



# Information systems continuance intention of web-based applications customers: The case of online banking

Banphot Vatanasombut<sup>a,1</sup>, Magid Igbaria<sup>b</sup>, Antonis C. Stylianou<sup>c,\*</sup>, Waymond Rodgers<sup>d,2</sup>

<sup>a</sup> Virtualab, Inc., Torrance, CA 90501, United States

<sup>b</sup> Claremont Graduate University, School of Information Science, Claremont, CA 91711, United States

<sup>c</sup> The Belk College of Business, The University of North Carolina at Charlotte, Charlotte, NC 28223, United States

<sup>d</sup> Anderson Graduate School of Management, University of California, Riverside, CA 92521, United States

Dedicated to the memory of Professor Magid Igbaria, a great scholar and a good friend.

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## ABSTRACT

The proliferation of the Internet has not only allowed businesses to offer their products and services through web-based applications, but it has also undermined their ability to retain their customers. It has reduced search costs, opened up barriers to entry, and diminished distinctiveness of firms. Effective retention of customers allows firms to grow in size and popularity, thereby increasing their profitability. We extended Commitment–Trust theory, an expectation–confirmation model, and technology acceptance theory to develop a model of IS continuance intention of customers of web-based applications. Relationship commitment and trust were found to be central to IS continuance intention. Also, perceived empowerment influenced relationship commitment, while perceived security influenced trust. Our findings thus supported traditional intention factors, highlighting the role of trust as a stronger predictor of intention than commitment but, contradicting findings from marketing research, trust was found to be a stronger predictor of retention in the e-commerce context.

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## 1. Introduction

The drive for differentiation and speed-to-market has led in increased use of online banking. However this has also resulted in a large number of comparable alternative sites and users find it easy to switch between them. Furthermore, factors affecting adoption of a site depend mainly on its functionality and user interface, two characteristics that can be easily imitated. In our study, we examined users' continuance intention.

Expectation–confirmation theory [3], based on cognitive beliefs and affect, and Commitment–Trust theory [20], which emphasizes relationship commitment and trust as central to successful relational exchange, are both relevant to continuation. Though prior studies have discussed the importance of trust [5,11,19], little empirical work has been performed. The objective of our research was therefore to develop a model of relationship benefits,

termination cost, commitment, empowerment, shared value, etc. as determinants of the IS continuance intention. We then validated the model empirically through a survey of online banking customers.

## 2. Research model and hypotheses

Based on the Commitment–Trust theory, Morgan and Hunt ([20], from now on MH94) constructed a Key Mediating Variable (KMV) model to prove that relationship commitment and trust were central to successful relational exchange. Building on this, expectation–confirmation theory (IS continuance intention) and TAM (perceived empowerment), we hypothesized that relationship commitment and trust mediated the relationship between six precursors and IS continuance customer intention. Fig. 1 shows our model.

The original KMV model was modified to fit online banking by

- (1) replacing the consequences of relationship commitment and trust with the IS continuance intention construct;
- (2) adding user empowerment as a precursor to relationship commitment, and replacing opportunistic behavior, a precursor

\* Corresponding author. Tel.: +1 704 687 7605; fax: +1 704 687 6330.

E-mail addresses: [joe@virtualabinc.com](mailto:joe@virtualabinc.com) (B. Vatanasombut), [astylian@uncc.edu](mailto:astylian@uncc.edu) (A.C. Stylianou), [waymond.rodgers@ucr.edu](mailto:waymond.rodgers@ucr.edu) (W. Rodgers).

<sup>1</sup> Tel.: +1 310 787 8588.

<sup>2</sup> Tel.: +1 909 787 4786.

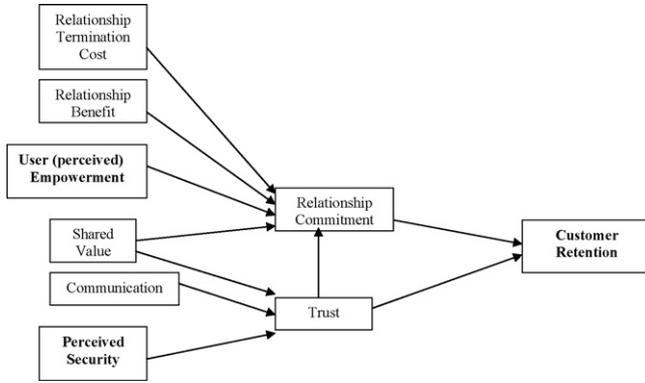


Fig. 1. The proposed model of IS continuance intention in web-based electronic commerce.

