

Rating the Importance of Customer Requirements for Green Product Using Analytic Hierarchy Process Methodology

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Abstract : Identification of customer requirements and their preferences are the starting points in the process of product design. Most of design methodologies focus on traditional requirements. But in the previous decade, the green products and the environment requirements have increasingly attracted the attention with the constant increase in the level of consumer awareness towards environmental problems (such as green-house effect, global warming, pollution and energy crisis, and waste management). Determining the importance weights for the customer requirements is an essential and crucial process. This paper used the analytic hierarchy process (AHP) approach to evaluate and rate the customer requirements for green products. With respect to the ultimate goal of customer satisfaction, surveys are conducted using a five-point scale analysis. With the help of this scale, one can derive the weight vectors. This approach can improve the imprecise ranking of customer requirements inherited from studies based on the conventional AHP. Furthermore, the AHP with extent analysis is simple and easy to implement to prioritize customer requirements. The research is based on collected data through a questionnaire survey conducted over a sample of 160 people belonging to different age, marital status, education and income groups in order to identify the customer preferences for green product requirements.

Keywords : analytic hierarchy process (AHP), green product, customer requirements for green design, importance weights for the customer requirements

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