



## From marketplace to marketspace: Investigating the consumer switch to online banking

Kuo-Wei Lee<sup>a,\*</sup>, Ming-Ten Tsai<sup>b</sup>, Maria Corazon L. Lanting<sup>c</sup>

<sup>a</sup> Department of Business Administration, National Tai-Chung Institute of Technology, Taiwan

<sup>b</sup> Department of Business Administration, National Cheng Kung University, Taiwan

<sup>c</sup> Department of Business Administration, Southern Taiwan University, Taiwan

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### ABSTRACT

Even though scholars have placed considerable focus on studying the attitudes and intentions towards using the virtual market (marketspace), there are still few studies that examine the potential effect of the physical market (marketplace) on the virtual market. The physical and virtual markets have some substitution effects; as users utilize the virtual market more frequently, they use the physical market less regularly. Under this premise, factors relating to the physical market may have a potential effect on the user's acceptance of the virtual market. The primary goal of this study was to explore the factors that affect the attitude and intention towards switching from the physical to the virtual market in the context of online banking. In total, 400 questionnaires were sent out and 250 effective questionnaires were returned, for an effective recovery rate of 62.5%. Factor analysis and regression analysis were used to examine the hypotheses. The results showed that perceived usefulness, perceived ease of use and offline trust have positive effects on attitude towards switching. Additionally, offline loyalty and switching costs had negative significant influence on attitude towards switching. Moreover, attitude towards switching had a positive effect on the behavior intention to switch. Finally, computer self-efficacy moderates the effect of attitudes and behavior intention towards switching to online banking.

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### 1. Introduction

Rayport and Sviokla (1994a,b) indicated that in the future, businesses will compete not only in the physical market (marketplace), but also in the virtual market (marketspace). That is, more and more companies will switch their business models from the physical to the virtual market (online technology). At present, the perspective of Rayport and Sviokla has been confirmed, as the physical distribution of goods through stores, banks, bookstores, mail and newspapers, among others, is gradually moving to the virtual market (see Table 1).

To a large extent, most consumer goods and services are now available through virtual markets (marketspace), hence the ubiquity of online business models (Wu and Chen 2005, Alam et al. 2009, Sejin and Leslie 2009). Yet consumers can also secure these goods and services via traditional markets (marketplace). This phenomenon prompts the research question: How does the marketplace affect consumers' decisions to switch from the physical to the virtual market? This question is investigated in the context of online banking. Physical banking allows personal interactions

when conducting business transactions, and this gives consumers a sense of security. However, if these transactions are done online, how do offline banking factors interplay with the factors related to using online technologies? What factors influence consumers when switching to online banking? These questions will be examined further in the following sections.

This research underscores the potential effects of the marketplace on the virtual market and on the adoption and use of new technologies. The technology acceptance model (TAM) is utilized in this context to investigate the attitude and behavior towards switching to online banking (i.e., the virtual market). Physical market variables are then integrated into the framework.

According to TAM, users' perceived usefulness (PU) and perceived ease of use (PEOU) influence their attitude and behavior intention towards using new technologies (Davis 1989, Davis et al. 1989). TAM has been extensively verified using factors that affect consumers' intentions toward using virtual markets (Tan and Teo 2000, Kim and Prabhakar 2000, Cheng et al. 2006). For instance, some researchers have discussed behavior intentions to use e-mail, while others focused on user acceptance of the worldwide web (WWW) (Adams et al. 1992, Gefen and Straub 1997, Fenech 1998). Follow-up studies have included other constructs to derive a more comprehensive interpretation of consumers' intentions to use online technologies. Agarwal and Prasad (1999) probed this

\* Corresponding author. Address: 13F-11, No. 539, Chin Ping Rd., Anping District, Tainan 708, Taiwan. Tel.: +886 6 2980922; fax: +886 6 2422420.

E-mail address: [leealan1022@yahoo.com.tw](mailto:leealan1022@yahoo.com.tw) (K.-W. Lee).

**Table 1**  
Switching of business models from physical to virtual market.

Market	Business model					
Physical market (marketplace)	Store	Bank	Bookstore	Mail	Newspaper	Book
Virtual market (marketspace)	Online store	Online banking	Online bookstore	E-mail	E-paper	E-book

issue from the perspective of a professional background, and Bhattacharjee (2001) included personal creativity in his study. In addition, others extended the model by adding playfulness (Van der Heijden 2003) or convenience (Yoon and Kim 2007) as a factor.

