ASSESSING INDONESIA'S STATE-OWNED ENTERPRISES PAYMENT CAPABILITIES USING ADVANCED MACHINE LEARNING MODELS

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ABSTRACT

This study aims to provide a foundation for the Indonesian government and State-Owned Enterprises (SOEs) to develop effective mitigation strategies to uphold SOE accountability. Using a quantitative approach, the research analyzes the financial ratios of SOEs to predict their payment capabilities through various machine learning models. With SOE assets surpassing half of Indonesia's GDP in 2022, these enterprises are pivotal in achieving economic growth and the eighth Sustainable Development Goal (SDG). The Ministry of Finance (MoF) of Indonesia, responsible for maintaining SOE accountability, invests in multiple SOEs using funds from subsidiary loan agreements (SLA). The confidential data, comprising SOE financial statements received by the MoF, showed that the Random Forest model with 100 decision trees delivered the highest accuracy in 10-fold cross-validation and performance evaluation. The most significant variables identified were the current ratio, net profit margin, and debt-to-asset ratio. As a recommendation, regular monitoring should be implemented, allowing SOEs and the MoF to collaboratively discuss and determine the best strategies for improving financial health and accountability.

Keywords: Accountability, Machine Learning, Ministry of Finance, Public Sector, SOE

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