

4.7. Structural Paths, Effect Sizes and Mediation

The structural relationships were assessed using bootstrapping. As shown in Table 6, all hypothesized direct relationships were positive and statistically significant. CSR had a strong positive effect on ERM ($\beta = 0.672$, $t = 24.612$, $p < .001$) and a significant positive direct effect on SCA ($\beta = 0.243$, $t = 4.530$, $p < .001$). ERM also had a significant positive effect on SCA ($\beta = 0.190$, $t = 2.665$, $p = .004$), while OR demonstrated a stronger positive effect on SCA ($\beta = 0.353$, $t = 5.415$, $p < .001$). The effect-size results indicate that CSR had a large effect on ERM ($f^2 = 0.822$), whereas its effect on SCA was small ($f^2 = 0.060$). ERM had a small effect on SCA ($f^2 = 0.027$), while OR demonstrated a comparatively larger, although still small, effect on SCA ($f^2 = 0.118$). These findings indicate that statistical significance does not necessarily correspond to a large substantive contribution. The mediation analysis further showed that CSR had a significant positive indirect effect on SCA through ERM ($\beta = 0.128$, $t = 2.625$, $p = .004$).

Table 6: Structural Paths, Effect Sizes and Mediation Results

Hypothesis	Relationship	β	SD	T	P	f^2	Decision
H1	CSR → ERM	0.672	0.027	24.612	<.001	0.822	Supported
H2	CSR → SCA	0.243	0.054	4.530	<.001	0.060	Supported
H3	ERM → SCA	0.190	0.071	2.665	.004	0.027	Supported
H4	OR → SCA	0.353	0.065	5.415	<.001	0.118	Supported
H5	CSR → ERM → SCA	0.128	0.049	2.625	.004	—	Supported

Note: β = path coefficient; SD = standard deviation; f^2 = effect size.

The coefficient of determination (R^2) was used to assess the model's explanatory power. CSR explained 45.1% of the variance in ERM, while CSR, ERM, and OR jointly explained 47.1% of the variance in SCA. These results indicate that the proposed model explains a substantial proportion of the variance in both endogenous constructs, with the predictors accounting for nearly half of the variance in SCA. Out-of-sample predictive performance was assessed using PLSpredict. As indicated in table 7, all Q^2_{predict} values were positive for the indicators of both endogenous constructs, ranging from 0.169 to 0.381 for ERM and from 0.273 to 0.384 for SCA, indicating predictive relevance. The comparison with the linear-model (LM) benchmark showed different predictive performance across the endogenous constructs. The PLS-SEM RMSE values were higher than the LM benchmark for all eight ERM indicators, indicating that the PLS-SEM model did not outperform the benchmark in predicting ERM. However, the results were substantially stronger for the

study's principal endogenous construct, SCA. PLS-SEM produced lower RMSE values than the LM benchmark for six of the seven SCA indicators, with only SCA2 showing a marginally higher prediction error.

Table 7: PLSpredict Results

Construct	Indicator	Q ² _predict	PLS-SEM RMSE	LM RMSE	PLS-SEM better?
ERM	CA	0.381	0.789	0.718	No
ERM	EI	0.169	0.914	0.819	No
ERM	IC	0.361	0.802	0.711	No
ERM	IE	0.319	0.828	0.775	No
ERM	MO	0.230	0.881	0.714	No
ERM	OS	0.250	0.869	0.786	No
ERM	RA	0.176	0.911	0.760	No
ERM	RR	0.246	0.871	0.720	No
SCA	SCA1	0.273	0.700	0.710	Yes
SCA	SCA2	0.340	0.730	0.729	No
SCA	SCA3	0.342	0.725	0.731	Yes
SCA	SCA4	0.342	0.736	0.743	Yes
SCA	SCA5	0.384	0.725	0.734	Yes
SCA	SCA6	0.380	0.709	0.714	Yes
SCA	SCA7	0.340	0.695	0.704	Yes

