

## Association for Information Systems AIS Electronic Library (AISeL)

---

AMCIS 2001 Proceedings

Americas Conference on Information Systems  
(AMCIS)

---

December 2001

# An Assessment of Small Business Executive Belief Differences in Adopters and Non-Adopters of Web-Based E-Commerce

Cynthia Riemenschneider  
*University of Arkansas*

Vicki McKinney  
*University of Arkansas*

Follow this and additional works at: <http://aisel.aisnet.org/amcis2001>

---

### Recommended Citation

Riemenschneider, Cynthia and McKinney, Vicki, "An Assessment of Small Business Executive Belief Differences in Adopters and Non-Adopters of Web-Based E-Commerce" (2001). *AMCIS 2001 Proceedings*. 341.  
<http://aisel.aisnet.org/amcis2001/341>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2001 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# AN ASSESSMENT OF SMALL BUSINESS EXECUTIVE BELIEF DIFFERENCES IN ADOPTERS AND NON-ADOPTERS OF WEB-BASED E-COMMERCE

**Cynthia K. Riemenschneider**  
University of Arkansas  
criemen@walton.uark.edu

**Vicki R. McKinney**  
University of Arkansas  
vmckinney@walton.uark.edu

## Abstract

*This study purports to analyze the differences in the beliefs of small business executives regarding the adoption of web-based e-commerce. Based on the Theory of Planned Behavior, behavioral, normative and control beliefs were initially elicited from small business executives. After the wording of the beliefs was finalized, a questionnaire was mailed to 1000 small business executives in two different geographic regions. The comparison of the findings of those executives who had already adopted web-based e-commerce and those who had not yet adopted will be reported.*

## Introduction

Today, executives have numerous opportunities available to them for conducting business using web-based technologies, e.g., the Internet, intranets, extranets. Yet, while evaluating these opportunities web-based technologies offer, their companies are also exposed to stories concerning security issues (Radcliff, 2000), the lack of professionals with web skills (Goff, 2000), and the lack of web collaboration tools (Stedman, 1999). As companies move to the web to conduct e-commerce, the confusion of whether or not to adopt web-based technologies can be complex.

In the past, adoption of new technology focused on the technology. Yet, the Internet has attracted a different type of user, one who focuses on ways to make life easier (Kalokota and Whinston, 1996). Web-based technologies, illustrate Swanson's (1994) statement that some IS innovations affect a company's technical core only while others influence the whole organization.

This research focuses on understanding some basic differences between small companies that have adopted web-based e-commerce and those that have not yet adopted it. Electronic commerce has been the focus of many studies (Iacovou, Benbasat and Dexter, 1995; Kambil and Short, 1994; O'Callaghan, Kaufmann and Konsynski, 1992), yet, decision makers are now facing the decision as whether or not to use web-enabling technologies. By applying the Theory of Planned Behavior (TPB) (Ajzen, 1991), a better understanding of how adopters and non-adopters differ regarding their beliefs concerning web-based e-commerce will be gained.

## Background

### *Electronic Commerce*

Early adoption of information technologies in the past have been partially explained by an organization's size and the size of the information systems (IS) unit, as well as an organization's diversity and slack resources (Swanson, 1994). Yet, web-based technologies have opened the door for smaller businesses ("The Economic and Social Impacts of Electronic Commerce," [http://www.oecd.org/subject/e\\_commerce/summary.htm](http://www.oecd.org/subject/e_commerce/summary.htm)). These technologies have essentially eliminated geographical barriers, reorganized the traditional flow of products to the consumer, and essentially changed the way many companies are doing business. For example, computer retailers such as Dell and Gateway operate profitable e-commerce sites devoted to on-line ordering of PCs, resulting in non web-based retailers to adopt similar initiatives, to investigate alternative strategies, or even to cease operation.

The success of Amazon.com has demonstrated the power of web-based business and caused Barnes and Noble to offer its products on the web in addition to their existing physical locations. In 1996-97 approximately \$26 billion of revenue was generated using electronic commerce over the web. The estimated revenue projection for 2003-05 is 1 trillion dollars ("The Economic and Social Impacts of Electronic Commerce," [http://www.oecd.org/subject/e\\_commerce/summary.htm](http://www.oecd.org/subject/e_commerce/summary.htm)). Admittedly, e-commerce plays a significant role in the economy of the U. S.; however, some questions remain regarding what issues affect a business' decision to adopt this technology. When questioned about implementing an e-commerce system, 48% of the respondents stated they had experienced resistance (Kotwica, 1998). Two of the most cited reasons for the resistance were security issues and start up costs.

Nambisan and Wang (1999) identified three levels of adoption of web technology. These included (1) information access, (2) work collaboration and (3) core business transactions. Examples of information access would include intranets and corporate web sites while work collaboration would include an internet-based EDI, a corporate intranet/extranet or internet telephony/videophony. The highest level, core business transactions would include internet-based ERP and e-commerce. The focus of this study is on this third level. In this study electronic commerce refers to the use of electronic means and technologies to conduct commerce, including business-to-business, and business-to-consumer interactions, while web-based electronic commerce refers to the use of the internet in order to conduct electronic commerce.

