Exploring continued online service usage behavior: The roles of self-image congruity and regret

Young Sik Kang [a], Soongeun Hong [b], Heeseok Lee [c,*]

[a] School of Business Administration, Myongji University, 50-3, Namgajwa-dong, Seodaemun-gu, Seoul 120-728, South Korea
[b] Technovation Partners, 132-2, Nonhyeon-dong, Gangnam-gu, Seoul 135-010, South Korea
[c] Business School, Korea Advanced Institute of Science and Technology, 207-43, Cheongyangri-dong, Dongdaemoon-gu, Seoul 130-012, South Korea

ABSTRACT

The expectation–confirmation model (ECM) of continued information systems (IS) use has proven to be successful across online service contexts. Previous studies based on ECM have focused on a referent (i.e., comparison standard) that is centered on the target IS (i.e., target online service). The effect of this referent, captured through confirmation, has been strongly demonstrated. Yet, few studies have explored the saliency of two additional reference effects, captured through self-image congruity and regret, in online service continuance. To fill this knowledge gap, this paper attempts to develop a research model that extends the ECM perspective in view of the additional contributions of regret and self-image congruity on two post-adoption beliefs (perceived usefulness and perceived enjoyment) and continuance intention. For this extension, we synthesized the extant literature on continued IS use, self-image congruity, and regret. The model was empirically tested within the context of a social network service. Our analysis result shows that self-image congruity plays a key role in forming the two post-adoption beliefs. It is also found that the absolute effect of regret on continuance intention is larger than the effects of other antecedents identified in IS. Overall, this study preliminarily confirms the salience of self-image congruity and regret in online service continuance.

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1. Introduction

Although initial use is an important measure of online service success, it does not necessarily result in the desired managerial performance unless the use continues (Bhattacherjee, 2001b). Specifically, how to promote continued online service usage or, alternatively, how to prevent discontinuance is a critical issue for online service providers to consider (Parthasarathy & Bhattacherjee, 1998). Deep down, online service managers know that achieving strong and sustained customers is crucial. Therefore, research into this online service continuance has recently emerged as an important issue in the IS literature (e.g., Bhattacherjee, 2001a; Kim & Malhotra, 2005; Kim, Malhotra, & Narasimhan, 2005; Liao, Chen, & Yen, 2007; Limayem, Hirt, & Cheung, 2007).

Individuals' information systems (IS) continuous usage decisions are congruent with consumers' repeat purchase decisions. The expectancy-confirmation paradigm has been strongly confirmed across a wide range of product repurchase and service continuance contexts (e.g., Churchill & Surprenant, 1982; Oliver, 1993; Oliver & DeSarbo, 1988; Taylor, 1997). For this reason, drawing

from the paradigm, Bhattacherjee (2001b) developed the expectation–confirmation model (ECM) of continued IS use. The model explicitly focuses on a user's psychological motivations that emerge after initial adoption of IS. Furthermore, it has proven to be successful across consumer-oriented online service contexts (Bhattacherjee, 2001a; Liao et al., 2007; Limayem et al., 2007; Lin, Wu, & Tsai, 2005).

What are the distinguishing characteristics that influence people to continue IS usage in a consistent fashion? The original ECM hypothesizes that an individual's intention to continue IS usage depends on three variables: the individual's level of satisfaction with use of IS; the extent of the individual's confirmation of his/her expectation of IS; and post-adoption expectation (belief) in the form of perceived usefulness. Recently, in order to expand the original ECM, two additional post-adoption expectations, perceived enjoyment/playfulness and perceived ease of use, have been incorporated (Hong, Thong, & Tam, 2006; Lin et al., 2005; Thong, Hong, & Tam, 2006).

The expectancy-confirmation paradigm proposes that a consumer refers to his/her initial expectations about a target object (product or service) when forming post-consumption satisfaction judgments (Oliver, 1980). The paradigm focuses on a referent centered on the target object being studied. This target object

* Corresponding author. Tel.: +82 2 958 3655; fax: +82 2 958 3604.
E-mail address: hsl@business.kaist.ac.kr (H. Lee).

referent denotes the consumer's existing expectations about the target object. In the IS domain, when a user compares the perceived performance of a target IS with his/her expectations, any resulting confirmation is shown to affect satisfaction judgments and post-adoption expectations about the target IS (Bhattacherjee, 2001b; Limayem et al., 2007; Lin et al., 2005; Thong et al., 2006).

In addition to this target object referent type, two additional major types of referents can be identified across the research domains of services, consumer behavior, and social psychology: other-object and self-based referents. An other-object referent refers to the perceived performance of an alternative the consumer compares with the target object. Regret captures the resulting judgment of this comparison (Inman, Dyer, & Jia, 1997; Tsiros & Mittal, 2000). If the comparison is unfavorable (the alternative performs better than the target object), then the consumer will experience regret, while if it is favorable, the consumer will experience rejoicing. The negative effects of regret on satisfaction and repurchase intention have been confirmed (Inman et al., 1997; Taylor, 1997; Tsiros & Mittal, 2000).

