Productivity Improvement in the Pride’s Spare Parts Manufacturing using Computer Simulation and Data Envelopment Analysis

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Abstract

Generally, improving production rate is a typical crucial problem in any manufacturing system. To cope with the problem, different kinds of scientific method stems from trial and error may be applied which imposes high costs. Rottenly testing any proposed scenarios may have significant effect on both operational management and manufacturing cost. This paper considers a simulation based data envelopment analysis (DEA) applied into a well-known automobile spare part manufacturer in Iran to improve production rate. The purpose is to select the optimum scenario, which could maximize the system efficiency. The techniques of Monte Carlo simulation and linear programming adopted to solve the problem. In order to make the frame efficient, the DEA model improved according to the features of the system simulation. Applying this method could conduct us to gain more than 1% improvement in production rate using the existing resources.

References

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**Index Terms**

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**Keywords**

Computer Simulation, Production rate, Design of experiments, Data Envelopment Analysis.