Although TAM has been extensively verified with factors that affect users' intentions toward virtual markets, prior research has mostly focused on the concept of attitude towards using and behavioral intention to use (Davis et al. 1989, Adams et al. 1992, Agarwal and Prasad 1999, Tan and Teo 2000, Kim and Prabhakar 2000, Chan and Lu 2004, Porter and Donthu 2006). In this study, we argue that when business models switch from a physical to a virtual market, the constructs of attitude and behavioral intention to use cannot fully reflect users' acceptance of the virtual market because user acceptance of the virtual market implies that they will reduce use of the physical market. In other words, the physical and virtual markets are substitutes. As consumers use virtual markets to conduct transactions, they will use physical markets less often. To a certain extent, the use of the virtual market infers a behavioral switch away from the physical market. Before a consumer decides to accept this new technology, the behavioral intention to switch must take precedence. When consumers make a choice between physical and virtual markets, the viewpoints of "attitude towards use" and "intention to use" (Featherman and Fuller 2003, Lin 2006, Porter and Donthu 2006, Lee 2009) are not as applicable as "attitude towards switching" and "intention towards switching" in reflecting the substitution effect between physical and virtual markets.

Following the points above, the first objective of this study was to investigate the concept of attitude and intention towards switching from physical to virtual markets, instead of the traditional viewpoint of attitude and intention towards use of the virtual market.

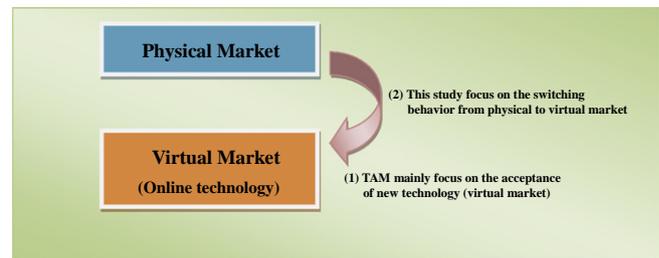
Second, regarding the factors that affect users' attitudes and intention to use the virtual market, previous research has mostly focused on the features of the new technology itself, such as its PU, PEOU and characteristics of the users (personal creativity, professional background and online experience), or on the social perspectives, such as trust and subjective norms (Bhattacharjee 2001, Chau and Hu 2001, Featherman and Fuller 2003, Gefen et al. 2003). Because physical and virtual markets have some substitution effect, the factors relating to the physical market, like the satisfaction of consumers using the physical market, may also have a potential effect on the user's acceptance of the virtual market. Little research has been conducted that considers the impact of the physical market on consumers' intention toward switching.

Therefore, the second objective of this study was to integrate a technology acceptance model and the factors relating to the physical market to understand their reciprocal effects on attitude and intention towards switching. Fig. 1 identifies the gap of this research.

## 2. Literature review

### 2.1. Technology acceptance model

Scholars and researchers have continuously expressed an interest in studying the acceptance and use of technology (see Lee and Lee 2001, Chau and Lai 2003, Featherman and Fuller 2003, Porter



**Fig. 1.** The gap of this research.

and Donthu 2006). The factors that are significant in using and accepting technology have been scrutinized across wide-ranging user technology and application platforms (see Lu et al. 2003, Yi and Hwang 2003, Shih 2004). Therefore, it is rational to say that the foundation for user technology acceptance research has been deeply entrenched. Of all the models proposed, TAM conceptualized by Davis (1989) has been widely received and adopted by IS researchers. Briefly, TAM hypothesizes that two variables, namely perceived usefulness and perceived ease of use, are the foremost elements in establishing the attitudes and behaviors toward IT adoption, the intention to use the technology and the actual usage. These two constructs have generally been validated in many empirical studies to be important factors affecting system usage. The high explanatory power and generalizability of TAM have also been examined and supported in many studies (see Fenech 1998, Jones and Hubona 2006, Lee 2009).

In this paper, TAM provides a template for analyzing behavior intention towards switching to online banking, which includes the constructs related to offline banking (marketplace variables). Even though the model is robust enough, it still needs to be expanded and adjusted to fit computing technologies in a typical business environment. For example, Featherman and Fuller (2003) applied TAM to e-services adoption. Im et al. (2008) included two variables, perceived risk and technology type, to assess user acceptance of technologies.

### 2.2. Online banking and the technology acceptance model

Huge advancements in information technology have tremendously affected the financial services industry, as is evident in the development of online banking in recent years. Online banking remained largely unnoticed in Taiwan until 2003, when web-based automated teller machines (ATMs) were introduced (Wang et al. 2003). Due to the great cost benefits of online banking, Taiwanese banks began to develop their online banking platforms in hopes of luring customers to use the Internet to conduct their business transactions.

Internet banking adoption has been the focus of several previous research studies, such as those by Kim and Prabhakar (2000), Tan and Teo (2000) and Cheng et al. (2006), which focused on Internet banking adoption and acceptance, and utilized TAM in conceptualizing a framework. TAM has been continuously and vigorously extended for use with some models, including trust (Mukherjee and Nath 2003), perceived risk (Verhagen et al. 2004), computer self-efficacy (Wang et al. 2003) and gender (Lai

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