

Chapter 80

An Empirical Study of Smartphone User Behavior: The Effect of Innovation Characteristics, Brand Equity and Social Influence

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ABSTRACT

This study investigates determinants of the adoption behavior of smartphone users. Despite the increasing number of smartphone users, the literature on information technology usage has paid little attention to the motivation behind smartphone adoption. This study identifies three determinants of smartphone adoption behavior: innovative characteristics, brand equity and social influences. Data were collected from 293 smartphone users. The analytical results have indicated that users choose to use smartphone not only for its usefulness, enjoyment and compatibility to their lifestyle (i.e. innovative characteristics), but also for its cost effectiveness (i.e. brand equity). Additionally, users will search for related information for the suitability of their adoption decisions (i.e. social influence). Together, the above factors account for over 60 percent of adoption behaviors. Moreover, the findings also indicate that perceptions of use varied over the innovation diffusion stage. Implications and suggestions for practitioners are also discussed.

1. INTRODUCTION

The telephone is one of the most powerful tools for connecting people across distance. Modern smartphones integrate telephone function with computing capacity and connectivity to support advanced features such as personal digital assistants (PDA), digital cameras, portable media players, global positioning system (GPS) navigation and other software applications (apps). According to IHS (2012), in 2013 smartphone shipments are forecast to account for 54 percent of the total cell phone market, up

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from 46 percent in 2012 and 35 percent in 2011. By 2016, smartphones are expected to make up 67.4 percent of the total cell phone market.

Despite this rosy outlook, little research has examined exactly why people choose to adopt smartphones, and such behavioral intention questions have obvious importance. Though earlier studies of smartphones adoption behavior had been conducted (Chun et al., 2012; Kim, 2008; Lee 2014; Verkasalo, 2011; Yangil and Chen, 2007), most of these researches adopt a single view to explore smartphone adoption behavior. Previous researchers examined information technology (IT) usage through constructs including the theory of reasoned action (TRA), the technology acceptance model (TAM), the theory of planned behavior (TPB) and the unified theory of acceptance and use of technology (UTAUT) (Fishbein and Ajzen, 1975; Davis, 1989; Ajzen, 1991; Venkatesh et al., 2003). These theories and related empirical studies have developed and validated a framework to explain the user behavior in IT adoption (Lin and Lu, 2000; Moon and Kim, 2001; Wang and Shih, 2009). However, it remains to be seen how readily these approaches can be applied to the adoption of new innovations like smartphones. Therefore, factors contributing to the acceptance of smartphones need to be empirically explored.

This study views the smartphone as a type of innovation. In past decades, understanding the diffusion of innovation has been increasingly imperative for both practitioners and researchers (Premkumar et al., 1994; Chen, 2003; Marinova and Detelina, 2004; Weigel et al., 2012). Diffusion is achieved through user adoption, which means the acceptance into use and the continued use of a new idea or thing (Zaltman and Stiff, 1973). Innovation diffusion theory (IDT) points to critical factors which contribute to diffusion. Hence, this study applies IDT to examine the adoption behavior of smartphone users. Specifically, this work proposes that additional variables, such as perceived enjoyment, brand equity and social influences contribute to our understanding of smartphone user behavior. The importance of these variables can be explained with reference to the existing literature on motivation theory, marketing and social psychology (Vellerand, 1997; Keller, 1993; Aaker, 1991; Rogers, 1995). These variables were selected for the following reasons.

1. **Purpose of IT Usage:** Traditionally, the main benefit to cell phone usage was to enhance communication effectiveness and work productivity. However, smartphone users tend to focus on access to mobile entertainment-related apps including games, music, video and social networking functions (Nielsen, 2011). Intrinsic motivation such as enjoyment seems to play an influential role in intention to use since people use these apps for leisure and pleasure.
2. **Effect of Brands:** Smartphones are regarded as a “high involvement” product, meaning that consumers usually spend considerable time and thought in determining whether or not to use one (Metsäranta, 2007). In general, consumers who lack the time to devote to conducting a thorough product evaluation will rely more on brand prominence in choosing a smartphone. This reduces decision complexity and enables the consumer to make judgments more quickly and with less effort (Sherman and Corty 1984). Moreover, Ghorban (2012) suggested that brand preference for smartphones significantly affects purchasing intention. Therefore, the brand seems to play an important role in influencing consumer behavioral intention.
3. **Social Influences:** To reduce risk and uncertainty in usage, consumers usually depend on opinions or suggestions from others to evaluate purchases (Brown and Reingen, 1987; Kotler, 1999), particularly for the newest or most valuable products and services (Brown and Peter, 1987). Previous studies on consumer behavior have indicated that reference groups influence consumer purchasing decisions (Childers and Rao, 1992; Hsu and Lin, 2010). A reference group refers to an actual or

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