In contrast, a self-based referent refers to the consumer's self-image (or self-concept) he/she compares with the image (or symbolic value) of the target object. Self-image congruity is formed from this comparison (Sirgy, 1982; Sirgy, 1985; Sirgy, Grewal, & Mangleburg, 2000). Self-image congruity influences the consumer's purchase motivations because he/she prefers products or services that are consistent with his/her own self-image. Indeed, self-image congruity has been empirically shown to influence post-consumption commitment and loyalty (Kressmann et al., 2006; Sirgy & Samil, 1985; Yim, Chan, & Hung, 2007) as well as pre-consumption evaluations such as attitude, preference, and intention (e.g., Aaker, 1999; Graeff, 1996; Kleijnen, de Ruyter, & Andreassen, 2005; Sirgy, 1985).

In sum, regret and self-image congruity, as well as confirmation, result from the comparison of the perceived performance/image of a target object against a comparison standard. However, as noted above, the comparison standards for the three constructs are different. The effects of the target object referent type, captured through confirmation, on satisfaction and continuance intention have been strongly shown in online service continuance. However, few studies have explored the saliency of other-object and self-based referent types, captured through regret and self-image congruity, respectively, in online service post-adoption phenomena.

In order to fill this knowledge gap, this paper attempts to develop a research model that extends the ECM perspective by incorporating two additional comparison judgments – regret and self-image congruity. Specifically, our proposed model will enhance the ECM perspective in view of the additional and relative contributions of regret and self-image congruity on two post-adoption expectations (perceived usefulness and perceived enjoyment) and continuance intention.

Based on a sample of 349 respondents who used one of the most popular social network websites, this paper employs structural equation modeling (SEM) for data analysis. Our analysis suggests that each construct – self-image congruity and regret – makes a unique contribution to our understanding of continued online service usage behavior.

The organization of this paper is as follows: in the next section, we provide the theoretical background for our research model. Then, we conceptualize our research model and propose hypotheses. The subsequent section describes our instrument development and data collection procedure. Next, we present the results of the empirical test. In the final section, we discuss the implications of our research findings, identify the limitations of the study, and provide the concluding remarks.

2. Theoretical background

2.1. The expectation–confirmation modeling perspective

Investigation of consumers' post-consumption behavioral decisions is a dominant topic in consumer behavior literature (Churchill & Surprenant, 1982). In order to explore consumers' satisfaction and repurchase decisions in various contexts, the expectancy-confirmation paradigm has been commonly employed and has proven to be successful (e.g., Anderson & Sullivan, 1993; Oliver, 1980; Oliver, 1993; Taylor, 1997). In consumer behavior literature, "disconfirmation" is used interchangeably with "confirmation." To be consistent with Bhattacherjee (2001b) model, "confirmation" is employed throughout this paper.

Under the expectancy-confirmation paradigm, a consumer has an initial expectation about a product or service in mind before a consumption experience. After consumption, the perceived performance of the product or service is compared with the initial expectation. The consumer's level of satisfaction is formed by this expectation, and the discrepancy between the expectation and the perceived performance (confirmation). The level of satisfaction thus determines repurchase intention. The process by which the consumer reaches repurchase intention implies that the expectancy-confirmation paradigm focuses on a referent centered on the product or service in question (i.e., target object referent).

In order to understand users' continued IS usage behavior, Bhattacherjee (2001b) proposed ECM. Although ECM is based on the expectancy-confirmation paradigm, it has a distinctive feature: ECM emphasizes the importance of post-adoption expectation rather than pre-adoption expectation. Therefore, instead of pre-adoption expectation, perceived usefulness, a surrogate for the post-adoption expectation, is included. Furthermore, because ECM assumes the influence of perceived performance is already explained by the confirmation variable (Bhattacherjee, 2001b), it does not include the performance variable.

Past studies based on the ECM perspective are synthesized in Fig. 1. They have been successfully applied to business-to-consumer (B2C) online and mobile services. In order to reflect the unique characteristics of these target ISs and their specific usage contexts, two additional post-adoption expectations – perceived ease of use and perceived enjoyment/playfulness – have been incorporated (Hong et al., 2006; Liao et al., 2007; Lin et al., 2005; Thong et al., 2006). For example, the use of mobile services through handheld devices such as mobile phones and personal digital assistants (PDAs) is very complex and inconvenient. In addition, the usage of online services such as social network service includes a broad range of activities – both work-related and fun activities. Therefore, to address these unique characteristics, perceived ease of use and perceived enjoyment are included in the original ECM.

Employing the ECM perspective as our point of departure is appropriate. Primarily based on TAM (Technology acceptance model) (Davis, 1989) and other intention-based models such as TRA (Theory of reasoned action) (Ajzen & Fishbein, 1980) and TPB (Theory of planned behavior) (Ajzen, 1991), most of previous studies have explored various antecedents and moderating effects resulting in the initial acceptance (or not) of a particular IS. Therefore, the conclusions of these studies are of marginal importance for our study. In contrast, the ECM perspective is based on a solid theoretical foundation that focuses on a user's psychological motives during post-adoption. Furthermore, it has proven to be successful across online service contexts. Lastly, incorporation of regret and self-image congruity may not break its theoretical logic because, like confirmation, they result from comparison with a reference point.