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A Study on the Real-time Survey System for Customer Satisfaction

Min-Sik Kang[1] and Eun-Jee Song[2]

[1] Department of Industrial and Management Engineering, Namseoul university,
Cheonan 303-707, Korea
[2] Department of Computer Science, Namseoul university,
Cheonan 303-707, Korea
{mskang, sej}@nsu.ac.kr

Abstract. An effective management of performance by a firm or any organization must involve accurate analysis of service elements for customers and evaluation of the results so that its service quality can be continuously improved. The central purpose of this paper is to propose a survey analysis system that can accurately evaluate customer satisfaction. The proposed system arranges a set of measurement factors for each of the service factors and enables us to perform a systematic survey. In particular, a scoring system is utilized to quantitatively evaluate the quality of each unit service and derive an order of priorities for the service elements that need to be improved. Also, the mobile and web-based surveys make it possible to conduct real-time analysis of the measured data.

Keywords: Customer Satisfaction, Service, Real-time Survey, Analysis System, Mobile

1 Introduction

The market has changed into a customer-led one and ever-changing customers' needs lead to more competition in any industry. Firms now face with the era of service economy; they rather appeal to product-related services than the quality and price of products.

In such a trend, information about customer is crucial and, thus, they exert all their efforts to gather and accumulate as much data about customer. A traditional method to gather customers' responses to a product or service has been offline surveys.

However, this conventional method takes much time and costs high. More importantly, these surveys cannot be conducted real-time, which might mean that it is not easy to make a correct evaluation of customer satisfaction [1].

The present paper proposes a system that performs mobile and web-based surveys, measures customer feedbacks and provides a real-time analysis of the measured results. In particular, this model employs a scoring system that can quantitatively

[2] corresponding author: sej@nsu.ac.kr

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evaluate customers' satisfaction. Each service factor is evaluated with a set of measurement factors for a systematic survey [2].

Also, the survey questions are written in various foreign languages - English/Chinese/Japanese- as well as Korean.

2 The Analysis System for Customer Satisfaction

2.1 The Organization of the System

The proposed system consists of real-time mobile-based survey of customer satisfaction, web-based survey of satisfaction after service and systematic analysis of the survey results. The system of survey and analysis is based on the following steps and guidelines.

① The concept of service is categorized into service products, service and service processes. Core evaluation factors for each component were extracted and measured in the surveys. The service quality is expected to be improved by way of improving customer satisfaction with these core evaluation items.

② An analysis frame is developed to effectively and systematically analyze the results of the surveys. The system performs the scoring of survey results for each measurement item. The quality element of each measurement item is also scored [3].

③ The quality factors and measurement factors should be standardized in order to enable us to compare the service level of a company with that of others in the same industry [4].

The overall organization and the structure of each component are as follows.

1. Basic information for the survey: One is asked to select a manner of the survey (open or closed) and a language.
2. The structure of the survey: Information about the survey structure appears here (the title and the outline of the survey, open questions and the closing remarks)
3. Information about the respondents: This area is constructed with the relevant information about the respondents.
4. Survey about services: Survey questions about services are constructed. The questions about a product or service are extracted from the survey pool.
5. One completes answering the survey and finishes it up.

2.2 Design of the System

The proposed system aims to provide an accurate and objective evaluation: it can digitize the level of satisfaction by providing a numerical value. That is, the process of scoring can provide rated figures for the level of satisfaction with any element; a product, a service, a unit service, a measurement factor or a quality factor [5]. Also, the system can be helpful by identifying the areas of service that need to be improved.

The system is designed in a following way.

1. To build a satisfaction analysis system, a prototype is designed to perform a checking process. UI (User Interface) is designed, then, on the basis of this prototype.
2. A set of survey questions is produced for the evaluation of the quality factors of each product or service and the contents of the contracts (reservations) and the schedules are managed.
3. Real-time surveys using mobile applications during the service and after-service surveys using websites are conducted.
4. Collection and analysis of survey results, scoring and analysis of satisfaction, IPA (Importance Performance Analysis), and correlation analysis are performed in order to extract satisfaction levels for each product and service.
5. A dashboard displays comprehensive information for overall analysis.

2.3 Implementation of the System

The survey in the current system consists of a set of components: title, introduction, and information about respondents, survey questions about service, open questions, and concluding remarks. All these are structured in the form of meta-information in the survey. The meta-information input includes the structure of the survey, information about respondents and the service survey area. Each component of the survey is automatically constructed according to languages.

Fig. 1 and 2 illustrate the implementation of the system.

Fig. 1. The screen of registration for survey structure information

Fig. 2. The screen of survey composition for each service

3 Conclusions

The recent trend of 'creative economy' in Korea has emphasized the importance of the service industry. In the service industry it is essential that businesses respect customers' opinions, maintain good relationships with them and be able to provide products and services they ask for. To that purpose, a crucial requirement is to gather the opinions of potential customer [6].

In this paper we proposed a more effective survey analysis system for customer satisfaction that lets customer use mobile and online web-sites, analyzes the survey results by quantitatively evaluating their satisfaction with a set of quality factors and eventually provides a list of areas that need to be improved.

Also, the proposed system can let foreigners use the system, since it is written in various languages including English, Japanese and Chinese. It is expected that this system can be applied in many service industries: for example, medical industry, tourism, distribution industry as well as public service.

Another advantage would be that the surveys and feedback analysis can be performed real-time on the web and smart phones and thus can help businesses effectively maintain their level of service.

It is needed from now on that the proposed system can also be applied to service industries to prove the validity of the system.

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