

ABSTRACT

Kopi luwak is one of the world's most premium coffee commodities and is often targeted for counterfeiting within its supply chain. To ensure authenticity and transparency, a traceability system that securely records each stage of the product's journey is required. This study aims to develop a blockchain-based smart contract for recording the luwak coffee production process, including harvesting, fermentation, and distribution. The smart contract is developed using Solidity and implemented through the Remix IDE. In addition to its functional implementation, the study also calculates the average transaction cost (gas fee) required to store data on the Ethereum blockchain. Testing results show that all functions perform as expected, and the transaction cost at each stage can be calculated based on ETH usage. This system provides a foundational framework for developing a traceability application for luwak coffee that is secure, transparent, and efficient.

Keywords: blockchain, luwak coffee, smart contract, traceability, supply chain.