

A preliminary study of the production strategy evaluation model

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Abstract

An ever-increasing trend in today's firms is to exploit various kinds of production strategies, such as joint venture and outsourcing, in the attempt to acquire reasonable profits and to be competitive in the market. The decision processes are complicated and with a high degree of uncertainty. Since every production strategy has its strengths and weaknesses, which one is the most suitable for a firm to carry out is a difficult decision the management needs to make. This research, thus, proposes a product strategy evaluation model that can facilitate such a decision making. Literature review and interviews with experts are done first to list the criteria under the benefits, opportunities, costs and risks merits, and fuzzy Delphi method (FDM) is applied next to select the most important criteria under each merit. A network is constructed to incorporate the selected criteria. Fuzzy analytic network process (FANP) is then applied to consider the interdependence and feedback among criteria, and group decision making is used to generate consensus of experts. Lastly, the proposed model is applied by a PCB manufacturer in evaluating production strategies.

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