

Predictors of Intention To Continue Using Internet Banking Services: An Empirical Study of Current Users

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ABSTRACT

The Internet presents the banking industry with an electronic and remote distribution channel. Whereas many studies examined the intention to use Internet banking, this study investigates predictors of intention among current users to continue using the services. Questionnaires were distributed to 210 residents in Klang Valley, Malaysia, of whom 204 (97.1%) responded to the survey. The findings demonstrated that, among the predictors tested, trust was found to be the strongest predictor of intention to continue using Internet banking, followed by compatibility and ease of use. Recommendations to Internet banking service providers and discussions for future study are provided.

Keywords: Internet banking, intention to continue using, trust, compatibility, ease of use

1. INTRODUCTION

There has been a fundamental shift in the use of banking delivery channels toward self-service channels such the Internet [Hernández-Ortega, 2007]. Internet banking, which was introduced in the early 1990s [Srivastava, 2007], makes it possible to replace the manual service functions provided by bank employees, along with the brick and mortar investment required of financial institutions [Dandapani, et al., 2008]. It represents an electronic marketplace where consumers may conduct their financial transactions virtually [Reiser, 1997; Daniel, 1999].

Today, financial service institutions that offer their services over the Internet are keen to accelerate the adoption process, knowing that the cost of delivering the service over the Internet is much less than delivering the same service over-the-counter [Polatoglu and Ekin, 2001]. In addition, Internet banking is an important innovation that presents institutions a vital distribution channel, which could act as a means of attaining competitive advantage through cost reduction and better satisfaction of customer needs [Carrington, et al., 1997; Kassim and Abdulla, 2006; Mols, 1999].

In response to the increased competition, banks in Malaysia are starting to leverage the Internet as a means to provide financial services. An empirical study by Sulaiman, et al. [2005] suggests that the adopters' perceptions of e-banking in developing countries appear to be very favorable. In Malaysia, however, despite the authorities' encouragement to the public to adopt Internet banking, traditional branch-based retail banking remains the most common method for conducting banking transactions. For example, Sivanand, et al. [2004] found that, although more than 80% of their respondents were aware of Internet banking, less than 10% were currently using the services.

With regard to information technology adoption, previous studies have suggested that the set of beliefs that influences an individual to adopt the technology may not be the same as the set of beliefs that leads to his or her initial adoption [Venkatesh, et al., 2003]. According to Kruglanski and Klar [1985], each time a particular goal of an individual is achieved by a specific behavior, the cognitive link between the behavior and goal becomes stronger. The result is a cognitive goal-behavior link that creates an automatic response behavior (i.e., habit). This may suggest that factors that are considered by an individual in the initial stage of adoption may be different from the factors that are considered by him or her after using the technology.

Repurchasing intention is one of the important constructs being studied by researchers [Soderlund and Ohman, 2003]. Zeithaml, et al. [1996] suggest that repurchasing intention is associated with a service provider's ability to get its customers to remain loyal (i.e., repurchase from the company), spend more with the company, and pay price premiums. In online business, the founder of Amazon.com, Jeff Bezos, noted that one way to build a relationship with customers is by observing their purchase behavior over time [Porter, 1998].

In another aspect, previous literature has highlighted numerous barriers to the adoption of Internet banking. One local finding suggests that the adoption of Internet banking is not so encouraging in Malaysia mainly because of factors such as lack of Internet accessibility, poor awareness, and security concerns [Suganthi, et al., 2001].

Although there is sufficient evidence that the electronic revolution has commenced in Malaysia, Internet banking research, however, is still in its infancy, particularly with regard to the predictors of intention among current users to continue using the services. This study was undertaken, therefore, to better understand the predictors that may influence current Internet banking users to continue using these services.

This paper attempts to determine predictors that may influence the current users of Internet banking to continue using the services. Based on the literature reviewed, we strongly believe that trust, compatibility, and ease of use are key predictors of their intention to continue using Internet banking services. The current users of Internet banking services in Klang Valley, Malaysia, were chosen as the population of this study.

