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Social influence on innovation resistance in internet banking services

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ABSTRACT

The primary goal of this study was to examine the moderating effect of experiences on the relationship between social influence and innovation resistance. Multi-group structural equation modeling was performed to test the model, which used survey data on Japanese consumers' use of internet banking services. The results revealed that social influence directly reduced the innovation resistance of non-experienced consumers while directly enhancing the innovation resistance of experienced consumers. Moreover, the mediating effect of barriers was found to be different for experienced and non-experienced consumers. This paper contributes to a better understanding of innovation resistance and diffusion processes by clarifying the effect of social influence on innovation resistance, based on social learning and influence theories.

1. Introduction

The high failure rates for new products, averaging around 40% across industries (Castellion and Markham, 2013), suggest that consumers often resist change when confronted with innovation (Ram, 1987). Heidenreich and Kraemer (2016) argued that consumer innovation resistance is a significant reason for new product failure. Therefore, recent empirical studies have begun to focus on the phenomenon of innovation resistance (e.g., Mani and Chouk, 2017; Patsiotis et al., 2013, Talke and Heidenreich, 2014).

Prior research has shown that innovation resistance results primarily from functional and psychological barriers (Talke and Heidenreich, 2014). Functional barriers appear when perceived functional attributes of an innovation do not fulfil consumers' ideal expectations; psychological barriers emerge when perceived attributes of an innovation bring about psychological conflicts or problems for consumers (Heidenreich and Handrich, 2015). The perceived barriers and resistance may be influenced by their peer group, which provides information and sets normative standards of conduct (Mangleburg et al., 2004). Although previous research on the technology acceptance model (TAM) found that social and interpersonal influences have positive effects on consumers' intentions to use new products, services, or technologies (Lian and Yen, 2014; Messing and Westwood, 2014; Slade et al., 2007; Thomas and Vinuales, 2017), little is known about the relationships between social influence, consumers' perceived barriers and resistance to change.

To address this research gap, this study investigated the direct and indirect effects of social influence on innovation resistance mediated by several barriers, including complexity, performance risk, and existing usage patterns. Importantly, innovation resistance can arise even after consumers experience or adopt new services and products. A previous study reported that some customers generally discontinue online shopping on certain websites within a short period of time (Kim and Gupta, 2012). Therefore, innovation resistance may also arise after consumers have experienced or adopted new services and products. We also need to recognize the possibility that the strength of social influence on perceived barriers and resistance differs between experienced and inexperienced consumers. For example, Karahanna et al. (1999) argued that pre-adoption behavior should be distinguished from post-adoption behavior when investigating the technology adoption process. This is because pre-adoption beliefs are mainly established through indirect experiences or perceptions, whereas post-adoption beliefs result from direct experiences or the actual use of products. Accordingly, several studies on TAM found that the effect of social influence on the utilization of new technology is different for inexperienced and experienced users (Thompson et al., 1994; Venkatesh et al., 2003). Therefore, it is essential to examine the role of social influence on innovation resistance both before and after new technologies are adopted. However, to date, there has been minimal research on the moderating effects of experience on the relationship between social influence and innovation resistance.

Based on these propositions, we tested the moderating effect of

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experience on relationships between social influence, perceived barriers and innovation resistance, drawing on interpersonal influence theory (Deutsch and Gerard, 1955; Yi et al., 2013) and social learning theory (Bandura, 1977). This paper contributes to the existing literature by highlighting the antecedents of innovation resistance in terms of experiential, social, and psychological processes. Internet banking services were the focus of this investigation because such services represent a widely used innovation in the financial industry that has been investigated by TAM researchers since 1999 (Hanafizadeh et al., 2014). Internet banking, as type of financial service, involves security issues and a degree of technical complexity that may constitute barriers promoting innovation resistance.

The remainder of this article is presented as follows. The next section reviews the literature on innovation resistance, barriers to adoption, social influence, experience, and social learning. This is followed by an outline of our conceptual model and our hypotheses. Subsequently, our methodology and results are presented. Finally, the theoretical and practical implications of the findings are discussed.

2. Conceptual background and hypotheses

2.1. Innovation resistance and barriers

Innovation, which always involves change and a threat to the status quo, tends to provoke resistance, which reduces willingness to adopt new products (Heidenreich and Handrich, 2015). Ram (1987) defined innovation resistance as the resistance offered by consumers to the changes imposed by innovations. The innovation diffusion process consists of five stages: (1) knowledge, (2) persuasion, (3) decisions, (4) implementation, and (5) confirmation (Rogers, 2003), and it has been assumed that innovation resistance results from negative evaluations of services and products that emerge in the persuasion stage or afterwards (Talke and Heidenreich, 2014).

There are two types of innovation resistance: ‘active innovation resistance’ and ‘passive innovation resistance’. The former involves the formation of a negative attitude based on the functional and psychological barriers that are identified during the deliberate evaluation of a new product, whereas the latter is regarded as a tendency to resist innovations due to personality-specific inclinations to resist change (Heidenreich and Handrich, 2015; Patsiotis et al., 2013).

