



# Contextualization of motivations determining the continuance intention to use smart devices among people with physical disabilities



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## ABSTRACT

This study explores the main motivations for continued use of smart devices among adults with movement or mobility impairments in South Korea. The study analyzed data collected through a survey and focus group interviews. Results from the analyses of the two different sets of data indicated that people with physical disabilities viewed smart devices as a necessity and intended to continue use of smart devices primarily for practical purposes—especially for emergency contact—rather than for entertainment or social purposes. Results from the focus group interviews particularly suggested that the sense of autonomy obtained through the use of smart devices was an important motivation for use in this specific group, suggesting that smart devices play a crucial role in elevating the quality of life of people with disabilities.

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## 1. Introduction

With the expansion of telecommunication networks (e.g., LTE, 4G) and development of advanced technologies for smart devices, we are observing a continuous increase in individuals' use of various smart devices, mostly represented by smartphones and tablet computers. According to the [Pew Research Center \(2014\)](#), approximately 65 percent of American adults owned a smartphone in 2014 and 43% owned a tablet computer in 2013. Reflecting this expansion of smart devices, numerous studies regarding these devices have been conducted from multiple academic disciplines including those of communications, computer science, medical studies, engineering, and marketing. Consequently, we have gained a high level of comprehension in terms of the technological, psychological, behavioral, and even cultural aspects of using smart devices.

In spite of the invaluable findings generated from previous studies, there remain many diverse contexts to which research on smart devices can extend. New technologies are not always understood and received in a uniform manner across the multitude of sub-populations that make up our society. We need more research that can capture this relativity of values and meanings that users attach to new technologies. Studies on smart devices conducted with various groups of individuals, such as patients, the elderly, and teenagers have started to account for such relativities ([Brouillette et al., 2013](#); [Hwangbo et al., 2013](#); [Lewis and Wyatt, 2014](#); [Luxton et al., 2011](#); [Price et al., 2014](#); [Zhou et al., 2014](#)). They have provided meaningful findings regarding the unique patterns of smart device use found in different types of populations. Considering the theoretical and practical implications of these studies, it has been often recommended to extend those findings to different contexts.

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This study in particular aims at exploring the unique smart device use patterns in the relatively understudied population of people with physical disabilities. In studying smart devices, we place our focus on personal mobile devices that are equipped with network connectivity and are intended for multiple purposes including those of information, entertainment, and social interaction. We specifically limit our discussion to smartphones and tablet computers. Those who are physically disabled require greater levels of technological support than those who are not due to their limited mobility and thus, can experience immediate benefits from smart device use. Therefore, the study of smart devices in the context of this population is urgently needed so that we can address the ways in which use can be encouraged and facilitated in an informed and appropriate manner. Although there has been research on smart device use among populations with disabilities, previous studies have mainly focused on issues of technical accessibility (An et al., 2012; Hong and Min, 2015; Varghese and Amudha, 2015) or the potential roles of smart devices in improving the quality of disabled people's<sup>1</sup> everyday lives (Kim et al., 2013; Lee and Jeong, 2012). The main findings of these studies have provided practitioners and scholars with useful information that can be applied to the development of effective technical functions and interfaces, allowing for potentially more useful and fruitful experiences than what are now being offered. Nevertheless, we lack studies that can help us understand the reasons or motivations behind disabled users' use of their smart devices. This knowledge can help us advance the technology and devise pertinent assistance to meet the specific needs and demands of this population in a more knowledgeable and constructive manner. Therefore, guided by the theory of uses and gratifications (Katz et al., 1974), this present study explores the major motivations for smart device use among Korean adults with physical disabilities.

## 2. Theoretical background

### 2.1. Trends in smart device use among populations with disabilities in Korea

We are observing unceasing advancements in telecommunication infrastructures (e.g., wireless networks). Accordingly, scholars have noted increased accessibility to digital devices (Bonfadelli, 2002; DiMaggio et al., 2004; Gui and Argentin, 2011). For instance, Tsatsou (2011) argued that the first-level digital divide, known as the divide in access to digital technology, has diminished in the general population, especially in developed and developing countries. In regards to the first-level digital divide in Korea, the following points are striking. First, according to the *Korea Internet and Security Agency* (2014), in 2014, Internet access was available in 98.5% of South Korean homes, and Internet use was observed in approximately 84% of those ages 3 and above. Particularly, Internet use occurred in almost everyone in the individual age groups of teens (99.7%), twenties (99.9%), thirties (99.8%), and forties (97.5%). Also, according to the same report, in 2014, smartphone ownership was found in approximately 79% of Koreans ages 6 and above. In this way, the various statistics regarding digital access point to, in line with Tsatsou's (2011) argument, a trend of a closing divide in the general Korean population.

However, due to various barriers—such as lack of financial support, inherent physical inabilities—people with disabilities are still experiencing limited access to digital technologies or devices. Even in Korea, well-known as one of the most highly connected countries globally, there is a distinct digital divide between populations that have disabilities and those that do not. Research conducted by the *Ministry of Science, ICT and Future Planning* (MISP) and the *National Information Society Agency* (NIA) (2014) show that, in 2013, the Internet usage rate of disabled populations (56.7%) was 25.4 percentage points lower than that of the general population. Smartphone ownership of disabled populations was at 40%, while that of the general population was at 74.3%. Moreover, the same study reported a divide in ownership and use of mobile smart-devices altogether, including both smartphones and tablet computers. In 2013, the rate of mobile smart-device ownership was only 53.5% of the general population (whose rate was given at 100%). Further, basic use of mobile smart-devices and relevant usage skills were found to be at a level of 37.4 and 37.2%, respectively, of the generation population. In terms of smartphones only, the main reasons for non-use were: (1) high costs for purchasing and using, (2) lack of knowledge about functions, (3) difficulties of use, and (4) difficulties due to own physical disabilities (MISP and NIA, 2014).

### 2.2. Trends in research on smart device use among populations with disabilities

As discussed above, despite the continuous expansion of digital media ownership, we are still observing a divide in the use of smart devices between the non-disabled and disabled populations (Agree, 2014). This suggests the need to conduct further research on the wide range of issues surrounding the disabled population's use of smart devices. Scholars have delved deeply into various topics related to this populations' use of smart devices (An et al., 2012; Hong and Min, 2015; Qiao et al., 2013; Varghese and Amudha, 2015). Within the previous studies, we can identify three broad areas of research. First, much academic attention has been given to the development of assistive technology geared toward the disabled population (An et al., 2012; Hong and Min, 2015; Kim et al., 2013; Sendra et al., 2014; Varghese and Amudha, 2015). For example,

<sup>1</sup> There has been a widespread debate regarding the use of *person-first language* and *identity-first language* in addressing individuals with disabilities. Person-first language (e.g., "person with a disability") places emphasis on the person before their disability in order to reduce bias and protect human integrity. Meanwhile, identity-first language (e.g., "disabled person") is intended to recognize and embrace disability as a central component of one's identity (Collier, 2012; Dunn and Andrews, 2015). We recognize respectfully the fundamental ideas about disability and intent behind the two perspectives and further understand that language preferences differ across individuals. In our study, while we primarily use person-first language as is recommended by the *American Psychological Association* (n.d.), we also use identity-first language in instances where we believe it helps us more clearly convey a statement.

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