ABSTRACT

PT. PINDAD is Indonesia's Manufacturing Industry Company that produces military and commercial products. To maintain the trust of its customers, PT. PINDAD should be able to complete all orders on time, because company production process based on order (job order). One of the strategies is completing all orders on time, therefore PT. PINDAD should be able to increase production volume and to save production cost, such as by optimizing the materials movement distance between the production processes, which is directly related to the layout of the factory.

In research conducted in PT. PINDAD, particularly in the chain drag conveyor production process at the "Departemen Tempa" there is an inefficient layout. This is indicated by irregular material flows, backtracking on the production process, and a lot of material movement between operations. Type of layout used is process layout design, with the objective to minimize the total movement moment. The algorithm used is the CRAFT algorithm that requires data of transfer materials cost (multiplication of the distance with the frequency of movement). Beside that simulation is performed to compare the existing layout with the proposed layout.

Based on research that has been done, the proposed layout can reduce the total movement moment of material until 23.77%. By reducing the movement moment of material, it also directly cause production costs reduction which is incurred. In addition, based on simulation of proposed layout, it can be increase production volume until 12.5%. Thus the proposed layout can increase the efficiency of the company.

***Keywords**: Layout, CRAFT algorithm, Movement moment, Simulation.*