

A multi-criteria decision making approach for order mix selection problem

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### Abstract

When the economy is in the upturn, manufacturers may not have adequate capacity to produce all orders demanded by customers. The evaluation and selection of orders is important for the competitiveness and future development of the enterprise. To cope with this problem, a multi-criteria decision making approach is proposed for more efficient evaluation and selection of order mixes in a high-tech company. Fuzzy analytic network process (FANP) is adopted to evaluate factors and the interrelationship among the factors under the benefits, opportunities, costs and risks (BOCR) merits, and the expected performance of the order mixes can be determined subsequently. The proposed approach can provide a good reference of order mix ranking for production in the case that a manufacturer has insufficient capacity.

Keyword : Order mix selection; multi-criteria decision making; fuzzy analytic network process; benefits, opportunities, costs and risks.