N=312

5. Discussion

The study findings suggested that CSR is a foundation for Enterprise Risk Management. The strongest relationship in the structural model was observed between CSR and ERM ($\beta = 0.672$, $p < .001$; $f^2 = 0.822$). This finding suggest that CSR is strongly associated with the development and implementation of ERM practices. The results demonstrate that CSR benefits may go beyond philanthropic or reputational activities. CSR can become embedded within organizational processes for identifying, assessing, and responding to uncertainty. The magnitude of the effect of CSR to ERM is of greater importance and concern. The large-size effect observed indicates that organizations demonstrating stronger attention to stakeholders and social and environmental responsibilities are substantially more likely to show stronger ERM practices.

This finding can be interpreted through Stakeholder Theory. CSR requires organizations to recognize and respond to the interests of multiple stakeholders. Such stakeholders include employees, customers, communities, regulators, investors, suppliers, and other groups affected by organizational activities. The engagements of multiple stakeholders allow the firms to gain information related to their expectations, social concerns, environmental pressures, and regulatory developments. This will lead to the organization capability to be able to identify the uncertainties affects multiple stakeholders' expectation and encourage their incorporation into ERM processes. The connection between CSR and ERM is very relevant to energy sector because the firm's operations are closely connected to environmental impacts, community interests, regulatory requirements, resource dependence, and reputational exposure.

The findings further demonstrate a significant positive direct relationship between CSR and SCA ($\beta = 0.243$, $p < .001$). However, the relatively small effect size ($f^2 = 0.060$) is theoretically important because it indicates that CSR alone provides only a modest direct contribution to competitive advantage. Therefore, despite the fact that engaging in CSR activities may enhance superior competitive outcomes, the results do not support the interpretation that CSR automatically produces substantial competitive advantage. The firms in Tanzania energy and natural resources sector should have complementary capabilities to support CSR. Through those complimentary activities CSR-related resources can be translated into improved decision-making, reduced exposure to disruption, stakeholder support, operational effectiveness, and strategic responsiveness. When the consideration is made with regard to the mediation results the need for the complementarity capabilities becomes particularly important.

The study findings report relatively modest direct CSR and SCA effect and much stronger effect of CSR and ERM relationship. This suggests that part of the strategic value of CSR may arise through ERM as one of the complimentary organizational mechanisms and not only through direct influence of CSR to SCA. Nevertheless, this study concurs with other past studies that confirm positive relationship between CSR and various organization outcomes including Al-Shammari et al., 2022; Arendt & Brettel, 2010; Famiyeh, 2017; Fatemi et al., 2017; Ghardallou & Alessa, 2022; Hou, 2019; Khuong & Anh, 2023; Lindgreen et al., 2009; Naseem et al., 2020; Rahman & Fang, 2019; and Salehi et al., 2018.

Moreover, this study identifies ERM as a Mechanism Linking CSR to Competitive Advantage. The positive relationship between ERM and SCA ($\beta = 0.190$, $p = .004$) point to that fact that ERM practices contribute to competitive advantage. However, the observed relatively small effect size ($f^2 = 0.027$) suggests that the practical contribution of ERM to SCA in this study is limited. This finding is important because it suggests that ERM should not necessarily be understood as a direct source of market differentiation. The strategic value of ERM may therefore lie in its role as a pathway mechanism through which organizations systematically identify and manage risks arising from their relationships with multiple stakeholders. By integrating these risks into organizational decision-making, ERM can protect valuable stakeholders-oriented resources, improve decision quality, reduce exposure to adverse events, and enable more coordinated responses to uncertainty. The mediation analysis provides stronger evidence for this interpretation.

The indirect effect of CSR on SCA through ERM was positive and significant ($\beta = 0.128$, $p = .004$). Also, the direct effect of CSR on SCA remained significant and positive. This pattern indicates complementary mediation, suggesting that CSR contributes to SCA through both a direct pathway and an indirect pathway operating through ERM.

