

The Factors Influencing on Internet Banking Adoption in Trincomalee District, Sri Lanka

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Abstract— The usage of internet banking is rapidly increasing day by day. Therefore, it is very important to find factors that mostly influence on customer adoption of the internet banking. This study intends to facilitate banks on which factors they should focus on mostly when providing internet banking services. Although there were lots of researches had been conducted related to the adoption of internet banking in foreign countries, the researches relating to Sri Lanka particularly to Trincomalee district are limited. It consists of nine independent variables such as Perceived Trust, E-Service Quality, Relative Advantages, Compatibility, Perceived Ease to Use, Perceived Usefulness, Perceived Risk, Social Influence, Perceived Security which are hypothesized to influence the individual's decision to adopt internet banking service. This is a quantitative study (descriptive study) will be used. The sample consisted of 189 units who are using internet banking service and living in Trincomalee district and self-administered questionnaire will be distributed. The analysis was done by using the package SPSS (Statistical Package for Social Science). The descriptive statistics, correlation and regression analysis were used to analyse the data.

Keywords— Customer Adoption: Compatibility: E-Service Quality: Perceived Trust: Relative Advantages: Perceived Ease to Use: Perceived Usefulness: Perceived Risk: Perceived Security: Social Influence.

I. INTRODUCTION

The concept of bank has been changed now a days. Every banking transactions are being accomplished by getting benefits of internet. "Virtual banks or 'branchless banks' are a relatively new concept used to define banks that do not have a physical location such as a branch, but offer services only through the Internet and ATMs to deposit or withdraw funds" (Sahel & Tooraj, 2011). The emergence of internet has opens new window in the banking fields makes it so easy and quick. And also, when dealing with internet people might have some sort of fear in respect to their privacy and security. Also, friends, society also determines the usage of the internet banking because it becomes as the status symbol among people. This study summarises nine factors that mostly influence on customer adoption on internet banking. Therefore, the development and success of internet banking in Trincomalee depends on the customers' acceptability and adoption rate.

Internet banking have simplified the life of the customers and banks in many ways such as reduction in the waiting time, paperless transaction, accuracy of transaction. Though there are dislike in adopting internet banking for big amount of transactions. Thus, this study emphasis on investigating factors that has a significant impact on customer adoption.

Since there are not sufficient studies have been conducted in this regard.

A. Problem Statement

(M.S.Clark & J.Mills, December 1, 1993) concluded that there can be two customers of bank communally oriented customers and exchange-oriented customers. First actually focus on establishing face-to-face relationship with banks whereas the second one focusing on the efficiency in completing banking transaction. Internet banking is anyway having a disadvantageous effect on those who actually focus on to establish face-to-face interaction. Thus, for banks which involves in internet banking it is essential to get to know what are the factor significantly influence on internet banking adoption in other words which factor is in fact a detrimental to the internet banking usage. (Hiltz S. R, Johnson K, & Turoff M, 2006) found that computer mediated communication is less personal and socioemotional than face to face exchanges. (Pinsonneault, Li, & Tomiuk, 2010) propose that the lesser degree of richness and sound presence of e-banking environment, the significant affect it will have on the banks' ability to create a trusting relationship between their customers and (M. Sadiq Sohail & Balachandran Shanmugham, 2003) claimed that the failure of the Internet in retail banking is largely attributable due to the lack of trust consumers have in the electronic channels. (Jayasiri N. K, Gunawaradana K.D, & Dharmadasa P, 2016) said that half of the people who have tried online banking services will not become active users. Online consumers not only need to trust online vendors, they also need to trust the Web itself as a transaction medium according to the (McKnight D.H & Chervany N.L, 2002). Similar to this study, many investigations in this regard are carried out in different countries like Jordan (Al-Smadi, 2012) based on different banks. This study addresses this as the literature gap and fills such literature gap with this investigation. Therefore, there is an empirical evidence to investigate factors influencing on internet banking adoption.

B. Research Question

1. What is the effect of perceived trust on customer adoption of internet banking?
2. What is the effect of E-service quality on customer adoption of internet banking?
3. What is the effect of relative advantage on customer adoption of internet banking?
4. What is the effect of compatibility on customer adoption of internet banking?

