

## The Potential of Blockchain-based Ridesharing System to Enhance Trust and Security: A Conceptual Framework

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### Abstract

Ridesharing has been a popular concept in the 21<sup>st</sup> century due to the rapid growth of technology. However, due to its centralized architecture, it suffers from transparency, safety, and data privacy issues. This conceptual research paper aims to explore the potential solution for enhancing the trust and security of traditional ridesharing systems through the implementation of a blockchain-based decentralized ridesharing system and a reputation management system. The research methodology consisted of a systematic review of existing literature to gather insights and theoretical underpinnings and also a questionnaire to collect empirical data from the current ridesharing users. The systematic review provided theoretical support for the proposed system, and the questionnaire responses shed light on user preferences and concerns, highlighting the significance of transparency and security in the ridesharing experience. This paper contributes insights into the design, implementation, and evaluation of a blockchain-based ridesharing system that prioritizes user trust, security, and privacy, enhancing the understanding and application of blockchain technology in the ridesharing domain.

**Keywords:** *Blockchain technology, Decentralized governance, Ridesharing system, Smart contracts, Conceptual framework*