**Conclusion**

**Blockchain technology is a catalyst for emerging use cases in the financial and nonfinancial industries such as industrial manufacturing,**

**supply chain, and healthcare. The research indicates Blockchain can play a pivotal role in transforming the digitization of industries and applications by enabling**

**secure trust frameworks, creating agile value chain production**

**we proposed a new decentralized traceability system based on blockchain technology,and explored the challenges in scaling blockchains in general.Moreover,**

**an example scenario was given to demonstrate how it works in the food supply chain. This system will deliver real-time information to all supply chain members**

**on the safety status of food products, extremely reduce the risk of centralized information systems, and bring more secure, distributed, transparent, and collaborative. Our system can**

**significantly improve efficiency and transparency of the foodsupply chain, which will obviously enhance the food safety and rebuild the consumer’s confidence in the food industry.**

**The above mentioned traceability system can effectively realize the product traceability requirements.The Blockchain technology is more credible than the traditional database.**

**Because the system is based on a consortium chain composed of multiple organizations,the cost of cooperation between enterprises is lower,which can effectively reduce operating costs**

**and improve economic efficiency.**

**The evaluation shows that FoodTrail Blockchain fulfilled the distributed, verified, and immutable aspect.the system has advantages**

**related to access and precision aspect, because all transaction is verified, immutable, and stored locally in every node.The low performance of the blockchain system is a trade**

**off from its superiority in terms of security and trust. One of the aspects that must be improved is the ability to handle transactions. Although it has many weaknesses, the**

**blockchain system has the potential to be a system integrity solution in the food supply chain because the system can be implemented without the need for additional third parties that**

**requires additional costs and dependence on other parties**