The mediation finding represents an important contribution of the current study. The study findings shift the interpretation of CSR from being simply a precursor of competitive advantage to being a producer of organizational capability. The findings suggested that CSR can generate competitive value partly because responsible practices encourage the higher engagement in ERM of to address the risks associated with interest and expectation of multiple stakeholders. In this sense, ERM functions as a transmission mechanism through which some of the resources and relationships associated with CSR can be converted into strategic organizational value.

The finding therefore provides an important theoretical connection between Stakeholder Theory and RBV. Stakeholder Theory explains why engagement with stakeholders

generates knowledge, relationships, legitimacy, and expectations that firms must incorporate into organizational decision-making. On the other hand, RBV explains how these resources can become valuable organizational capabilities. ERM represents an organizational pathway through which stakeholder-oriented resources developed by CSR engagement can formally be included into risk assessment, response, communication and monitoring. It may be inferred that the sustainable competitive advantage does not rely only on being responsible it also partly depends on the ability of the firms to responsibility within enterprise-wide managerial processes such as ERM.

The study shows CSR influence SCA and ERM provides an important pathway through which CSR contributes to SCA. Furthermore, the results demonstrate that Organizational Resilience has an even stronger direct relationship with SCA ($\beta = 0.353$, $p < .001$; $f^2 = 0.118$). Comparing all the predictors variables of SCA, OR showed the largest standardized path coefficient and the largest substantive effect size. The implication of this finding is that the organization ability to anticipate, absorb, adapt to, and recover from disruption is particularly important for maintaining competitive advantage in the study context. Accordingly, the study aligns with the findings of other past studies such as Liu & Zhang, 2024; Iqbal et al., 2025 and Ooi & Memon, 2025 which also confirm significant positive relationship between organization resilience and competitive advantage.

Moreover, the finding aligns with the logic of dynamic capability theory. In dynamic and uncertain environments, competitive advantage cannot depend exclusively on resources and routines that were valuable under previous environmental conditions. Firms must continually sense changes, adapt their activities, reconfigure resources, and respond to emerging threats and opportunities (Teece, 2007). Organizational resilience reflects the adaptive dimension of organizational capability which align with dynamic capability. The resilient capability of the organization enables firms not merely to withstand disruption but also to maintain critical activities and reorganize resources as circumstances change (Duchek, 2020; Hillmann & Guenther, 2021).

The current study findings are relevant to the energy and natural resources firms because their competitive environment is characterized by multiple and interconnected sources of uncertainty. The energy sector is exposed to increasing commodity-price volatility, geopolitical disruptions, climate-related events, regulatory changes, supply-chain vulnerabilities, technological change, and energy-transition pressures (Yilmazkuday, 2024; IEA, 2026; Chiaramonte et al., 2025). In a such dynamic environment the strategic value of resilience lies in the organization's capacity to continue functioning and simultaneously adapting to environmental change.

The relative magnitude of the effects observed in this study provides an important additional insight. Although CSR has a very strong relationship with ERM ($\beta = 0.672$; $f^2 = 0.822$), ERM has only a small direct effect on SCA ($\beta = 0.190$; $f^2 = 0.027$). In contrast, OR has a stronger relationship with SCA and a larger substantive effect ($\beta = 0.353$; $f^2 = 0.118$). This pattern suggests that the competitive value of organizational practices may depend not only on the ability to identify and manage risk but also on the capacity to adapt and reconfigure when environmental conditions change. Risk management may protect existing value and organization resilience may enable firms to preserve, renew, and redeploy that value under changing conditions.

Integrating together the finding of this study CSR, ERM, and OR should not be viewed as opposing explanations of SCA. They both represent interconnected organizational

processes through which firms can respond to stakeholder expectations, manage uncertainty, and sustain strategic value.

