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ESG Disclosure, Digital Capabilities, and Supply Chain Resilience: A Conceptual Framework for Emerging Market Firms

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Abstract

This conceptual paper develops a theoretical framework linking environmental, social, and governance (ESG) disclosure to supply chain resilience in emerging market firms, with digital capabilities and institutional environment as boundary conditions. Drawing on stakeholder theory, information asymmetry theory, and dynamic capabilities theory, the paper argues that ESG disclosure enhances supply chain resilience by improving stakeholder trust, reducing information asymmetry, and supporting risk identification. Digital capabilities are proposed to strengthen this relationship through better ESG information integration, supply chain visibility, and stakeholder communication. The institutional environment is also proposed to shape the extent to which ESG disclosure translates into resilience benefits. The paper contributes by integrating sustainability disclosure, digital transformation, and supply chain resilience literatures and by offering testable propositions for future research. It also provides practical implications for managers and policymakers seeking to align ESG transparency with digital capability building. No empirical data are reported; the contribution is theoretical and proposition-based.

Keywords

ESG Disclosure; Supply Chain Resilience; Digital Capabilities; Institutional Environment; Emerging Markets

1. Introduction

Supply chain resilience has become a central concern in economics and business management. Firms increasingly face disruptions arising from geopolitical tensions, natural disasters, public health crises, and regulatory changes. At the same time, stakeholders expect firms to disclose environmental, social, and governance (ESG) information and to manage sustainability risks across supply chains (Christensen et al., 2021; Gillan et al., 2021). However, the relationship between ESG disclosure and

supply chain resilience remains undertheorized, particularly in emerging markets where institutional environments are evolving and digital infrastructure is uneven.

This paper addresses this gap by developing a conceptual framework that links ESG disclosure to supply chain resilience. It further introduces digital capabilities as a moderator and institutional environment as a contextual boundary condition. The central argument is that ESG disclosure can enhance supply chain resilience by improving stakeholder trust, reducing information asymmetry, and supporting risk identification, while digital capabilities amplify these benefits through better information integration, visibility, and communication. The institutional environment shapes whether firms can convert disclosure into resilience outcomes.

The paper makes three contributions. First, it integrates ESG disclosure, digital capabilities, and supply chain resilience into a coherent theoretical framework. Second, it develops testable propositions that can guide future empirical research. Third, it offers practical implications for managers and policymakers in emerging markets. The remainder of the paper reviews the literature, develops the conceptual model and propositions, explains the conceptual methodology, discusses implications, and concludes.

2. Literature Review and Theoretical Foundation

2.1. ESG Disclosure and Stakeholder Relationships

2.1.1. Stakeholder Theory

Stakeholder theory suggests that firms create value by managing relationships with employees, customers, suppliers, communities, investors, and regulators (Freeman, 1984). ESG disclosure provides stakeholders with information about how firms manage environmental and social risks and governance practices. Such disclosure can enhance trust and legitimacy, which are important for supply chain cooperation and risk sharing (Luo & Bhattacharya, 2006).

2.1.2. Information Asymmetry

Information asymmetry theory suggests that firms disclose information to reduce gaps between managers and external stakeholders. ESG disclosure can lower information asymmetry by making sustainability commitments more visible and comparable (Christensen et al., 2021). In supply chains, reduced information asymmetry can improve coordination, monitoring, and joint problem-solving.

2.2. Digital Capabilities and Dynamic Capabilities

2.2.1. Dynamic Capabilities Theory

Dynamic capabilities theory emphasizes a firm's ability to sense, seize, and reconfigure resources in changing environments (Teece, 2007). Digital capabilities represent a set of organizational capabilities that enable firms to collect, integrate, and analyze information across supply chain partners (Vial, 2019; Warner & Wäger,

2019). These capabilities can support ESG information management, traceability, and stakeholder communication.

2.2.2. Digital Transformation in Supply Chains

Digital transformation reshapes how firms coordinate with suppliers and customers. Digital platforms, cloud systems, and analytics can improve supply chain visibility and responsiveness (Nambisan et al., 2019). When combined with ESG disclosure, digital capabilities may help firms translate sustainability commitments into operational resilience.

2.3. Supply Chain Resilience

Supply chain resilience refers to a firm's ability to anticipate, absorb, adapt to, and recover from disruptions (Christopher & Peck, 2004; Pettit et al., 2013). Resilience depends on visibility, flexibility, collaboration, and risk management culture. ESG disclosure may support these dimensions by improving transparency and stakeholder engagement across supply chain relationships.

3. Conceptual Framework and Propositions

3.1. ESG Disclosure and Supply Chain Resilience

ESG disclosure can enhance supply chain resilience through three mechanisms. First, it improves stakeholder trust, which encourages information sharing and joint risk management. Second, it reduces information asymmetry, enabling partners to identify and respond to sustainability-related risks. Third, it supports risk identification by making environmental and social exposures more visible. Therefore, we propose:

Proposition 1 (P1): ESG disclosure is positively associated with supply chain resilience.

3.2. The Moderating Role of Digital Capabilities

Digital capabilities can strengthen the ESG disclosure–resilience relationship. Firms with stronger digital capabilities can integrate ESG information across supply chain partners, improve traceability, and communicate sustainability information more effectively. These capabilities enable firms to convert disclosure into actionable risk management. Therefore, we propose:

Proposition 2 (P2): Digital capabilities positively moderate the relationship between ESG disclosure and supply chain resilience.

3.3. The Moderating Role of Institutional Environment

The institutional environment shapes the extent to which ESG disclosure generates resilience benefits. In emerging markets, regulatory enforcement, investor protection, and sustainability reporting standards vary across contexts (Peng et al.,

2008). Stronger institutional support may increase the credibility and comparability of ESG disclosure, thereby strengthening its effect on supply chain resilience. Therefore, we propose:

Proposition 3 (P3): A more supportive institutional environment positively moderates the relationship between ESG disclosure and supply chain resilience.

4. Conceptual Methodology

4.1. Research Approach

This study adopts a conceptual approach based on literature synthesis and theory development. It does not report empirical data, sample statistics, or regression results. The purpose is to develop a theoretically grounded framework and a set of testable propositions for future research.

4.2. Scope and Boundary Conditions

The framework focuses on firms in emerging markets, where ESG disclosure practices and digital infrastructure are heterogeneous. The propositions are intended to be testable in future studies using survey, archival, or mixed-method designs. The framework does not prescribe specific measures; instead, it identifies constructs and relationships that can be operationalized in different contexts.

5. Discussion

5.1. Theoretical Implications

This paper contributes to the ESG disclosure literature by linking disclosure to supply chain resilience rather than to firm value alone. It also contributes to dynamic capabilities theory by positioning digital capabilities as a moderator that enables firms to convert disclosure into resilience. By incorporating the institutional environment, the framework recognizes that disclosure effects are context-dependent.

5.2. Practical Implications

Managers should view ESG disclosure and digital capability building as complementary rather than separate initiatives. Firms can integrate ESG metrics into digital supply chain platforms, use analytics to monitor sustainability risks, and communicate disclosure information through digital channels. Policymakers can support standardized ESG reporting and digital infrastructure to help firms realize resilience benefits.

6. Conclusion

This conceptual paper develops a framework linking ESG disclosure to supply chain resilience, with digital capabilities and institutional environment as boundary

conditions. The framework offers testable propositions for future empirical research and practical guidance for managers and policymakers. Future research can examine the proposed relationships using diverse methodological designs and cross-country samples.

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