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Scrutinizing the level of awareness and adoption of distributed ledger technology in the Nigerian construction industry

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Abstract

Purpose

This study aimed to investigate and analyze the level of awareness and adoption of distributed ledger technologies (DLTs) within the Nigerian construction industry. The focus was on addressing the current state of DLT utilization, identifying challenges and opportunities and proposing strategies to enhance the integration of DLTs into the construction processes and practices of Nigerian professionals and organizations.

Design/methodology/approach

The research was underpinned by a robust theoretical and conceptual framework, drawing from established theories of technology adoption. A comprehensive literature review guided the identification of various DLT types. This informed the development of a well-structured questionnaire, which was then distributed to Nigerian construction professionals. The collected data underwent analysis using percentages, frequencies, mean scores, the Kruskal–Wallis H-test and the Shapiro–Wilk test.

Findings

A significant finding of this study reveals a generally low awareness and implementation of DLT among construction professionals in Nigeria. These findings emphasize the urgent need for comprehensive strategies to bridge the gap between awareness and adoption of DLT within the Nigerian construction industry.

Practical implications

Industry associations, regulatory bodies and educational institutions can collaborate to develop specialized programs aimed at familiarizing professionals with the benefits and applications of DLTs. Additionally, technology providers and policymakers can leverage these findings to design user-friendly interfaces and guidelines for seamless DLT integration into construction processes.

Originality/value

This study contributes to the existing body of knowledge by providing a comprehensive assessment of the awareness and adoption of DLTs specifically within the Nigerian construction industry. While the global recognition of DLT's potential in construction is acknowledged, this research delves into a regional context, shedding light on the specific opportunities within Nigeria. Furthermore, the study's identification of a gap between awareness and implementation highlights a critical area for future exploration and development in the field of construction technology adoption.

Keywords

- Asset lifecycle
- Distributed ledger technology

- [Blockchain technology](#)
- [Construction industry](#)
- [Supply chain management](#)
- [Smart contracts](#)

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