African Diplomacy and International Affairs (Political Science focus)

Blockchain Technology in Supply Chain Transparency within Mineral Extraction in DRC and Mali: A Scholarly Review from an African Perspective

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Abstract

Blockchain technology has emerged as a promising solution to enhance transparency in supply chains, particularly within mineral extraction sectors that are often characterized by high levels of corruption and inefficiency. The study employed a comprehensive search strategy across academic databases, including Scopus and Web of Science, to identify relevant studies published between and . A manual screening process was used to assess the eligibility of articles based on predefined inclusion criteria. A thematic analysis revealed that while blockchain technology showed promise in enhancing transparency, significant challenges such as high initial costs and regulatory uncertainties hindered its widespread adoption. Blockchain technology can contribute significantly to improving supply chain transparency in mineral extraction by reducing corruption and increasing accountability. However, further research is needed to address the identified barriers. Policy makers should consider implementing blockchain pilots in DRC and Mali to assess feasibility and potential benefits, while also addressing regulatory frameworks to ensure widespread adoption. Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Geographic Terms: African, Sub-Saharan*

Topic-Relevant:
Blockchain, Supply Chain, Transparency, Mineral Extraction, Africa

Methodological/Thoretical:
Literature Review, Systematic Review, Qualitative Analysis, Quantitative Methods

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