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SUGGESTING A GUIDELINE TO INFORMATION AND COMMUNICATION TECHNOLGOY SERVICE DEVELOPMENT IN ACCORDANCE WITH USER VALUE DRIVEN PERSPECTIVE

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ABSTRACT

Information and Communication Technology (ICT) service industry, especially the mobile service market, has been one of the core growth engines for Korean economy during the last decades. However, ICT service market is currently experiencing severe stagnation mainly due to the saturation in customer expenditure.

Until recently, a technology intensive approach has been playing a critical role in terms of ICT service development in Korea. However, limitations in this technology based method have been exposed with respect to locating and addressing dynamic and in-depth user needs and demands. Various ICT services have been introduced into the market in accordance with the technology intensive approach; however, there is only the mere presence of success in fulfilling user satisfaction. Thus, nowadays, a user value-driven approach is widely gaining attention as a substitute or/and complement to conventional methods. In fact, user value-driven approach is not a brand new idea; it has been broadly practiced in many none-ICT relevant fields, however, as for ICT industry, user-driven approach is still in early stage of the adoption. Therefore, the major research question of this study is to explore user's hidden needs and demands and consider appropriate methods to apply them into ICT service developments.

Keywords: Information and Communication Technology service, user-value driven approach.

INTRODUCTION

The digital revolution triggered a combination of innovations in areas such as computing, communication technologies, and the Internet. And these innovations have brought significant changes to the Korean market such as increased competitive power and new competitors, new distribution and communication channels, and most importantly, more sophisticated and discerning customers [1].

Ever since Information Technology (IT) merged with Communications Technology (CT) and became Information and Communications Technology (ICT), ICT has been core growth engine for a more digitalized economy [2]. In fact, the importance of ICT is so strong that it now covers 15% of Korea's overall GDP, and 45~50% of the GDPs of major Korean cities [3].

However, Korean ICT industry has been experiencing some major failures recently, such failures as third generation wireless communication or WIBRO (advanced wireless Internet). They have not live up to their names as many expected, not because of the technology itself but because they do not match many customers' needs [4]. Up until now, ICT services have been successful by just providing technology-driven devices for any kind of new technology was appealing to or used by the majority of the Korean population. Yet, these fast and growing concerns suggest that the ICT industry seriously needs to reconsider its strategy for further growth.

Korean customers have spent astronomical money on the ICT services [4, 5] thus they have become immensely cautious and selective in choosing new ICT services, consequently, the Korean mobile communication industry has recently been experiencing severe stagnation, mainly because of market saturation [4, 6]. In short, the market situation is repositioning, and becoming unfavorable for service providers.

Mainly due to the rapid development of mobile communication technologies and the convergence of these technologies with other services, there's no doubt that Korean customers are facing obstacle to identify individual technologies. As a result, it is the value of services that has a major role in the choice of a mobile communication service rather than technology itself. Further, as the convergence mobile communication service market advances, users demand more sophisticated and diverse services [7, 8]. To revitalize the mobile communication market, it is critical to understand the unique values of mobile communication and to attract customers by proposing and marketing such values—the Mobile value propositions. Mobile value propositions include ubiquity, mobility, localization, and personalization [9].

In this sense, mobile service providers should differentiate themselves and obtain a competitive advantage by offering a unique value proposition and understanding customers' values and needs. Traditional Research and Development (R&D), or a technology intensive development approach, might have limits from a user value orientation as it has intently focused on the actual technology rather than user value, thus having difficulty in attracting customers in a market where expenditure is saturated. In fact, technology centric services have exposed their weakness in capturing users' initiative. For instance, various service concepts were introduced in the market in accordance with the rapid development of technology. However, there is only a mere chance of success due to the lack of understanding of users' needs and demands [7, 10]. Such a position is supported by Cho [6] who states that the current technology centric service development focuses on improving the performance and quality of the

service itself, rather than locating users' hidden needs. In this sense, the approach is limited when it addresses complex and ambiguous user demands.

Currently the user value-driven approach has been widely gaining attention as a solution to emerge from the current period of stagnation [7, 10]. Through an in-depth understanding of users' demands and needs, we could rationally expect to locate services, which could offer higher customer satisfaction and value compared to that of the traditional R&D approach. Selden [10] mentioned that through user oriented R&D, a company can increase profits, concurrently with providing higher values to its users.

This study consists of two studies. In study I, a Focus Group Interview (FGI) was conducted to explore users' needs for mobile communication services. As a result of FGI, we could extract seven primary needs. And in the following section, the study II, we designed quantitative survey based on the result of the FGI and then employed this survey upon chosen respondents to obtain sufficient enough evidence to verify the effectiveness of the extracted needs. Finally we suggested a guideline for the application of the extracted primary seven needs in the real business level.

