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Factors Affecting Internet Banking Adoption in Iran: An Extended TAM Model

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ABSTRACT

The use of internet banking as a way for banking transactions has been dispersed around the world due to improvements in various aspects of technology. Iran has not been the exception of this advancement and consequently the number of internet banking affaires seems to be increasing dramatically recently. The aim of this study is investigating the factors affecting internet banking adoption in Iran. For this purpose, the extended TAM model is conducted as a conceptual framework. To collect the data needed to implement this exploratory research 230 people, who have bank accounts in Tehran and are of different demographical backgrounds, were selected to complete a standardized structured questionnaire. The questions of the questionnaire utilized in this study have been written in a closed-ended structure and the questionnaires were sent by mail or done through self-completion. Data are analyzed using Structured Equation Modeling (SEM) to evaluate the strength of the hypothesized relations. The results were well matched with integrated TAM and perceived risk models and confirm its robustness in predicting customers' intention of internet banking adoption in Iran. The results showed that the behavioral intention to use internet banking is positively affected mainly by digital literacy, self-efficacy and variables of TAM model and negatively affected by perceived risk.

Introduction

It has been seen that the emergence of technology has encouraged banks to modify their management approach. As long as users are connected to the internet, they are able to use the online banking services. The banking strategy has altered as a result of this fact that unlike the past, customers do not care how far the bank is any more. They can select any bank which is offering online services or even several banks to satisfy their banking needs.

Internet banking services also have more crucial role in increasing the amount of investments done to improve banking systems. Also, it cannot be ignored that the trend of expanding Internet technology around the world mostly in a developed countries and need of trading with foreign countries, have encouraged Iranian banks to undertake widespread activities on line through adopting computer systems in banks (Sadeghi, 2010). Hence, the consumers' perception has been increased regarding online banking operations. Furthermore, customers request levels of convenience, usefulness and easiness while using internet banking. Internet banking provides these services by developing a widespread network infrastructure for banks and financial institutions in Iran (Rezaie Dolat Abadi et al., 2012). The banks attempt to provide required infrastructure and other essential prerequisites for electronic banking acceptance. Thus, IT acceptance has been at the center of attention in several studies in the past decades and ultimately several theories have been investigated to suggest new insights into the acceptance and use of the online banking. The technology acceptance model has received the most attention among other various theories. Although some recent studies have noted some external variables in TAM model, such as demographic variables, perceived credibility, perceived enjoyment and some other variables (Aderonke et al., 2010), it seems that there are still few studies which have investigated the potential effect of the digital literacy, self- efficacy and perceived risk on intention to use internet banking users. Also, banking industry suggests that internet banking may become an increasing important distribution channel for most of the banks in Iran in near future. The present research study suggests a new model of behaviour, which integrates TAM model factors, digital literacy, self-efficacy and perceived risk in order to determine the behaviour of users in the acceptance of internet banking. So, the research question is, if business transactions are done online, what factors affect E-banking acceptance in Iran? Thus, by using this result, the banks can improve some factors to motivate customers into using internet banking.

It cannot be ignored that in the near future, in order to achieve sustainability businesses will compete not only on the physical market, but also on the virtual market. Business models will be shifted from the physical ones into the virtual market. So, the physical distribution of products and services through stores, banks and mail are progressively moving toward the virtual market. Most of the consumer products and services are now available through virtual markets. However, consumers can also secure these products and services via traditional markets.

In recent years, the growth of information technology has been undoubtedly surpassed all other sciences. Taking a brief look at the technological advances in all aspects of individual life may prove it. The enhancements of personal computers, smart computer devices, mobile phones and internet are merely few examples of this continuous expansion.

Tele:

E-mail addresses:

Regarding this new global science, most people have found that they have to adopt this useful technological knowledge in order to meet their requirements. Hence, due to the nature of human being's needs and intentions, companies which provide products and services with the attempt to meet such needs are required to use the information technology tools in order to increase their efficiency and customer satisfaction.

