

ABSTRACT

An efficient line production is the line production that can maximize the amount of production with a minimum number of work stations and the minimum number of operators as well. Linking jobs in the line production must be considered in determining the division of work in each work station. This research is expected to minimize the idle time during each work station operation at PT. DAYANI GARMENT INDONESIA so that a better line balancing and larger production output can be obtained.

The design of line balancing of PT. DAYANI GARMENT INDONESIA aims to improve the efficiency of assembly lines and to achieve the desired production target company. The design of the line balancing is executed by allocating the work elements using three methods: Rank Positional Weight, Largest Candidate Rule, and Region Approach. From the methods, the best method with criteria of utilization or in other word the most optimal for the company was chosen. To simulate the design of the proposed line production and to see changes in the production quantity and the line efficiency on the real system, a production process simulation is held using software ProModel 7.5.

The conclusion based on the research that the assembly path using the method Region Approach has a better line production results compared to both other methods and line assembly of the existing assembly. It can be derived from the highest line efficiency of 89.89%, which increase 35.36% from the existing company line assembly. There is also an increase in the number of existing company final production output per shift by 17 units / shift from the existing company line assembly.

Keywords: ProModel 7.5, Line Balancing, Rank Positional Weight, Largest Candidate Rule, and Region Approach.