

ABSTRAK

Sentral Pengolahan Pos (SPP) Yogyakarta 55400 adalah sebuah unit dari PT Pos Indonesia sebagai pusat pengolahan untuk surat, paket, dan barang kiriman lainnya. SPP Yogyakarta 55400 terletak di Jl. Plemburan No.7, Sedan, Sariharjo, Kec. Ngaglik, Kabupaten Sleman, Daerah Istimewa Yogyakarta. Di sini, pengolahan meliputi proses penerimaan, pemilahan, dan pengiriman kembali kiriman sesuai dengan tujuan yang ditentukan. Berdasarkan data pada periode 18 minggu yaitu 30 Desember 2024 – 4 Mei 2025 pada layanan pengiriman Pos Reguler, diketahui bahwa SPP 55400 Yogyakarta melakukan proses pengiriman *outgoing* sebanyak 326.609 kiriman. Dari keseluruhan barang yang dikirim pada kategori produk Pos Reguler, didapatkan 261 kiriman yang mengalami penyimpangan dalam rentang waktu 18 minggu tersebut. Jenis barang penyimpangan yang terjadi meliputi gagal *x-ray*, kantung basah, kiriman rusak, salah salur kiriman, salah tempel resi, selisih kurang berat kiriman, selisih kurang item kiriman, dan lain-lain. Dengan 6 penyimpangan teratas dengan persentase 76,90% yaitu salah salur kirim (44,60%), retur barang (8,43%), kiriman rusak (8,03%), keterlambatan kiriman (7,63%), gagal *X-Ray* (4,82%), dan selisih kurang item (4,02%).

Metode FTA digunakan untuk mengidentifikasi akar penyebab penyimpangan secara deduktif melalui pemetaan struktur sebab-akibat, sedangkan metode FMEA diterapkan untuk menilai tingkat risiko dari masing-masing jenis penyimpangan berdasarkan nilai *Severity*, *Occurrence*, dan *Detection*. Hasil FMEA menunjukkan bahwa beberapa jenis penyimpangan memiliki nilai *Risk Priority Number* (RPN) yang tinggi dan memerlukan prioritas penanganan. Melalui pendekatan ini, diharapkan perusahaan dapat mengetahui letak titik kritis dalam proses pengiriman dan menyusun strategi perbaikan yang lebih tepat sasaran guna meningkatkan kualitas layanan pengiriman. Hasil dari penelitian ini diketahui 6 jenis penyimpangan yang terjadi pada layanan pengiriman Pos Reguler, dan menghasilkan RPN tertinggi pertama yaitu salah salur kirim dengan nilai RPN 671, retur barang dengan nilai RPN 450, kiriman rusak dengan nilai RPN 402, kiriman terlambat dengan RPN 297, gagal *x-ray* dengan RPN 258, dan selisih kurang item kiriman dengan RPN 158. Usulan perbaikan ditemukan berdasarkan nilai RPN *cause effect* tertinggi pada masing-masing dari 6 penyimpangan tersebut.

Kata Kunci : *Failure Mode and Effect Analysis, Fault Tree Analysis, Penyimpangan, Pengendalian Kualitas, Risk Priority Number*

ABSTRACT

Sentral Pengolahan Pos (SPP) Yogyakarta 55400 is a unit of PT Pos Indonesia as a processing center for letters, packages, and other consignments. SPP Yogyakarta 55400 is located at Jl. Plemburan No.7, Sedan, Sariharjo, Ngaglik Sub-district, Sleman Regency, Yogyakarta Special Region. Here, processing includes the process of receiving, sorting, and sending back shipments according to the specified destination. Based on data for an 18-week period, namely December 30, 2024 - May 4, 2025 in the Pos Regular delivery service, it is known that SPP 55400 Yogyakarta carried out the outgoing delivery process of 326,609 shipments. Of all the goods sent in the Pos Regular product category, 261 shipments were found to have deviations in the 18-week time span. The types of irregularities that occurred included failed x-rays, wet bags, damaged shipments, misrouted shipments, misplaced receipts, shipment weight differences, shipment item differences, and others. With the top 6 deviations with a percentage of 76.90%, namely wrong delivery (44.60%), returned goods (8.43%), damaged shipments (8.03%), late shipments (7.63%), X-Ray failure (4.82%), and item shortage (4.02%).

The FTA method is used to deductively identify the root causes of deviations through cause-and-effect structure mapping, while the FMEA method is applied to assess the risk level of each type of deviation based on Severity, Occurrence, and Detection values. The FMEA results show that some types of deviations have high Risk Priority Number (RPN) values and require priority handling. Through this approach, it is expected that the company can find out where the critical points are in the delivery process and develop a more targeted improvement strategy to improve the quality of delivery services. The results of this study found 6 types of irregularities that occurred in the Regular Post delivery service, and resulted in the first highest RPN, namely misrouted shipments with an RPN value of 671, returned goods with an RPN value of 450, damaged shipments with an RPN value of 402, late shipments with an RPN of 297, failed x-rays with an RPN of 258, and less difference in shipment items with an RPN of 158. Proposed improvements were found based on the highest cause effect RPN value on each of the 6 deviations.

Keywords: *Failure Mode and Effect Analysis, Fault Tree Analysis, Deviation, Quality Control, Risk Priority Number*