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Investigation of temporal dissociation and focused immersion as moderators of satisfaction–continuance intention relationship: Smartphone as an example

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ABSTRACT

Previous studies have suggested that the influence of customer satisfaction on loyalty is more complex than it might seem at first sight. The IS Continuance Theory states that satisfaction leads to continuance intention. Through the context of users using the applications of smartphone, this study found that temporal dissociation moderates the satisfaction–continuance intention relationship negatively. However, focused immersion is not a moderator. There is a paucity of research into the implication of cognitive absorption for continued IT usage and the moderating role of temporal dissociation and focused immersion on relationship between satisfaction and continuance intention. This study fills these literature gaps. Though temporal absorption and focused immersion are often treated as two of the dimensions of cognitive absorption, handling them separately can provide useful insights on their dynamics. This study suggests that with many competing smartphone applications serving as substitutes, application software developers should not ignore the moderating role of temporal dissociation. They can design more applications that lead users to be unaware of the passage of time when using them. Such kind of applications may compete and "win" other applications with higher satisfaction but weak temporal dissociation content, thus resulting in continuance usage.

1. Introduction

In consumer satisfaction research, satisfied customers are shown to be more loyal to the product/service (Oliver, 1997). According to the IS Continuance Theory, satisfied IT users are also more likely to use that IT system continuously (Bhattacherjee, 2001; Deng et al., 2010).

However, the influence of customer satisfaction on loyalty is more complex than it might seem at first sight (Shankar et al., 2003; Walsh et al., 2008). Individuals may remain loyal even though they are dissatisfied. In recent years, marketing scholars have acknowledged the importance of moderators for predicating consumer behaviour. They have also exhibited increasing interest "especially with respect to the customer satisfaction construct and the satisfaction–loyalty link" (Walsh et al., 2008, p. 978). Previous research has identified different conditions that moderate the relationship between satisfaction and loyalty (Lu and Wang, 2008), such as customer characteristics (Mittal and Kamakura, 2001), whether the service is chosen online or offline (Shankar et al., 2003) and degree of online game addiction (Lu and Wang, 2008).

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The concept of cognitive absorption, defined as "a state of deep involvement with software" (Agarwal and Karahanna, 2000, p. 673), describes user's holistic experience with IT. Cognitive absorption is often operationalised as a second-order construct and is exhibited through five dimensions, namely temporal dissociation, focused immersion, heightened enjoyment, control and curiosity (Agarwal and Karahanna, 2000).

Temporal dissociation refers to an individual's inability to register the passage of time while engaged in interaction. It is related to flow constructs such as telepresence/time distortion (Rutkowski et al., 2007) and transformation of time (Csikszentmihalyi, 1990). Individuals who are in a state of temporal dissociation will perceive shorter time duration (Csikszentmihalyi, 1990; Skadberg and Kimmel, 2004; Lee et al., 2012). Hence, even though time is still measured by the clock objectively, the perception of psychological time is now subjective (Lobler et al., 2011). Focused immersion, which is also related to another flow construct known as focused attention (Rutkowski et al., 2007), is a state of total attention with the task where other attentional demands are, in essence, ignored (Agarwal and Karahanna, 2000). It reduces perceived cognitive burden associated with interaction with IT (Weniger and Loebbecke, 2011).

Past studies showed that cognitive absorption influences behavioural usage intention of IT products which are absorbing and stimulating for the users (Agarwal and Karahanna, 2000; Weniger and Loebbecke, 2011). Even though cognitive absorption plays an important role in IT usage, "few studies have investigated the implication of CA (cognitive absorption) for continued IT usage" (Deng et al., 2010, p. 64). Moreover, there is a paucity of research that considers the moderating role of temporal dissociation and focused immersion on relationship between satisfaction and continuance intention.

In this paper, we address the following question: Do temporal dissociation and focused immersion serve as moderators of the relationship between satisfaction and continuance intention? This study seeks to address the literature gaps by complementing the extant literature on cognitive absorption and identification of moderators of satisfaction and continuance intention relationship. To answer this question, this study develops and empirically evaluates research models for investigating the moderation role that temporal dissociation and focused immersion may play in the relationship between satisfaction and continuance intention relationship in the context of users using the applications of smartphone.

We selected the smartphone as the context for our study because smartphone is a good example of consumer-oriented contemporary IT. It provides both utilitarian and hedonic functions (van der Heijden, 2004; Deng et al., 2010). Smartphone applications can be very engaging and involving for the users (Chandra et al., 2009). It is now very common to see users constantly tapping away on their smartphone, hence claiming the time and concentration of the users consistently. Known as the smartphone addicts (低頭族 in Chinese, which literally means "low head tribe"), they are constantly checking and playing on their smartphone while at the dinner table, in the subway, at the supermarket checkout, outings with friends and family, and sometime when walking on the street. Taiwan authority has even started issuing fines to drivers for using smartphone or other similar devices while driving. As a whole, smartphone has the environment which provides the prerequisite for the cognitive absorption of the users. Taking into account that users often do multiple tasks at the same time through the smartphone, this study does not focus on single smartphone application. Instead, this study considers the smartphone and its applications in general. Given that smartphone is constantly claiming the time and concentration of their users, this study suggests that temporal dissociation and focused immersion could likely play a role in the context of usage of the applications of smartphone.

2. Literature review on flow and cognitive absorption

Flow represents an optimal experience where individuals experience deep joy and satisfaction (Hoffman and Novak, 2009). Flow can also be depicted as individuals experiencing a state of mind when consciousness is harmoniously ordered (Csikszentmihalyi, 1977). Individuals pursue whatever they are doing for its own sake (Csikszentmihalyi and Csikszentmihalyi, 1988). In such an autotelic state (Faiola et al., 2013), people "forget personal problems, lose their sense of time and of themselves, feel competent and in control, and have a sense of harmony and union with their surroundings... and cease to worry about whether the activity will be productive and whether it will be rewarded" (Csikszentmihalyi and Csikszentmihalyi, 1988, p. 182). Unlike perceived usefulness, which is a type of user's extrinsic motivation, flow experience is an intrinsic motivation (Lu et al., 2009).

Flow can be used to understand online consumer behaviour. It defines the nature of compelling online experience (Novak et al., 2000; Hsu and Lu, 2004; Park et al., 2010). Past studies have discussed the effect of flow experience on online user behaviour in various contexts such as blogging (Park et al., 2010), e-learning (Ho and Kuo, 2010; Lee, 2010), mobile instant messaging (Zhou and Lu, 2011) and online shopping (Guo and Poole, 2009).

Even though researchers have "an intuitive and experience-based understanding of the flow construct" (Hoffman and Novak, 2009, p. 26), flow construct is, however, too broad and conceptual ambiguous for a consistent operational definition (Choi et al., 2007; Hoffman and Novak, 2009; Faiola et al., 2013). Different viewpoints on the components of flow exist. There are several contexts to operationalise, test, and apply flow (Csikszentmihalyi, 1990; Agarwal and Karahanna, 2000; Rodriguez-Sanchez and Schaufeli, 2008; Guo and Poole, 2009; Hausman and Siekpe, 2009; Hoffman and Novak, 2009; Park et al., 2010). There are also inconsistencies in how flow is modelled where "what one researcher considers an antecedent of flow, another considers a consequence of flow, or perhaps a part of flow itself. For example, Agarwal and Karahanna's (2000) model specifies ease of use as a consequence of flow, while other models, such as Hsu and Lu (2004) and Sanchez-Franco (2006), specify flow as a consequence of ease of use" (Hoffman and Novak, 2009, p. 29).