Implementation of Private Blockchain Technology for Inventory Management

Bima Putra Setiabudi[1], Adiwijaya[2], Dody Qori Utama[3]
[1,2,3]School of Computing, Telkom University, Bandung
[1]bimaputra@students.telkomuniversity.ac.id, [2]adiwijaya@telkomuniversity.ac.id,
[3]dodyqori@telkomuniversity.ac.id

Abstract

This study explores the implementation of private blockchain technology for inventory management in the Telkom University Landmark Tower (TULT). In the rapidly evolving digital era, effectively and securely managing inventory has become increasingly important. Traditional inventory systems often face issues such as inefficient tracking and security vulnerabilities. The proposed private blockchain-based inventory management system aims to leverage the intrinsic properties of blockchain, including enhanced security, immutability, and real-time data recording, to address these challenges. This research involves the development and evaluation of a private blockchain-based inventory management system, with assessments conducted on its speed performance and security levels. The results indicate that, while blockchain may have slight drawbacks in terms of speed compared to traditional systems like SQL, the advantages it offers in terms of security and data integrity make it a superior solution for more reliable and secure inventory management.

Keywords: blockchain technology, private blockchain, data management, inventory management, digital transformation