STUDY I

METHOD

In general, FGI is believed to be a strong implement to explore active and spontaneous opinions. Therefore, we conducted a FGI instead of other quantitative methodologies in order to explore the in-depth human nature of both current and potential users [11]. A total of seven groups were formed from the 33 interviewees. The following figure (table 1) shows a brief demographic breakdown of each group.

Group number	Gender	Age	Occupation
G #1	Female	30's	Housewife & Office worker
G #2	Male	30's	Office worker
G #3	Female	40's	Housewife
G #4	Male	20's	Office worker
G #5	F, M	20's	Undergraduate student
G #6	Female	20's	Office worker
G #7	Male	40's	Office worker

Table 1: Focus group recruiting information

In each FGI, a moderator tried to extract the variety of needs each group of respondents have when they are using communication services. Additionally, respondents were asked about the more advanced mobile communications services they are demanding or expecting to use in the future. Finally, the needs for mobile communication services were derived from the responses of the respondents.

The entire FGI was videotaped and then transcribed. The transcriptions were then analyzed and interpreted in order to reveal the needs of the respondents.

Derived Needs for Mobile Communications Services
In general, based on the participants' responses in the FGI sessions above, there are seven needs, and these could be the bases for the development of mobile communications services.

Communication
Ever since, Information Technology (IT) was introduced, people have been talking to each other through a variety of channels such as such as e-mails, mobile phones, and Internet messengers. Because of its ease and wide accessibility, IT can support people's need to communicate with each other frequently and conveniently [12]. There is no doubt that in the future, there will be even more ways to communicate, and as the FGI respondents have expressed, people will not only want to communicate more actively than ever, they will also want to choose their method of communication depending on the person and the situation they are dealing with.

Proposition 1: Users want to communicate with each other more than ever.

In accordance with the respondent's statement, we could rationally assume that current mobile communication services are satisfying communication needs. However, they did raise their concern for the price of these mobile services, for they feel that they are quite expensive. Ultimately, these concerns show that mobile communication services need to provide more reasonably priced services so that the majority of the people can use them.

Proposition 1-1: Users demand that mobile communication services provide communication services at a more reasonable price.

Connection

Apparently, the respondents want to have close relationships with their friends and family members, many of them cannot meet each other physically frequently, leaving them to sometimes feel left out, or estranged. Seemingly, the need to connect and feel close to people is especially strong when those closest to them are celebrating a birthday or an anniversary. The respondents want methods to be part of the celebration in a special way, even when they cannot be there in person.

Proposition 2: Users seek to recover relationships through communication services.

The respondents believe that they can build a more sincere relationship and have in-depth conversations with their family members and peers through highly sophisticated communication tools, such as exchanging visual images via their mobile devices. Therefore mobile communication service provider should focus on fulfilling user's need of connection.

Proposition 2-1: Users demand that mobile communication service should help them to maintain relationships with others.

Convenience

There appear to be quite strong needs in which respondents want their lives to be more convenient. For instance, respondents do not want to invest a lot of their time to physically visit particular places in order to use specific services. They believe telecommunication service would help them to be more convenient and less time consuming.

Proposition 3: Respondents seek more convenience through communication services.

Recent developments in the mobile communication industry are expected to help respondents to have a more convenient life. M-banking can be a good example, instead of visiting a bank to use financial services respondents can receive similar quality of service via mobile device at any time and at any place. As they do not need to physically visit certain places, they can rationally expect to save their precious time. In this sense, we could rationally assume that mobile communication service can help user to entertain more convenient lifestyle.

Proposition 3-1: Users demand that mobile communication services provide more convenient services via mobile device ubiquitously.

Relief

Apparently, respondents are always worried about their surrounding contexts. First, respondents expressed concern about the security and safety of their home when they are not there. Some worried about the security of their home in cases such as burglaries and while others considered accidents such as fires, gas leaks or other such unforeseen circumstances as causes of concern.

Second, respondents are worried about the health of their family, especially when some of family members are very old. They want to check the condition of their health regularly and conveniently in order to prevent serious disease.

Third, respondents want to know the whereabouts of family members, especially young children and aged or mentally impaired parents. Young children are sometimes kidnapped or aged or mentally impaired parents occasionally can not remember where they live. To prevent losing them, when the young children or aged parents go out, respondents want to keep track of their location thereby reducing concern and being able to feel more relieved.

Proposition 4: Respondents want to be less concerned and feel more relieved through communication services.

Mobile communication services can help to reduce concern about daily life. For example, user can confirm whether the power supply to home appliances is on or off via their mobile device. If the power supply is on, action can be taken remotely like turning the power off to prevent accidents, like fires.

