

ABSTRACT

This study concentrates on how to improve productivity in the Bout process of an automotive company. The major concept and focus used in this study are Lean and optimal batch size of work-in-process. The method of greatest assistance in this research is the simulation model. Simulation is the process of designing and creating a model of reality for the purpose of conducting numerical experiments to elicit understanding of the behavior of the processes involved.

Using these tools will produce a huge benefit for the manufacturer, which can be summarized below:

1. Reduce cycle time in the Bout line
2. Reduce the level of work-in-process in the production line
3. Deliver goods just-in-time
4. Support the supply chain strategy

The result of this study is that cycle time is reduced from 32 to 19.06 days, while remaining work-in-process is just one month. Also, we compare the created system with the real system and then adjust the number of batch size to find the optimal size. At the conclusion of the study, we found that the batch size should be 1 log roll per lot. Also, the work-in-process level is reduced from 30,870 to 1,320 pieces. while line capacity and utilization are still maintained.