Internet Banking

Internet banking or online banking means the usage of internet as a remote delivery channel of banking system services by the World Wide Web. Customers access directly to their financial information and financial transactions by using internet banking (Abdul Hamid, Amin, & Lada, 2007). By using this system, customers can access to their account and do several transactions, such as paying bills, applying for loan applications, online shopping, account consultation and stock portfolio management 24 hours a day. In spite of internet banking improvement, there are not many internet banking users around the world in comparison with the other e-banking services, such as the telephone banking, mobile phone banking (SMS), and ATMs (Ayadi & Kafella, 2004).

Online Banking and TAM Model

In recent years, the advancements of information technology have extremely affected the financial services industry, as is evident in the improvement of internet banking.

Internet banking implementation and acceptance, and adopted TAM in conceptualizing a framework have been the focus of many research studies, such as those by Kim and Prabhakar (2000), Tan & Teo (2000) and Cheng et al. (2006). TAM has been extended to use by various models, including trust (Mukherjee and Nath 2003), perceived risk (Verhagen et al., 2004), computer self-efficacy (Wang et al., 2003) and gender (Laiand Li, 2005). In other words, in order to analyze behaviors towards use, some factors have been added to TAM model considering different circumstances.

Hypotheses on Extended TAM Model

Based on the theoretical model, the following research hypotheses are formulated. TAM is used as the base model to explain adoption of Internet banking. Also, some factors have been added to TAM model which have crucial role in affecting internet banking adoption in Iran.

Because perceived usefulness has a positive effect on attitude and attitude has a positive effect on intention to use of internet banking. According to Dolatabadi and Nematizade (2012), making people aware of internet banking usefulness and ease of use shall increase consumers' usages of online services in Iran. So, the following hypothesis is developed:

H1: Perceived usefulness has a positive effect on intention to use internet banking users in Iran.

Attitude towards use is known as one of the significant factor of TAM model because it considerably affects customers' intention to use online banking services (Yeow and Yee 2008). Most of the research studies extend TAM contain this variable, because of its high explanatory influence (Yanga & Yoo, 2004; Shih, 2004). Thus, the following hypothesis is developed:

H2: Attitude has a positive effect on internet banking users' intention to use.

The most revisions have highlighted the role of the perceived usefulness on attitudes towards use (Davis et al., 1989; Suh & Han, 2002). Davis (1989) suggests that users tend to have behaviors that they believe will help them accomplish their profession more efficiently. Concerning switching behaviors, Chen and Hitt (2002) discussed that switching behaviors are affected by usage behavior. When users consider online banking useful, they will have a positive attitude towards changing from a physical to a virtual situation. Hence, the following hypothesis is developed:

H3: Perceived usefulness has a positive effect on attitude of internet banking users.

Perceived ease of use is one of the most important factors of the TAM model similar to perceived usefulness (Davis et al., 1989). It states that a system perceived to be easy to use has more opportunity of attracting individual's attitude toward switching to online banking. Several literatures have also been completed regarding the importance of this predecessor on attitude towards use (Taylor & Todd, 1995; Chen & Hitt, 2002; Hsu et al., 2006).

If consumers perceive a service to be easier and more convenient to use, then it will directly effect on their attitude towards switching to online banking.

Hence, the following hypothesis is developed:

H4: Ease of use has a positive effect on attitude of internet banking users.

According to Markauskaite (2007), digital literacy measures an individual's aptitude to utilize digital technology, communication tools and networks to contact, manage, and assimilate digital resources. A user with high digital literacy has been reported in the previous researches as having a positive link with the adoption of new technology (Hasan & Ahmed, 2010). Therefore, it can be concluded that a user with high digital literacy will be more confident about using technology and therefore more likely to adopt new technology, such as mobile learning. Therefore, the following is hypothesized:

