

ABSTRACT

The development of science and technology in globalization has an essential role in improved delivery services. PT. Pos Indonesia is one of the State-Owned Enterprises that provides delivery services. The delivery process has a long flow, so it is considered necessary to innovate using a machine or computerized system. To identify the design of a sack cleaning machine with an automatic compressor from PT. Pos Indonesia so that it can reduce workload and shorten work time. Descriptive qualitative study was done by Interviewing PT Indonesia and customers. Data analysis was performed using the Scrum method. Each part was tested by stress analysis. Scrum analysis shows that 61.43% processed products in the first stage and 38.97% continued in the second stage. Air compressor analysis shows 2-4 bar sizes are suitable for cleaning sacks. Analysis of the product development step shows that the product has gone through structured stages and is under the customer and operator specifications. The stress test analysis on the Rail Conveyor, trolley wheels, and trolley shows blue and light blue colors with maximum stress values of 4.59e-04 MPa, 3.407 MPa 5.8e-05 MPa, respectively. Time calculation analysis shows a reduction in the number of workers and time by 57 seconds per sack. This product can meet the requirements according to the specifications desired by customers and operators, namely cleaning large quantities of semi-automatic sacks in a short time and with good material resistance.

Key Words: *New Product Development, Scrum Method, Conveyor*