

Applying Association Rule Technique to Product Design

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Abstract

With the help of advanced technology, product life cycle becomes shorter and shorter. Concurrent Engineering (CE), contrast to Sequential Engineering, is a product development paradigm that considers all product life cycle activities at a time to shorten design phase and lower the cost. The activities include manufacturing, assembling, reliability, and recycling. Although CE can condense time-to-market and increases competitiveness of new products, it is found that current CE practice is not enough in customer-oriented, so the design of product can't satisfy customers' requirements.

To solve the described problems, this research applies association rule technique to analyze the customer's preference from different product combination of the market. Meanwhile, since the new customer purchase data occurred constantly, this research applies Neural Networks to integrate old rules with new rules. Proposed system can feedback dynamic market information to the designer so that Quick Response (QR) can be achieved.

Keywords: Association Rule, Concurrent Engineering, Neural Networks,
Product Design.