A Solution for Production Facility Assignment: An Automotive Subcontract Case

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Abstract : This paper presents a solution method for selection of production facility. The motivation has been taken from a real life case, an automotive subcontractor which has two production facilities at different cities and parts. The problem is to decide which part(s) should be produced at which facility. To the best of our knowledge, until this study, there was no scientific approach about this problem at the firm and decisions were being given intuitively. In this study, some logistic cost parameters have been defined and with these parameters a mathematical model has been constructed. Defined and collected cost parameters are handling cost of parts, shipment cost of parts and shipment cost of welding fixtures. Constructed multi-objective mathematical model aims to minimize these costs while aims to balance the workload between two locations. Results showed that defined model can give optimum solutions in reasonable computing times. Also, this result gave encouragement to develop the model with addition of new logistic cost parameters.