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Future Market Expectation for Korean u-Health by Analyzing Demand Forecast and Adoption Factors

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Abstract

With progress in ICT and health care and medical technology providing capability, the introduction of u-Health has been propelled by an increasing demand from both service providers and users. The benefits expected from u-Health are enormous. In addition to the tremendous contribution to the welfare of health care users, it is projected to entail huge economic effects, bolstering the growth of the health care industry as a whole, as well as the ICT industries. In this paper, we, predict demand for both the services and related equipment based on the results of a consumer survey, identify factors affecting the diffusion of this new service system, and, finally, suggest market development strategies for it.

Keywords:

u-Health, ICT, adoption, forecast, market

I. Introduction

The advent of ubiquitous networking promises to bring about dramatic changes at all levels of our life. Ubiquitous networking, by interlinking computers, consumer electronics, automobiles, home appliances, medical equipment, transportation systems, animals and plants through an overlapping of electronic spaces and physical spaces, is expected to provide an environment that enhances our lives through improved convenience, efficiency and safety in all areas. This paper is concerned with strategies to accelerate the diffusion of u-Health services in Korea. In the rest of this paper, we examine the concept and characteristics of u-Health, forecast demand for both services and equipment, and identify factors influencing the adoption and diffusion of these services, using the results of a consumer survey, and finally, based on this analysis, propose development strategies for the u-Health market.

II. Concept and characteristics of u-Health

u-Health, the short form of "ubiquitous health," refers to a health care system making use of ICT to provide preventive care, consultation, treatment, and follow-up care to patients from anywhere and at any time. While e-Health is an electronic information sharing system between patients, the general public, health care institutions and solution providers, u-Health goes one step further to integrate the physical spaces of health care users and providers with electronic spaces, operating cutting-edge medical technologies.

To explain the emergence of u-Health, one must invoke, first of all, progress in ICT and medical technology, and then the desire and willingness on the part of health care institutions to adopt the new service concept and increased health care demand. The extended business areas covered by telecom operators and software solution providers and support from government authorities have been contributing factors as well.

III. Demand forecast and factors influencing on adoption of u-Health

To estimate demand for the u-Health market and identify factors influencing the diffusion of related services, ETRI's Network Economic Research Team conducted a survey between September and October 2005, on a sample population of 800 adults in their 30s and 40s. The market research was preceded by a FGI (Focus Group Interview) on target group [1], from which generic needs relating to u-Health among health care users were determined. The FGI results were further used as a basis for designing a structured survey questionnaire. A leading Korean research firm was contracted to conduct the survey, in the form of one-on-one, face-to-face interviews. Information cards were used to help survey respondents' understanding of the service [2].

1. Adoption intention of u-Health

Consumers appeared to be all in all favorably disposed toward u-Health. 71.8% of respondents perceive u-Health as an exciting service formula, followed by 63.6% finding it interesting, 58.2% preferring it to standard health care services and 55.8% considering it indispensable.

The overall intention to adopt u-Health services appeared to be rather high, amounting to 56.9% of respondents. The intention of adoption was higher among women than men, among respondents residing in metropolitan cities or other small and medium-size cities than those based in Seoul and among stay-at-home wives than people in other occupational categories.

2. Factors influencing on adoption of u-Health

Consumers perceive the level of investment of resources and capabilities on behalf of medical institutions and government policy as more important factors in the achievement of a u-Health environment than a ubiquitously-networked health care infrastructure.

The biggest obstacle to the creation of a u-Health environment was the poor level of informatization in medical facilities (23.0%), followed by insufficient public information efforts concerning u-Health services (20.4%), lack of knowledge (21.0%) and inadequate ICT infrastructure in health care institutions (14.8%).

3. Demand forecast of u-Health

The survey found that the global intention to adopt u-Health in consumers in their 30s and 40s stands at about 46.9%. The intention to adopt health care institution-provided services was measured at 40.9%, and the intention to adopt subscription-based services, 9.1%.

The size of the u-Health market in number of users aged 30 to 49 is estimated at 7,026,000, which breaks down to 6,128,000 for health care institution-provided services and 1,352,000 for subscription-based services.

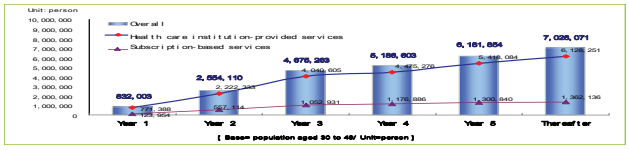

Figure 1- Forecasted number of u-Health users

Total sales in u-Health services and related equipment are projected to amount to an approximate KRW 1,075.6 billion (1,036 million dollars)[1], which breaks down to KRW 562.4 billion (494 million dollars) for health care institution-provided services and KRW 513.2 billion (542 million dollars) for subscription-based services.[2] The high estimation for sales generated by subscription-based services, used by a much smaller projected number of users, is a result of taking into account the high willing-to-pay price indicated by potential users of this type of service, and costs of equipment and devices.

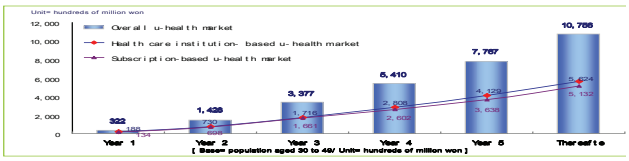

Figure 2- Projected sales in u-Health services and equipment

IV. Conclusion

In this paper, we explored the background to the emergence of u-Health, and examined its concept and characteristics. Based on a consumer survey, we predicted future demand for u-Health, and identified factors accelerating the creation of a u-Health environment and factors hindering it. Finally, we presented success factors and issues for market development efforts in u-Health. The following is implications for participants of the u-Health market.

First, the survey used in this study was limited to a population segment aged 30 to 49. Therefore, if one includes other age groups and takes into consideration forward and backward linkages, both the size of the u-Health market and its economic effect are likely to be substantially greater.

Second, the in-depth analysis revealed that interest in u-Health services was significantly higher among people who were less interested in health than the average, or not all interested, than among the rest. This means that u-Health will be able to generate new demand and create new markets.

Third, introducing necessary revisions to related health care laws and regulations is an urgent task.

Finally, the national government and local authorities must work to actively promote u-Health.

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1 The predicted sizes for the u-Health service and equipment markets are based only on transactions between service providers and users. In estimating the size of sales, the calculation took into account willing-to-pay prices of potential users.

2 Exchange rate is that 1 dollar equals 1,038 KRW(October, 2005)

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