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FACTORS AFFECTING THE INTENTION TO ADOPT ELECTRONIC BILL PRESENTATION AND PAYMENT

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Abstract

Electronic Bill Presentation and Payment (EBPP) is a technology that is slowly gaining acceptance by consumers. The study intends to investigate the factors that affect adoption intentions of consumers. The attitudinal, social and behavioral factors, based on the decomposed Theory of Planned Behavior Model, which may influence the intention to adopt, will be determined.

Keywords: Electronic bill presentation and payment, theory of planned behavior

Introduction

As consumers increasingly rely on their credit cards, companies have developed a convenient and cost effective technology: Electronic Bill Presentation and Payment (EBPP). EBPP refers to the process by which companies bill consumers and receive payments through the Internet (Au and Kauffman, 2001). The technology was developed even before the Internet became popular. Big banks like Chase promoted the use of television- or PC-based bill payment to consumers a decade ago (Hoffman, 2002). However, the adoption rate for consumers is disappointing. Consumers have been slow to embrace the new technology. According to TowerGroup, less than 1% of all worldwide consumers will pay bill online (Webster, 2002).

Consumers paid a total of 15.9 billion in bills in 2001. The number of bills is projected to increase to 16.8 billion in 2003 and 18.1 billion in 2005 (Robertson, 2001). Printing, sending and processing bills is costly for institutions. Attracting consumers to use EBPP will substantially reduce costs, although software installation and implementation costs will be unavoidable. In addition, various services offered with EBPP can increase customer satisfaction and customer retention. Saks, the retail store, views the effort of using EBPP as a building block for E-commerce. Through online payment, Saks hopes it can draw more consumers and retain them (Robinson, 2000)

EBPP also offers many advantages to consumers. Cost savings is one of the primary reasons for consumers to use the technology. Consumers do not need to spend on postage and envelope to send checks by mail. Convenience is also one of the advantages that EBPP offers. With several clicks, consumers can send their bills immediately. Companies integrate many other services with EBPP: bill sorting, monthly email reminder, archival bill information, reverse number-look up, payment option and so on.

The objective of the study is to identify the factors that affect users' adoption of EBPP. To some extent, EBPP helps consumers to "create a new behavior" (Hoffman, 2001). EBPP technology faces difficulty of acceptance because it will change users' traditional paying habits.

A framework based on theory of planned behavior (TPB) (Ajzen, 1985) and diffusion of innovations theory (ROI) (Rogers, 1983) is used to derive attitudinal, social and behavioral control factors. In practice, the findings will present the key factors affecting the adoption of the technology to companies who are trying to promote it.

Theoretical Background

Several models exist for explanation of individual technology acceptance. The research framework for this study is adapted from the model by Taylor and Todd (1995), which is based on the theory of planned behavior (TPB) (Ajzen 1985) and the Diffusion

of Innovation Theory (DOI) (Rogers 1983). In their study, Taylor and Todd compared the technology acceptance model (TAM) (Davis, 1989) and two variations of traditional TPB model. They concluded that although all three models explain a similar amount of target behavior, the decomposed TPB model presents a fuller understanding of behavioral intentions. The decomposed TPB model identified specific dimensions for attitude, subjective norms and perceived behavioral control.

Attitude

The attitudinal belief is decomposed into a set of perceived innovation characteristics. (Rogers, 1983). According to the Diffusion of Innovation Theory, five perceived attributes were considered significant. Among those, relative advantage, complexity and compatibility have been found to contribute more to adoption decision (Tornatzky and Klein, 1982). Therefore, in this study, the three factors are chosen to be attitudinal belief dimensions.

Relative Advantage. It refers to the degree to which it is perceived to be better than what it supercedes. EBPP is perceived to offer more advantages than traditional mail payment: cost savings, convenience and more services. In addition, consumers can pay their bills from any location and at any time of the day. Thus, the hypothesis is:

H1a: Perceived relative advantage of using EBPP is positively related to its adoption.

Complexity Complexity is the degree at which an innovation is perceived to be difficult to use and understand (Rogers, 1983). If a technology is perceived as hard to implement, even if it can yield numerous benefits, consumers may be reluctant to adopt it. Complex technology requires training and education for the consumers and also support and maintenance from highly skilled IS staff. As Internet becomes more user-friendly, it is likely that consumers will find that EBPP is not hard to use. This leads to the following hypothesis:

H1b: Perceived Complexity of using EBPP is negatively related to its adoption.

Compatibility Compatibility is the degree to which an innovation is viewed as consistent with existing values, past experience and needs of the potential adopter (Rogers, 1983). A compatible technology will fit more with the consumers, requiring less adjustment. Compatibility with previously introduced technology or work practices will make it easier for consumers to accept the technology. With more people using the Internet to conduct transactions and search for information, it is expected that EBPP will fit users' lifestyle. Therefore, the following hypothesis is suggested:

H1c: Perceived compatibility of EBPP is positively related to its adoption.

