

# Chapter 10

## Model for Understanding Consumer Adoption of Online Technologies

**Donald L. Amoroso**

*Kennesaw State University, USA*

**Scott Hunsinger**

*Appalachian State University, USA*

### ABSTRACT

*This research reviews studies using the Technology Acceptance Model (TAM) to create a modified model and instrument to study the acceptance of Internet technology by consumers. We developed a modified TAM for the acceptance of Internet-based technologies by consumers. We retained the original constructs from the TAM and included additional constructs from previous literature including gender, experience, complexity, and voluntariness. We developed a survey instrument using existing scales from prior TAM instruments and modified them where appropriate. The instrument yielded respectable reliability and construct validity. The findings suggest that the modified TAM is a good predictor of consumer behavior in using the Internet. We found that attitude toward using the Internet acts as a strong predictor of behavioral intention to use, and actual usage of Internet technologies. Future researchers can use the resultant instrument to test how consumers adopt and accept Internet-based applications.*

### INTRODUCTION

This research develops measures for the acceptance of Internet technologies by consumers. Organizations spend millions of dollars annually

on the development and enhancement of their Web sites to attract new customers and retain current customers (Amoroso, 2002). By investing in Web-based technologies, firms become more sophisticated by building Web sites with advanced capabilities and greater levels of personalization

DOI: 10.4018/978-1-60960-597-1.ch010

and functionality available to their customers (Amoroso & Gardner, 2003). But are consumers accepting these technologies as evidenced by their usage? This paper describes the development and testing of an instrument designed to measure the acceptance of Internet technologies by consumers. We designed this instrument to serve as a tool for the study of the acceptance of Internet-based applications by individuals and an indication of the Internet technology's diffusion from the organization to the consumer.

Researchers made significant progress over the last decade in explaining and predicting user acceptance of information technologies. In particular, substantial theoretical and empirical support accumulated for the Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warshaw, 1989). Numerous studies found that the TAM consistently explains a substantial proportion of variance in usage intentions and behavior, among a variety of technologies. TAM performs well against alternative models such as the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) (Mathieson, 1991; Sun, 2003). TAM theorizes that two beliefs determine an individual's behavioral intention to use a technology: perceived usefulness and perceived ease of use. TAM serves as a well-established and robust model for predicting user acceptance. TAM functions as one of the most influential research models in studies of determinants of information systems/ information technology acceptance (Chau & Hu, 2001).

While increasing numbers of empirical studies on Internet technologies have appeared recently, few studies on determinants of Internet usage and acceptance appeared. Only a small number of these studies focused on Internet technology (Agarwal & Karahanna, 2000; Gefen, Karahanna, & Straub, 2003; Koufaris, 2002; Van der Heijden, 2000, 2003). Much of the research appeared in the marketing area, studying the Internet from the consumer side from the studies using the technology acceptance model. Most studies examined very

specific factors, rather than a more comprehensive acceptance model. The current work examines the following objectives:

1. **To review the existing user acceptance models:** This research reviews the current literature on technology acceptance by users and assesses the current state of knowledge with respect to understanding individual acceptance with new information technologies. While some studies look at similarities and differences across acceptance models, this review examines the technologies from which the studies examine findings. We selected studies that contain analyses relevant to Internet technology and constructs appropriate for our technology. We present a review of acceptance literature in the second section.
2. **To develop a model and metrics for Internet-based technologies:** Based upon the theory developed and empirically tested, we create a model that shows the impacts of the TAM constructs and external variables on consumer-based adoption patterns. We developed hypotheses from the theoretical foundation and empirical results of the studies that impact the consumer acceptance of Internet technologies. We subsequently developed and pre-tested an instrument by using and modifying the Technology Acceptance Model. We tested the instrument scales for reliability and validity and used factor analysis as an assessment of construct validity. We present the development of the model, metrics, instrument, and validation in the third and fourth sections.
3. **To empirically validate the TAM for Internet-based technologies:** An empirical test of the TAM for Internet-based technologies provides preliminary support for the hypotheses of the constructs measuring acceptance by users. Correlational analysis determined the significance of independent

27 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/model-understanding-consumer-adoption-online/55008](http://www.igi-global.com/chapter/model-understanding-consumer-adoption-online/55008)

## Related Content

---

### Investigation of Determinants of Total Factor Productivity: An Analysis of the Impact of Investments in Telecoms on Economic Growth in Productivity in the Context of Transition Economies

Sergey Samoilenko and Kweku-Muata Osei-Bryson (2014). *International Journal of Technology Diffusion* (pp. 26-42).

[www.irma-international.org/article/investigation-of-determinants-of-total-factor-productivity/110343](http://www.irma-international.org/article/investigation-of-determinants-of-total-factor-productivity/110343)

### Towards the Use of Dialog Systems to Facilitate Inclusive Education

David Griol Barres, Zoraida Callejas Carrión, José M. Molina López and Araceli Sanchis de Miguel (2013). *Technologies for Inclusive Education: Beyond Traditional Integration Approaches* (pp. 1-21).

[www.irma-international.org/chapter/towards-use-dialog-systems-facilitate/71866](http://www.irma-international.org/chapter/towards-use-dialog-systems-facilitate/71866)

### Intra-Organisational Barriers to Business-IT Alignment

Gideon Mekonnen Jonathan and King Solomon Hailemariam (2020). *International Journal of Innovation in the Digital Economy* (pp. 22-36).

[www.irma-international.org/article/intra-organisational-barriers-to-business-it-alignment/256151](http://www.irma-international.org/article/intra-organisational-barriers-to-business-it-alignment/256151)

### From Inclusive Spaces to Inclusionary Texts: How E-Participation Can Help Overcome Social Exclusion

Simon Smith (2010). *Handbook of Research on Overcoming Digital Divides: Constructing an Equitable and Competitive Information Society* (pp. 533-548).

[www.irma-international.org/chapter/inclusive-spaces-inclusionary-texts/38336](http://www.irma-international.org/chapter/inclusive-spaces-inclusionary-texts/38336)

### Medicare and Medicaid Services Online: Government Initiatives Narrowing Online Access Inequalities

Mary Schmeida and Ramona McNeal (2013). *Digital Public Administration and E-Government in Developing Nations: Policy and Practice* (pp. 359-373).

[www.irma-international.org/chapter/medicare-and-medicaid-services-online/110291](http://www.irma-international.org/chapter/medicare-and-medicaid-services-online/110291)