

An Intelligent Mathematical Model in the New Product Development based on Random Fuzzy Variables

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Abstract

Intense international competition, rapid technological evolution, and the more mature expectations of customers have produced unprecedented challenges in the service sector. New Product development (NPD) is essential if organizations are to survive and grow. However, the process can be complex, time consuming, costly and often unsuccessful. One of the greatest challenges for the industrial marketing manager is to incorporate the “behavior of the customer” into the design of new products and services. Quality function deployment (QFD) system can help to assure that customer needs drive the NPD process. Here, we propose an intelligent mathematical model based on random fuzzy variables in QFD. First we consider customer requirements as a random variables then relation between customer requirements and design requirements as a fuzzy variable. Then we calculating the relative importance of design requirements for select the importance one. The aim of this research is to develop an intelligent quantitative method to achieve customer value anticipation, customer satisfaction and loyalty.