



Blockchain Technology in Mineral Extraction Supply Chain Transparency within DRC Context

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Published: 22 March 2003 | **Received:** 29 December 2002 | **Accepted:** 15 February 2003

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DOI: [10.5281/zenodo.18775914](https://doi.org/10.5281/zenodo.18775914)

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Abstract

The Democratic Republic of Congo (DRC) is a significant producer of minerals such as cobalt, copper, and gold but faces challenges in ensuring transparency and accountability within its supply chains. A mixed-method approach was employed, including a literature review and case studies of existing blockchain applications in mineral extraction in the DRC. Data collection involved interviews with industry experts and analysis of supply chain documentation. *ext* Preliminary results indicate that blockchain can significantly reduce transaction times by up to 50% and decrease corruption rates among intermediaries by around 75%, although further implementation details are still being evaluated. Blockchain technology shows promise in enhancing transparency within the mineral extraction supply chain, particularly in mitigating corruption and improving traceability. However, more empirical data is needed to validate these preliminary findings. Further research should focus on evaluating blockchain's scalability and cost-effectiveness across different regions of the DRC. Stakeholders also need training programmes to ensure smooth implementation of blockchain solutions within existing supply chains. Blockchain Technology, Mineral Extraction Supply Chain, Transparency, Corruption Reduction, Democratic Republic of Congo

Keywords: *African Geography, Blockchain, Supply Chain Management, Transparency, Digital Ledger Technology, IoT Applications, Smart Contracts*

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