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Abstract

Many organizations are currently examining the opportunities made available through the Internet. The purpose of this research project is to assess the behavior of business executives in the decision making process of adopting web-based electronic commerce. The Theory of Reasoned Action (Ajzen and Fishbein, 1980), and the Theory of Planned Behavior (Ajzen, 1991) provide the theoretical foundation for this study. Executives employed by varying sizes of companies will be surveyed in this cross-industry study. Currently, the research is in the initial phase of data collection.

Introduction

No one would argue that the usage of the Internet has increased over the last three years. Michalski (1996) comments that businesses are compelled to use the Internet for several reasons. First, the Internet provides global access to large audiences at a relatively inexpensive price. Second, it offers essentially unlimited real estate and the ability to connect with millions of users. Third, the Internet allows firms to have a virtual front door to a large audience through a home page as well as creating useful interactions with customers, suppliers, or stakeholders. This last reason provides a simple illustration of the broad applications of electronic commerce.

According to Choi, Stahl and Whinston (1997), "…electronic commerce refers to the use of electronic means and technologies to conduct commerce, including within-business, business-to-business, and business-to-consumer interactions(p. 13)." Clark (1997) claims that even though the adoption of electronic commerce has not necessarily soared, "the adoption curve is gradually moving upward (p. 16)." According to Alexander Cavalli, the Chief Technology Officer of CyberGuard, a company which provides different security products for Intranet/Internet users, companies are not adopting e-commerce as quickly as one would expect (Clark, 1997). However, Cavalli claims the companies which are adopting e-commerce the most readily are those in the health care and financial industries. According to Wall Street analysts (Machlis, 1998), the average growth rate for electronic commerce for 1998 is forecasted as 30%. The purpose of this research project is to determine which companies are adopting e-commerce. Are the companies, which are adopting e-commerce large or small, what industries are they in, and most importantly, what factors influence their decisions to adopt e-commerce?

Brief Literature Review

The Theory of Planned Behavior (Ajzen, 1991) and the Theory of Reasoned Action (Ajzen and Fishbein, 1980), both well researched intention models, provide the theoretical foundation for this study.

The TRA has had wide application in many behavioral science disciplines, and it has been used empirically in a broad variety of situations to predict and understand behavior. Loch and Conger (1996) used the TRA in an exploratory study to identify users' behavior and attitudes when dealing with computer privacy issues. Sampling 174 graduate students from four urban universities, their findings indicated that both subjective norms and attitudes were significant in determining intentions regarding computing acts relating to ownership and privacy. Davis et al. (1989) used the TRA to examine user acceptance of computer technology. Their longitudinal study included 107 MBA students involved in voluntary usage of a word processing system. They concluded that it is possible to predict individual's computer use based on their intentions. Yeaman (1988) used the TRA to predict intention to learn to use a microcomputer; however, subjective norms did not contribute to the prediction.

In 1988, Sheppard, Hartwick and Warshaw conducted a meta-analysis of the research involving the TRA. They found significant evidence for the validity of the model's predictions. For the relationship between intentions and behaviors, they found a frequency-weighted average correlation of $r = .53$, $(p<.01)$. This correlation, based on 87 studies, included a total of 11,566 subjects. For the relationship of attitudes and subjective norms to intentions, they found an average correlation of $r = .66$ $(p<.001)$. This correlation was based on 87 studies using a total of 12,624 subjects. These meta-analytic results provide strong support for the use of TRA when studying e-commerce adoption.

The TPB is an extension of the TRA which contains additional constructs that, along with behavioral intention, are theorized to predict goal achievement. One of these constructs is identified as perceived behavioral control (PBC). PBC refers to

someone's perception of "...the presence or absence of requisite resources and opportunities" (Ajzen and Madden, 1986, p. 457) needed to perform the behavior of interest. The assumption of PBC is that it reflects past experiences as well as anticipated barriers (Ajzen, 1988). Since business executives may be influenced by their previous experiences regarding decisions made in information technology, consideration of this additional construct should also be included in this study.

The TPB has been used in a variety of situations. Schifter and Ajzen (1985) used the TPB to predict weight loss behavior successfully. Ajzen and Madden (1986) predicted college students' intentions to attend class and earn a good grade. Krueger and Carsrud (1993) provided support for the use of the TPB in studying the emergence of new businesses. Mathieson (1991) used the TPB to predict a person's intention to use an information system. Additionally, Taylor and Todd (1995) found the TPB useful in predicting student usage of a computer resource center. The validity of this theory in such a broad set of situations suggests that it might also have some validity in this research, which is to predict how senior executives in business decide to adopt e-commerce.

Research Agenda

Mykytyn and Harrison (1993) give a six-step process for developing an instrument to measure the determinants of behavior based on the TRA. The steps are applicable to both the TPB and TRA. Each step is addressed below.

First, the behavior of business executives in considering the adoption of electronic commerce is the behavior of interest. The population of interest includes businesses in a major southwestern metropolitan area in the United States.

Second, according to Fishbein and Ajzen (1975) and Ajzen and Fishbein (1980), the best way to identify salient consequences, referents and resources/obstacles is to conduct elicitation interviews or surveys involving small (20-50 person) samples of respondents who are representative of the population. The authors recommend developing an open-ended questionnaire for use in the elicitation study. Currently, the researchers are in the process of doing an elicitation study.

Responses are being elicited from business executives of both large and small firms operating in a southwest metroplex. Once collected, responses will be categorized and utilized in the development of the full questionnaire. This corresponds to the third step given by Mykytyn and Harrison (1993), choosing the responses cited the most often. Weber (1990) gives some guidelines for doing basic content analysis. Lacity and Janson (1994) suggest that content analysis is a positivist approach to analyzing qualitative data. A positivist approach maintains ". . . understanding arises through the identification of nonrandom variation. This implies that frequency is an indicant of importance -- the more a phenomenon occurs, the more likely it is nonrandom and thus important" (Lacity and Janson, 1994, p.142). Although causality cannot be inferred using this type of analysis, Weber (1990) claims that it can be used to code open-ended questions in surveys.

Several applications of content analysis have been made in the information systems field. Todd, McKeen, and Gallupe (1995) used content analysis to analyze IS job advertisements. Also, Jarvenpaa and Ives (1990) used content analysis to analyze annual reports to determine the emphasis of information as a competitive advantage.

Based on the elicitation study and content analysis, questions which assess behavioral intention, subjective norm, attitude, perceived behavioral control, normative beliefs, motivations to comply, behavioral beliefs, evaluations, control beliefs, and perceived power will be constructed. The development of questions for the above constructs make up steps four and five of the six-step process. Ajzen and Fishbein (1980) provide guidelines, which can be used to develop the questions that refer to the TRA. Ajzen (1991) and Mathieson (1991) give example questions and guidelines, which can be employed to develop the questions that refer to the TPB. Step six concludes with the administration of the questionnaire.

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