Abstract
Current competitive conditions in the paper markets have forced the producers to look for new ways of reducing their inventory. However, the production planning and inventory management are decoupled activities. Coordination between these activities needs to be done in order to successfully decrease the inventories at hand, especially when considering the characteristics of a special business context, the paper making industry.

In this final project mathematic model will be implemented to know the effect of flexible lead times toward production management and inventory paper producers. Mixed integer linear programming model that implemented cover flexible and exact lead times with dependent setup cost. The models are solved with mipSolve solver.

The result of the implementation is hoped can help the industry of the paper company to do production planning and manage the inventory to increase the execution.

Keyword: Flexible Lead Time, Production-distribution Optimization, MILP