

Data Mining to Capture User-Experience: A Case Study in Notebook Product Appearance Design

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Abstract : In the era of rapidly increasing notebook market, consumer electronics manufacturers are facing a highly dynamic and competitive environment. In particular, the product appearance is the first part for user to distinguish the product from the product of other brands. Notebook product should differ in its appearance to engage users and contribute to the user experience (UX). The UX evaluates various product concepts to find the design for user needs; in addition, help the designer to further understand the product appearance preference of different market segment. However, few studies have been done for exploring the relationship between consumer background and the reaction of product appearance. This study aims to propose a data mining framework to capture the user's information and the important relation between product appearance factors. The proposed framework consists of problem definition and structuring, data preparation, rules generation, and results evaluation and interpretation. An empirical study has been done in Taiwan that recruited 168 subjects from different background to experience the appearance performance of 11 different portable computers. The results assist the designers to develop product strategies based on the characteristics of consumers and the product concept that related to the UX, which help to launch the products to the right customers and increase the market shares. The results have shown the practical feasibility of the proposed framework.

Keywords : consumers decision making, product design, rough set theory, user experience

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