

عنوان مقاله:

A Model for Measurement and Calculation Waste in Production Flow Layout Using Fuzzy Logic

محل انتشار:

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نویسندگان:

Meysam Alizadeh Siyahkal - *Ph.D. Student, Department of Industrial Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Seyyed Mohammad Hadji Molana - *Assistant Prof., Department of Industrial Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Reza Fattahi - *Ph.D. Student, Department of Industrial Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

خلاصه مقاله:

One of the issues of reducing waste and therefore increasing productivity in manufacturing enterprises is to endow with smooth and good production layout. Organizations can make production flow layouts productive by following up lean thinking model, thereby producing final products with minimal waste. The purpose of the research is to provide a model to aid industry managers' decision-making process with choosing between the most appropriate production flow layout patterns with respect to the amount of waste in production units; hence the idea is taken care of by considering criteria of inventory level, transport, lead time and product quality. In order to evaluate and choose layouts based on the forgoing criteria, a fuzzy inference system was employed. The system input is rating of each layout of production flow for each criterion, which was obtained by AHP method, and its output is the amount of waste of each layout of production flow. In order to simulate the proposed fuzzy inference system, Matlab software was utilized. In the end, a product layout with a quantitative difference compared to group (cell) layout, took up the least amount of waste and was considered as the most suitable of lean production flow layout for the study firm.

کلمات کلیدی:

Waste, Product Layout, Process Layout, Group Technology (cellular), Fuzzy Inference Systems

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