

ABSTRACT

Konveksibaju.id is a convection company that concerns to produce tees. In the production process, the problem of cutting process residue is often found. The problem can be solved by minimizing the remaining residue of cutting material in the cutting line to determine optimal material. This research used integer programming method to find a solution to the optimization of cutting the material on the cutting line. So company can reduce the residue cost to maximize the profit. The first step in this research is collecting data, such as the size of each pattern, cloth size, and production quantity in a roll of material. Application of the Integer Programming branch and bound method to the material cutting process affected by length of the fabric. Integer Programming method increases the number of shirts produced and total remaining fabric of the production process is reduced, which is better than not using Integer Programming. The largest percentage of success is on the third try on size L shirts with the increase of tees produced is 4.17% and the total decrease of the residue is 22.51%.

Keywords: *integer programming, cutting stock problem, profit*

