

ABSTRACT

This study aims to propose business process improvements and design a logistics traceability system for PR. Tembakau Odeng using the Value Stream Mapping (VSM) approach and blockchain technology. PR. Tembakau Odeng is a tobacco producer in Indonesia facing several operational challenges, particularly in logistics and supply chain processes. Some of the issues identified include long lead times, inability to meet daily production targets, and a lack of visibility and transparency in the supply chain. To address these issues, this research analyzed the existing business processes using value stream mapping, which allows the identification of non-value-added activities and waste in the processes. Value stream mapping is used because it provides a visual representation of the production and distribution flows, making it easier to identify areas for improvement. Additionally, blockchain technology is proposed as a solution to enhance logistics traceability, which refers to the ability to track the movement of goods transparently from upstream to downstream in the supply chain.

One of the main bottlenecks in PR. Tembakau Odeng's business process is found in the tobacco printing section. This section often experiences delays due to a lack of workforce and prolonged process times. Furthermore, the company's supply chain also faces challenges in traceability, where it becomes difficult to track product status in real-time, leading to potential losses due to delivery delays and the inability to quickly recall products in the event of production errors or quality issues.

Through the value stream mapping approach, non-value-added activities were identified, such as long waiting times between the printing and packaging processes, and an imbalance in task distribution among production line workers. Proposed improvements include increasing the number of workers in the printing section, automating certain manual processes, and optimizing task distribution among the workers.

Blockchain technology allows every transaction and movement of goods to be securely recorded and immutable, enabling all parties in the supply chain, from raw material suppliers to end customers, to track the product status in real-time. In this system, each tobacco product will be assigned a unique label connected to the blockchain, and every

time the product moves from one stage to the next in the supply chain, the information will be automatically updated in the blockchain. Thus, the company can better monitor product movements, reduce the risk of fraud, and enhance consumer trust in its products.

It is expected that by implementing a blockchain-based traceability system, the company can improve logistics efficiency, minimize waste, and respond to quality issues more quickly and accurately.

The study results show that by improving business processes using value stream mapping and adopting blockchain technology, PR. Tembakau Odeng can enhance its operational efficiency. Moreover, the proposed blockchain-based traceability system provides better visibility into product movements within the supply chain, allowing the company to track product status in real-time and take swift action if problems arise.

The conclusion of this research is that the approach of improving business processes using value stream mapping and designing a blockchain-based traceability system can positively impact the operational efficiency of PR. Tembakau Odeng. By reducing waste and enhancing transparency in the supply chain, the company can achieve its production targets.

Keywords – Tobacco, Smart Contracts, Blockchain, Traceability, Value Stream Mapping.