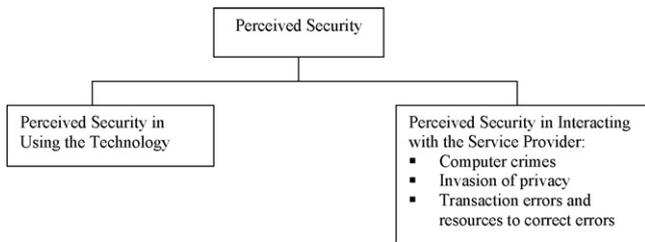


Fig. 2. Theoretical components of perceived security proposed in this study.

to trust, with perceived security because IS continuance intention, empowerment, and security issues are more applicable than traditional marketing.

Fig. 2 illustrates the theoretical construct of perceived security on the web, as proposed in our study.

From a customer perspective, service encounters on the Internet must be safe and secure to conform to expectations. Once customers perceive their interactions as secure, they have confidence and, will be willing to share sensitive information. The level of risk that customers are willing to accept in future transactions indicates their level of trust in the partnership.

2.1. Relationship commitment and trust

Relationship commitment assumes that a relationship is important and should be maintained. Legal and policy issues make banks specify that they will not share information with third parties without the customer's permission and communicate this policy on their site.

Therefore, we expected that,

**H1.** Customers who are committed to their relationship with their online bank are likely to continue using the services offered by that bank.

2.1.1. Trust

Trust is important in Internet environments: ample trust is needed for the successful operation of such computing environments [7]. Trust involves the “willingness of a party to be vulnerable to the actions of another party” [19].

Our view of perceived security implies that there is customer control over their transactions. However, we assumed that intention depends on commitment and trust because relationship commitment implies that customers and a business believe that a

relationship is worth retaining indefinitely and that trust in a partner whose services are consistent and reliable can reduce stress and provide more stability. Therefore,

**H2.** Customers who trust their online bank are likely to continue using the services offered by that bank.

Trust is also assumed to influence relationship commitment: trusted relationships are very highly valued, and partners desire to commit to such relationships [25]. In web-based electronic commerce, customers must first trust the business before they commit to it, since maintaining a relationship with the company involves potential vulnerability. Thus, our third hypothesis was:

**H3.** Customers who trust their online bank are likely to commit themselves to their relationship with that bank.

2.2. Other determinants of relationship commitment and trust

2.2.1. Relationship benefits

Products yield desired benefits when they fulfill the consumers' needs. Therefore, relationship benefit occurs when customers feel that product offerings are effective and up to date. For example, online bill paying eliminates the costs of stamps and ordering checks and customers can review their account activity, apply for loans, etc. Firms that deliver superior relationship benefits will be highly valued, and customers will commit themselves to maintaining relationships with them. Therefore:

**H4.** Customers who receive high benefits from a relationship with their online bank are likely to commit themselves to that relationship.

2.2.2. Relationship termination

Relationship termination implies difficulty in substituting services due to switching costs. Such costs may be monetary or inconvenient in nature, such as a learning curve or loss of online history. Anticipating a high switching cost, customers will maintain the existing relationship. Therefore:

**H5.** Customers who expect high costs for terminating their relationship with an online bank are likely to commit themselves to that relationship.

2.2.3. Perceived (user) empowerment

Empowerment implies that customers want to bank at their convenience and to control (or perceive to control) their banking. This differs from a marketing use of the term, which involves the idea of service satisfaction. E-banks empower their customers to perform their needs whenever, wherever, and however they desire; even novice users have immediate access to vital banking functions, 24 h a day, 365 days a year.

Our study highlighted two major features supporting user empowerment: perception of control and freedom to use their own initiatives. Kappelman and Guynes [18] showed how a bank provided its employees with a small empowering experience during the implementation of a large-scale IS change; it resulted in a large payoff in user perception of control and their initiative. Therefore, empowerment was viewed as one way to incorporate perception of control in the KMV model as a precursor to relationship commitment. Therefore,

**H6.** Empowered customers are likely to commit themselves to their relationship with an online bank.

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