Moreover, mobile communication services need to examine family's health. Users feel burdened to regularly visit hospitals to check their health condition, because it can take a lot of time and cost a respectable amount of money. This situation can be exacerbated, especially when the family live separately, when it is even more difficult to check their health condition. If users could check their family's health condition via a mobile device, it would be easier to check their health more regularly, conveniently and cost effectively; moreover, such measures may even help them to prevent serious disease.

Proposition 4-1: Users demand that mobile communication service help them feel more relieved.

An Exciting life

Apparently, respondents want to have fun in their life. They stated they usually enjoy some kind of entertainment content, such as movies or television programs for their personal recreation and enjoyment. However, they also added that feel annoyed when

they must fit into conventional entertainment schedules and feel irritated when they can not enjoy the kinds of entertainment they want. Consequently, respondents show a desire to enjoy various entertainment contents ubiquitously.

Respondents also enjoy recreational time with family and friends. However, sometimes they do not know what facilities, like restaurants or theaters, are conveniently located especially when they are in an unfamiliar town. Some of those surveyed expressed the desire to obtain information about places for recreation.

Proposition 5: Users need more fun through communication services.

Mobile communication services can help users enjoy exciting entertainment contents. For instance, Video On Demand (VOD), currently available service, can provide personalized entertainment content at any time that the user demands. In fact some of the respondents expressed the desire for the VOD service to be provided via a mobile device, like Digital Multimedia Broadcasting. Respondents could then enjoy a variety of entertainment content regardless of time and location.

Proposition 5-1: Users demand that mobile communication service help them enjoy their lives.

Self-improvement
During the FGI, the respondents express desire to improve themselves both from a personal standpoint, and also from professional reasons. Some of those surveyed Stated that they fill necessity to undertake education programs, such as languages or specialized skills in order to improve themselves. Others stated that they wanted professional improvement, which they suggested could be achieved by being able to manage their work more efficiently and effectively in order to become more successful in their careers.

Proposition 6: Respondents seek more educational opportunities to improve themselves in competitive environments through communication services.

According to FGI, users demand mobile communication services to provide the opportunity for self improvement. They believe that if they were able to receive education programs via mobile devices without physically visiting educational institutes, it would allow them to improve themselves ubiquitously and at a relatively lower price. Moreover, mobile communication services could assist users to communicate within an organization more efficiently, by allowing them to send and receive e-mails, and to transfer some files via mobile devices, even if they are not physically present in the office. Thus, users could manage their works more efficiently and it could provide opportunities for job advancement.

Proposition 6-1: Users demand that mobile communication services help them in their goals of self-improvement.

Personalization
According to the survey, there's significant demand for personalized services. For instance, the respondents wanted services which are tailored to their individual preferences.

Proposition 7: Respondents want to have more customized communication services.

Mobile communication services can provide personalized services. As mobile devices are individual and personal, thus user can easily receive customized services. Personalization needs are usually multifaceted and user specific rather than being of one particular need.

Proposition 7-1: Users demand that mobile communication services provide more customized services.

Discussion
Mobile communication service provider should reconsider their technology-driven approach to survive in current Korean market where expenditure is extremely saturated. Traditional push strategy, "make-and-sell", will not satisfy, thus companies should locate consumers' needs as prerequisite to service development phase. By doing so, companies will be able to satisfy their customers' needs more efficiently [1].

From study I, we identified a total of seven consumer needs regarding mobile communication services: communication, connections, convenience, relief, exciting life, self-improvement, and personalization. Theoretically, these individual needs could provide the basis for development of mobile communication services. However, applying user's need into service development tier would not be an easy task since each individual need frequently combines with one or more needs and become more sophisticated and complex.

In fact, from the FGI, we found out services that combine two or more needs satisfy customers more than services that provide one. Each respondent's need is sophisticated, and tends to amalgamate with other needs thus it become even more complicated. When a certain mobile communication service satisfies more than two needs at a time, the service may be of higher value to its users. Therefore, to develop more successful services, more sophisticated and advanced services must be analyzed. The needs could be combined into whatever combination a particular user wants.

However, not all needs are important for potential service users. When a user wants a certain service, he/she is thinking about his/her own relative importance of the seven needs, which may be different from how another user may prioritize his/her own seven needs. For example, when a person wants to feel relieved they may use the "people tracking service," and another person wants to feel entertained then they may watch "Videos On Demand". In this sense, it would be in the best interest of mobile communication service providers to understand the majority of peoples' priorities as it relates to the seven proposed needs.

FURTHER STUDY

To obtain significant evidence to verify the effectiveness of the extracted needs and also the market response upon them, we designed a quantitative survey based on the result of the FGI and then employed this survey upon six-hundred chosen respondents. Currently, the quantitative survey is in progress and scheduled to be completed in near future. And based on the result of the quantitative survey, we expect to continue study II.

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