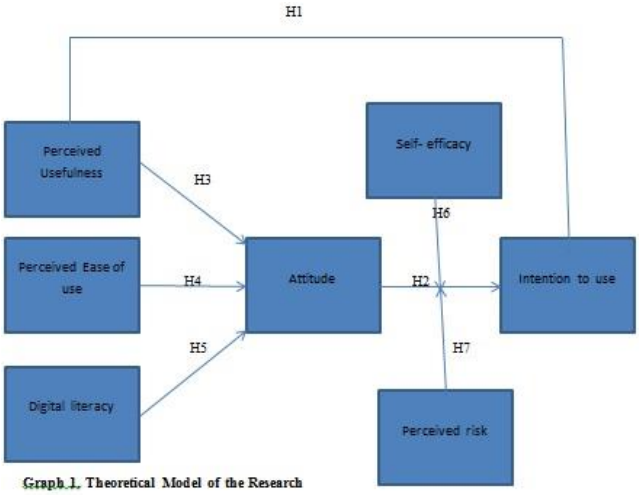
H5: Digital literacy has a positive effect on attitude of internet banking users.

Self-efficacy reveals the confidence of the users concerning their performance in using the system. The moderating variables, perceived risk and computer self-efficacy, have been involved in various studies (Cockrill et al., 2009). Computer self-efficacy moderates this kind of consequence that people have dissimilar abilities in performing a task, such as using the online banking. Compeau and Higgins (1995) claimed that computer self-efficacy is related to the individual's attitude towards the adoption of technology. Some studies (Johnson, 2005; Mcilroy et al., 2007) also highlighted the effect of computer self-efficacy on adopting innovations. Chang and Tung (2008) also recommended that self-efficacy have a crucial role in motivation and behavior intention. If users are pessimistic about their ability to use a new system, then it will not have substantial effect on behavior. Thus, computer self-efficacy affects the relationship between attitude and behavior towards using online systems. The following hypothesis is thus formed:

H6: The interaction of computer self-efficacy and attitude has a positive effect on the intention to use internet banking users.

Customers face a risk in conducting financial trades, especially when there is no physical contact. Consumers' perceived risk affect the adoption of Internet technology (Miyazaki & Fernandez, 2000; Kim & Prabhakar, 2000; Wang et al., 2003). Perceived risk measures the effect of a user's attitude towards using internet banking by distinguishing the risk that an online banking transaction has. Customer behavior changes due to how they perceive online banking risk. Featherman and Fuller (2003) detected that growing levels of perceived risk moderates the acceptance behavior of technology. Thus, the following hypothesis is formed:

H7: The interaction of computer perceived risk and attitude has a negative effect on the intention to use internet banking users.



Graph 1. Theoretical Model of the Research

Research Methodology

The topic used in this research benefits from the fact that there have been a number of research studies which have been carried out in this area, and the hypothesis can thus be easily identified by making use of the existing literature. So, according to Saunders et al. (2007), this kind of topic entails a deductive approach rather than an inductive approach, which is more suitable for a topic where little recent research has been conducted. Consequently, by using existing theories, the results can be realized and a study into which elements affect internet banking acceptance in Iran can be carried out. Positivism is a research philosophy related to the deductive approach. The most suitable philosophy for this study is positivism due to its use of deductive approach. In this research the factors affecting internet banking adoption in Iran are examined, which cannot be considered with just a few participants and requires a huge sample size. To achieve this purpose, the quantitative method is more appropriate due to the fact that it is more suitable for large sample size investigations (Remler & Van Ryzin, 2011). Also, the quantitative method focuses more on the existing literature rather than the process of producing a new hypothesis. So, due to the use of a large sample size and the existing literature, the quantitative research method has been used.

According to the methods, a questionnaire has been used in order to collect the data. The data collection instrument was a validated researcher-made questionnaire which was designed based on the review of the related literature. The questions of the questionnaire in this research have been provided in a closed-ended structure and the type of questionnaire is by mail or self-completion. In this case, it is quite impossible to use the whole population (that is to say, to survey all the people who use internet banking in Iran). Hence, sampling is required. Due to the fact that it is quite difficult to identify all people who do online shopping in Iran, it has been decided to use judgmental sampling techniques, which is one of the techniques of non-random selection.

