

An optimization model for solving outsourcing supplier selection problem based on particle swarm algorithm

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Abstrak

ABSTRACT

The characteristics of decentralization, diversification, and dynamics of outsourcing resources put forward higher requirements for the supplier selection in manufacturing enterprises. For building materials equipment manufacturing enterprises, due to the complex product structure, the demand for outsourcing resources is very large. The traditional method is difficult to meet the needs of current outsourcer evaluation and selection. In order to solve the problem, this paper establishes an outsourcing supplier selection model based on the quality, price, delivery time, reliability, and availability of outsourced suppliers. And then, a hybrid supplier selection algorithm based on Analytic Hierarchy Process AHP and Particle Swarm Optimization PSO is designed in this paper. Finally, the model and algorithm with genetic algorithm GA and ant colony optimization ACO. The experimental results show that the model can effectively improve the effectiveness and reliability of outsourcing supplier selection.