We hope to shed some light on answers to the following question: “*Do trust, ease of use, and compatibility significantly contribute to the intention of current users to continue using Internet banking services?*” The findings of the present paper can contribute in the following manner. If trust, compatibility, and ease of use are significant in influencing the current users’ intention to continue using the services, financial institutions that provide Internet banking should then emphasize and focus on these determinants to ensure that current users will continue using the services.

2. CONCEPTUAL BACKGROUND

This section discusses three predictors of the intention to use Internet banking – trust, compatibility, and ease of use.

2.1. Trust

Among the predictors of the intention to use Internet banking, trust has been found to be one of the most important factors that influence an individual to use the technology [Md Nor and Pearson, 2007]. Trust is also a vital factor in determining whether an individual chooses to purchase goods or services via the Web [Quelch and Klein, 1996]. As noted by Spekman [1988], trust is the cornerstone of the strategic partnership between a business and its Internet customer.

Ridings, et al. [2002] argue that trust is crucial in virtual communities where the absence of workable rules creates reliance on others behaving in a socially acceptable manner. As noted by Gefen [2000] and Jarvenpaa, et al. [2000], a customer’s willingness to buy from an Internet store is influenced by his or her attitude and perception of risk. Attitude and perception of risk are strongly

affected by trust, which in turn is affected by a consumer's perception of the size and reputation of the store.

Trust is a prominent influence on an individual's willingness to engage in online exchanges of money and personal sensitive information [Wang, et al., 2003]. Trust tends to influence an individual's general buying decisions. According to Enders, et al. [2006], non-Internet believers require a substantial effort of persuasion before they start engaging in e-banking and create an e-habit.

An empirical study by Poon [2008] indicates that approximately 70% of his Malaysian respondents agree that trust is influencing them to use Internet banking. In another empirical study in Singapore by Fock and Koh [2006], the authors found that higher levels of trust are significantly associated with a greater willingness to try Internet banking. In this perspective, it is reasonable to hypothesize that:

H₁: The perception of trust will have a positive relationship to the intention to continue using Internet banking services.

2.2. Compatibility

Perceived compatibility reflects the degree to which the use of an innovation is considered by the individual as consistent with his/her values, socio-cultural beliefs, and past and present experiences [Rogers, 1995]. Rogers defines perceived compatibility as the degree to which an innovation is seen to be compatible with existing values, beliefs, experiences, and needs of adopters. It also refers to the fact that an innovation is more likely to be adopted when it is compatible with an individual's job responsibilities, value, and system [Agarwal and Prasad, 1997].

Compatibility is a measure of the values or beliefs of individuals, the ideas they have adopted in the past, and the ability of an innovation to meet their needs [Gerrard and Cunningham, 2003]. As noted by Ndubisi and Sinti [2006]:

“Given that individuals have already established personal banking norms, lifestyle, finance management system, and account monitoring mechanism prior to the advent of Internet banking, their acceptance or rejection of this new mode will rely greatly on the extent this new mode accommodates or rejects all or some of the past values.” (p. 24).

Based on the above discussions, we postulate that current users' intention to continue using Internet banking services is subjected to their perception in term of the compatibility of the service with the previous mode of doing their financial activities.

H₂: Perceived compatibility will have a positive relationship with the intention to continue using Internet banking services.

2.3. Ease of Use

Cooper [1997] found that “ease of adoption” is one of the important predictors that may affect a customer's intention to adopt an innovation service.

In the context of a Web site, ease of use may refer to an easy-to-remember URL address, a well-organized format, easy site navigability, and concise and understandable contents, terms, and conditions [Santos, 2003].

According to Davis [1989], perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort. It is one of the important measures of user satisfaction, system adoption, or information systems (IS) success [Moore and Benbasat, 1991], and has been studied extensively in the context of information technology (IT) adoption and diffusion.