To collect the data needed for this exploratory research, 230 people with different demographical backgrounds who have bank accounts in Tehran were taken into consideration and completed the questionnaire. They were aged between 15 to 45 and nearly half of them were aged between 26 to 35. Also 71% of the participants were female and 70% were BA or BS holder. The participants were selected among the students, professors and personals of four universities in Tehran and also the customers of several private and governmental banks in different areas of Tehran. There is a high contingency of finding people who conduct internet banking in Tehran.

Reliability and validity are immensely crucial issues in measurement and standardization. The researcher carried out their deduction, by using the reliable and valid measurement set up "truthfulness, credibility and believability" of the investigation (Neuman, 2012, P.121).

Results

The data were analyzed through the structural equation modelling (SEM) technique using AMOS 22 (2013). Two main assumptions are related to SEM are reliability and normality of the data. All of the components of the model had good reliability indices; considering the fact that each section was measured through three items only.

Table 1. Reliability Statistics

	Cronbach's Alpha	N of Items
Perceived Risk	.843	3
Ease of Use	.713	3
Digital Literacy	.824	3
Perceived Usefulness	.772	3
Self-Efficacy	.678	3
Intention to Use	.792	3

The data enjoyed normal distribution as well. As noted by Bae and Bachman (2010) values of skewness and kurtosis below ± 2 indicate that the assumption of normality is met. Based on their conclusion, "if a normalized Mardia's coefficient is not too much greater than ± 3, it indicates acceptable multivariate normality", it can be claimed that the present data enjoyed multivariate normality. The Mardia's index was -1.45.

Table 2. Testing Normality Assumption

Items	Skewness	Kurtosis
Q16	-.087	-1.153
Q17	-.393	-.816
Q18	.652	-.279
Q13	-.145	-.681
Q14	-.038	-.917
Q15	.151	-1.111
Q1	-.031	-1.166
Q2	-.119	-1.118
Q3	-.116	-1.134
Q9	-.013	-1.064
Q8	-.147	-.990
Q7	-.059	-.823
Q12	.021	-1.089
Q11	.122	-1.022
Q10	.102	-.973
Q6	-.036	-1.156
Q5	-.039	-1.060
Q4	-.038	-1.089
Mardia		-1.456

Table 3. displays the unstandardized and standardized regression weights connecting items to their respective latent variables. An unstandardized regression weight, which analogous to B-value in a regression model, means that a unit of change in the latent variable, results in B change in the indicator. For example; the unstandardized regression weight for the ease of use (EASE) to item Q5 is .991. In other words a unit of change in EASE, results in .991 units of change in Q5. This amount of change was statistically significant (p = .000). All of the unstandardized regression coefficients were significant.

The AMOS also prints the values of standardized regression coefficients which are analogous to the beta values in a regression model. The standardized coefficients can be interpreted as follows;

Table 3. Unstandardized and Standardized Regression Weights; Items and their Respective Latent Variables

			Unstandardized	S.E.	C.R.	P	Standardized
Q4	<---	EASE	1.000				.694
Q5	<---	EASE	.991	.149	6.642	.000	.680
Q6	<---	EASE	.959	.145	6.624	.000	.645
Q10	<---	PRISK	1.000				.803
Q11	<---	PRISK	1.097	.092	11.866	.000	.856
Q12	<---	PRISK	.962	.086	11.191	.000	.748
Q7	<---	DIGITLI	1.000				.767
Q8	<---	DIGITLI	1.070	.101	10.558	.000	.808
Q9	<---	DIGITLI	1.031	.099	10.402	.000	.769
Q3	<---	PUSE	1.000				.455
Q2	<---	PUSE	1.560	.150	10.376	.000	.623
Q1	<---	PUSE	1.824	.144	12.634	.000	.734
Q15	<---	SEFFIC	1.000				.503
Q14	<---	SEFFIC	1.135	.187	6.053	.000	.632
Q13	<---	SEFFIC	1.441	.228	6.323	.000	.805
Q18	<---	INTENT	1.000				.758
Q17	<---	INTENT	.864	.073	11.792	.000	.684
Q16	<---	INTENT	.945	.080	11.781	.000	.684

a unit of change in latent variables results in a beta change in the dependent variables (items). For example the standardized regression weight for the path from self-efficacy (SEFFIC) to Q13 was .805. It means that one full standard deviation change in self-efficacy results in .805 standard deviation change in Q13.

