

# The Application of Fuzzy FMEA in the Development of New Product Decision-Making-A Case Study of the Solar Module Industry

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## Abstract

In a highly competitive economic society, in order to survive and maintain competitiveness, enterprises must constantly seek beneficial investment opportunities to keep a leading position in competition. The development of new products is the most difficult task in such a process. With solar module industry as the theme, this study explored the new product development decision-making issue and summarized five major key dimensions and 19 their subordinate criteria regarding new product development by literature review and expert interview. It employed the Interpretive Structural Model (ISM) to obtain the dimension-dimension and criterion-criterion dependence relationship, and used the Fuzzy Failure Mode and Effect Analysis (Fuzzy FMEA) to determine the top priority factor for assessment improvement in the new product development solutions of the enterprises.

Keyword : ISM, Fuzzy theory, FMEA