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BLOCKCHAIN APPLICATION FOR PROMOTING THE SECURE AND SUSTAINABLE DEVELOPMENT OF THE INTERNET OF VEHICLES INDUSTRY

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Abstract

This article aims to explore the application of blockchain technology in the Internet of Vehicles (IoV) to enhance the system's security and protect users' privacy. Due to the cybersecurity and privacy leakage problems in the IoV, there is an urgent need for improved cybersecurity measures. The article argues that blockchain technology can address these issues by protecting user privacy and preventing hacking and tampering. However, the article also points out the cost and performance issues that may be faced by applying blockchain technology in the automotive industry. This paper uses a game theory model to analyze the advantages and disadvantages of blockchain in IoV industry by considering factors such as data collection strategies, data protection strategies, and profitability of IoV companies. The impact of these factors on user activity levels, consumer surplus and business profitability are explored by comparing businesses that use blockchain with those that do not. Findings show that blockchain technology enhances system security and user privacy protection, emphasizing the importance of balancing data collection and protection strategies for business profitability and user engagement. The study's contribution lies in the utilization of game theory models to comprehensively consider various factors, providing novel insights and guidance for future research and practical implementation.

Key words: blockchain technology, connected car, cybersecurity, privacy protection, game theory

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