It should be noted that a) the AMOS has not produced the unstandardized statistics for some of the items. These items' weights were constrained 1 to enable the model to be tested. However; their standardized regression weights are printed, b) each unstandardized regression weight can be divided by its standard error (S.E.) to render the Z-values (C.R.).

Conclusion

Based on the results displayed in Table 4.9 it can be claimed that all of the items significantly contributed to their latent variables.

Relationships between Items and Latent Variables

Table 4. displays the relationships between the latent variables which can be used to probe the directional-hypotheses raised in this study.

First Directional-Hypothesis

Perceived usefulness has a positive effect on intention to use internet banking users. Perceived usefulness (PUSE) had a significant and positive effect on intention to use internet banking (Beta = .590, p < .05). The first directional-hypothesis was supported.

Second Directional-Hypothesis

Attitude has a positive effect on intention to use internet banking users.

Attitude had a significant and positive effect on intention to use internet banking (Beta = .722, p < .05). The second directional-hypothesis was supported. Examining Table 4.10 it can be seen that standardized value as low as -.123 was flagged as significant.

Table 4.Unstandardized and Standardized Regression Weights among Latent Variables

			Unstandardized	S.E.	C.R.	P	Standardized
ATTITUDE	<---	DIGITLI	.128	.036	3.514	.000	.185
ATTITUDE	<---	EASE	.118	.042	2.788	.005	.159
ATTITUDE	<---	SEFFIC	.498	.086	5.824	.000	.508
ATTITUDE	<---	PUSE	1.000				.817
ATTITUDE	<---	PRISK	-.080	.033	-2.431	.015	-.123
INTENT	<---	ATTITUDE	1.000				.722
INTENT	<---	PUSE	1.000				.590
ATTITUDE	<---	DIGITLI	.128	.036	3.514	.000	.185

Third Directional-Hypothesis

Perceived usefulness (PUSE) has a positive effect on attitude of internet banking users.

Perceived usefulness (PUSE) had a significant and positive effect on attitude of internet banking (Beta = .817, p < .05). The third directional-hypothesis was supported.

Fourth Directional-Hypothesis

Ease of use (EUSE) has a positive effect on attitude of internet banking users.

Ease of use (EUSE) had a significant and positive effect on intention to use internet banking (Beta = .159, p < .05). The fourth directional-hypothesis was supported.

Fifth Directional-Hypothesis

Digital literacy (DIGITLI) has a positive effect on attitude of internet banking users. Digital literacy (DIGITLI) had a significant and positive effect on intention to use internet banking (Beta = .185, p < .05). The fifth directional-hypothesis was supported.

Sixth Directional-Hypothesis

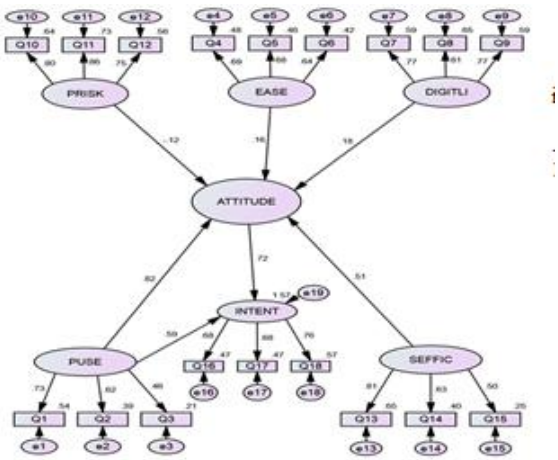
The interaction of computer self-efficacy and attitude has a positive effect on the intention to use internet banking users.

The direct effect form self-efficacy to attitude was .508. The direct effect form attitude to intention was .722. The interaction between these two beta values (0508 * 0722 = .366) indicated that the interaction of computer self-efficacy and attitude had a positive effect on the intention to use internet banking users. Thus the sixth directional-hypothesis was supported.

