

Implementation of Augmented House of Quality in Designing Multifunction Bag for Bicycle

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Abstract

Product design quality urgently needs to be defined and expressed by the designer in the overall design process. Previous research has implemented House of Quality (HOQ) or Quality Function Deployment (QFD) in determining design requirements, such as: assessment of design and development processes, even analyzing design quality priorities with fuzzy analytic network approach and integrating house of quality with objective engineering models with product performance. Complement prior studies, this research aims to implement the House of Quality in determining design requirements in accordance with customer voice and then integrating them with analytic network process (ANP) approaches combined with decision making trial and evaluation laboratory. (DEMATEL) in prioritizing design requirements. This research will implement the integration of the HOQ method with multi criteria decision making (ANP & DEMATEL) in the multifunction bag for bicycle design process through three processes consisting of: identification of problems in bicycle sports lovers, ideation and augmented house of quality method, and design concept. Through the application of HOQ integrated with MCDM in this case study, designer could manage the quality in every stage of design process.

Keywords

Augmented HOQ, ANP, DEMATEL, Multifunction Bag, Bicycle.