In applying the perceived ease of use construct in the Internet banking context, banks should focus on Web site navigation and applicable functions to cater the needs of their users [Raman, et al., 2008].

From the preceding remarks, it is thus reasonable to state that perceived ease of use may affect a current user's intention to continue using Internet banking. Thus, the following hypothesis is proposed:

H₃: Perceived ease of use will have a positive relationship with the intention to continue using Internet banking services.

3. METHODOLOGY

This section contains a discussion of the sampling frame, measures used in this study, and statistical methods employed.

3.1. Sample

The population of this study was current users of Internet banking services in Klang Valley, Malaysia. The sampling frame chosen was residents who had already been exposed to at least one online banking transaction. Out of 210 questionnaires distributed, 204 (97.1%) of them were usable for data analysis. The profile of the respondents is depicted in Table 1.

The sample shows that the number of male (54.0%) respondents is slightly higher than the number of female (46.0%) respondents. In terms of race, there is a greater representation of Chinese (60.8%) respondents, followed by Malay (27.0%) and Indian (12.2%) respondents. The sample shows that the largest age group that responded was from 22 to 25 years of age (34.8%), followed by age 30 and above (32.8%), age 26 to 29 (20.1%) and age 18 to 21 (12.3%).

More than 60% of the respondents were single (60.3%). The majority of the respondents were earning between RM2001 to RM3000 per month. As for the education level and occupation, approximately 67% of the respondents already had their first university degree and about 23.0% and 25.5% were executive and non-executive, respectively.

Table 1
Profile of Respondents

Demographic Variables		Frequency	Percent (%)
Gender	Male	111	54.4
	Female	93	45.6
Age	18 - 21	25	12.3
	22 - 25	71	34.8
	26 – 29	41	20.1
	30 and above	67	32.8
Race	Malay	55	26.9
	Chinese	124	60.8
	Indian	25	12.3
	Other	0	0
Marital status	Married	123	60.3
	Single	81	39.7
	Other	0	0.0
Education Level	Primary	7	3.4
	Secondary	60	29.4
	Tertiary	137	67.2
Occupation	Executive	47	23.0
	Non-Executive	52	25.5
	Professional	24	11.8
	House wife	10	4.9
	Students	37	18.1
	Other	34	16.7
Monthly Income	Less than RM 1000	34	16.7
	RM 1001 - RM 2000	34	16.7
	RM 2001 - RM 3000	54	26.5
	RM 3001 - RM 4000	27	13.2
	RM 4000 and above	27	13.2
	Not applicable	28	13.7

3.2. Measurement

In general, the measures used in this study were modified from previous research. The measures used to gauge trust and compatibility were adapted from Slyke, et al. [2004], and comprised five and seven items, respectively. The work of Wang, et al. [2003] was adapted to measure ease of use (7 items) and intention to continue using Internet banking services (3 items).

The respondents were asked to rate on a 5-point Likert scale ($1 = \text{“Strongly Disagree”}$ to $5 = \text{“Strongly Agree”}$). The Cronbach’s alpha for trust, compatibility, ease of use, and intention to continue using Internet banking services were 0.89, 0.80, 0.79, and 0.91, respectively, thus providing evidence of reliability.

3.3. Statistical Methods

In order to have a summary measure of the strength of the relationships among the research variables, a Pearson correlation analysis was conducted to indicate the direction, strength, and significance of the bivariate relationships. Multiple regression analyses were performed to test the relationship between the current users’ intention to continue using Internet banking services and its three independent variables; namely, trust, compatibility and ease of use.

Using the recommendation of Hair, et al. [1998], we also conducted the following analyses to test the assumptions of regression analyses: linearity, homoscedasticity, normality, and outliers identification.