5. What is the level of perceived ease of use on customer adoption of internet banking?
6. What is the effect of perceived usefulness on customer adoption of internet banking?
7. What is the effect of perceived risk on customer adoption of internet banking?
8. What is the level of social influence on customer adoption of internet banking?
9. What is the effect of perceived security on customer adoption of internet banking?

C. Objectives of the Study

The main objective is based on the factors that influence the adoption of Internet banking in Trincomalee town.

1. Identify factors affecting customer adoption of internet banking?
2. Identify the relationship and effect of the selected factors on customer adoption of internet banking.

II. LITERATURE REVIEW

A. Customer Adoption of Internet Banking

According to the (Lichtenstein & Williamson, 2006) Several converging reference domains and theories suggest numerous potential influences on consumer adoption of E-Banking, including theories of consumer behaviour in mass media choice and use, gratification theories, innovation diffusion, technology acceptance, online consumer behaviour, online service adoption, service switching costs and the adoption of E-Banking. The adoption of E-Banking, a form of trusting behaviour, means that a consumer is “taking” risk, since he puts himself in a possibly vulnerable situation according (Kyu & Prabhakar, 2000). Based on (Frambach R. T & Schillewaer N, 2002) The adoption theory generally refers to the decision of any individual or organization to make use of an and it was found that Internet adoption in firms can be based on the perceived characteristics of the innovation. (Ayana, 2014) was mentioned that Different forms of E-banking system are as Automated Teller Machines (ATM), Point-of-Sale Transfer Terminals (POS), Internet / extranet banking, Mobile banking.

B. Perceived Trust

(Begum N & Jahangir N, 2008) found that consumers’ trust on security and privacy are both important factors in influencing the adoption of online banking in Bangladesh (another developing country), which like Vietnam, is at an early stage of online banking implementation. In our study, trust is defined as the extent to which an individual believes that using online banking is secured and has no privacy threats. Therefore, our study focuses on the element of security and privacy from the consumers’ perceptions as to whether they believe transactions on internet banking is secured and private according to (Eriksson, Kerem, & Nilsson, 2005).

C. E-Service Quality

According to (Byoung, Jeong, & In , 2009) E-Service constitutes the online services available on the Internet,

whereby a valid transaction of buying and selling (procurement) is possible, as opposed to the traditional websites, whereby only descriptive information is available, and no online transaction is made possible.

D. Relative Advantage

According to (Brown, Hoppe, Mugera, Newman, & Stander, 2004) it is therefore possible to suggest that the advantages that Internet banking offer over and above regular banking methods could affect its rate of adoption. According to (Rogers, 2003) relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes.

E. Compatibility

According to (Rogers, 2003) compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. Therefore, the more an individual uses the Internet and the more he or she perceives the Internet as compatible with his or her lifestyle according to (Brown, Hoppe, Mugera, Newman, & Stander, 2004).

F. Perceived Ease To Use

Perceived ease of use is defines as the degree to which a person believes that using a particular system would be free of effort according to (Davis, 1989).He also suggest that people tend to use or not use an application to the extent they believe it will help them perform their job better. This follows from the definition of “ease” and “freedom from difficulty or great effort.”

G. Perceived Usefulness

Perceived usefulness is a significant factor affecting acceptance of an information system (Davis, 1989). Further he defined perceived usefulness as the degree to which a person believes that using a particular system would enhance his or her job performance.

H. Perceived Risk

Perceived risk increases with uncertainty and/or the magnitude of associated negative consequence (Hsi-Peng Lu, Chin-Lung Hsu, & Hsiu-Ying Hsu, 2005). The degrees of risk that consumers perceived and their own tolerance of risk tacking are factors that influence their purchase strategies (CHAN, 2001).

I. Social Influence

A survey conducted in Hong Kong (CHAN, 2001) shows that classmates and friends are likely to have an influence on potential adopters and users of internet banking. According to (Davis, 1989) a superior or a co-worker suggest that a particular system is useful, a person may come to believe that this is actually so, and become agreeable towards accepting that system.

J. Perceived Security

“Security concepts, in general, refer to the ability to protect against potential threats. However, in online environments, security is defined as the ability of the online company

website to protect consumer information and their financial transactions data from being stolen during transmission” (Waleed, Louis, & Kuldeep, 2017). Research findings in general, have shown that customers’ behavioural intention to use e-commerce websites is significantly influenced by their perception about the level of security control that website has (Waleed , Louis, & Kuldeep, 2017).

