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The exploration of customer satisfaction model from a comprehensive perspective

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Abstract

This study provides a model of customer satisfaction from a comprehensive perspective and tries to use the nonlinear fuzzy neutral network model to verify the assumptions of the study. Samples are taken from the information and tourism industries at a proportion of 2:1 based on the population in Taipei and Kaohsiung cities. A total of 207 questionnaires are returned. As the result of the empirical research shows, the interpersonal-based service encounter is better than the technology-based service encounter in functional quality, while the technology-based service encounter is better than the interpersonal-based service encounter in technical quality. The functional quality has a positive and significant effect on customer satisfaction; the service quality has a positive and significant effect on service value; the service value has a positive and significant effect on customer satisfaction. The service encounter has a positive and significant effect on relationship involvement and the relationship involvement has a positive and significant effect on customer satisfaction.
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1. Introduction

The industrial structure in Taiwan has transformed from traditional agricultural and manufacturing industries to the tertiary service industry that is booming and dominating the market with its high employment rate and production value. In the circumstances, it is very important for the service industry to improve their service quality. The core value provided by the service industry to consumers includes not only the uniqueness of tangible and intangible products, but also various factors involved in the process of service delivery to customers, such as physical facilities, company image, and quality of the service delivery. Emphasizing customers' perception of service quality is important to enhance the extended perception and impression of consumers on products, and to increase the added value of products. With the rise of consumer awareness, requirements of customers changing from mass production to customization and quality. Therefore, how to understand the requirements of customers and provide them with products and services they need, reduce customer costs and improve customer value, and continually trace the satisfaction of consumers are essential for an enterprise to march toward success.

Much research on the cause of service quality and customer satisfaction has been published in recent years. This research focuses on the following dimensions: (1) discussing the antecedent variable that affects customer satisfaction. Zeithaml and Bitner (2000), for example, found that customer satisfaction was affected by service quality, product quality, price, personal and situational factors. Oliver and DeSarbo (1988) found that service quality was the antecedent variable of customer satisfaction, while Anderson, Fornell, and Lehmann (1994) found that customer satisfaction was dependent on service value; (2) presenting theoretical models to explain the importance and necessity of customer satisfaction. Anderson and Suillivan (1993) pointed out that the satisfaction or dissatisfaction of customers could be measured based on the gap between the

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expectations of customers before purchasing and the performance of the purchased products or services. Woodruff, Cadotte, and Jenkins (1983) raised the norms in models of consumer satisfaction. They found that consumers evaluated products of different brands based on "norms" and their satisfaction was determined by the conformity among these norms. Meuter, Ostrom, Roundtree, and Bitner (2000) introduced the Technology Infusion Matrix to analyze how to enhance the provision of customized service by helping staffs or consumers use hi-tech tools and ensure the service failure compensation to improve customers satisfaction; (3) bringing up research dimensions and approaches for measuring customer satisfaction and service quality. For example, Perkins (1993) pointed out that industries were different in target market segmentation and, thus, measurement of customer satisfaction varied depending on the characteristics of individual industries. He raised three dimensions to be taken into consideration for empirical research on measurement of customer satisfaction: operation dimension (availability, delivery on time, price, credibility), service dimension (sales service, technical support, product line), product dimension (technical value, reliability, design). Parasuraman, Zeithaml, and Berry (1985) referred to "encounter" and "feasibility" as key dimensions. After interviewing senior management and consumers of four service industries and conducting comprehensive exploratory research, they raised the five-gap theory and brought up an important measurement approach. With this approach, excess of expected service (ES) over perceived service (PS) was represented by $ES > PS$, indicating that the overall service quality was not acceptable, while satisfactory service quality was represented by $ES = PS$ and excess of perceived service over expected service was represented by $ES < PS$, indicating an inclination toward ideal quality.

Previous research on customer satisfaction had the following characteristics: (1) emphasizing the discussion of performance. Oliver (1980), for example, found that satisfaction was a value consumers give to a deal. The higher the service level that consumers expect to have, the more difficult for the service provider to provide, the higher the customer satisfaction. According to the conformity theory of Mittal and Tsiros (1999), when the expectation of consumers was not in conformity with the actual performance of a product, they might change their perception of the product and incline to eliminate the gap between the expectation and performance, and thus improve the satisfaction; (2) emphasizing the discussion of cause and result of satisfaction. Cronin and Taylor (1992), for example, evaluated service quality based on performance and argued that service quality was the cause of customer satisfaction. Parasuraman, Zeithaml, and Berry (1988) researched the gap between service quality and customer satisfaction; (3) explaining the cause of customer satisfaction from a single perspective, such as the attribution theory of Bitner (1990) and the equity theory of Oliver and DeSarbo (1988). Kotler (2000) found that customer satisfaction was closely linked

to customer value and the measurement of customer satisfaction should be carried out from the perspective of value. As some previous literature shows, the topics such as "service quality", "service value", and "customer satisfaction" were researched separately and only a limited number of literature focused on integration research in the relationship between the behavior intention of consumers and the service quality, service value, and customer satisfaction as a whole (Cronin, Brady, Tomas, & Hult, 2000). This study provides integrated research of these variables and focuses on their relationship as the first research motive; (4) most of the satisfaction models used in previous research emphasized the perceptive (Kotler, 2000) and emotional perspectives (Price, Arnould, & Tierney, 1995) of consumers. However, what a provider of the service industry emphasizes is not only the interaction with consumers to ensure their satisfaction, but also the method of changing the trade exchange to the value increment exchange (the relationship continuum theory of Day, 2000). Therefore, this study proceeds to the research from the perspective of relationship involvement as the second research motive.

Besides, the multivariate statistic analysis approach or case study was commonly used for empirical research (Bolton & Drew, 1991; Cronin, Michael, Brady, Hightower, & Shemwell, 1997; Zeithaml, 1988) and the nonlinear research model (such as the nonlinear fuzzy neural network model) was not used often for theory verification. The nonlinear fuzzy neural network model is maturely developed and has a wide range of applications. It is not only useful for prediction and assortment, but also for uncertain behavior systems. Therefore, this study uses the nonlinear fuzzy neural network model to verify the initial data of the research as the third research motive.

Based on the above, the purpose of this study is listed as follows:

(1) To provide a customer satisfaction model from a comprehensive perspective of relationship involvement, service encounter, service quality, and service value.
(2) To verify collected data with the nonlinear fuzzy neural network model and discuss its meaning for management.

2. Literature review

Service encounters were classified as follows in the previous research: (1) according to the level of service encounter with the staff or facilities, the service encounter was classified into high service encounter (contacting staff more frequently or contacting customers widely) and lower service encounter (mainly contacting physical facilities). Industries belonging to the former include the hotel industry, insurance industry and tourism industry, while industries that belong to the latter include internet banks and couriers. However, many industries of high or middle service encounters contact with customers and make deals with them