

## **Applying fuzzy-AHP and VIKOR method to evaluate the fitness of ERP systems**

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### **Abstract**

Enterprise resource planning (ERP) system is an integrative information system that supports firm's processes and resources management. Evaluating alternative solutions and selecting the fitting one are the critical phases for successful implementation of ERP system. The objectives of this study are to analyze the critical criteria of ERP system introduction, evaluate three alternative solutions (denoted as systems A, B and C) based on those criteria and then select the best one for the case company, a precision locknuts firm. In this study, firstly, the critical criteria of ERP evaluation are constructed via questionnaire from the case company. Secondly, fuzzy analytic hierarchy process (fuzzy AHP) is applied to determine the weights of the criteria and their factors. Thirdly, VIKOR method is developed to solve the multiple criteria decision making (MCDM) problems with the conflict among the criteria and factors, and finally obtain one best-fit ERP system for the case company. The results show that three most important system evaluation criteria of the firm are system technology and security, information quality, and system process and operations. By means of VIKOR method, the system C is the best rank of the given weights.

### **Keywords:**

ERP System, Fuzzy AHP, VIKOR method, Multiple Criteria Decision Making.

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### **Biography**

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