Seventh Directional-Hypothesis

The interaction of computer perceived risk and attitude has a negative effect on the intention to use internet banking users.

The direct effect form perceived risk to attitude was -.123. The direct effect form attitude to intention was .722. The interaction between these two beta values (-.123 * .722 = -.088) indicated that that the interaction of perceived risk and attitude had a negative but effect on the intention to use internet banking users. Thus the sixth directional-hypothesis was supported. Measurement Model 2. displays the relationships between variables in standardized values.



Conceptual Model 2. Standardized Regression Weights

Model Fit Indices

Eight fit indices will be discussed below. All of these indices indicated that the present model enjoyed a good fit.

1: The chi-square value of 167.039 was significant (p = .018); however, its ratio over the degree of freedom of 131, i.e. 1.27 was lower than 3. These results indicated a good fit. It should be noted that the chi-square test is a badness of fit index, i.e. the lower the better fit. This index is sensitive to sample size. That is why is ratio over the degree of freedom should be reported.

2: The root mean square of error approximation (RMSEA) also indicated a good fit. Its value 0f .035 was lower than .05. The upper and lower 90 % confidence intervals [.015, .050}

were both within the acceptable level. The non-significant p-close index (.956 > .05) also indicated a good fit.

The other indices were also higher than their critical values; GFI = .92, CFI = .97, IFI = .97. All these indices supported a good fit.

Table 5. Model Fit Indices

Indices	Model	p	Recommended Level
Chi-square	167.03 (131)	.018	None significant
Chi-square Ratio	1.27	-	=< 3
GFI	.92	-	=> .90
CFI	.97	-	=> .95
IFI	.97	-	=> .95
RMSEA	.035	-	=< .05
95 % CI RMSEA	[.015, .050]	-	=< .05
p-close	.956	-	None significant

Discussion and Conclusion

The results of this research support the previous studies showing that TAM is a suitable model to consider intention to use of IT. Also, the results provide support for the theoretical model and the hypotheses of this research.

According to table 5., all seven hypotheses were accepted. So, the results of this study were matched well with the literature.

The impact of perceived usefulness, perceived ease of use, the interaction of self-efficacy and attitude and the interaction of perceived risk and attitude on intention to use internet banking were 0/59, 0/72, 0/36 and -0/88 respectively. Results show that the most effective factor which increases the intention to use of internet banking users was perceived ease of use. On the other hand, the factor which had a significant and negative impact on intention to use was perceived risk. Also, the effect of perceived use fullness, ease of use and digital literacy on attitude of customers toward using internet were 0/81, 0/15 and 0/18 respectively; therefore, the results showed that the most effective factor which could increase the variable of attitude was perceived usefulness. On the other hand, two variables of ease of use and digital literacy had the least impact on attitude of users.

Increasing user's awareness of internet banking usefulness and ease of use through various methods, such as advertising could improve the level in which consumers use online banking services and how frequently they use its services.

Perceived risk was appeared as a negative factor in the intention to use internet banking services. The interaction of the perceived risk and attitude has a significant and negative effect on the intention to use internet banking and was the most important inhibitor to the adoption of such services. At present, online banking transactions lack the assurance provided by banks compared with the traditional ways of transactions, and as the result, customers usually have difficulties in accessing to the internet banking website due to poor maintenance. Some users take a risk during money transfers and are stressful because of transactions left incomplete. Thus, these issues may delineate why many customers resist accepting internet banking.

On the other hand, compared with the perceived risk, the intention to use internet banking was positively affected by perceived usefulness, perceived ease of use and interaction of self-efficacy and attitude. Perceived ease of use was the most important positive predictor of the internet banking intention to use. Moreover, perceived usefulness had an indirect influence, via attitude, on behavioral intention to use online banking. This result matched well with the finding of Taylor and Todd (1995), which indicates that perceived usefulness has both direct and indirect influences on behavioral to use internet banking. The findings also show that in Iran, intention to use Internet banking is affected by interaction of self-efficacy and attitude of users. The strong influence of self- efficacy and attitude on intention to use internet banking are because of this fact that using internet banking is not as easy as internet surfing.