### ***Theory of Planned Behavior***

The Theory of Planned Behavior (TPB) (Ajzen, 1991) is based on Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA). The TRA views a decision as a function of a person's attitude toward performing the behavior and a person's subjective norm regarding the behavior. Ajzen (1991) added the perceived behavioral control construct to the attitude and subjective norm constructs as predictors of behavioral intention. In the TPB, each of the constructs, attitude, subjective norm and perceived behavioral control, is postulated to be determined by antecedent beliefs multiplied by evaluations for the construct. Attitude has behavioral beliefs, subjective norm has normative beliefs, and perceived behavioral control has control beliefs as antecedents. See Figure 1 for a graphical depiction of the TPB. The focus of this research will be to compare these antecedent beliefs of adopters and non-adopters of web-based e-commerce.

## **Methodology**

### ***Sample Selection***

Currently, we are collecting data from small businesses selected from two different geographical regions of the United States: one is a metropolitan area in the southwest and the other is a metropolitan area in the midwest. Initially, an elicitation study (Ajzen and Fishbein, 1980) was conducted to obtain responses to a series of open-ended questions. These responses were then analyzed by multiple raters using content analysis to determine the final questions to be on the measurement instrument. The scale used to measure the beliefs is a semantic differential scale ranging from a -3 to a +3 with 0 being the neutral point. The participants to be included in the sample from the southwest metropolitan area were obtained from a database of over 1500 organizations. Firms from many industries such as defense, agriculture, oil and gas, and manufacturing were in the database. Also, the database included firms of varying sizes but only those employing fewer than 500 employees were selected. Five hundred was chosen as the upward boundary based on the classification scheme used by the Small Business Administration (SBA), which defines small businesses based on Standard Industrial Classification (SIC) codes, most of which employ 500 as an upper limit. The firm name, the address, the name of at least one senior executive, the firm size, and the telephone number were given in the database. The participants to be included in the sample from the midwest were obtained from a database of all the service and manufacturing companies in a particular state. This database also included the firm name, the address, the name of at least one senior executive, the firm size, and the telephone number. The instrument was pilot tested with a group of IT managers. Based on their responses and discussions with them, the wording of some of the questions was rephrased to provide clarity.

### ***Proposed Analysis***

Descriptive information will be available on this study by the AMCIS Conference time. Information regarding the average firm size, categorization of the job titles of the participants, average time the participants had been with the firm, average time the firms had been in business and other descriptive statistics will be reported. T-tests will be performed on each of the behavioral beliefs, control beliefs, and normative beliefs to see if they are different from zero (the neutral point). Also, t-tests for the difference in two samples will be performed to determine what the distinctions are between the beliefs of adopters and non-adopters.

Additionally information will be reported on whether each small business executive who adopted web-based e-commerce did so to keep pace with the competition, move ahead of the competition, or catch up with the competition.

## References

- Ajzen, I. "The Theory of Planned Behavior," *Organizational Behavior and Human Decision Processes* (50), 1991, pp. 179-211.
- Ajzen, I. and M. Fishbein. *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall, 1980.
- "The Economic and Social Impacts of Electronic Commerce," [http://www.oecd.org/subject/e\\_commerce/summary.htm](http://www.oecd.org/subject/e_commerce/summary.htm)
- Goff, L. "The E-lusive Staff," *Computerworld*, January 3, 2000, pp. 90-93.
- Iacovou, C., I. Benbasat and A. Dexter. "Electronic Data Interchange and Small Organizations: Adoption and Impact of Technology," *MIS Quarterly*, (19:4), 1995, pp. 465-485.
- Kalakota, R. and Whinston, A.B. *Electronic Commerce: A Manager's Guide*, 1996, Addison-Wesley: Reading, Massachusetts.
- Kambil, A. and J. Short. "Electronic Integration and Business Network Redesign: A Roles-Linkage Perspective," *Journal of Management Information Systems* (10:4), 1994, pp. 59-70.
- Kotwica, K., "Human Behavior and the Web," CIO.com, July 8, 1998, <http://www.cio.com/forums/behavior/survey3.html>.
- Nambisan, S. and Y. Wang. "Roadblocks to Web Technology Adoption?" *Communications of the ACM* (42:1), 1999, pp.98-101.
- O'Callaghan, R., P. Kaufmann and B. Konsynski. "Adoption Correlates and Share Effects of Electronic Data Interchange Systems in Marketing Channels," *Electronic Data Interchange Systems*, (56), 1992, pp. 45-56.
- Radcliff, D. "Keep Hackers Out of Your Web Site," *Computerworld*, January 3, 2000, pp. S28+.
- Stedman, C. "Web Collaboration Tools Haven't Replaced EDI," *Computerworld*, July 5, 1999, pp. 57.
- Swanson, E.B., "Information Systems Innovation Among Organizations," *Management Science*, (40:9), 1994, pp.1069-1092.

Figure 1 available upon request from first author.