

ABSTRACT

IMPROVEMENT PROPOSAL TO REDUCE LEAD TIME IN PLASTIC INJECTION USING LEAN SIX SIGMA METHOD IN PT. X

By
Fildza Rossianti
112102236

(Program Studi Teknik Industri)

Company X is plastic part manufacturing company with plastic injection product line as their main product line. One type of its products with the highest production and is always produced every month is FB 7084 with an average number of 441 102 units per month of production. However, company cannot reach the planned production target for this type of product FB 7084 with high levels of production planning in several periods. Therefore, improvement efforts planning are needed to identify and eliminate waste dominant occurring during the process flow using Lean Six Sigma approach.

The object of this research is focused on the process of making the product FB 7084 plastic injection production floor. The research is started by making a current state map to find out the current value stream. Through the value stream mapping it is identified that lead time process is 5130.45 seconds with respective activity percentage are as follows: delay 37.35%, non value added operation 2.74%, transportation 0.03%, and value added activity 59.87%. To identify waste dominant occurring during the process waste checklist is used and it is identified that the waste dominant is waste waiting or delay that increase lead time.

An improvement proposal planning is made to overcome waste dominant that occurred by implementing pull system, as well as conducting operation method improvement so that material flow can flow faster. The improvement proposal is indicated shorter process lead time that is 3529.44 seconds. From the overall process, activity with the highest percentage after the improvement is value added operation activity with percentage of 94.244, while another activity percentage : *delay* 5.27%, transportation 0.05%, and non value added operation 0.44%. Proposal work system application is expected the company can reach production target planned especially for the FB 7084 product.

Key Words: Lean Six Sigma, Value Stream Mapping, Waste, Plastic Injection, Lead Time