Managerial Implications

Banks should make their users understand the usefulness of their online services compared to traditional services to increase higher adoption rate. Moreover, the banks websites should be made user-friendly due to the fact that not many consumers are familiar with computer and the Internet, especially the adult and uneducated groups.

Banks should offer online assistance and guidelines to their customers as this is proved to be one of the most essential factors that influence customers to adopt internet banking services. This study also suggests that banks implement more progressive encryption systems and build stronger firewalls in order to take safety of their online sites into serious consideration. All of these attempts have been done because fraud and hacking are the most effective inhibitors of using internet banking. In other words, users do not like to take a risk which tends to be possible in the digital world.

An agenda for Future Research

An extended TAM model is used in this study to determine the intention to use of customers toward using internet banking.

Although the proposed model of this study had a good explanatory power, the selected factors may not cover all the factors that could influence the adoption of the internet banking in Iran. So, future studies can consider other factors, which might have an effect on the adoption of internet banking services in Iran. Moreover, the demographic profiles of this investigation were selected from relatively young age users. Hence, future studies can conduct a comparison between users from different age groups.

References

[1] Abdul Hamid, M. R., Amin, H., & Lada, S. (2007). A comparative analysis of Internet banking in Malaysia and Thailand. Journal of Internet Business, 4, 1–19.

[2] Adesina Aderonke, A., (2010). An Empirical Investigation of the Level of Users' Acceptance of E-Banking in Nigeria, Journal of Internet Banking and Commerce, 15(1), 102-145.

[3] Ayadi, A., & Kafella, I. (2004). La banque en ligne dans les pays émergents: le cas de la Tunisie. Acte Publié du 3éme colloque de recherche de l'ESC Amiens Picardie, Septembre.

[4] Bae, J., & Bachman, L. F. (2010).An investigation of four writing traits and two tasks across two languages. Language Testing. Online version; http://ltj.sagepub.com/content/27/2/215.

[5] Bbátiz-Lazo, B., & Wood, D. (2002). An Historical Appraisal of Information Technology in Commercial Banking, Electronic Markets, Vol. 12, No. 3, pp.192-205.

[6] Byrne, B. (2010). Structural Equation Modeling with AMOS; Basic Concepts, Application and Programming. (2nd ed.). Routledge. NY.

[7] Chang, S. H., & Tung, F. C. (2008). An empirical investigation of students' behavioral intentions to use the online learning course websites. British Journal of Educational Technology, 39, 71–83.

[8] Chen, P. Y., & Hitt, L. M. (2002). Measuring switching costs and their determinants in internet enabled businesses: a study of the online brokerage industry. Information Systems Research, 13, 3, 255–276.

[9] Cheng, T. C. E., Lam, D. Y. C., & Yeung, A. C. L. (2006). Adoption of Internet banking: an empirical study in Hong Kong. Decision Support Systems, 42, 1558–1572.