4. RESULTS

Table 2 presents the scale means, standard deviation and correlations for the study’s variables. Scrutiny of the pair wise correlations among trust, compatibility, ease of use, and the intention to continue using Internet banking services provides an early support for positive significance direct relationships. Compared with other variables, trust ($r = 0.70, p < .01$) had the strongest correlation with the intention to continue using Internet banking services, followed by compatibility ($r = 0.62, p < .01$) and ease of use ($r = 0.61, p < .01$).

Multiple-regression analysis was used to assess the direct effect of trust, compatibility, and ease of use on intention to continue using Internet banking services. The results are summarized in Table 3, which shows that the trust, compatibility, and ease of use all positively and significantly affected the intention to continue using Internet banking services.

As seen in Table 3, trust ($\beta = .43, p = .01$) was the strongest variable that significantly influenced the intention to continue using Internet banking services, followed by compatibility ($\beta = .24, p = .01$) and ease of use ($\beta = .18, p = .01$). The value of R^2 (55.9%) implies that this model explained about 56% of the total variance in intention to continue using Internet banking services.

Table 2
Descriptive Statistics and Correlations

Item	M	SD	1	2	3	4
Trust	3.42	0.24		0.62**	0.64**	0.70**
Compatibility	3.84	0.63	0.62**		0.63**	0.62**
Ease of Use	3.45	0.64	0.64**	0.63**		0.61**
Intention to Continue Using Internet Banking Services	3.85	0.64	0.70**	0.62**	0.61**	

Note. ** $p < .01$, * $p < .05$.

Table 3
Multiple Regression Results for
Trust, Compatibility, and Ease of Use on Dependent Variable
(Intention to Continue Using Internet Banking Services)

Item	Intention To Continue Using Internet Banking Services	
	Beta (β)	Sig.
Trust	0.43	0.000
Compatibility	0.24	0.000
Ease of Use	0.18	0.006
R ²	0.56	
Adjusted R ²	0.55	
F-Value	84.40**	

Note. ** $p < .01$, * $p < .05$.

5. DISCUSSION

Our findings reveal that, among the three predictors tested – namely, trust, compatibility, and ease of use – trust was found to have the strongest positive influence on the intention to continue using Internet banking services. The fact that trust has the strongest positive significance influence corroborates findings from earlier studies [Kassim and Abdulla, 2006; Md Nor and Pearson, 2007].

These findings provide useful practical implications. In this respect, it is of paramount importance for the providers of Internet banking services to develop Internet banking systems that are trustworthy through high levels of security and privacy protection. This assurance will provide current users of Internet banking services with a high level of trust, which will consequently encourage them to continue using the services.

One of the ways to build high levels of trust and improve communication is to have a “visible” contact. This strategy has usually been overlooked by Internet banking providers. For example, the hotline operator can be equipped with a video Web camera instead of a telephone. Video conferencing through the Internet banking platform can become a great way to communicate directly with the Internet banking user [Raman, et al, 2008]. They noted that video conferencing may lead to higher trust among current users of Internet banking as the result of the “feel of touch” they experience by seeing a visual object of human customer service, leading them to infer reliable support in the case they need help.

The results of this study also show that the effect of perceived compatibility on the intention to continue using Internet banking has a greater influence on intention than does the effect of perceived ease of use. This phenomenon can be explained by the target samples used in this study; i.e., current users of Internet banking.

These users are accustomed to making Internet banking their mode of financial transaction. Their experience in using the services may result in fewer problems in navigating the site and a better understanding of the site content, terms, and conditions. Hence, perceived ease of use might be of less concern to them when using Internet banking services.

On the other hand, compatibility of Internet banking with the lifestyle, beliefs, and experiences of current users has more influence on the intention to continue using the service. This suggests that users are more particular with an innovation that is close to what they already know and use.

The basic premise of the argument is that the familiarization of current users with computers and the Internet and their sufficient knowledge about Internet banking operations may lead them to perceive a higher level of compatibility, compared with ease of use. It is therefore reasonable to state that the current users’ perceived ease of use of Internet banking is less important than perceived compatibility.

