ABSTRACT

PT Mizan Grafika Sarana is one of the subsidiary units in the line of printing from Mizan Group which handles book production process. There are 5 types of books produced, one of which is a soft cover book. Based on historical data, the production of soft cover book in 2017 in January-December period showed the problem of delay in shipping soft cover book orders to customers due to the fact that production realization fluctuated with an average percentage of non-achievement of 6% (24,115 books). The presence of these non-achievements is indicated by a defect as in the year 2017 of January s.d. December occurred a defective average of 1.6% (4950) per month, thus exceeding the defective tolerance limit set by the company (1.5%). binding and 3-sided cutting process is the most defective one. There are 2 types of defects (LG defects and CM defects) on the binding process and 1 defect type (PTP defect) in 3-sided-cutting with 7 CTQs on the process based on the delphi questionnaire. Furthermore, the Six Sigma methodology (DMAIC) is used to minimize the occurrence of problems in binding and 3-sided-cutting. Prior to the improvement, it was found that the DPMO value is1038 and the sigma value is 4.58 so it can be identified that the process capability is still less than 6 sigma. With the use of analysis tool cause-effect diagram, it can be known factors causing damage to the product in the production that comes from humans, working methods, and machinery & equipment. FMEA approach can give recommendation of quality improvement with improvement priority on RPN value above 180. Proposed improvement is done by designing optimum condition of parameter design in binding process using Taguchi (DoE) method which then translated into Poka-yoke in the form of alarm display and checkerheet sterilizing container heating. As for the proposed improvement on the 3-sided-cutting process is to design a poka-yoke manual position of the book laying on the set-up 3-sided-cutting.

Keywords: Soft Cover Book, Binding, Potong 3 Sisi, Six Sigma (DMAIC), CTQ, DPMO, Taguchi (DoE), Pokayoke