Enhancing Supply Chain Resilience in Coal Mining: A Comprehensive Systematic Literature Review to Managing Disruptions

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ABSTRACT

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Supply chain risk and uncertainty are critical factors that impact coal mining operations. Risks can arise from various sources such as natural disasters, supplier disruptions, market fluctuations, regulatory changes, and geopolitical uncertainties (Marzouk et al., 2022; Pettersen-Sobczyk, 2018). Managing these risks involves identifying, assessing, and implementing measures to mitigate and minimize potential losses. Uncertainties, on the other hand, stem from the lack of predictability or knowledge about future events and outcomes. They represent a level of unpredictability and the potential for surprises or unexpected events that can impact the supply chain. Overcoming uncertainties requires a resilient supply chain capable of preparing for unexpected events, responding to disruptions, and recovering from them while maintaining operational continuity (Adobor, 2020; Gunasekaran et al., 2015). Resilience capability allows a company to restore its operations to their original or desired state after being disturbed (Chowdhury & Quaddus, 2017). However, despite the abundance of literature proposing resilience frameworks in supply chain management, their application within the context of coal mining remains relatively limited (Agrawal & Pingle, 2020; Belhadi et al., 2022). Existing research in the field of coal mining has primarily focused on operational efficiency, cost reduction, and production optimization, with limited attention given to the concept of resilience. Therefore, this research aims to address this gap by developing a comprehensive resilience framework specifically tailored to the mining supply chain, with a focus on coal mining company. By incorporating the unique characteristics and challenges of the mining industry, such as geological uncertainties, complex extraction processes, and environmental regulations, this framework will provide valuable insights and strategies for enhancing the resilience capabilities of coal mining company.

Keywords: Supply chain resilience, Coal mining, Disruptioin, Risk mitigation, Systematic literature review