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Understanding mobile English-learning gaming adopters in the self-learning market: The Uses and Gratification Expectancy Model

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ABSTRACT

Innovative technology potentially offers new opportunities for booming self-learning markets in Taiwan. The advancement of mobile English-learning games has expedited the idea of self-learning by reducing time, space limitations, and anxiety (e.g., Technology phobia, English anxiety) that come with knowledge acquisition. This study offers a Uses and Gratification Expectancy Model (UGEM) to fill the gap of knowledge between mobile gaming and self-learning by investigating the potential variables (perceived mobile anxiety, perceived second language anxiety, perceived usefulness, and perceived playfulness) and examining how confirmation and gratification both affect adopters' continuance intention toward using mobile English-learning games. The study gathered data from Taiwanese university students after their adoption and practice with mobile English-learning games via a self-reporting survey questionnaire. Data collected from 1121 respondents in Taiwan was used to examine the research UGEM model using a variance analysis approach to provide new insights to the self-learning taking place when mobile English-learning games are adopted. Theoretical and practical implications are also offered.

1. Introduction

Innovative technology is believed to provide new opportunities for the booming self-learning markets (Callum, Jeffrey, & Kinshuk, 2014). One current innovation that has ignited considerable interest with learners, educators, and marketers or designers is mobile learning (m-learning) (Pulla, 2017). As this technique gains traction and power, it assumed tasks traditionally done on PCs or laptops (Dawabi, Wessner, & Neuhold, 2004). Thus, researchers are investigating how the innovative content found in mobile technology can be adapted for the self-learning market (Zeng & Luyegu, 2011).

One of these innovations, mobile gaming, is now an important part of most young adults' recreation time and an increasingly crucial part of their learning as well (Skierkowski & Wood, 2012). Specifically, mobile gaming is not only utilized during time periods when young adults are gaming, but also becoming more readily available to anyone worldwide. Data from Juniper Research indicates that by 2019 worldwide revenues from mobile and tablet games will reach $13.3 billion – a threefold rise from the 2014 figure of $3.6 billion, which is classified as a component of m-commerce or m-learning (Research J, 2014). Similarly, it is estimated the global games market will grow at an average growth rate of +6.6% by 2019, reaching $118.6 billion, and mobile gaming will account for $52.5 billion of that total (Dogtiev, 2017). The mobile sector of gaming is the most promising and lucrative relative to its counterparts, with smartphone and tablet gaming growing by 19% year after year. *The Newzoo Global Games Report* (McDonald, April/2017) indicated that Asia-Pacific region is by far the largest mobile gaming region with Taiwan being one of the biggest markets in this zone. Taiwan alone generated over $ 400 million in mobile gaming revenues in 2015, and nearly 73.4% of the population owns a

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smartphone (Laslocky, Mar/2017). Mobile gaming offers young adults convenient and creative ways to learn (Huang, Jang, Machtmes, & Deggs, 2012).

Learning English is an important goal in today's global market since it is considered one of the most influential languages in the world. For Asia-Pacific people (e.g., Taiwanese), worldwide expansion of markets has increased the demand for effective English communication skills. English is also commonly taught as a second language in Taiwan. It has been argued that being proficient in English is like having a lamp genie because the skill can bring material prosperity by ensuring greater access to education, international business, science, and technology (Li & Pan, 2009). Theoretically, the level of significance bestowed upon English proficiency should thus motivate young adults of today in Taiwan to access self-learning English with mobile gaming (Huang et al., 2012).

In general, the mobile phone is more commonly seen as a learning tool due to the ease of use (Pimmer, Linxen, & Grohbiel, 2012; Pulla, 2017). From the self-learner perspective, mobile English-learning games offer opportunities for young adults to take control of their own learning process. The advancement in mobile English-learning games has advanced the notion of self-learning by reducing limitations of time and space, as well as reducing anxiety (e.g., Technology phobia, English anxiety, etc.) to acquire knowledge. In other words, mobile English-learning games can empower young adults who experience intolerable levels of anxiety in the face of learning English (Sitzmann, 2011) and help them overcome their fears by reinforcing skill mastery and accommodating multiple learning styles and abilities (Kebritchi & Hirumi, 2008). In contrast, this innovation can also alleviate young adults who have high levels of anxiety about mobile technology since they feel more comfortable with the learning (English) environments and do not have to deal with technology complexities. Presumably, the more the young adults are satisfied with their self-learning experience through mobile gaming, the more they motivated they will be to continue their self-learning.

