

Integrating TRIZ and AHP: a MPV's utility compartment improvement design concepts

ABSTRACT

This study sets up a systematic product design model that assists decision makers or design engineers to improved current design through idea generation method of Theory of Inventive Problem Solving (TRIZ) and utilizing analytical hierarchy process (AHP) performing the selection of best generated idea. In addition, the proposed framework is analyzed and evaluated by a case study of utility compartment of MPV. There were 5 types of improved design triggered by TRIZ principles approach and ranked based on selected criteria by utilizing Expert Choice software. Employing the proposed integrated methods on new product development or product redesign may raise the concept design efficiency as well as avoiding the cost waste during the product design and development processes. In addition, this study also means to investigate the strengths of TRIZ and AHP integration.

Keyword: Analytical hierarchy process; TRIZ; Conceptual design