[10] Cockrill, A., Goode, M. H., Beetles, A.(2009). The critical role of perceived risk and trust in determining customer satisfaction with automated banking channels. Services Marketing Quarterly, 30, 2, 174–193.
[11] Compeau, R. D., & Higgins, A. C. (1995). Computer self-efficacy: development of a measure and initial test. MIS Quarterly, 19, 2,189–211.
[12] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. User acceptance of computer technology: a comparison of two theoretical models. Management Science, 35, 8, 1989, 982–1003.
[13] Featherman, M., & Fuller, M. Applying TAM to e-services adoption: the moderating role of perceived risk. In 36th Annual Hawaii InternationalConference on System Sciences, 2003.
[14] Hasan, B., & Ahmed, M. U. (2010). A path analysis of the impact of application-specific perceptions of computer self-efficacy and anxiety on technology acceptance. Journal of Organizational and End User Computing, 22(3), 82-95. doi:10.4018/joeuc.2010070105
[15] Hsu, C. M. H., Kang, S. K., & Lam, T. (2006). Reference group influence among Chinese travelers. Journal of Travel Research, 44, 4, 474–484.
[16] Johnson, R. D. (2005). An empirical investigation of sources of application-specific computer-self-efficacy and mediators of the efficacy-performance relationship. International Journal of Human–Computer Studies, 62, 737– 758.
[17] Kim, K., & Prabhakar, B. (2000). Initial trust, perceived risk, and the adoption of Internet banking. In Proceedings of the Twenty-first International Conference on Information Systems, Brisbane, Queensland, Australia, 537–543.
[18] Kline, R. (2011). Principles and Practices of Structural Equation Modeling (3rd ed.). Guilford Pres. NY.
[19] Lai, V. S., and Li, H. (2005). Technology acceptance model: an invariance analysis. Journal of Information and Management, 42, 2, 373–386.
[20] Markauskaite, L. (2007). Exploring the structure of trainee teachers' ICT literacy: The main components of, and relationships between, general cognitive and technical capabilities. Education Technology Re-search Development, 55(6), 547-572. doi:10.1007/s11423-007-9043-8
[21] Mcilroy, D., Sadler, C., & Boojawon, N. (2007). Computer phobia and computer self -efficacy: their association with undergraduates' use of university computer facilities. Computers in Human Behavior, 23, 3, 1285–1299.
[22] Mukherjee, A., & Nath, P. (2003). A model of trust in online relationship banking. International Journal of Bank Marketing, 21, 1, 5–15.
[23] Neuman, W. L. (2012). Basics of social research: Qualitative and quantitative approaches. Pearson.
[24] Remler, D. K., & Van Ryzin, G. G. (2011). Research methods in practice: Strategies for description and causation. Sage Publications.
[25] Rezayi Dolatabadi, H., & Nematizadeh, F. (2012). An Empirical Investigation of the Level of User's Acceptance of E-Banking among Some Customers of Banks in Iran, International Journal of Academic Research in Business and Social Sciences, 2, (6).
[26] Rezayi Dolatabadi, H., Ranjbaran, B. & Kermanizadeh,F, (2012). Investigate the Customers' Behavioral Intention to Use Mobile Banking Based on TPB, TAM and Perceived Risk (A Case Study in Meli Bank), International Journal of Academic Research in Business and Social Sciences , 2, (10) .
[27] Sadeghi, T. & Farokhian, S, (2010). Electronic Banking Acceptance Model (EBAM) in Iran, World Applied Sciences Journal, 11 (5), 513-525.
[28] Saunders, M., Lewis, P., & Thornhill, A. 2007. Research methods for business students. Pearson education Ltd.
[29] Shih, H. P. An empirical study on predicting user acceptance of e-shopping on the web. Information and Management, 41, 3, 2004, 351–368.
[30] Suh, B., and Han, I. Effect of trust on consumer acceptance of online banking. Electronic Commerce, Research, and Application, 1, 2002, 247–263.
[31] Tan, M., and Teo, T. S. H. Factors influencing the adoption of Internet banking. Journal of the Association for Information Systems, 1, 5, 2000, 1–42.
[32] Taylor, S., & Todd, P. (1995). Understanding information technology usage: A test of competing models. Information Systems Research, 6(2), 144–176.
[33] Verhagen, T., Tan, Y., and Meents, S. An empirical exploration of trust and risk associated with purchasing at electronic marketplaces. In Proceedings of the 17th Bled Ecommerce Conference, June 21–23, Bled, Slovenia, 2004.
[34] Vieira, A. L. (2011). Interactive LISREL in Practice; Getting Started with SIMPLIS Approach. Springer. NY.
[35] Wang, Y., Lin, H., and Tang, T. Determinants of user acceptance of internet banking: an empirical study. International Journal of Service Industry Management, 14, 5, 2003, 501–519.
[36] Yanga, H. D., and Yoo, Y. It's all about attitude: revisiting the technology acceptance model. Decision Support Systems, 38, 2004, 19–31.
[37] Yeow, P. H., and Yee, Y. Y. User acceptance of Internet banking service in Malaysia. Lecture Notes in Business Information Processing, Vol. 18). Springer, New York, NY,2008.