III. METHODOLOGY

This research study is descriptive and deductive. It quantitatively measure nine dependent variable and its influence on customer adoption of internet banking. It has chosen simple random sampling and the respondents were asked a question whether you are using at least one internet banking service. If the answer is yes then only the questionnaire was provided to them.

A. Conceptual Model

Starting point of the survey altogether 200 questionnaires were given among that only 189 was properly filled and returned. Therefore, this study intends to concentrate on 189 people from various age group. Each respondent investigated from self-administered questionnaire with close-ended questions with Likert scale ranging from zero to one. SPSS were used to perform statistical analysis of the data. Based on the literature following alternative hypotheses formulated and assessed through regression analysis.

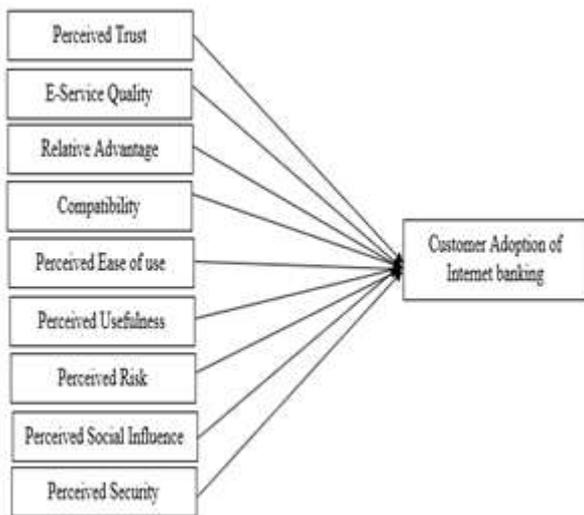


Fig. 1. Conceptual framework.

Source: Developed for the study purpose

- H1a: There is a significant positive effect between perceived trust and customer adoption of internet banking.
- H2a: There is a significant positive effect between E-service quality and customer adoption of internet banking.
- H3a: There is a significant positive effect between relative advantage and customer adoption of internet banking.
- H4a: There is a significant positive effect t between compatibility and customer adoption of internet banking.
- H5a: There is a significant positive effect between perceived ease to use and customer adoption of internet banking.

- H6a: There is a significant positive effect between perceived usefulness and customer adoption of internet banking.
- H7a: There is a significant positive effect between perceived risk and customer adoption of internet banking.
- H8a: There a significant positive effect between social influence and customer adoption of internet banking.
- H9a: There is a significant positive effect of perceived security on customer adoption of internet banking.

IV. DATA ANALYSIS AND RESULTS

A. Reliability Analysis

TABLE I. Reliability analysis.

Variable	Cronbach’s Alpha coefficient
Perceived Trust	0.811
E.Service Quality	0.750
Relative Advantage	0.765
Compatibility	0.650
Perceived Ease of Use	0.850
Perceived Usefulness	0.740
Perceived Risk	0.591
Social Influence	0.789
Perceived Security	0.697
Overall Factors influencing on Internet Banking	0.942
Customer Adoption	0.721

All factors of the Internet Banking were tested for reliability analysis. The Cronbach’s Alpha coefficient value for overall Internet Banking was 0.942 and Customer Adoption was 0.721 which indicates a strong internal consistency among the attributes. Therefore, the variables used were concluded as reliable. In other words, it can be said that the items are internally consistent.

B. Sample Profile

Descriptive statistical analysis was run on respondents’ demographic variables. The results are shown in the table.

TABLE II. Sample profile.

Demographic Variable	Frequency	(%)	
Gender	Female	85	45.0
	Male	104	55.0
Age Group	20-40	114	60.3
	41-60	64	33.9
	Above 60	11	5.8
	Ordinary Level	30	15.9
Education	Advanced Level	80	42.3
	Diploma	27	14.3
	Degree	52	27.5
	Student	30	15.9
Occupation	Executive Level	13	6.9
	Government	84	44.4
	Retired	9	4.8
	Business	17	9.0
	Agricultural Sector	8	4.2
	No job	4	2.1
	Private	24	12.7
Incomes Level	No income	31	16.4
	Below 20000	32	16.9
	21000-40000	81	42.9
	41000-60000	41	21.7
	61000-100000	3	1.6
	Above 100000	1	0.5

As per this study among successfully returned 189 questionnaire 45% of them are male and 55% of them are female. Among them those whose age lies in between 20 to 40 is 60.3%. and also 84% of the respondents are literate having diplomas and degrees. Because Literacy is very much important to operate internet banking services. More than 66% of respondents are earning more than Rs.40000 is in turn requires to utilise banking services to manage their financial resources efficiently.

