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A. Introduction

The bureaucratic process for document management in Indonesia remains inefficient and ineffective due to the conventional methods still being practiced, such as requiring citizens to visit government offices and use hardcopy documents. On the other hand, digitalization in Indonesia is rapidly advancing, particularly in the transportation sector, as seen with the emergence of online motorcycle taxis that utilize technology in daily life. The government sector is also beginning to adopt digital transformation, one example being OSS (Online Single Submission), a web-based application that simplifies business licensing for entrepreneurs and MSMEs by integrating various governmental sectors [1]. While OSS is expected to enhance public service efficiency and effectiveness, concerns arise regarding the security of the data processed within the system. Given the large volume of data and sensitive personal information, a technology capable of safeguarding data security and integrity is required. In this context, blockchain emerges as a potential solution. In this context, blockchain emerges as a potential solution. The decentralized blockchain technology, supported by peer-to-peer consensus mechanisms, can enhance data security and availability by preventing modification and forgery by third parties [2].

The purpose of this research is to implement and analyze the performance comparison between a non-blockchain-based business licensing system and a blockchain-based system (Hyperledger Fabric) in terms of speed, as well as to explore the challenges and obstacles in the implementation process.