

Corporate Social Responsibility-Embedded Risk Management Framework and the Synergistic Mechanism of Business Decision Optimization

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Abstract: Background: With growing demand from different stakeholders for enterprises to be environmental-friendly and socially responsible, as well as increased development speed towards sustainable progress, the activities of voluntary corporate participation in public welfare have continuously advanced to an institutionalized state. Nevertheless, the collaborative pathways by which CSR integration improve both risk-managing efficiency and corporate decision-making are still lacking theoretical basis or evidence-based verification so far. Objective: According to stakeholder theory, the integration of risk management theory and the shared-value-creation framework, research is conducted into how the synergistic effect of corporate social responsibility (CSR)-based risk management systems on optimising business decision-making. Method: Secondary data analysis based on GRI Standards Database, MSCI ESG Rating, S&P Global Corporate Sustainability Assessment, as well as peer-reviewed empirical literature. Results: In 2020, global ESG assets were USD 35.3 trillion, accounting for 36 per cent of the total professionally-managed assets. Firms with strong CSR-ERM integration have a return on earnings volatility reduction of 13.6 per cent and are more likely to outperform than non-complying entities compared by eight points according to the study. Four synergy mechanisms are proposed as follows: Stakeholder intelligence integration; Reputational risk buffer; Long-term Value Alignment; Regulatory anticipation. Companies have enhanced risk management in multiple areas after combining the integrated application of CSR; the impact scope varies across industries more intensely for Stakeholder-Sensitive Industries.

Keywords: Corporate Social Responsibility (CSR); Enterprise Risk Management (ERM); Business Decision Optimization; ESG; Stakeholder Theory; Shared Value Creation.

1. Introduction

Since the 1960s, there have been many studies at home and abroad on the relationship among corporate social responsibility (CSR), financial performance and company value. Currently, there are issues including how to make use of embedding corporate social responsibility (CSR) principles within a risk management system to improve the effectiveness of business decision implementation result evaluation by forming synergistic effects. Given that this problem has become particularly prominent in the current global ESG-investing craze. As per the GSIA's report in 2020, globally-managed ESG assets were worth over \$35.3 trillion, accounting for 36 percent of all professionally-managed assets within China, Japan, Europe, America and Australia; it is expected that this figure will rise above \$53 trillion by 2025 [1]. Adjustments of capital can help companies exercise their social responsibility voluntarily through strategic planning and a sense of risk reduction.

In recent years, due to COSO's issuance of a new basic enterprise risk management (ERM) framework in 2017 after the release of an old one in 2004, adding the strategic and performance aspects separately. The revised COSO [4] now believes that environmental and social risks in an organisation are one of its key elements of risk management. According to ISO 31000:2018 [5], risk management standards for all stakeholders throughout each link within risk management will enhance positive spillover effects. Although much progress has been made theoretically in this area, empirical studies linking CSR-ERM to more reasonable management remain insufficiently extensive so far.

On the basis of publicised ESG information and peer

reviews, this study will build an all-around theoretical system that can close up said gap. Expected goals are as follows: (1) Show how to strengthen corporate social responsibility by improving ERM effectiveness; (2) Analyze whether enhancing CSR linkage with ERMs affects corporate performance more directly; (3) Examine the impact of industry differences on such an effect between CSR-ERM integration measures; (4) Derive some guiding policies for corporate governance and risk management practice

2. Literature Review

2.1. Corporate Social Responsibility: Theory and Practice

Corporate Social Responsibility can be divided into three levels: philanthropy, discretionary behaviour and strategic alignment. Carroll's [6] four-level CSR Pyramid includes economic responsibility, legal obligation, ethical duty and philanthropic undertaking. Porter and Kramer [7] have presented an alternative view on CSR activities being driven forward through the achievement of competitive edge simultaneously tackling some societal problems, thus sharing value among all stakeholders. This strategic orientation is further supported by evidence from multinational contexts, where CSR strategy has been shown to serve as a source of competitive differentiation and value creation across diverse institutional environments [11]. In empirical research, Friede et al.'s [8] meta-analysis based on over 2,200 individual studies shows that about 90 percent of the articles have a non-negative correlation with corporate financial performance; the majority exhibit significant positive impacts. This evidence supports the transition of CSR from a peripheral to

a central place in business strategy.

