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Identification of Customer Value of Healthcare Services in Taiwan

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Abstract

The Taiwan national health insurance was first conducted in 1995 and plans of health insurance payment have been modified several times. Nowadays, hospital operating environment is getting more and more competitive. Therefore, how to take the advantage of competitiveness is the urgent topic of gaining advantage of competitiveness.

The objective of this study is to identify a qualitative dynamic value of attribute, based on Keeney's (1999, 2001) and Ma, et al. (2001) approaches, that provides insight into the customer's value to hospital managers. The procedure includes a detail discussion for the model by recognizing the relevant data and making them as objectives.

Keywords: Customer value, Healthcare service, Customer attribute, Qualitative interview

Introduction

Recently, the development of marketing strategy of healthcare is changing from manager oriented to customer relationship oriented. Customer centricity is the pivotal strategic issue in healthcare business relationship development. The increasing competitive and complex healthcare environment, how to understand your customer become a popular topic in the literature (Cooper & Cronin, 2000; Corbin, et al., 2001; Kaldenberg, 2001; Lane & Lindquist, 1988; Ratz & Sirgy, 2000). How do hospital managers specify what it is patients want of new products/services? Why is patient choice to come rather than another? Hospitals' managers can not merely care medical effect, but also should focus on customer value in order to understand customer needs, meet his/her special needs to retain actual customers and earn their loyalty further (Hippel & Katz, 2002). The best way is to identify and sustaining a customer's value and build a value model. By using customer values model, companies can invest in the customers that are valuable for the company.

Different customer might view the same purchase of different value. Estimating customer value is an appropriate approach to understand what do customers need (Keeney, 2001). Therefore, how to arrange the resource in order to construct a dynamic attribute value model for hospital service is a top priority. Yet, there is a dearth of research into the process by which practitioners identify customer's values of hospital.

The objective of this study is to identify a qualitative dynamic value of attribute, based on Keeney's (1999, 2001) and Ma, et al. (2001) approaches, that provides insight into the customer's value to hospital managers. The procedure includes a discussion for the model by recognizing relevant data and making them as objectives.

Literature Review

Customer value

Customer value has been studied under customer lifetime value, customer equity and customer profitability (Hwang, et al., 2004).

Hilliard (1950) defined customer value as an interactive relativistic preference experience which refers to the evaluation of some objective by some customers. The objectives include any product, a service, a manufactured good, and a social cause and so on. Holbrook (1996) defined three key dimensions of consumer value: self-oriented, reactive and extrinsic. However, Oliver (1996) pointed out that Holbrook did not mention satisfaction in the typology and he noted six presentations of satisfaction and value. Oliver (1997) reported that quality is an important input issue to satisfaction through the comparison of performance to valued standards. Zeithaml (1988) models a positive value function via five factors including quality, functionality (extrinsic attribute), pleasure (intrinsic attribute), personal values and perceived sacrifice (monetary outlays and non-monetary costs). The function is expressed as the following equation:

$$\text{Value} = f(\text{Receipts/Sacrifices}) \quad \text{--- (1)}$$

Theoretical Customer Value Calculations

Keeney (1999, 2001) refers to his “how do you build model of values” by using qualitative method. Keeney classifies the qualitative model of values into four steps, described below:

- Develop a list of values: Ask each individual to write down all his/her values. For example: What do you want? What do you value? What should you want?
- Convert each value that obtains from customers to an objective: The initial list of value from customers will come in different forms. The researchers need to clear definition of each the term objective. In this step, the objectives involve three characteristics: decision context, an object and direction of preference. For example: one objective of a customer satisfaction in healthcare service may be to “physician care.” The decision context here is what do I really mean by this?
- Structure objectives: In this step, the researchers need to combine different objective into categories. For example: Why is this objective important in the decision context?
- Specifying measures for the objectives: A certain attribute that may seem obvious for a given objective but need to consider more detail in order to appraising the value judgments built into that attribute.

Understanding the customer value is the base and start of realizing the customer needs and their decision-making. To understand accurately the decision behaviors of the customer, the dynamic attribute value model will be discussed in the next section.

Combining the attributes

A value model is a function U , often just referred to as an objective function which assigns to each consequence X a number $U(X)$ for reflecting the relative desirability of that consequence. Therefore, different types of value models are appropriate for different decision contexts. Once the fundamental objectives and attributes are specified, the quantitative value model can be constructed by the following three steps: (1) combine the various attributes; (2) scale the relative value of different levels of each attribute and (3) determine the value tradeoffs between different levels of achievement on different objectives.

