

ABSTRACT

Tight competition in the logistics industry requires PT XYZ to improve service quality to maintain customer satisfaction. However, there is still a high number of complaints of damaged goods, especially damaged boxes, which account for 47% of the total complaints. This problem not only lowers customer trust, but also causes financial losses because claim costs can reach Rp10 million per incident. This research aims to analyze the service quality of PT XYZ using the Six Sigma (DMAIC) method and Failure Mode and Effect Analysis (FMEA) to determine risk priorities. The results of the analysis show an average sigma level of 5.09, with this value indicating a fairly good quality, but the P-Chart still shows a point above the UCL which indicates the existence of process variations. The highest Risk Priority Number (RPN) value is found in the factors of less careful employees, damp warehouse conditions, box quality that is not up to standard, not understanding the type of goods and negligence in recording goods. Proposed improvements are designed by implementing a reward & penalty-based evaluation system, installing automatic humidity sensors, testing box strength, integrating barcodes and SOPs for handling special items, and an RFID system for recording goods. Hopefully, this proposal can reduce the number of complaints, reduce the cost of claims, and increase customer satisfaction.

Keywords : *Six Sigma, FMEA, service quality, logistics, customer complaints*