Innovation resistance, especially active resistance, results primarily from functional and psychological barriers (Ram and Sheth, 1989; Talke and Heidenreich, 2014). Functional barriers arise when consumers consider product attributes as inappropriate or insufficient for their personal expectations, whereas psychological barriers arise when the innovation conflicts with consumers' social norms, values, or usage patterns (Talke and Heidenreich, 2014).

Both the functional and psychological dimensions of barriers are considered important contributors to innovation resistance. This study treats complexity barriers and performance risk barriers as functional barriers, and existing usage patterns as psychological barriers. Complexity barriers emerge when a perception of innovation is associated with unease regarding use and/or difficulty in comprehension (Talke and Heidenreich, 2014), whereas performance risk barriers refer to the possibility that the product will not work according to expectations and/or will not supply ideal benefits (Grewal et al., 1994). Existing usage patterns are described as habitually consistent behavior formed after a service/product has been adopted over a long period of time (Kleijnen et al., 2009). As the term ‘usage barriers’ has been used to imply both barriers of complexity (Laukkanen, 2016) and existing usage patterns (Heidenreich and Kraemer, 2016; Ram and Sheth, 1989), we avoided using this term to pinpoint the idea of “unease regarding use”. Following Heidenreich and Handrich (2015), we operationally define existing usage patterns as satisfaction with existing services.

Our decision to focus on these barriers in this study was based on the following considerations. First, the causal model underpinning TAM consists of the beliefs, attitudes, behavioral intentions, and actual behaviors of individuals in the context of accepting technology (Davis et al., 1989). It is based on the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980), which holds that an individual's behavioral intention to perform a particular behavior is informed by that person's attitude (Lee, 2012). Davis et al. (1989) developed measures of perceived usefulness and perceived ease of use based on the assumption that attitudes and behavioral intentions underpin these phenomena. It can be said that lower degrees of perceived usefulness and lower perceived ease of use may imply enhanced performance risk barriers and complexity barriers.

Beliefs about perceived usefulness and perceived ease of use have been treated as variables of interest in attempts to explain acceptance of perceived newness (e.g., Davis, 1989; Roy et al., 2018; Wells et al., 2010). Previous studies on the acceptance of Internet banking services have also indicated that perceived risk and ease of use affected intentions to use these services (Chaouali et al., 2016; Kuisma et al., 2007; Laukkanen, 2016; Lee et al., 2012; Patsiotis et al., 2013). Studies based on the TAM imply that innovation resistance occurs when individuals fail to perceive the usefulness and ease of use of new products and services, which suggests an enhanced degree of complexity and performance risk barriers.

As mentioned above, this study conceptualized an existing usage pattern as an individual's satisfaction with existing services. Indeed, many consumers follow routines and habitual behavior patterns arising from frequently using a product or a service over a long period of time, and this may lead to innovation resistance (Hurmerinta and Sandberg, 2015; Laukkanen, 2016; Lee, 2012). For example, Kuisma et al. (2007) suggest that the habit of using automatic teller machines (ATMs) can inhibit use of the Internet to perform banking-related tasks.

2.2. Social influence

Social or interpersonal influence is a significant determinant of consumer attitudes or behaviors (Bearden et al., 1989). Social influence refers to the extent to which members of a social network influence one another's attitudes or behaviors (Rice et al., 1990; Venkatesh and Brown, 2001). Cialdini and Goldstein (2004) explained social influence in the context of the importance of forming accurate perceptions of reality and reacting accordingly and of developing social relationships and maintaining a favorable self-concept. Slade et al. (2007) found that individuals tend to consult their social network when adopting new technologies and note that they are influenced by the perceived social pressure emanating from important others. Chaouali et al. (2016) also reported that social influence had positive impacts on the intention to adopt Internet banking on the basis of trust. Further, importantly, Kleijnen et al. (2009) stated that consumer decision processes are significantly affected by peer observation, and that so-called socially-unaccepted innovation users may be forced to isolate themselves from their social group when there is insufficient social support.

According to interpersonal influence theory, social influence can be classified into informational and normative (Deutsch and Gerard, 1955; Yi et al., 2013). Normative social influence refers to influence that promotes conformity with the positive expectations of another, whereas informational social influence is defined as influence that promotes acceptance of information provided by another person as evidence about reality (Deutsch and Gerard, 1955). According to Mangleburg et al. (2004), reference groups exert influence on consumer behaviors by establishing normative standards of conduct (i.e., normative influence), by improving an individual's self-image (i.e., normative influence), and by providing information in ambiguous situations (i.e., informational influence).

Previous empirical studies have reported that social or interpersonal influence affect consumer attitudes and behavioral intentions (Thomas and Vinuales, 2017), citizenship behaviors (Yi et al., 2013), decisions about the social media on which to rely (Messing and Westwood, 2014),