As per the suggestions of Mondi, Woods, and Rafi (2008) and Shin (2011), this study incorporates a Uses and Gratification Expectancy Model (UGEM). This study attempts to fill the gap of knowledge between mobile gaming and self-learning by investigating the potential variables (perceived mobile anxiety, perceived second language anxiety, perceived usefulness, and perceived playfulness) of mobile gaming and English-learning areas. Moreover, this study tests how confirmation and gratification affect adopters' continuance intention to use mobile English-learning games.

The paper also examines the theoretical extension background, drawing upon literature that has discussed UGT, ECT, and UGEM. Furthermore, it provides a present research UGEM model to illustrate the relevant hypotheses offered. The specific methodology is described, including research materials, instrument development, and data collection. The final sections of this paper discuss the results of the data analyses, the discussions, and the findings on both theory and practice.

2. Theoretical extension background

2.1. Uses and Gratifications Theory (UGT)

Uses and Gratifications Theory (UGT) is considered a basic theoretical approach because its principles are applicable to almost every type of media and innovative technology (Katz, 1959). Indeed, UGT has been extensively applied to understand and explain individuals' adoption of various forms of media, including traditional media like television, radio, newspapers, magazines, cable TV and VCR remote controls or digital TV (Babrow, 1987; Dimmick, Kline, & Stafford, 2000; Elliott & Rosenberg, 1987), as well as other forms of modern communication and computer technologies like the Internet (Chen, 2011), mobile phones (Leung, 2013), user-generated media like e-commerce (Lim & Ting, 2012), and online games (Wu, Wang, & Tsai, 2010).

According to UGT, individuals are active in evaluating any available media and will make rational choices to select the medium or innovative technology they believe will best satisfy their needs and maximize their personal gratification (Luo & Remus, 2014). Psychological and social factors influence the user to make rational choices (Leung & Wei, 2000). Since UGT assumes that individuals know their own needs, it is also employed for deciphering why individuals choose one specific medium over another based on the former media's benefits (Luo & Remus, 2014). Contrary to the concern about the “effects of media” and “what media will do to people,” UGT has become part of a broader trend among those researchers who are more concerned with “what people do with media,” thereby allowing for a greater variety of responses and new interpretations (Leung, 2009).

UGT is also compatible with the constructive philosophy of self-learning using today's innovative technologies which emphasize learning as an “active” process. Indeed, “learning occurs most effectively when the student is engaged in authentic tasks that relate to meaningful contexts” (Heinich, Molenda, Russel, & Smaldino, 1996, p. 18). In this regard, UGT focuses on the learner's motives and perceived learning needs (Leung, 2009). Assumptively, m-learning and self-learning resources may even compete with the more traditional sources that satisfy students' requirements for learning. Therefore, the approach in the current study focuses on learner “active” participation by assessing learners' gratification when adopting m-learning and self-learning resources (e.g., mobile English-learning games). From the self-learner perspective, however, we argue that UGT approach is too simplistic to account for the actual gratification being obtained from learner adoption of mobile English-learning games (Mondi et al., 2008).

2.2. Expectation Confirmation Theory (ECT)

Another theoretical perspective that can also explain the relationship between user expectation, satisfaction (or gratification), and user continuance intention is Expectation Confirmation Theory (ECT). This theory is widely used in service marketing literature (Kim, Ferrn, & Rao, 2009). It suggests that both pre- and post-behavior affect service confirmation, which in turn influences satisfaction and continuance intention (Oliver, 1980). Confirmation is the user's judgment of the actual performance relative to a pre-adoption comparison standard, such as expectation (Bhattacherjee, 2001). Higher perceived performances lead to positive confirmation. The