In order to combine various attributes, the research utilizes independence concepts analogous to probabilistic independence used in developing models of engineering and economic relationships. When the independence concepts are verified as appropriate, relative values can be assigned to subsets of consequences without worrying about what the other attribute levels are. There are three main independence concepts used for developing value models in the research, including additive independence, preferential independence and utility independence. Keeney (2001) used these three independence concepts to derive a general value models, multiplicative value model.

Multiplicative value model: If each pair of attributes is preferentially independent of the others and if one attribute is utility

independent of the others, then the utility function can be expressed as equation (2):

$$1 + KU(X_1, \dots, X_n) = \prod_{i=1}^n [1 + K_i U_i(X_i)] \dots\dots\dots \text{equation (2)}$$

, where U is valuation function, X_i is inference value and K_i is scaling constants.

At the same time, the research combines Multi-Attribute Decision Model (Yoon and Hwang, 1981) and single attribute customer value model (Keeney, 2001) to develop a multi-dimension attribute customer value model for healthcare services. The multi-attribute decision model (Yoon and Hwang, 1981) can be expressed as equation (3):

$$\varphi_r = \varphi(S_r) = \sum_{k=1}^n \omega_k \varphi_k(X_{rk}) \quad r=1, 2, 3, \dots, m \dots\dots\dots \text{equation (3)}$$

,where $\varphi(S_r)$ is the value function of different S_r , ω_k and $\varphi_k(X_{rk})$ are weight and value function of attribute p_k .

Meanwhile, the function for different S_r can be expressed as equation (4):

$$\varphi_r = \sum_{k=1}^n \omega_k a_{rk} \quad r=1, 2, 3, \dots, m \dots\dots\dots \text{equation (4)}$$

,where a_{rk} is the comparing scale of X_{rk} after normalization

Customer Value of Healthcare Services

Methodology

Qualitative in-depth interviews (Arksey and Knight, 1999; Creswell, 1997; Gordon and Langmid, 1988; Rubin and Rubin, 1995) were a explore research technique. The reason to apply in-depth interviews is because of the ability to give well-grounded, rich descriptions and explanations (Miles and Huberman, 1994). Qualitative in-depth interviews will be applied in research because these methods allow the researchers to identify their understanding of the respondents' perspective (Arksey and Knight, 1999). One year of data collection began with a survey administered to two hospitals customers where located to north and south Taiwan.

Interviews

Each of the interviews lasted from 20-30 minutes and was open-ended although structured by interview guides to ensure coverage of issues relevant to the researchers. During interviews, case study participants were encouraged to "think aloud" and provide why they selected specific values to be important and how it relates to other component that are linkages valued. This "think aloud" protocol for data collection was based on Schoenfeld's (1983) methods. According to the method of Schoenfeld's (1983), the researcher should interact with each subject by encouraging, guiding, questioning, and searching during the interviews.

The interview situations included classification of the subject's meanings by the researcher and reflections from the subjects. The purpose was to help subjects express their ideas more clearly. The questions in identifying customer's values are presented as Table 1. All of these issues need to be considered in designing an objective from patients and developing a set of objectives to the relationship network for healthcare resources.

Identify objectives

406 participants, 216 involved in hospital A and 163 involved in hospital B and 15 employees in hospital A and 12 employees in hospital B, were volunteers to fill in the questionnaires. It might take fifteen minutes per participants. After identifying subjects' attributes of customer values, seven different subjects, including two physicians and five patients, were interviewed during the two weeks after treatment. Subjects were told this was a study about healthcare and would take about 20-30 minutes to complete. Upon agreeing to participate and on the initial analysis of the survey responses, four cases were selected. In order to think about customer

value within the structured framework of a subjects' mandarin language, can prove highly revealing in its won right (Keeney, 1996, 2001; Ma, et al., 2001). This was done to identify the types of service quality available and classify customer values in the healthcare services. Based on the logic of dynamic attribute value models, the value models index (Keeney, 1992) was used as the theoretical theorem of explores.

Table 1 Summary open-ended question in identifying customer's values

<p><i>Encouragement:</i> I believe you can do this question.</p> <ol style="list-style-type: none"> 1. Explain, in your own words, what is a definition of value. You did a good job on the previous one. 2. What is your concern about the healthcare service? Why? 3. How do you feel about the healthcare service? 4. What image or characteristic comes to your mind when you choose a hospital? 5. What is the specific value that hospital can offer? 6. How can hospital managers redesign existing product (or strategy) to improve the services? 7. How can the current healthcare marketing system surmount the obstacles? <p><i>Guidance:</i></p> <ol style="list-style-type: none"> 1. What is wrong or right with your hospital? 2. Is there any problem in current healthcare service? Give me an example. 3. What needs to be improved? Is this enough to guarantee that the situation becomes well? What do you really mean by this? <p><i>Questioning:</i></p> <ol style="list-style-type: none"> 1. What are your ambitions? 2. What limitations are placed upon you? 3. What specific service do customers want? <p><i>Searching:</i></p> <ol style="list-style-type: none"> 1. What values do you have for your customers and your employees? 2. Why is the value important? 3. What do you mean by this value? 4. How valuable are certain demographic profile and diagnosis history to a customer?

