## Artificial Intelligence Based Comparative Analysis for Supplier Selection in Multi-Echelon Automotive Supply Chains via GEP and ANN Models

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**Abstract :** Since supplier selection appears as a vital decision, selecting supplier based on the best and most accurate ways has a lot of importance for enterprises. In this study, a new Artificial Intelligence approach is exerted to remove weaknesses of supplier selection. The paper has three parts. First part is choosing the appropriate criteria for assessing the suppliers' performance. Next one is collecting the data set based on experts. Afterwards, the data set is divided into two parts, the training data set and the testing data set. By the training data set the best structure of GEP and ANN are selected and to evaluate the power of the mentioned methods the testing data set is used. The result obtained shows that the accuracy of GEP is more than ANN. Moreover, unlike ANN, a mathematical equation is presented by GEP for the supplier selection.

Keywords : supplier selection, automotive supply chains, ANN, GEP

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