Ruthai Rungseethong 2010: The Production Improvement in the Production Line of the Car Assembly Plant from Batch Model to Mixed Model by Applying the Simulation Technique. Master of Engineering (Industrial Engineering), Major Field: Industrial Engineering, Department of Industrial Engineering. Thesis Advisor: Assistant Professor Pichit Sukcharoenpong, D.Eng. 110 pages.

Simulation model with the ARENA program has been applied to the research in order to rise up the performance of car assembly line comparing with the existing productivity. There are 3 categories of the assembly line including A, B and C. The data was collected from a car manufacturing plant as the input for the input-modeling analysis with the lean production to replace the batch model to the mixed model of the production in the future. The researcher found that the performance of the existing production in the car manufacturing plant in the model is 74.95% which is similar to the real value. When the performance of the production was improved by adding the third of station which is a bottle neck, the performance has increased to 84.95%.

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