

▼ Subject	Artificial Intelligence
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▼ Type	Assignment
▼ Semester	Semester 3
📅 Time	@December 6, 2023

AI and Simulation-Based Techniques for the Assessment of Supply Chain Logistic Performance

Literature Overview:

The literature overview in the provided text discusses the importance of data publishing in the digital society, focusing on supply chain finance. It highlights the reliance on trusted third parties for data storage, emphasizing the vulnerabilities associated with centralized servers, such as single-point attacks and the risk of data tampering. The text explores the credit issues of core enterprises, the lack of interoperability in the supply chain, and the limitations of traditional financing tools in supply chain finance.

Methodologies and Approach:

The text suggests that the application of blockchain technology can address the shortcomings in traditional supply chain finance. It advocates for decentralization and distributed accounting using blockchain, implementing a "point-to-point" information network. The approach involves transforming core enterprises from central roles into numerous nodes, enabling equal participation in data verification and recording. The use of timestamp-based block structures is emphasized to ensure immutability and transparency in the supply chain operation process. Additionally, smart contracts are proposed to achieve digital operations and enhance credit transmission.

Findings and Trends:

The findings and trends in the text focus on how blockchain technology can mitigate information asymmetry in supply chain finance. By decentralizing the supply chain and employing blockchain's inherent characteristics, such as timestamping, the text suggests improving transparency, security, and efficiency. It emphasizes the role of blockchain in promoting credit transmission from core enterprises to edge enterprises, thereby expanding the use of supply chain finance.

Challenges and Gaps:

Challenges and gaps identified include the credit problem of core enterprises, lack of interoperability, and limitations in traditional financing tools. The text suggests that blockchain technology can address these challenges, but potential obstacles in implementation are not explicitly discussed. Additionally, the text does not delve deeply into potential drawbacks or criticisms of adopting blockchain in supply chain finance.

Future Research Directions:

The text does not explicitly outline future research directions. However, potential avenues for future research could involve investigating the practical challenges of implementing blockchain in supply chain finance, exploring regulatory considerations, and assessing the scalability of blockchain solutions for large-scale supply chains.

Conclusion:

The text concludes by summarizing the potential of blockchain technology in overcoming the challenges of traditional supply chain finance. It highlights the transformative impact of decentralization, distributed accounting, and digital operations on enhancing transparency and credit transmission. The conclusion, however, could provide a more explicit summary of the key findings and their implications for the future of supply chain finance.

Reference:

A. Bruzzone, A. Orsoni "AI and Simulation-Based Techniques for the Assessment of Supply Chain Logistic Performance", Proceedings of the 36th Annual Simulation Symposium (ANSS'03), Orlando, 2003

Research on Anti-tampering Simulation Algorithm of Block Chain-based Supply Chain Financial Big Data

Literature Overview:

The literature overview in the provided text emphasizes the shortcomings in traditional supply chain finance, focusing on information asymmetry, lack of transparency, and operational limitations. It introduces the role of blockchain technology in addressing these challenges. The text highlights the importance of blockchain's characteristics, such as decentralization, distributed accounting, and immutability, in revolutionizing supply chain finance.

Methodologies and Approach:

The approach suggested in the text involves implementing blockchain technology to achieve decentralization, distributed accounting, and immutability. The text advocates for a "point-to-point" information network, where each node participates equally in verifying and recording transaction data. The application of timestamp-based block structures is proposed for securing the supply chain operation process. The use of smart contracts is also discussed as a means to achieve digital operations and enhance credit transmission.

Findings and Trends:

The findings and trends revolve around the potential of blockchain to address information asymmetry, improve transparency, and enhance the efficiency of supply chain finance. The text discusses the benefits of decentralized networks, timestamp-based blocks, and smart contracts in overcoming traditional challenges. The focus is on how blockchain can facilitate credit transmission from core enterprises to edge enterprises, thereby expanding the reach of supply chain finance.

Challenges and Gaps:

Challenges and gaps identified include the credit problem of core enterprises, lack of interoperability, and limitations in traditional financing tools. The text suggests that blockchain technology can address these issues, but it doesn't delve deeply into potential challenges or criticisms associated with blockchain implementation. The practical implications and potential hurdles are not extensively discussed.

Future Research Directions:

The text does not explicitly outline future research directions. Future research could explore the practical implementation challenges of blockchain in supply chain finance, regulatory considerations, and scalability issues. Investigating the real-world application of blockchain and its impact on diverse supply chains could be areas for future exploration.

Conclusion:

The conclusion summarizes the potential of blockchain technology in mitigating the challenges of traditional supply chain finance. It emphasizes the transformative impact of decentralization, distributed accounting, and digital operations on transparency and credit transmission. The conclusion could benefit from a more explicit summary of key findings and their implications for the future of supply chain finance.

Reference:

Fan Zhang, Ye Ding "Research on Anti-tampering Simulation Algorithm of Block Chain-based Supply Chain Financial Big Data" 2021 IEEE 2nd International Conference on Big Data, Artificial Intelligence and Internet of Things Engineering (ICBAIE), Nanchang, 2021