

ABSTRACT

Toll collection system in Indonesia has been using e-money since 2017. However, the increasing vehicle population and economic activities have led to congestion at toll gates, causing economic losses of up to IDR 4.4 trillion per year. To address this issue, the government plans to implement the Multi Lane Free Flow (MLFF) technology, which allows transactions without stopping. However, its implementation requires thorough readiness, as several challenges must be overcome, such as recording accuracy only reaching 80-99%, the potential loss of BUJT revenue, and infrastructure needs. Therefore, an analysis of BUJT readiness is crucial to ensure the successful implementation of MLFF.

This study aims to evaluate the readiness of BUJTs using the Technology-Organization-Environment (TOE) framework in adopting MLFF technology. The study focuses on seven main variables: Compatibility, Advantage, Complexity, Organization Readiness, Top Management Support, Government Support, and Vendor Quality. The analysis examines the relationships among these variables in relation to BUJT's readiness for implementing MLFF. The Partial Least Squares (PLS) approach is used to model the relationships among the variables through Structural Equation Modeling (SEM).

The research method uses a quantitative approach with a Nonprobability Sampling technique, specifically Purposive Sampling (Judgment Sampling). Data is collected via questionnaires distributed to relevant BUJT managers, supported by case studies for deeper insights. Data analysis is conducted using PLS software to test the validity, reliability, and relationships among the research variables.

Results show that only the Advantage variable has a significant effect on MLFF implementation readiness ($t = 2.496$; $p = 0.013$), while the other six variables are not significant. The R^2 value of 0.24 indicates a weak predictive capability of the model.

This study contributes to understanding the factors influencing BUJT readiness for MLFF and recommends strengthening government support, improving stakeholder coordination, and evaluating technical and organizational preparedness.

Keywords: Toll Collection, Multi Lane Free Flow, TOE Framework, Partial Least Squares, Structural Equation Modeling.