

## **REVEALING USER PERCEPTION TOWARD ONLINE REGISTRATION SYSTEM OF HOSPITALS: ANALYSES OF MEANS-END CHAINS AND KANO MODEL**

Liang-Shiun Lin, Kaohsiung Medical University, No.100 Shih-Chuan 1st Road, Kaohsiung 807, Taiwan, +886-9-09634731, roger870731@gmail.com

Yin-Chih Fu, Kaohsiung Medical University, No.100 Shih-Chuan 1st Road, Kaohsiung 807, Taiwan, +886-7-3121101 ext.5751, microfu@kmu.edu.tw

### **ABSTRACT**

Taiwan's national health insurance (NHI) system has covered 99.6% of population and contracted with 93% of hospitals and clinics. It has been very famous globally for its quality medical services offered and equal treatment guarantees. People can simply use their NHI cards to make an appointment with their doctor via the online pre-registration or walk-in registration system. Hence, understanding what the users' actual needs to design a user friendly registration system becomes extremely important for hospital managers.

This study based on means-end chain (MEC) theory and Kano model aims to reveal user's preferences and perceptions toward hospital online registration system. According to the classification of Taiwan medical institutions (i.e. medical center, regional hospital, district hospital and clinics), a total of 16 hospital registration websites were examined and 28 in-depth interviews were gathered. All the interviewing transcripts were content analyzed and found 16 attribute, 11 consequence and six value variables for a final questionnaire design. In this study, 224 out of 255 valid samples were collected from a questionnaire survey. For Kano quality appraisal analysis, the results show that 'functional menu layout', 'Q&A', 'site map' and 'English interface' are categorized as indifferent quality for Taiwanese, while foreigners viewed 'English interface' as must-be quality. For all users, 'registering by department', 'rechecking or canceling one's appointment' and 'downloading doctor's schedule' are the essential attributes that a registration system must have to meet their demands. Moreover, 'specialist introduction', 'schedule changes of specialists' 'department code', 'hospital floor layout', and 'patients required knowing' are recognized as one-dimension quality. In this category, the better the performance of these attributes, the higher the users are satisfied. Notably, 'registering by symptom of a disease', 'registering by specialists', 'instant messaging', and 'medication' are classified in the attractive quality category. Such attributes are not normally expected by users, but may produce additional satisfaction if they are provided. That is, if hospital registration system can provide those attributes, the degree of user satisfaction will increase dramatically. For MEC analysis, the results show that 'registering by symptom of a disease', and 'registering by

specialists' attributes yield 'selective', 'convenient' and 'time-saving' consequences after system usage, leading to the achievement of 'well respected by others' and 'fun and enjoyment of life' values. Restated, if patients can make their online registration by their symptom of a disease or by specialists, they will feel that hospitals care about them and provide them with such a convenient and user friendly system. Moreover, if the registration system can offer 'specialist introduction', 'schedule changes of specialists', 'patients required knowing' and 'medication' attributes to the users, it provides them with 'information symmetry' feeling and further satisfy their 'security' value demand. Finally, the theoretical and managerial implications are also provided in this study. Future research may consider following the procedure provided in this study to investigate other country's hospital registration system and comparing the differences between hospitals with and without national health insurance.