

## ABSTRAK

*A new technology called Smart contract has emerged. The technology was originally created for the first time in the United States through a technology called Blockchain. What makes this contract or agreement innovative is that its execution is created automatically through the use of a computer. The purpose of this paper is to analyze how Smart contracts work on the Ethereum Blockchain as the basis for auctions and their regulations which are considered not to meet the needs of today's society. The research method used was through library research and interviews, while the data were analyzed qualitatively. The results of the study indicate that there are challenges in the application of Smart contract technology such as the lack of software developer expertise, the difficulty of implementation due to the scalability of auction transactions, and the lack of resistance to attacks. Based on the problem above, this paper is written to discuss the advantages and disadvantages of Smart contracts as consideration and input if it will be applied in the auction system in Indonesia.*

*Keyword : Smart contract, Cryptocurrency, Blockchain, Non-Fungible Token, Auction*

Sebuah teknologi baru bernama *Smart contract* telah muncul. Teknologi ini awal mulanya diciptakan pertama kali di Amerika Serikat melalui teknologi bernama *Blockchain*. Apa yang membuat kontrak atau perjanjian ini inovatif adalah bahwa pelaksanaannya dibuat secara otomatis melalui penggunaan komputer. Tujuan dari karya tulis ini adalah untuk menganalisis tentang cara kerja *Smart contract* dalam *Ethereum Blockchain* sebagai dasar lelang beserta regulasinya yang dianggap belum memenuhi kebutuhan masyarakat saat ini. Metode penelitian yang digunakan adalah melalui studi pustaka dan wawancara, sementara data dianalisis secara kualitatif. Hasil dari penelitian menunjukkan bahwa terdapat tantangan dalam mengadopsi teknologi *Smart contract* ini seperti kurangnya keahlian pengembang perangkat lunak, sulitnya pengimplementasian karena skalabilitas transaksi lelang, dan kurangnya ketahanan keamanan terhadap serangan. Oleh karena itu, dalam karya tulis ini disusun untuk membahas kekurangan dan kelebihan *Smart contract* sebagai pertimbangan dan masukan jika akan diterapkan dalam sistem lelang di Indonesia.

*Kata Kunci : Smart contract, Cryptocurrency, Blockchain, Non-Fungible Token, Lelang*