

ABSTRAK

Pengendalian kualitas adalah aspek terpenting dalam menjaga stabilitas proses produksi dan meminimalkan terjadinya produk cacat pada industri manufaktur. PT XYZ merupakan perusahaan yang memproduksi karung plastik *polypropylene woven bag* yang menghadapi permasalahan berupa tingginya jumlah produk cacat pada proses rajut (loom), jahit, dan printing. Kondisi tersebut berpotensi meningkatkan pemborosan bahan baku dan biaya operasional perusahaan yang berpotensi menimbulkan kerugian perusahaan. Penelitian ini bertujuan dalam menganalisis tingkat kecacatan produk, mengidentifikasi jenis cacat yang terjadi dan faktor penyebabnya terjadinya kecacatan, serta menentukan prioritas usulan perbaikan menggunakan metode *Statistical Quality Control* (SQC) dan *Failure Mode and Effect Analysis* (FMEA). Metode SQC digunakan melalui alat bantu checksheet, diagram pareto, peta kendali, dan diagram sebab-akibat untuk mengidentifikasi stabilitas proses serta penyebab kecacatan produk. Selanjutnya metode FMEA digunakan dalam menentukan tingkat risiko kegagalan berdasarkan parameter severity, occurrence, dan detection yang menghasilkan nilai Risk Priority Number (RPN). Hasil penelitian ini diharapkan dapat memberikan rekomendasi perbaikan yang tepat dalam menurunkan tingkat kecacatan produk karung dan meningkatkan kualitas proses produksi karung plastik di PT XYZ.

Kata Kunci: Pengendalian Kualitas, Cacat Produk, Produk Karung, *Statistical Quality Control*, *Failure Mode and Effect Analysis*

ABSTRACT

Quality control is the most important aspect in maintaining the stability of the production process and minimizing the occurrence of defective products in the manufacturing industry. PT XYZ is a company that produces polypropylene woven bags that face problems in the form of a high number of defective products in the process of knitting (loom), sewing, and printing. This condition has the potential to increase the waste of raw materials and the company's operational costs which have the potential to cause company losses. This study aims to analyze the level of product defects, identify the types of defects that occur and the factors that cause defects, and determine the priority of repair proposals using the Statistical Quality Control (SQC) and Failure Mode and Effect Analysis (FMEA) methods. The SQC method is used through checksheet tools, pareto diagrams, control maps, and cause-effect diagrams to identify process stability as well as the cause of product defects. Furthermore, the FMEA method is used to determine the level of failure risk based on severity, occurrence, and detection parameters that produce a Risk Priority Number (RPN) value. The results of this study are expected to provide appropriate recommendations for improvement in reducing the defect rate of sack products and improving the quality of the plastic sack production process at PT XYZ.

Keywords: Quality Control, Product Defects, Sacked Products, Statistical Quality Control, Failure Mode and Effect Analysis