

CHAPTER V

CONCLUSIONS

This chapter contains the research conclusions and suggestions for further research.

5.1 Conclusions

Conclusions of this research are as follows:

1. Waste identification in packing bag production process is conducted using Waste Relationship Matrix and Waste Relationship Questionnaire. Based on the result, waste of defect, inventory and waiting are the three highest waste exist in the process. The percentage of each waste is as follows: Defect (24,4 %), Inventory (16,3%), Waiting (15,2%), Motion (14,1%), Overprocessing (13,8%), Transportation (9%), and Overproduction (7,2%). Process Activity Mapping presents that the percentage of Non Value Added activities is as much 9,6% in production line III and 9,3% in production line IV.
2. The improvements suggested to reduce waste in packing bag production process are made to the three highest waste. To minimize defect waste, improvements such as the implementation of Total Productive Maintenance and Poka-Yoke, check the defect on the primary stage, use the control chart of defective product and ensure the condition of raw material is good can be done. Inventory waste can be minimized by having an accurate production planning in accordance with market demand and stock, improve inventory control system, implement *Heijunka* method and do strict supervising of production supervisor to minimize inventory of work-in-progress. Last, the regular training on maintenance operators, do machine maintenance, and provide a specified place to put defective products can be done to minimize the waiting waste.

5.2 Suggestions

Suggestions for further research are as follows:

1. Further research can propose improvements to all types of waste in order to maximize the implementation of lean manufacturing.
2. Further research can carry out the implementation and evaluation of the proposed improvements.

