

A decision-making model for selecting new product development projects

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### Abstract

Firms today are usually under a dynamically changing and fierce competitive environment. To survive in such an intensive competitive market, firms need to be innovative and to produce new products that can lead to future profits. Successful new product development (NPD) thus is essential for the survival of firms. A conceptual model is proposed to select the most appropriate projects for NPD. First, constraint programming (CP) is used to select the NPD project candidates. Fuzzy analytic network process (FANP) with fuzzy multiple objective programming (FMOP) is developed next to help select the best NPD projects under specific environments and constraints. A case study in a photovoltaic (PV) firm is presented to examine the practicality of the model. The proposed model is recommended for implementing NPD projects to achieve sustainable competitive advantage.

Keyword : Decision making, new product development