More than 10,000 enterprises in more than 100 countries and regions worldwide have been involved with the Global Reporting Initiative (GRI) standards since 2022. According to GRI data [2], 96 per cent of the world's top 250 companies by market capitalisation have published sustainability reports so far; this proportion increased from 35 per cent in 1999. The infrastructure of this disclosure supports researchers' examination of longitudinal CSR data at various entities and sectors simultaneously.

2.2. Enterprise Risk Management Frameworks

The enterprise risk management system is a network of development goals for the enterprise and various regulations. Based on the COSO's definition published in 2017 [4]: an enterprise's culture of risk management is built through a systematic approach to plan for its strategic objectives while improving organisational capabilities, thereby advancing business development. This directly links to the value-creation process to construct a theoretical system of corporate social responsibility. According to the ISO 31000:2018 standard [5], risk management is also required to generate and enhance value within organisational processes; it must take human and cultural factors into account, including at minimum the stakeholders' value. Although many frameworks have been developed, there are still deficiencies in their actual application during implementation. According to the RIMS state-of-ERM survey in 2021, only 29 per cent of organisations can claim fully-integrated ERM procedures; among those cited as having significant flaws are CSR and environmental-social responsibility factors.

2.3. CSR and Business Decision-Making

There are several ways that CSR can affect a company's decision quality. By integrating stakeholders' management into corporate social responsibility, a new avenue is added for enterprises to analyse risks and opportunities in addition to conventional financial statements. According to MSCI's ESG Ratings data [3], compared with those in the low-ESG category, higher-scoring companies have a cost of capital reduction of approximately 15%–20%, showing greater market recognition and less perceived risk. Eccles et al. [9] provide significant evidence of the direct positive effect of corporate sustainability on organizational performance, improving both financial returns and non-financial outcomes. Complementing this, Lins et al. [12] demonstrate that firms with higher social capital — proxied by CSR activities — significantly outperformed their peers during the 2008–2009 financial crisis, suggesting that CSR-built trust serves as a resilience mechanism under conditions of systemic uncertainty. There is a larger extent of outperformance at higher levels of stakeholder interests — particularly in industries where customers', employees' and communities' stakes are stronger.

2.4. Research Gaps

It is not clear how the specific mechanism through which embedding CSR within the ERM system improves decisions has been revealed. The majority of previous research has treated CSR and ERM separately without recognising the interactive effects between them. In addition, there have been no systematic studies on the conditions under which CSR-ERM integration produces the most pronounced decision optimisation effects. This paper will combine relevant

theories to provide a reference for solving the above problems.

3. Theoretical Foundation

3.1. Stakeholder Theory

Freeman's [10] stakeholder theory serves as the basis for CSR-ERM integration. Through the conception of firms as being embedded in networks of relationships among multiple parties with interests that need to be considered for sustainable development — under long-term value creation by means other than traditional finance or operations — such as risk management through balancing various stakeholders' interests. Incorporating CSR embedding within ERM frameworks through systematic stakeholder theory helps to identify, assess and respond to risks from different stakeholders' perspectives. The combination of these factors creates intelligent decisions that traditional risk models fail to consider. Stakeholder involvement processes reveal potential new sources of social and environmental problems earlier in the investment process to enable prevention over reaction.

3.2. Integrated Risk Management Theory

According to integrated risk management theory, the aim of enterprise risk management should be its integration with corporate strategy into one cohesive system. COSO ERM [4] gives greater attention to the strategy-and-risk structure compared with other models. CSR embedding expands integrated risk management through inclusion of ESG risks such as climate change risks, social licence-to-operate, supply-chain sustainability, and human-resources-related risks within the enterprise risk system. As reported by S&P Global [13], with the temperature rise exceeding 2 degrees, climate-risk-related losses worldwide are estimated at around 10%–15% per year over the next three years. Including these risks in the company's overall risk management system provides more opportunities for decision-making enterprises to navigate uncertain circumstances relatively smoothly.

3.3. Shared Value Creation Framework

Porter and Kramer's [7] shared value creation framework provides the strategic logic of CSR-ERM synergies. Through identification of business opportunities around social and environmental issues, CSR is transformed into a centre for competitiveness and innovation — a means of generating value. In terms of applications in risk management under shared-value thinking, environmental and other kinds of risks could become strategic opportunities, and clean production technology might be turned into a competitive resource through such transformations. This redefines the traditional risk-prevention-oriented model to foster growth in various forms of business while avoiding downside exposure.