Finding: Confirm truth value

However, in order to ensure the generalization theoretical categories of the researcher's findings, the study "truth value"- its applicability, its consistency and its neutrality will be constructed by reflecting the assumptions (Lincoln and Guba, 1985; Reid, et al. 1995). The assumptions involve confirm ability, credibility, transferability and dependability.

The proposed customer value model is proper to hospital managers. This model offers a fitting way of conceptualizing the relationships among the core elements (e.g. customer satisfaction, customer relationship, loyalty, health service performance). Table 2 presents objectives hierarchy for customer value with healthcare service.

The relationship among customer value, customer satisfaction, customer relationship, customer loyalty and healthcare service performance are explored. Meanwhile, nine attributes of customer value are identified as shown in Table 2. Healthcare service performance can be improved only when customers are satisfied. Then, the relationship can be built for enhancing customer loyalty.

The result of the research will be applied to develop a customer value model in the future.

Table 2 Simplified the Customer Value with Healthcare Service

Fundamental Objective	Components of objective
Cost	1. Fewer prices. 2. Less co-payment if illness can be cure. 3. Handled in an acceptable manner.
Equipment	1. High quality of medical supplies. 2. Modern equipment. 3. Software (SOP training). 4. Hardware (e.g. location, Decoration).
Physician Background	1. Physicians' expertise. 2. Physician's technology skill. 3. Outstanding physician.
Physician Care	1. Courtesy of physician. 2. Amount of time the physician spent with patient. 3. Communication skill (e.g. languages barriers).
Environment	1. Good surrounding. 2. Patients' recreation room on ward (e.g. library, coffee room).
Timing Arrangement	1. Equitable diagnosis timing to each customer. 2. Equitable treatment timing to each customer. 3. Timing of patient's discharge from hospital. 4. Time for talking about patient's feeling or worries.
Relationship	1. Guidance and support patients. 2. Trust (e.g. empathy, sympathy, word of mouth). 3. Commitment (e.g. complaint feedback—care center/e-mail/-800 numbers).
Brand Image	1. LOGO. 2. Brand identifies (e.g. free medical treatment/ oral hygiene guidance). 3. Brand awareness.
Additional value (Differentiate)	1. Professional management (e.g. internal customer--experience inherits/specific labor division/occupational training). 2. Clinic different characteristics (e.g. health insurance).

Conclusion

Objective network of healthcare services is shown in figure 1.

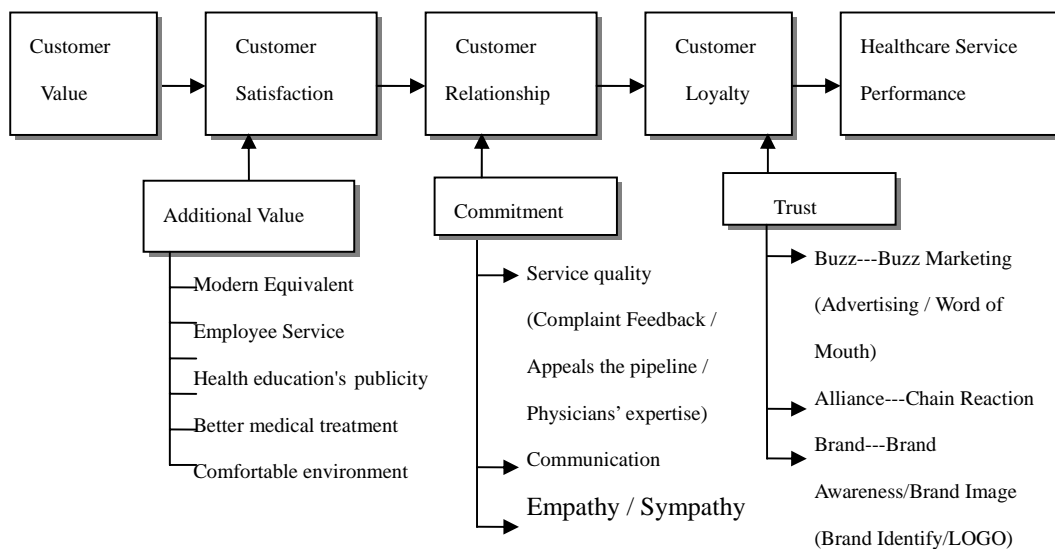


Figure 1. Major values of healthcare services

Note

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