C. Univariate Analyses

TABLE III. Univariate analyses.

Descriptive Statistics				
	N	Mean	Std. Deviation	Decision Attribute
Perceived Trust	189	3.5697	.95433	High Level
E-Service Quality	189	3.6825	.87770	High Level
Relative Advantage	189	3.6839	.82328	High Level
Compatibility	189	3.6332	.83266	High Level
Perceived Ease of Use	189	3.6746	.91381	High Level
Perceived Usefulness	189	3.7266	.83648	High Level
Perceived Risk	189	3.4056	.82446	Moderate Level
Social Influence	189	3.4444	.94155	Moderate Level
Perceived Security	189	3.3968	.93751	Moderate Level
Customer Adoption	189	3.6173	.90175	High Level

This provides a summary of result of descriptive statistics of research variables, mean and standard deviation of dependent and independent variable. All the other research variables are found to be high level mean value other than Perceived Risk, Social Influence, Perceived Security.

D. Pearson Correlation Analysis

TABLE IV. Pearson correlation analysis.

Variables	Customer Adoption	
Perceived Trust	Pearson Correlation	.562**
	Sig. (2-tailed)	.000
E-Service Quality	Pearson Correlation	.580**
	Sig. (2-tailed)	.000
Relative Advantage	Pearson Correlation	.707**
	Sig. (2-tailed)	.000
Compatibility	Pearson Correlation	.620**
	Sig. (2-tailed)	.000
Perceived Ease Of Use	Pearson Correlation	.898**
	Sig. (2-tailed)	.000
Perceived Usefulness	Pearson Correlation	.787**
	Sig. (2-tailed)	.000
Perceived Risk	Pearson Correlation	.496**
	Sig. (2-tailed)	.000
Social Influence	Pearson Correlation	.358**
	Sig. (2-tailed)	.000
Perceived Security	Pearson Correlation	.547**
	Sig. (2-tailed)	.000

** . Correlation is significant at the 0.01 level (2-tailed).

The study revealed that there is a strong positive correlation in between Perceived Trust, E-Service Quality, Relative Advantages, Compatibility, Perceived Ease to Use, Perceived Usefulness and Perceived Risk, Social Influence, Perceived Security are having moderate positive relationship with customer adoption of internet banking. This reveals that banks around the Trincomalee town should focus on Risk and Security factor to raise up the adoption factor of the internet banking.

E. Regression Analysis

TABLE V. Regression analysis of variables.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.930 ^a	.864	.857	.34068

The value of R ranges from -1 to 1. As R is 0.930 is close to 1 and there is a strong relationship in between independent variables and dependent variable. Also, R square is 0.864 meaning that 86.4% of the variation in the Customer adoption of internet banking in Trincomalee town will be explained by selected factors.

V. CONCLUSION

After successfully conducted this research it has found that all the factors altogether have strong relationship with customer adoption. But Perceived Risk, Perceived Security drawn a moderate positive relationship which sometime detriment the growth of internet banking among customers. People who are using internet banking still think that it wouldn't secured and it might have some risk factor. Therefore, to sustain customer who are using internet banking banks around the Trincomalee town should focus on these factors too much and should make awareness and promise regrading risk and security factors to sustain profitability and competitive advantage.

This study has particularly pointed the internet banking customers who scattered around Trincomalee town. Therefore, the result cannot generalise to whole Sri Lanka. Future study can also be focused on larger sample scale from different district even from different divisional secretariat division of Trincomalee district. And also, this study only concentrated nine factors as the influencing factors of the customer adoption. Further, other factors can be added to the conceptual model will provide more clarifying power to the study.

