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APPLYING OPTIMIZATION MODELS TO THE ORDER ALLOCATION PROCESS AMONG SELECTED VENDORS ⁶

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Abstract: Vendor selection process includes the offer comparison submitted by multiple suppliers. Frequently the officers must combine orders from multiple vendors. The common reasons for this: one vendor might or might not cover the whole product range; the capacity of the vendor is lower than the demand. At this point a comparison of multicriterial objects need to be performed. At one side the officer might want to find the product or service that would match the best to the company's budget or terms. At second, all the obligatory constraints must be met. At third the context might be important. The task complexity of order allocation problem increases dramatically as the count of the variables (vendors, offers, products) or count of the conditions (max capacity, min order quantity, price, etc) increases. This paper suggests a spreadsheet model performing optimization methods over the order allocation problem. This model is built in Microsoft Excel solution. It shows good performance results on a set with two vendors and five products. As the count of vendors increases – the model often bypasses global optimum and suggests locally optimal feasible solutions.

Keywords: Vendor Selection, Supply Chains, Spreadsheet, Optimization Model, Solver

JEL Codes: M10, M20

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