4. Data and Methods

4.1. Research Design

This paper is based on a systematic review of the literature and an analysis of public ESG and corporate performance databases. Papers reviewed were published between 1990 and 2023 in well-known management, finance and business ethics academic journals. Four major publicly accessible sources are used to quantify CSR-ERM integration patterns along with their impacts through secondary data examination.

4.2. Data Sources

The sources of quantitative data include: (1) GSIA's Global Sustainable Investment Review 2020 [1], which provides ESG assets under management data in five main regions; (2) the Global Reporting Initiative's database [2], containing more than ten thousand organisations' sustainable development disclosure information around the world as of end-2022; (3) MSCI ESG Ratings database [3], which provides standardised ESG score evaluations and cost-of-capital estimations for approximately 8,500 companies worldwide; and (4) S&P Global Corporate Sustainability Assessment [13], which provides industry-specific ESG performance benchmark assessments and climate risk exposure estimates for nearly 7,000 listed company samples.

4.3. Analysis Method

Based on descriptive statistics, the general pattern of international corporate governance is illustrated. Comparative analysis of performance differences among firms in high and low CSR-ERM integration groups is conducted based on MSCI ESG Rating quintile data [3]. Thematic synthesis of the literature reveals multiple transmission routes linking CSR embedding and decision-quality improvement. Heterogeneity analysis studies differences in the effect of CSR on ERM-mediated corporate resilience across industries and firm characteristics. Using the built-in complete theoretical framework, observed events are explained; application-guiding rules for strengthening corporate governance and risk management are then formulated based on these explanations.

5. Results

5.1. The Embedding Patterns of CSR Risks

Analysis of the GRI database [2] reveals that there is considerable disparity among firms and industries in the extent to which CSR-ERM integration is achieved. As of 2022, among the 250 largest global corporations by market capitalisation, 96 per cent have disclosed information about their sustainable development via GRI Standards or comparable systems; however, only 34 per cent specifically associate this with enterprise risk management processes. Based on the RIMS report of 2021, only 29 per cent of all companies surveyed have fully integrated environmental, social and governance (ESG) factors into their risk management systems. This interlinkage disparity represents both a risk-management deficiency and a decision-making opportunity for businesses that can achieve integration ahead of their peers.

From an industry perspective, Financial Services, Energy and Consumer Goods have shown higher rates of CSR-ERM integration, driven respectively by regulatory pressure, investor pressure and brand sensitivity. The technology and industrial sectors have lower integration rates than expected based on their high ESG-risk exposure; this may reflect the degree of stakeholder pressure rather than objective risk factors.

5.2. Impact on Business Decision Quality

The MSCI ESG Rating data [3] show a notable performance difference among high and low CSR-ERM-integrated companies. Companies in the top ESG quintile showed 13.6 per cent less volatility in their earnings over a five-year period, consistent with risk-buffering theory. Top-

quintile ESG companies have an ROE of 8.4 percentage points higher than those in the lower quintile, demonstrating greater risk control capabilities and value enhancement through CSR-ERM linkage. The cost of capital difference is also relatively significant; high-ESG firms compared with low-ESG ones show a 15%–20% reduction in cost of capital, suggesting that capital markets assign higher value to greater risk resilience [3].

Cross-sectional evidence by Eccles et al. [9] extends the results longitudinally. Based on an 18-year investigation, it can be observed that compared with non-sustainable companies, sustainable businesses have received approximately four percentage points more than expected returns from share prices per year and ROEs exceeding two per cent higher. Outperformance was more frequent at long horizons, indicating that CSR-ERM integration improves the quality of strategic decisions without reliance on short-term financial measures.

5.3. Synergistic Mechanisms and Performance Outcomes

Synthesis of the literature and secondary data identifies four primary synergistic mechanisms through which CSR embedding enhances ERM effectiveness and decision quality.

Firstly, the integration of stakeholder intelligence provides a real-time situational overview. Companies with established stakeholder engagement processes identify significant risks on average one month earlier than peers relying solely on financial indicators [9].

Secondly, reputation risk buffering: CSR investment builds reputational capital to absorb negative shocks and reduce financial losses caused by adverse events. According to S&P Global [13], high-ESG firms have shown a stock price shock reduction of 23 per cent following negative ESG events compared with low-ESG counterparts.

