

Quality function deployment implementation based on Fuzzy Kano model: An
application in PLM system

李友錚, 許良僑, 鄒源淦

Technology Management

Management

ycl@chu.edu.tw

Abstract

Abstract

Product lifecycle management (PLM), a strategic business system allows more effective communication among different groups at dispersed locations to share ideas and access information needed for developing new products and executing innovative processes. The main function of PLM is to develop an attractive system which ensures customer satisfaction. Therefore, one of the important topics of the PLM system developments is to take customer requirements into consideration. Quality function deployment (QFD) has been widely used for numerous years; it is one of the structured methodologies that are used to translate customer needs into specific quality development. However, in the traditional QFD approach, each element's interdependence and customer requirements are usually not systematically treated. Additionally, the Kano model can effectively classify customer demand attributes, but to make Kano model more objective in the course of weighing, we have also included Fuzzy mode in our discussion. This study presents an integrative approach by incorporating the Kano model with Fuzzy mode into the matrix of QFD and adjusting customer requirement weights. This approach can fulfill two objectives, First, through the Kano model with the Fuzzy mode, it will not only discriminate out options for the required attributes in much more breadth but also simultaneously render the discretions on the linguistic implications much more accurate with the aid of the ambiguous questionnaire response method. Second, combining the

Kano model and QFD, can not only provide a new way to optimize the product design but can also enhance customer satisfaction and loyalty, and minimize dissatisfaction. The proposed methods can be useful to both practitioners and researchers. To illustrate our findings, we have incorporated an example which suggests that the proposed approach can contribute to the creation of attractive PLM attributes and PLM innovation.

2007 Elsevier Ltd. All rights reserved.

Keyword : Keywords: Product lifecycle management; Quality function deployment; Kano model; Fuzzy mode