ABSTRACT

During 2018 – 2021 at BUMA job site IPR, fleet (excavator and truck) management for coal mining activities was carried out manually by relying on production supervisors. The supervisors only monitor the cyclical suitability at one work site throughout the operation. The limited activity caused the ineffective cycle monitoring system, and production supervisors had difficulty analyzing the occurred constraints in the field. Management decided to complete the digitalization process by implementing the Fleet Management System (FMS) in 2022. This study's background is phenomena that occur when implementing FMS: the non-achievement of operator compliance, the FMS data that has not reached the validity target, and the non-achievement of FMS KPI.

This study aims to determine the factors that hinder the digitalization process related to FMS implementation and provide recommendations for corrective actions to overcome these factors.

This study used a quantitative method by providing a questionnaire to 351 respondents who were employees of the production and dispatch departments. The author distributes the questionnaire in the online form, and then the data is processed and analyzed using SPSS software with an exploratory factor analysis technique.

This study results in four factors hindering the FMS implementation: 1) unclear goals and strategies, 2) lack of FMS data optimization, 3) lack of employee digital capabilities, and 4) cultural change. The author offers insights for management to implement recommended policies, such as designing for project charter, infrastructure fulfillment, the obligation of production supervisors to identify root causes and corrective actions, data optimization training for supervisors, and simulator training for operators.

The author hopes to provide valuable insights for the management to implement effective policies based on the recommendations. Future researchers are encouraged to involve policymakers (company management) to create a more comprehensive study. Additionally, researchers can develop multiple statement items for each variable to create a more diverse research instrument, which will provide different factor analysis results.

Keywords: *technology adoption, production management, mining, digital strategy, digital data, digital capability, digital culture, factor analysis*