6. CONCLUDING REMARKS

This study indicates that trust is the most important factor that influences the intention of current users of Internet banking to continue using the service, followed by compatibility and ease of use. In conclusion, building trust with current users should be the primary concern of Internet banking providers. To increase the retention rate of current Internet banking users, it is imperative that banks in Malaysia ensure a secure Internet banking system.

Although this study has generated some interesting findings, it is not without limitations. One of them is related to the design of the questionnaire, which was available only in the English language. Respondents who do not know English had difficulties answering the questionnaire.

In addition, this study considered only three predictors (trust, compatibility, and ease of use) that influence the continued use of Internet banking services. There may be other predictors, such as perceived risk, usefulness, and relative advantage, that can influence the criterion variable.

Future studies should translate the questionnaire into other languages (e.g., Malay and Chinese) to enable some respondents to answer the questions more effectively. In addition, to overcome the limitation of this study, which looked at only three factors, future studies should consider other predictors, such as perceived risk and usefulness, in order to obtain a more in-depth understanding of the elements that influence the intention to continue using Internet banking services.

REFERENCES

- Agarwal, R., and Prasad, J. 1998. The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies, *Decision Sciences* 28(3), 557-584.
- Carrington, M.; Languth, P.; and Steiner, T. 1997. *The Banking Revolution – Salvation or Slaughter*, Pitman: London.
- Cooper, R.G. 1997. Examining some myths about new product winners, *In* Katz, R. (ed.), *The Human Side of Managing Technological Innovation*, Oxford, pp. 550-560.
- Dandapani, K.; Karels, G.V.; Lawrence, E.R. 2008. Internet banking services and credit union performance, *Managerial Finance*, 34(6), 437-446.
- Daniel, E. 1999. Provision of electronic banking in the UK and Republic of Ireland, *International Journal of Bank Marketing*, 17(2), 72-83.
- Davis, F.D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13(3), 319-340.
- Enders, A.; König, A.; Jelassi, T.; and Hunhenberg, H. 2006. The relativity of disruption: E-banking as a sustaining innovation in the banking industry, *Journal of Electronic Commerce Research*, 7(2), 67-79.

