ABSTRACT

PT. Dirgantara Indonesia *is one of aviation company in Asia which have a long experience and also competent in designing, developing, and manufacturing airplanes. On the production floor of in Machining section on Small Prismatic Machine CNC 2 there are still some backtracking material flows which cause longer material movement moment. In addition, the company wants to add another new unit machine. So, the company requires a realignment of the existing layout. There are a lot of variety of products created there. Because of that, the classification of machines and parts is very important. So there will be a decreasing unproductive operation, decreasing frequency of material handling movement, and others.*

In order to increase the efficiency of the production layout, the Group technology has been applied by classifying machines and also similar parts. Three different methods are used in designing group technology, there are Rank Order Clustering, Single Linkage Cluster Analysis, and Cluster Identification Algorithm. Then the result from this method is compared with a performance measurement. On this research, the method that gave the best result was Rank Order Clustering method and CRAFT algorhytm is being used to look for smallest material movement moment so that the most efficient layout in distance adan material movements could be achieved

The result obtained from processing the CRAFT *Algorithm have total movement moment smaller than the existing layout. So in the end, the classification of machines and parts which can reduce the activity of material movement as much as 44% is obtained based on software calculation using* WinQSB *with a moment of 190,651.70.*

***Keywords** : Layout, CRAFT Algorithm, Group Technology, Movement Moment*