Supply Chain Management for Agriculture Using Blockchain

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Abstract

- This paper explores how blockchain technology can improve agricultural supply chain management.
- Focuses on enhancing efficiency, transparency, and trust among stakeholders.
- Highlights issues such as food waste, fraud, and delays in traditional systems.
- Implementation strategy includes stakeholder education, training, and ongoing support.

Existing System

- **Current Agricultural Supply Chain:**
  - Involves farmers, transporters, wholesalers, retailers, and customers.
  - Processes are often manual or use legacy systems.
- **Current Limitations:**
  - Technical complexity for non-technical stakeholders.
  - Limited training and support.
  - Scalability issues across diverse stakeholders.

Proposed System

- **Overview:**
  - User-friendly blockchain system for the agricultural supply chain.
  - Addresses technical barriers and improves usability.
- **Components:**
  - Enhanced interaction with simplified interfaces.
  - Comprehensive training and continuous support.
- **Features:**
  - Simplified interfaces and automated processes.
  - Training programs and ongoing technical assistance.

Methodology

- **Overview:**
  - Approach to implementing and optimizing the blockchain-based system.
  - Includes phases from planning to support.
- **Phases:**
  - Planning and Design
  - Development and Testing
  - Deployment and Training
  - Support and Maintenance
  - Evaluation and Improvement

Methodology - Detailed

- **Tools and Technologies:**
  - Blockchain Platform (e.g., Ethereum, Hyperledger Fabric).
  - Smart Contracts and User Interfaces.
  - Data Management and Integration with existing systems.
- **Steps and Phases:**
  - Requirements Analysis and System Design
  - Development, Testing, and Deployment
  - Training and Support
  - Continuous Improvement

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