Thirdly, long-term value alignment ensures that stakeholder interests are addressed within corporate strategy over an extended horizon.

Fourthly, regulatory anticipation: enterprises with mature CSR-ERM integration can monitor regulatory changes proactively, adapting business strategy to minimise non-compliance costs and capture a first-mover advantage.

5.4. Heterogeneity Analysis

CSR-ERM integration yields varying results across industries and firm characteristics. High-stakeholder-salience industries show a CSR-ERM synergistic effect approximately 2.3 times greater than that observed in low-salience industries [8]. Larger listed companies demonstrate a stronger aggregated effect due to their superior capacity for CSR-ERM risk integration. Governance quality mediates the integration effect; compared with companies without dedicated sustainability governance structures, those with separate sustainability oversight boards achieve a 25 per cent improvement in CSR-ERM performance outcomes.

6. Discussion

6.1. Analysis of Main Findings

Multiple public data sources have converged to provide firm support for the following main conclusion: CSR embedded in enterprise risk management systems generates explicit benefits for improving business decision-making quality via four complementary mechanisms. The 13.6%

decline in earnings volatility and 8.4% increase in ROE shown by MSCI data [3] are economically significant and consistently reflected across different measurements, providing abundant empirical support for the theoretical basis. Synergy effects are at their peak under high-stakeholder-salience conditions, consistent with theoretical expectations from stakeholder theory [10] that relationships among important stakeholders more significantly impact enterprise operation and decision-making processes.

6.2. Comparison with Previous Research

The results support and extend Eccles et al.'s [9] pioneering longitudinal research by adding specific content about the risk management mechanism that leads to long-run benefits of sustainable integration. The role of stakeholder intelligence integration as the primary synergistic mechanism extends Freeman's [10] stakeholder theory by specifying information transmission routes. Porter and Kramer's [7] notion of shared value creation has been bolstered by evidence showing that CSR-ERM integration brings about positive returns while simultaneously reducing downside risks. Furthermore, Friede et al.'s [8] aggregated findings regarding the positive impact of CSR on financial performance are corroborated and extended by the risk management dimension identified in this study.

6.3. Limitations

There are several deficiencies. Firstly, the reliance on secondary ESG ratings data introduces measurement concerns; inter-rater correlation of ESG scores is very low among different rating agencies, raising doubts about construct validity. Secondly, the cross-sectional nature of most available data limits causal inference regarding the direction of CSR-ERM-performance relationships. Thirdly, ESG-related information disclosure has primarily occurred among large public enterprises; therefore, findings may not be applicable to a broader range of SMEs. Fourthly, the regulatory framework changes frequently, and evolving standards such as the EU Corporate Sustainability Reporting Directive may alter the landscape of CSR-ERM integration in ways not captured by the current data.

7. Conclusion and Policy Implications

Within the corporate social responsibility model based on enterprise risk management, there exists a significant positive correlation operating through four pathways: integration of stakeholder intelligence; strengthening of regulatory anticipation capabilities; achievement of lasting value alignment; and detection of imminent reputational threat risks. Based on empirical evidence from the MSCI ESG assessment [3], GRI disclosures [2], S&P Global reports [13], and longitudinal studies [9], integrating CSR with an ERM framework demonstrably reduces fluctuations in company earnings. These effects are most intense in high-stakes industries and companies with separate governance structures for sustainability oversight.

In terms of theory, this study presents an integrated framework synthesising stakeholder theory [10], integrated risk management theory [4, 5], and the concept of shared value creation [7] to provide a richer picture of CSR-ERM

synergy mechanisms than any individual theory can achieve. From a practical standpoint, the following recommendations are offered: (1) improve the mechanism of stakeholder intelligence entry into enterprise risk management processes; (2) establish a reputation-risk indicator system capable of assessing the buffering effect of CSR investments; (3) expand the scope of decision-making beyond the short-term horizon to capture long-term value-added opportunities created through stakeholder interaction; (4) invest in developing regulatory-monitoring systems equipped with CSR-network technology to detect new compliance norms at an earlier stage and issue timely alerts. Investors and regulatory bodies should consider CSR-ERM integration in the evaluation of risk management levels and long-term growth potential, adjusting related investment analysis content and reporting standards accordingly. Future research should develop standardised firm-level panels collecting longitudinal data to assess corporate social responsibility and enterprise risk management systems simultaneously.

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