ABSTRACT

Digital transformation is one of PLN's strategies to remain adaptive in response to technological advancements, improve operational efficiency and achieve Key Performance Indicator (KPI). One of the key operational processes is the Electricity Usage Control (P2TL) which contributes directly to reducing distribution losses. In mid-2024 PLN UID KALTIMRA implemented the EPM (Efficiency Program Monitoring) application as a digital tool to enhance customer inspection processes and monitor field officer performance. However, post-implementation data shows a decline in P2TL results despite improved distribution loss performance. This study aims to analyse the factors influencing the effectiveness of EPM implementation and its impact on P2TL kWh realization and employee job satisfaction.

This study is grounded in several theoretical perspectives, including information systems theory, quality management, and digital transformation, all of which emphasize the importance of alignment between technology systems and work processes. Variables such as application stability, management support, process-technology fit, and user-friendliness are examined to assess their impact on digitalization effectiveness. Subsequently, the effectiveness of digitalization is analysed in relation to two outcome indicators: the increased in realized P2TL energy, which reflects corporate performance, and the job satisfaction of field officers.

This study adopts a quantitive approach using surveys and a case study. Data were collected through questionnaires distributed to field officers and relevant staff, complemented by secondary data from internal PLN reports. The analysis was conducted using Partial Least Squares Structural Equation Modelling (SEM-PLS) to assess relationships between variables and evaluate the validity of the overall model.

The results show that application stability, process-technology fit, and user friendliness have a positive effect on digitalization effectiveness, while management support does not have a significant impact. Furthermore, the effectiveness of EPM implementation has a significant positive influence on job satisfaction, but no significant effect on the increase in realized P2TL energy.

These findings serve a critical reminder to policymakers and application developers at PLN to consider technological adoption strategies that directly impact organizational performance, rather than merely focusing on digitizing work processes. This study also offers future researchers the opportunity to further explore the effectiveness of digital transformation, particularly by involving internal PLN personnel as the primary respondent group.

Keywords: Digitalization, Digital transformation, Efficiency, Electricity Theft, Job Satisfaction