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REFERENCES

- [1] S. Lichtenstein and K. Williamson, "Understanding consumer adoption of Internet banking: An interpretive study in the Australian banking context," *Journal of Electronic Commerce Research*, vol. 7, issue 2, pp. 50-66, 2006.
- [2] M. Al-Smadi, "Factors affecting adoption of electronic banking: An analysis of the perspectives of banks' customers," *International Journal of Business and Social Science*, vol. 3, issue 17, pp. 294-309, 2012.
- [3] G. Ayana, "Factors affecting adoption of electronic banking system in Ethiopian," *Journal of Management Information System and E-commerce*, vol. 1, issue 1, 2014.
- [4] N. Begum and N. Jahangir, "The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking," *African Journal of Business Management*, vol. 2, issue 1, pp. 32-40, 2008.
- [5] I. Brown, R. Hoppe, P. Mugeru, P. Newman, and A. Stander, "The impact of national environment on the adoption of internet banking: comparing Singapore and South Africa," *Journal of Global Information Management*, vol. 12, issue 2, pp. 1-27, 2004.

- [6] B. C. Lee, J. O. Yoon, and I. Lee, "Learners' acceptance of e-learning in South Korea: Theories and results," *Computers & Education*, vol. 53, issue 4, pp. 1320-1329, 2009.
- [7] S. Chan, "Understanding adoption and continual usage behaviour towards internet banking services in Hong Kong," Master's thesis, Lingnan University, Hong Kong, 2001.
- [8] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *JSTOR*, vol. 13, issue 3, pp. 319-340, 1989.
- [9] K. Eriksson, K. Kerem, and D. Nilsson, "Customer acceptance of Internet banking in Estonia," *International Journal of Bank Marketing*, vol. 23, issue 2, pp. 200-216, 2005.
- [10] R. T. Frambach and N. Schillewaer, "Organizational innovaton adoption: a multi-level framework of determinants and opportunities for future research," *Journal of Business Research*, vol. 55, issue 2, pp. 163-176, 2002.
- [11] S. R. Hiltz, K. Johnson, and M. Turoff, "Experiments in group decision making: Communication process and outcome in face-to-face versus computerized conferences," *Human Communication Research*, vol. 13, issue 2, pp. 225-252, 1986.
- [12] Hsi-Peng Lu, Chin-Lung Hsu, and Hsiu-Ying Hsu, "An empirical study of the effect of perceived risk upon intention to use online applications," *Information Management & Computer Security*, vol. 13, issue 2, pp. 106-120, 2005.
- [13] N. K. Jayasiri, K. D. Gunawaradana, and P. Dharmadasa, "Adoption of internet banking in Sri Lanka: An extension to technology acceptance model," *Asia Pacific Journal of Contemporary Education and Communication Technology*, vol. 2, issue 1, pp. 179-189, 2016.
- [14] K. Kyu and B. Prabhakar, "Initial trust, perceived risk, and the adoption of internet banking," *ICIS '00 Proceedings of the Twenty First International Conference on Information Systems*, pp. 537-543, 2000.
- [15] M. S. Sohail and B. Shanmugham, "E-banking and customer preferences in Malaysia: An empirical investigation," *Information Sciences*, vol. 150, issue 3-4, pp. 207-217, 2003.
- [16] M. S. Clark and J. Mills, "The difference between communal and exchange relationships," *Personality and Social Psychology Bulletin*, vol. 19, issue 6, pp. 684-691, 1993.
- [17] D. H. McKnight and N. L. Chervany, "What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology," *International Journal of Electronic Commerce*, vol. 6, issue 2, pp. 35-59, 2002.
- [18] A. Pinsonneault, S. Li, and D. Tomiuk, "Effect of web channel richness and web information richness on satisfaction and learning: a study of simple and complex products," *Systèmes d'Information et Management*, vol. 15, issue 4, Article 5, 2010.
- [19] E. Rogers, *Diffusion of Innovation*, New York: The Free Press, 2003.
- [20] F. Sahel and S. Tooraj, "The role of behavioral adoption theories in online banking services," *Middle-East Journal of Scientific Research*, vol. 7 issue 3, pp. 374-380, 2011.
- [21] A.-G. Waleed, S. Louis, and S. Kuldeep, "Factors influencing the adoption and usage of online services in Saudi Arabia," *The Electronic Journal of Information Systems in Developing Countries*, vol. 40, issue 1, pp. 1-32, 2010.