

AHP and TOPSIS Methods for Supplier Selection Problem in Medical Devices Company

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Abstract : Supplier selection subject is vital because of development competitiveness and performance of firms which have right, rapid and with low cost procurement. Considering the fact that competition between firms is no longer on their supply chains, hence it is very clear that performance of the firms' not only depend on their own success but also success of all departments in supply chain. For this purpose, firms want to work with suppliers which are cost effective, flexible in terms of demand and high quality level for customer satisfaction. However, diversification and redundancy of their expectations from suppliers, supplier selection problems need to be solved as a hard problem. In this study, supplier selection problem is discussed for critical piece, which is using almost all production of products in and has troubles with lead time from supplier, in a firm that produces medical devices. Analyzing policy in the current situation of the firm in the supplier selection indicates that supplier selection is made based on the purchasing department experience and other authorized persons' general judgments. Because selection do not make based on the analytical methods, it is caused disruptions in production, lateness and extra cost. To solve the problem, AHP and TOPSIS which are multi-criteria decision making techniques, which are effective, easy to implement and can analyze many criteria simultaneously, are used to make a selection among alternative suppliers.

Keywords : AHP-TOPSIS methods, multi-criteria decision making, supplier selection problem, supply chain management

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