Ensuring the Quality of AI Integrated Smart Contracts in Sri Lankan Construction Industry

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Artificial Intelligence (AI) integrated Smart Contracts have been evolving within the construction industry globally and have already attracted the focus of the Sri Lankan construction industry. With the long-term adaptability to the traditional system, construction professionals have a dedicative responsibility to achieve the expected quality outcomes with modern orientations. This study attempted to evaluate the challenges faced in ensuring the effectiveness and quality of AI-integrated smart contracts in the Sri Lankan construction industry; focusing on key areas: knowledge and adaptability, cost and investment, legal framework, technical and infrastructure facilities, and quality assurance and control. It also provides recommendations to overcome the most severe challenges. The primary data collection was done through a questionnaire survey distributed among the professionals experienced in Project Management in Sri Lankan construction projects both in the government and private sector and a quantitative analysis was done based on the Relative Important Index technique. The analysis identified the most severe challenges as lack of knowledge and experience, reluctance to move forward and difficulty in assessing physical factors. Quality assurance and control was identified as the most challenging aspects. Improving the knowledge of smart contracts by enhancing expertise on their implementation and maintenance, government interference in promoting, standardization of adjoining sectors and implementation of moderate quality management techniques and practices will minimize the impact of the challenges and enable more effective performance under smart contracts handling by improving the quality and efficiency of construction industry in Sri Lanka.

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