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(54) Title of the invention : DESIGN OF LEAN OPERATION TECHNIQUES IN THE PRODUCTION CYCLE TO BE ECONOMICAL SUSTAINABILITY

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(57) Abstract :
Design of Lean operation techniques in the Production Cycle to be economical sustainability ABSTRACT This invention relates to the field of manufacturing process optimization and introduces a novel system of lean operation techniques specifically designed to enhance economic sustainability within production cycles. The system integrates several innovative components and methodologies, including resource optimization algorithms, waste reduction mechanisms, energy efficiency models, and sustainable supply chain integration, all tailored to improve environmental and economic performance in manufacturing settings. The resource optimization algorithms are engineered to dynamically manage material and energy use, significantly reducing waste and costs. Waste reduction mechanisms focus on minimizing waste at the source, promoting a more sustainable production process. Energy efficiency models enhance the utilization of energy, incorporating renewable energy sources to reduce environmental impact. Sustainable supply chain integration extends these principles beyond the factory floor, ensuring that all stages of production reflect sustainability goals. Additionally, the system includes continuous improvement processes that foster ongoing enhancements in sustainability and efficiency. This invention offers a comprehensive solution to modern manufacturing challenges, aligning operational efficiency with environmental stewardship and providing a scalable, adaptable framework for industries seeking to implement sustainable practices.

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(54) Title of the invention : DESIGN AND PERFORMANCE ANALYSIS FOR SUPPLY CHAIN FINANCE MANAGEMENT USING BLOCK CHAIN

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(57) Abstract :
Design and Performance analysis for Supply Chain Finance Management using Block Chain ABSTRACT The innovation introduces revolutionary blockchain-powered approach to supply chain finance management, tackling the inefficiencies, lack of transparency and security risks associated with classical supply chain process. Using blockchain technology, the system guarantees decentralised, immutable record keeping of the transactions, introducing a new level of trust and cooperation between all parties involved, such as suppliers, buyers, financiers, and logistics providers. Through smart contracts, the system automates financial contracts and transactions, hence cutting tremendously on processing time and transaction costs as well as the possibilities of fraud. The clear and auditable character of the blockchain ledger offers the real-time visibility into the state of goods and transactions helping improve operational efficiency and providing the better risk management. SMEs benefit by having clean recorded transaction history and credibly within the supply chain enabling their access to financing with the help of the implemented system. Introduction of sophisticated crypto protection methods eliminates the threat of unauthorized entry and fraud with data and transactions. The innovation presents substantial efficiencies in transaction speed, cost, security, and financing access, as indicated by diverse performance benchmarks. These benefits are decreased transaction costs and processing times, reduced incidence of fraudulent transactions, and high satisfaction levels from stakeholders. With its ingenious use of blockchain technology, the system is an innovative model of supply chain finance management, providing a scalable, secure, and efficient answer for the global supply chain ecosystem.

No. of Pages : 17 No. of Claims : 5