



Project Title: AutoQFD: A Smart Quality Function Deployment Method for Product Development

研究項目: AutoQFD : 針對產品開發的自動化的品質機能展開方法研究

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Abstract

Quality Function Deployment (QFD) is a widely-used toolkit to develop or improve products to better satisfy customer needs. It has also been widely used in other industries, such as service, healthcare, and software. While being proud of the history, QFD faces some difficult problems in today's business. A QFD process is usually complicated, labour-intensive and time consuming. A smart and automatic QFD platform is proposed in this project to meet these challenges. The proposed methodology can automate the QFD process in a speedy manner and requires much less resources of expertise from companies. We will leverage the massive amount of product review text to inference the knowledge between customer requirements and product engineering characteristics. Natural language processing, deep learning and transfer learning techniques will be deployed to train a general QFD model for a product category, such as consumer electronics. Users just need to fine-tune the generic model using a small amount of product-specific data in the category, such as mobile phone, to get a product-specific QFD. In summary, AutoQFD enables users to train their customised QFD models with limited time, data and domain knowledge.