

Blockchain and Its Effect on the Food Industry



APS1028 - Operations and Production Management : Team 1

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EXECUTIVE SUMMARY

Currently, the Food Industry is plagued with food fraud, inadequate traceability and loss of consumer confidence. With the ever-growing technology and ease of information available, consumers are finding it difficult to understand exactly where their food has come from. The purpose of this report is to provide an analysis on blockchain technology and how it can benefit the food industry. Our research shows that the current food supply chain processes present numerous challenges for tracking and tracing products. No standardization within process and system leads to gaps within processes and ultimately affects consumer confidence. Blockchain technology presents an opportunity for businesses to track and record transactions throughout their supply chain in a decentralized ledger and this could potentially increase traceability efficiency and ultimately decrease food fraud and increase consumer confidence. We analyzed various facets of the current processes and technologies the food industry is using and based on our research and experience in the food industry presented the pros and cons present in the current practices. The same approach was taken for analyzing blockchain technology, we used a few used cases such as Nestle, Walmart that are exploring this technology and presented its benefits and shortcomings.

The project is divided into many sections. We have the introduction of the project, the purpose, limitations in the first section. It is followed by the background which consists of the history, working, advantages, disadvantages, applications and limitations of the technology. In the third section, we discussed the current scenario of the food industry and in the fourth section and fifth section we explained the working of blockchain and its implementation in the food industry. Lastly, we explained the challenges faced with blockchain technology and concluded the report by providing new directions to the usage of this technology in the food industry.

Overall, blockchain technology is currently premature for any full implementation, we are beginning to see the rise of implementation and features available for the manufacturing sector, however, given the unknowns regarding cost, full-fledged implementation and little government involvement, it's better for small-mid size food organizations to not use any resources in pursuing the technology until it has reached its maturity. For large food organizations, we recommend them to actively research and understand the technology, identify potential facilities or products that can be used as a pilot for this facility. In addition, large food organizations should start conversing with stakeholders as it's critical to have suppliers/vendors and the whole supply chain onboard.