ABSTRACT

PT XYZ is a company engaged in the footwear industry, covering the production and marketing of sports or casual shoes to local and international markets. To be able to produce quality products, the company sets a product CTQ which is a benchmark so that a product is said to be a quality product. However, due to various factors there are still products that do not meet the CTQ or are said to be defective products, the efforts made by the company to overcome the defects that occur by rework the products that are considered repairable without making improvements to the indicated process can cause these defects.

To overcome this problem the method used for analysis is the DMAI (Define, Measure, Analyze, and Improve) approach which is used to identify problematic processes and indications of causing product defects, find out the factors that cause this to happen to find the most feasible alternative solution to then the design and design of the proposed tool is carried out using the reverse engineering method where the RE method focuses on developing existing products by adjusting user needs.

The design of the proposed tool is an automatic timer that is directly integrated with the lasting machine and connected to the timer in the lasting machine using a Programmable Logic Controller which will instruct that the gluing time on the front, side and back of each shoe is four seconds

With this proposed design tool, it is hoped that it can reduce the percentage of defects so that it does not exceed 1% by reducing the frequency of slanted defects and upper defects (related to upper tears) and can increase the sigma value which is better than the existing condition.

Keywords: *quality*, *defect*, DMAI, *reverse engineering*