The extended integrated model of Kansei Engineering, Kano and TRIZ incorporating cultural differences in services

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Abstract. The fulfillment of customer emotional needs (Kansei in Japanese) tends to be highly expected especially in growing industries such as service industries. Recent research shows that emotions is equally important as cognition in service encounter. It is, thus, to achieve service excellence for customer, service provider should not overlook the significant roles of both emotional and cognitive aspects. In modeling of how to capture and translate customer emotional needs into services, Kansei Engineering is used. This study aims to integrate Kansei Engineering with Kano model and TRIZ. Kano model is used to identify the relationship between service attribute performance and customer satisfaction, whereas TRIZ is utilized subsequently to generate designs of improvement with lowest contradiction among the proposed design alternatives. Due to relatively unexplored cultural differences in Kansei research, thus, cultural factors are considered and engaged with the integrated model. It is hoped that more insights about customer emotional needs in different backgrounds will be better understood, so that the improvement strategies will be well fitted. In addition, for an illustration of applicability of the integrated model, an empirical study in a certain service taking into account local and foreigner will be discussed.

Introduction

Quality is not only for products, but also in services [1, 2]. What has been perceived by customer will bring impact on both cognitive and emotional satisfaction, known as total customer satisfaction. In understanding customer emotional needs both in product/service design and development, Kansei Engineering has been used intensively [4, 5]. It is quality management system which grasps the customer Kansei/emotions and improves the quality level to always satisfy the customer Kansei. Inherently, the application of Kansei Engineering in service industry is relatively quite new. The challenge for service provider is to deliver a consistent Kansei all the way through all main processes.

According to previous study by Hartono and Tan [2], this current study also applies SERVQUAL model as the service attributes, regarded as stimulus for customer Kansei. It is deployed into 5 different dimensions, i.e., tangible, reliability, responsiveness, empathy and assurance [6]. Though all service attributes are important, prioritization strategy is required due to limited resources (e.g., funding, labor, hours etc) and impact level on customer Kansei. This is supported by the fact that in many cases the relationship between improvement levels and customer impression is unnecessarily linear. It is the weakness of service gap analysis of SERVQUAL. The Kano model has the potential to fill in the gap. Kano's attractive needs are quite related to customer Kansei, and it is deemed that delighted customers will remain loyal and promote favourably the company to others. Through Kansei Engineering methodology [2, 5], critical service attributes with the highest impact on Kansei which are categorized as Kano's attractive [A], of highest service performance negative gap, and of highest number of Kansei influenced, will be deemed to be the highest priority for improvement. It then comes to the exploration of how to fulfill the needs for improvement. House of quality (HoQ) matrix is quite intensively used [5, 7]. However, service design and improvement mostly rely on inspiration, the past experiences of service designers and similar existing designs. This is the weakness in service design [8]. According to Chai et al. [8], TRIZ is appropriate to be engaged in service design and development process. It is a method that