

Application of Integrated Fuzzy-AHP for Design Concept Evaluation: A Case Study on Mold Design Selection

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ABSTRACT

Design concept evaluation plays a critical role in the early phases of product development as it has significant impact on the downstream development processes as well as on the success of the product developed. In this chapter, a novel methodology using the integration of Fuzzy-AHP with House of Quality (HOQ) and Rough-Grey Analysis has been developed to obtain the weight and rank of alternatives. This method will give the designers better-informed decision before making the final decision. A real case example from industry is presented to demonstrate efficacy of the proposed methodology. The result of the example shows that the integration of Fuzzy-AHP with HOQ and Rough-Grey Analysis approach provided a novel alternative of existing methods to perform design concept evaluation.

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