Chapter 2
The Role of Consumer Innovativeness and Trust for Adopting Internet Phone Services

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ABSTRACT
The Internet phone, which was recently introduced to the communication market, is characterized by its lower cost and increased compatibility. However, its popularity and diffusion is relatively low in the North American market compared with Asian or European markets. This study examines the adoption of Internet phone service in Korea to develop a better understanding of consumers’ acceptance of the Internet phone service application. The Unified Theory of Acceptance and Use of Technology model (UTAUT) is used as theoretical background with two additional constructs (consumer innovativeness and perceived trust) in the proposed model. Using a mail survey with 437 responses collected in Korea, the results indicate that consumers’ trust is the major factor affecting adoption of new phone service. The results also indicate that consumers’ innovativeness would influence the effects of trust and facilitating conditions toward intention to use. The performance expectancy shows a dominant effect on trust toward phone services. Although effort expectancy and social influence also significantly contribute to consumers’ trust, the effects are relatively minor. The effect of performance expectancy would be stronger on consumers with lower income.

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INTRODUCTION

During the past few years, Internet and Internet Protocol (IP) based applications, such as Voice over Internet Protocol (VOIP), have made the Internet a ubiquitous means of communication (Rao, Angelov, & Nov, 2006). VOIP is the IP-based application that allows telecommunications to take place through the Internet; for example, Skype and Vonage, which are major VOIP service providers in the USA. Compared with the traditional Public Switched Telephone Network (PSTN), VOIP is more affordable for both private consumers and businesses (De Biji & Peitz, 2005). The development of social networking sites and the lowered costs of international calls have made the VOIP service a very important innovation. The VOIP service market is forecasted to grow about ten-fold in terms of revenue from 2004 to 2010, and the Asian market is expected to develop quicker and faster than the North American market (The Yankee Group, 2007).

As for any other new technology application, there are some factors that might affect consumer adoption of VOIP. Based on the empirical data from South African consumers, some factors that affect the adoption of VOIP have already been addressed: high bandwidth costs, confusion in the market, security issues, Quality of Service (QoS) issues, and regulation concerns (Tobin & Bidoli, 2005). Other than competing with other telecommunication services, such as cell phones and PSTN, the VOIP service providers are also facing serious competition among themselves. Based on the different types of providers, there are currently three types of available service: Self-provided, e.g. Skype, with which users can make free calls between PCs; IP telephony, e.g., Vonage, and Yahoo!BB, which allow outgoing and incoming calls through virtual numbers; and Corporate LAN/WAN, which works as a replacement of private branch exchanges (PBX) and allows any incoming and outgoing calls between telephones and personal computers. Due to the competition, the service providers need to educate consumers about Internet protocol based applications, and also need to provide more valuable services than their competitors. Thus, a systematic examination of the factors that affect promoting the new technology is important for service providers.

Since VOIP works over the Internet, it transmits data with digital packets rather than analog signals as traditional telecommunication does. In order to maintain good quality of service, the Internet that VOIP utilizes should be capable of handling high downloading and uploading speeds. Korea developed an advanced wireless technology, “wireless broadband” (Wibro), which allows up to 18 megabytes per second of download speed (Cherry, 2005). Wibro has the ability to carry video data and voice data, specifically VOIP packets. The popularity of the wireless Internet has made Korea a great model for other countries to study in terms of the adoption process of wireless Internet applications, especially VOIP. Based on a review of the current VOIP industry, the main research question is: What factors would affect consumers’ decisions to adopt the Internet phone services? To further understand the previous question, it must be determined if trust plays a role in consumers’ decision for adopting a new technology such as VOIP. It is also necessary to discover what situational conditions would affect the effects of those factors.

This study attempts to examine the factors that would affect consumers’ adoption of VOIP in a larger consumer context than Korea. To accomplish this goal, the Unified Theory of Acceptance and Use of Technology model (UTAUT) was applied as the conceptual framework (Venkatesh, Morris, Davis, & Davis, 2003). Also, consumers’ trust toward VOIP services is included in this study. Trust was considered to have a key role in many economic activities (Fukuyama, 1995) as well as to be a governance mechanism in dependent relationships (Brandach & Eccles, 1989), such as a contract relationship between VOIP service providers and subscribers.
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