- Fock, S.T.; and Koh, H.C. 2006. Conceptualization of trust and commitment, and understanding the relationships between trust, commitment and willingness to try Internet banking services, *Journal of Business and Information*, 1(2), 1-24.
- Gefen, D. 2000. E-commerce: The role of familiarity and trust, *Omega*, 28(6), 725-737.
- Gerrard, P.; and Cunningham, J.B. 2003. The diffusion of internet banking among Singapore consumers, *The Journal of Bank Marketing*, 21(1), 16-28.
- Hair, J.F. Jr.; Anderson, R.E.; Tatham, R.L; and Black, W.C. 1998. *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice-Hall.
- Hernández-Ortega, B.; Jiménez-Martinez, J.; Hoyos, M.J.M. 2007. An analysis of Web navigability in Spanish Internet banking, *Journal of Internet Banking and Commerce* 12(3), 1-8.
- Jarvenpaa, S.L.; Tractinsky, N.; and Vitale, M. 2000. Consumer trust in an internet store, *Information Technology and Management* 1, 45-71.
- Kassim, N. M., and Abdulla, A.K.M.A. 2006. The influence of attraction on Internet banking: An extension to the trust-relationship commitment model. *The International Journal of Bank Marketing* 24(6), 424-442.
- Kruglanski, A.W., and Klar, Y. 1985.. Knowing what to do: On the epistemology of actions. In Kuhl, J., and Beckmann, J. (eds), *Action Control: From Cognition to Behavior*, Springer-Verlag, Berlin, The Federal Republic of Germany.
- Md Nor, K.M., and Pearson, J.M. 2007. The influence of trust on Internet banking acceptance, *Journal of Internet Banking and Commerce* 12(2), 1-10.
- Mols, N.P. 2002. The Internet and the banks strategic distribution channel decisions, *International Journal of Bank Marketing* 17(6), 295-300.
- Moore, G.C., and Benbasat, I. 1991. Development of an instrument to measure the perception of adopting an information technology innovation, *Information Systems Research* 2(3), 192-222.
- Ndubisi, N.O., and Sinti, Q. 2006. Consumer attitudes, system's characteristics and Internet banking adoption in Malaysia, *Management Research News* 29(1/2), 16-29.
- Polatoglu, V.N., and Ekin, S. 2001. An empirical investigation of the Turkish consumers' acceptance of Internet banking service, *International Journal of Bank Marketing* 19(4), 156-65.
- Poon, W. 2008. Users' adoption of e-banking services: The Malaysian perspective, *The Journal of Business and Industrial Marketing* 23(1), 59-.
- Porter, J. 1998. Jeff Bezos on Amazon's Personalization Strategy, downloadable from Web site <http://bokardo.com/archives/jeff-bezos-on-amazons-personalization-strategy/>.
- Quelch, J.A., and Klein, L.K. 1996. The Internet and international marketing, *Sloan Management Review*, Spring, 60-75.
- Raman, M.; Stephenaus, R.; Alam, N.; and Kuppusamy, M. 2008. Information technology in Malaysia: E-service quality and update of Internet banking, *Journal of Internet Banking and Commerce* 13(2), 1-18.
- Reiser, S.J. 1997. The Information highway and electronic commerce: What does it mean for you? *Current Issues*, March, 12-15.
- Ridings, C.M.; Gefen, D.; and Arinze, B. 2002. Some antecedents and effects of trust in virtual communities, *Journal of Strategic Information Systems* 11, 271-295.
- Rogers, E.M. 1995. *Diffusion of Innovations*. The Free Press: New York, NY.
- Santos, J. 2003. E-service quality: A model of virtual service quality dimensions, *Journal of Managing Service Quality* 13(3), 233-246.

- Sivanand, C.N.; Geeta, M.; and Suleep. 2004. Barrier to mobile Internet banking services adoption: An empirical study in Klang Valley of Malaysia, *The Internet Business Review* 1, 1-17.
- Spekman, R.E. 1988. Strategic supplier selection: Understanding long-term buyer relationships, *Business Horizons*, July/August, 75-81.
- Srivastava, R.K. 2007. Customer's perception on usage of Internet banking, *Innovative Marketing* 3(4), 66-75.
- Slyke, C.V.; Belanger, F. ; and Comunale, C.L. 2004. Factors influencing the adoption of Web-based shopping : The impact of trust, *Database for Advances in Information Systems* 35(2), 32-51.
- Soderlund, M., and Ohman, N. 2003. Behavioral intentions in satisfaction research revisited, *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior* 16, 53-66.
- Suganthi, Balachandher, and Balachandran. 2001. Internet banking patronage an empirical investigation of Malaysia, *Journal of Internet Banking and Commerce*, downloadable from Web site www.arraydev.com/commerce/JIBC/0103_01.htm.
- Sulaiman, A.; Lim, C.H.; and Wee, A. 2005. Prospects and challenges of E-banking in Malaysia, *The Electronic Journal of Information Systems in Developing Countries*, downloadable from Web site <http://new.ejisdc.org/ojs/include/getdoc.php?id=167&article=184&mode=pdf>.
- Venkatesh, V.; Morris, M.G.; Davis, G.B.; and Davis, F.D. 2003. User acceptance of information technology: toward a unified view, *MIS Quarterly* 27(3), 425-478.
- Wang, C.C., and Lee, H.Y. 2003. E-mail Rumors and Forwarding Behavior. Paper presented at the International Conference of Pacific Rim Management, Washington: Seattle.
- Zeithaml, V.A.; Berry, L.L.; and Parasuraman, A. 1996. The behavioral consequences of service quality, *Journal of Marketing* 60, 31-46.

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