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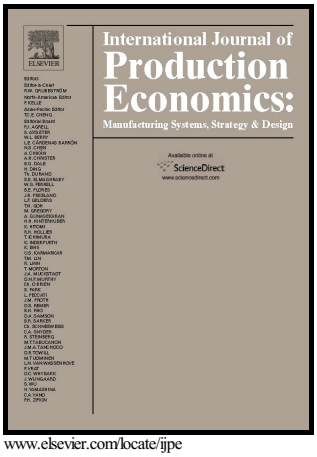

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Assessing Green Supply Chain Practices in the Ghanaian Mining Industry: A Framework and Evaluation

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Abstract

Production and consumption in our industrial systems typically begin in the extractive, mining, industries. Typically these activities begin in emerging economies, such as Ghana. It is also clear that supply chain activities in mining operations may have severe environmental and social problems with serious economic consequences. Greening the supply chain of mining operations are an important avenue that can provide beneficial consequences. Developing, evaluating, assessing, and selecting essential green supply chain management (GSCM) practices are a goal for successful GSCM implementation. These practices may have interrelated and complex relationships. Understanding them and their relative importance is an initial step for achieving the assessment goals for successful GSCM implementation in the mining industry. This study adopts a proposed comprehensive and integrative GSCM major practices and sub-practices (framework); determines the relative relationships and influences within this GSCM framework, and identifies the perceived impact of the GSCM framework on organizational sustainable performance (economic, environmental, and social – triple bottom-line) pertinent to the mining industry, in the emerging economy nation of Ghana. An integrated methodology identifying and limiting interdependencies within GSCM factors will be utilized. The methodology uses fuzzy-DEMATEL and analytical network process (ANP) for the evaluation. Multiple field studies within Ghana's mining industry are used to illustrate the applicability of the proposed methodology. The results can provide valuable clues and guidelines to decision-makers and analysts inside and outside the mining industry, for improving corporate sustainable production and consumption. Future research and practical implications are also introduced in the paper.