Risk Featherman (2001, 2002), Tan and Teo (2000) introduced risk as an additional dimension in diffusion and adoption of technology. Consumers are concerned about their privacy and information security of the website. Consumers need to provide their bank account information if they adopt EBPP. In case someone steals and tampers with that information, consumers will lose control of their financial information. Therefore, only people who perceive EBPP as a low risk task will be likely to adopt it. Thus, the hypothesis is:

H1d: Perceived Risk of EBPP is negatively related to its adoption.

Subjective Norms

A subjective norm refers to "the person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein and Ajzen, 1975). User opinions are often influenced by other people, either peers, families, supervisors or subordinates. Although there might be different reference groups who will affect an individual's intention to adopt EBPP, it is assumed that the influence of the groups as a whole will affect individual's intention to adopt EBPP. Therefore, the hypothesis is:

H2: The beliefs associated with subjective norms are positively related to Intention to adopt EBPP.

Behavioral Control

Behavior control is defined as an individual’s belief concerning how difficult or easy performing the behavior would be. In this study, it encompasses two components: web skills and EBPP self-efficacy. Koufaris (2002) identifies web skills as one important factor for online consumer behavior. The higher the consumers perceive their web skills, the more likely they will be inclined to adopt EBPP. Therefore, the hypothesis is:

H3a: The perceived level of web skill is positively related to Intention to adopt EBPP.

EBPP self-efficacy refers to the perceived ability of the people to adopt EBPP, which is a very specific variable. According to Marakas et al. (1998), computer self-efficacy is a multi-level construct, operating at two specific levels: at the general computer level and at the specific application level. Application-specific self-efficacy is defined as an individual perfection of ability in using a specific application. Agarwal et al. (2000) find a strong relationship between specific application efficacy and perceived ease of use. Similarly, it is hypothesized that:

H3b: EBPP self -efficacy is positively related to Intention to adopt EBPP.

Considering the above hypotheses, a framework is constructed. Intention to adopt EBPP is the dependent variable, while the independent variables include attitude, subjective norms and perceived behavior controls. Figure 1 shows the research framework.

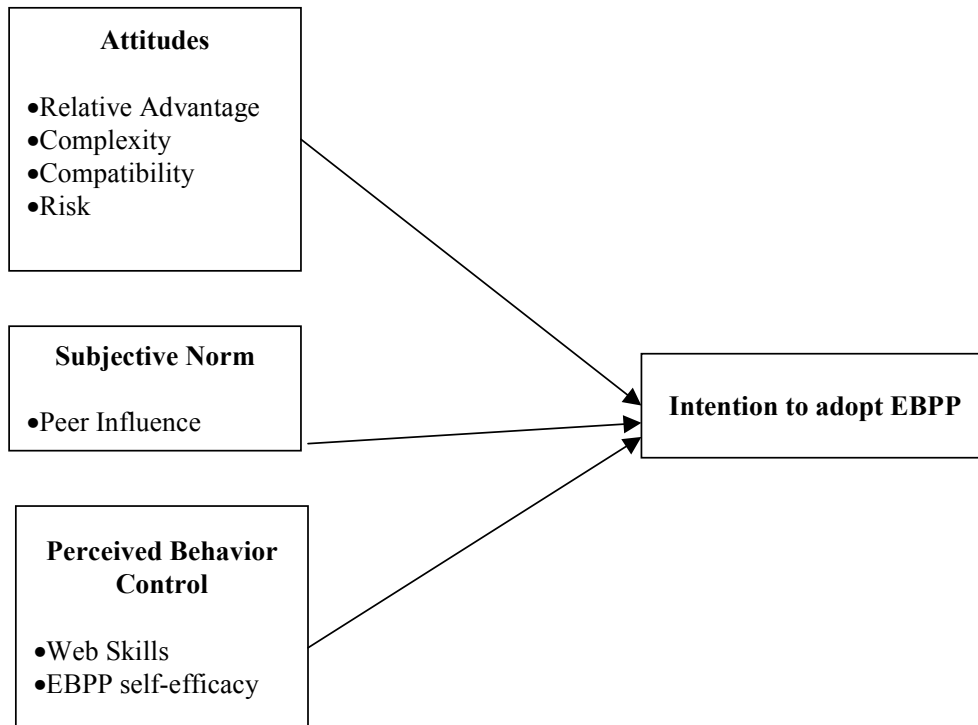


Figure 1. Framework for Intention to Adopt EBPP

Research Methodology

Data Collection

A survey will be conducted to test the hypotheses. Subjects will be asked to rate their perceptions of EBPP using a 7-point Likert Scale. Additional questions will ask about the subjects’ current payment methods and their demographic information.

Variables

Seven independent variables are operationalized based on previous literature. Items measuring relative advantage, compatibility, complexity and subjective norms are adapted from Moore and Benbasat (1991). Risk and EBPP self-efficacy are measured using instrument of Tan and Teo (2000). Items measuring web skills and EBPP self-efficacy are adapted from Koufaris (2002).

Contribution of the Study

EBPP is still a technology that waits for being widely adopted. From a theoretical point of view, the study will contribute to the literature on technology adoption by examining the decomposed TPB model. From a practical point of view, the study will shed light on the factors that affect consumers' perception on EBPP, which will provide guidance for the institutions promoting the technology.

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