The empirical pattern provides a particularly useful theoretical sequence. The results suggest that the pathway to sustainable competitive advantage involves more than accumulating valuable resources. The organization needs to have mechanisms capable of converting the CSR resources into risk-management capabilities and adaptive responses. This interpretation also helps explain why the direct effects of CSR and ERM on SCA are relatively modest compared with the relationship between OR and SCA. CSR can create valuable stakeholder resources, ERM can organize and protect those resources, but their competitive value may remain constrained unless the organization can adapt and reconfigure its resources as environmental conditions evolve. Organizational resilience therefore appears to represent an important complementary capability that allows firms to transform existing organizational resources into sustained strategic outcomes.

The findings contribute to the literature in three principal ways. First, they extend the strategic CSR literature by demonstrating that CSR is associated not only with competitive advantage but also strongly with ERM. Consequently, suggesting that ERM represents an important organizational pathway through which CSR can generate strategic value. Second, the significant complementary mediation of ERM demonstrates that the CSR and SCA relationship is not exclusively direct. A part of CSR's competitive value is transmitted through ERM capability. Third, the stronger substantive contribution of organizational resilience to SCA highlights the importance of dynamic capabilities in sustaining competitive advantage under environmental dynamism.

These findings support an integrated theoretical explanation in which stakeholder-oriented practices provide valuable organizational resources. ERM institutionalizes those resources within enterprise-wide risk-management processes and influence sustainable competitive advantage. In addition, based on dynamic capability theory, organizational resilience enables the adaptation and reconfiguration of the resources under changing environmental conditions. Sustainable competitive advantage emerges from the organization's ability to connect these capabilities rather than from any single organizational practice in isolation.

6. Conclusion

The findings of the study suggest that sustainable competitive advantage is not generated by CSR, ERM, or resilience in isolation. Energy and natural resources firms should understand that competitive value can emerge through the integration of stakeholder-oriented practices, ERM capabilities, and the organizational capacity to adapt to changing environmental conditions. Accordingly, ENR firms should integrate CSR, ERM, and resilience into strategic decision-making rather than treating them as separate compliance-oriented activities. Moreover, the study contributes to the literature by connecting Stakeholder Theory, the Resource-Based View, and Dynamic Capabilities Theory to explain how responsible organizational practices can be transformed into strategic value. CSR is position has stakeholder-oriented practices which provide valuable organizational resources. ERM is positioned as an important valuable resource through which CSR contributes to competitive advantage. On contrast organizational resilience is highlighted as a critical capability for sustaining and renewing the advantage of organization resources in a dynamic ENR environment.

The study is limited by its focus on energy and natural resources firms in Tanzania. This may constrain the generalizability of the findings to firms operating in other sectors, countries, or institutional environments. In addition, the study relies on respondents' perceptions of CSR, organizational resilience, ERM, and sustainable competitive advantage, which may introduce subjective response bias. The cross-sectional design also limits the ability to establish how these relationships evolve over time. Resilience and competitive advantage may develop through longer-term organizational processes. These limitations should therefore be considered when interpreting the findings.

Future studies should extend the investigation to other sectors and countries to determine whether the relationships identified in this study remain consistent across different institutional and industry contexts. Future research should also employ longitudinal designs to examine how CSR and organizational resilience influence sustainable competitive advantage over time. More importantly attention should be given on how ERM mediates the relationship between CSR and sustainable competitive advantage. Comparative studies could further examine whether the mediating role of ERM differs across industries with different levels of environmental, regulatory, and operational risk.

Ethical Approval and Consent to Participate

Ethical approval was obtained from Universiti Tunku Abdul Rahman (UTAR) and the Tanzania Commission for Science and Technology (COSTECH). All participants were assured of the confidentiality and anonymity of their responses and the data collected were used solely for academic purposes.

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Conflict of Interest

The authors declare there are no conflicts of interest.

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