ABSTRACT

The Nuclear Medicine Installation at Dr. Hasan Sadikin General Hospital (RSHS) faces challenges in the efficiency of its radiopharmaceutical procurement process, which risks affecting the continuity of patient services. Based on the 2024 Government Agency Performance Report (LAKIP) of RSHS, constraints were identified in budget realization due to issues with vendor stock availability and process time limitations, contributing to the failure to achieve 11.11% of the hospital's Key Performance Indicators (KPIs). This research aims to identify key risks, design structured mitigation strategies, and develop a prototype monitoring system for the radiopharmaceutical procurement process.

By applying the Supply Chain Operations Reference (SCOR) 12.0 Racetrack framework and the Failure Mode and Effect Analysis (FMEA) method, this study identifies Responsiveness as the most critical performance attribute. Metric analysis reveals significant time gaps in administrative processes, namely the *Select Supplier and Negotiate Cycle Time* and the *Authorize Supplier Payment Cycle Time*. Based on the FMEA analysis, *Vendor Delivery Delay* was identified as the most critical risk, with an initial Risk Priority Number (RPN) of 66.80.

A total of four mitigation strategies are proposed, with the *Implementation of a Supply Risk Monitoring & Early Warning Module* being the top priority. As a proof of concept, a prototype monitoring system based on Microsoft Excel has been designed, enabling incident logging, operational monitoring through an interactive dashboard, and strategic analysis to support decision-making. The implementation of these proposals is expected to improve process efficiency, ensure the availability of radiopharmaceuticals, and strengthen the reliability of the supply chain at the RSHS Nuclear Medicine Installation.

Keywords: Risk Mitigation, Supply Chain, Radiopharmaceuticals, SCOR 12.0 Racetrack.