

ABSTRACT

This research is a study of the improvement in the facilities layout arrangement for a garment company. The poor facilities layout is a root cause that means the company cannot deliver the products to customer on time, and causes it to pay a late penalty. A facilities layout re-arrangement is the best way to solve the root cause of the problem. This study adapted the layout arrangement theories and created the methodologies step by step. The methodologies developed alternative layout plans, before applying a simulation program to generate the results for analysis in order to aid the company in selecting an appropriate facilities layout.

In the facilities layout improvement, the objectives of this study are to reduce the total distance and the transportation time. An appropriate facilities layout starts from consideration of a relationship diagram. The diagram supports the company to consider relationships between different departments in order to know the position of each department in the factory. The advantage of a relationship diagram is to reduce the distance in resource movement. The effectiveness of this diagram should adapt the product layout theories in order to reduce the transportation time effectively. The product layout has many workflows, for example U-shape, L-shape, I-flow, and Serpentine. However, this study applied a simulation program as the measurement for selecting a new facilities layout. Since the program could detect process bottlenecks, rearranging and line balancing can be conducted. Finally, simulation again proved that the selected facilities layout is appropriate to the company.