ABSTRACT

PT . Granesia *is a company engaged of the printing and publishing* . PT . Granesia *perform the process production based on orders (make to order). Besides the paper products ,* PT . Granesia *also produce the products with commercial product category . Huge demand on commercial products requires of these products have an optimal movement moment , but there are backtracking and displacement of material that is not optimal inter- operation on the production line, as well as bottlenecks still occur due to the lack of production facilities . In addition the company also planned to carry out the relocation and addition of facilities with the aim to increase capacity so that it can complete the order on the exact time .*

The approach used in this case is the Group Technology approach , which Rank Order Clustering (ROC) , *Similarity coefficient algorithm* (SCA) *and the Cluster Identification Algorithm* (CIA) *method. Group Technology can define Celllular Manufacturing (CM) by grouping machines based on similarities in product design and manufacturing process characteristics. . The algorithm used in this case is an algorithm* SA - CRAFT *, where this algorithm requires a data input torque transfer material (multiplication with frequency displacement distance) .* SA-CRAFT *algorithm is a general algorithm to solve the combinatorial optimization problems on the layout produces optimal solutions. .*

Based on the research that has been done , the layout of the proposed machine , the machines are grouped into 2 Cellular Manufacturing and layout of the proposal to reduce the total moment of the movement of material of 45.15 % of the actual circumstances . Thus the proposed layout of the resulting material can efficiently movement moment .

Keywords: *Layout, Group Technology,* SA-CRAFT *Algorithm, Cellular Manufacturing, Movement Moment.*