

# Offline Trust, Online Trust, and Perceived Cost: Their Relations and Impacts on the Intention to Use Online Banking

Taewoo Kim, Jaeyoung Kim, and Jae-Nam LEE

*Korea University Business School  
Anam-Dong, Seongbuk-Gu, Seoul 136-701, Korea  
Tel: + 82-2-3290-{1933, 1933, 2812}  
E-mail: {ssizz2nd; korean4u; isjnlee}@korea.ac.kr*

## ▪ Abstract

*Since the Internet has been widespread all over the world, it has been getting more popular. Almost every bank that runs offline business has its own Web site to provide online banking service. In this study, we developed a research model based on the Technology Acceptance Model (TAM). We added the concepts of trust and cost to evaluate our model because trust is a major concept in adopting online service, and cost is one of the main strategies to attract customers to use online banking service. To see the validation of the model, we used partial least squares (PLS). A survey was done to gather data. The result was drawn from the model test, and we discuss it and conclude the study.*

## Keywords:

Trust; Perceived cost; Offline trust; Online trust; TAM; PLS; Intention to use

## ▪ Introduction

Since the Internet has been widespread all over the world, it has been getting more popular [9, 26]. Internet penetration gets even faster with the growth of information technology communication. Banks nowadays are taking advantage of these Internet circumstances. Almost every bank that runs offline business has its own Web site to provide online banking service [27]. Especially, the banks charge lower commission for those who use online banking, and it is a main advantage that can be enjoyed from using online banking and it is also what the banks are promoting for their customers.

According to the Bank of Korea (2006), the number of users in online banking is increasing, and they constitute 5%–10% of total accounts. Several studies indicate that online bankers are the most profitable and wealthiest segment for banks [15, 27]. On this basis, no bank today can underestimate the power of the online channel. As we mentioned above, banks are attracting their customers to use online banking, which has the convenience of being used

any time and any where while charging lower commissions.

Recently, trust has been a critical factor for the evaluation of adopting Internet application [17, 20]. It also affects the adoption of online banking [18]. Though the increasing attention to online banking leads to its continuous growth, the usage of online banking still takes a small part of total banking transactions. In addition, nobody knows if the customers who once installed online banking would have the intention to use it continuously. In this perspective, this study looks at the factors that affect the adoption of online banking and the continuous usage of online banking.

Therefore, our questions, in terms of using online banking continuously are as follows: (1) *Does trust in online banking really affect the intention of using online banking?* (2) *Does trust in offline banking affect trust in online banking directly or indirectly?* (3) *Does perceived cost have an effect on the relation between trust in online banking and the intention to use online banking?*

To answer these questions, this study proposes a model and validates it with data. A survey was conducted for gathering data. It was done by students at one of the major universities and with office workers in Korea.

This paper is organized as follows: First, we will review the existing literature; then we will explain our developed model and the methodology we used for the model validation. After hits, results from the model evaluation will be explained, and the interesting findings will be discussed. Finally, we conclude our paper.

## ▪ Literature review

When adopting an online service, customers consider the electronic channel as a medium for conducting online brokerage. In this section, we consider the behavioral explanation of trust and motivation of use in psychological concepts. Trust has drawn increasing interest as a topic in IS research specifically in the context of e-commerce. Mayer et al. [22] further clarified the relationship between trust and risk: Trust is the willingness to assume risk [17]. We omitted explaining risk in this study because this study mainly concerns trust, not risk. Trust is defined as "the belief that the promise of another can be relied upon and that, in unforeseen circumstances, the other will act in a

spirit of goodwill and in benign fashion toward the trustors.“ [3] Also, trust saves cost and effort by reducing monitoring and legal contracts [13] and provides measures for the expected outcome [20]. Trust plays a major role in e-commerce because of proven guarantees that an e-vendor will not get engaged in harmful opportunistic behavior, and also because of the less regulated environment. Prior studies have agreed that trust is more important in the e-commerce than in the bricks and mortar context [6, 8, 14, 19, 24].

We then consider motivation that affects trust. In motivation models, a fair amount of research in psychology has supported the general motivation theory for the explanation of behavior. Several studies have examined the motivation theory and adopted it for specific contexts. Vallerand [23] presents an excellent review of the fundamental principles of this theoretical base. Within the information systems domain, Davis et al. [12] applied the motivation theory to understand new technology adoption and use [31]. According to Davis et al. [12], extrinsic motivation is the perception that users will want to perform an activity. It is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance. Intrinsic motivation is the perception that a person is motivated by internal factors such as enjoyment. Thus, motivation is divided into intrinsic and extrinsic motivation. Thus, it appears that when people are primarily motivated by their interest in the work and the enjoyment of that activity, they are more creative than when they are primarily driven by some goal imposed on them by others [25].

Online banking acceptance has gained special attention in academic studies during the past decade [15]. Online banking has a low level of usage compared to the total number of Internet users. Online banking in that study is defined as a finance portal, through which customers can use all kinds of banking services ranging from bill payment to making investments. Our research considered only qualified operation in online banking.

From a view of adoption and diffusion, we empirically examine the ability of the Theory of Reasoned Action (TRA) and the Technology Acceptance Model (TAM) to predict and explain user acceptance and rejection of computer-based technology. Davis [10] introduced the adaptation of TRA, which is specifically meant to explain computer usage behavior. TAM uses TRA as a theoretical basis for specifying the causal linkages between two key beliefs: perceived usefulness and perceived ease of use, and intentions. One of the most utilized models in studying information system acceptance is the TAM [1, 7, 10, 11, 29, 30]. TAM has become a widely used model for predicting the acceptance and use of information systems, and has recently been applied to predict Internet adoption as well [28]. Therefore, TAM is the baseline model for our study because it is a well-tested model concerning users' acceptance of technology. We can find two fundamental reasons underlying online banking service adoption and intention to use. First, customer has trust in the bank. Trust is very important in relations that involve social uncertainty and risk in online environment. We think that trust shows

the difference between online and offline banking. Second, customers get notable cost savings offered by online banking services. It has been proven that online banking channel is the cheapest one for banking products once established [27]. Thus, we consider cost saving as perceived cost.

## ■ Theoretical development

Through the existing research, we noticed that there are studies about relation between trust and adoption of online banking, but there is no research about trust affecting the intention to use online banking and using it continuously. Also, in most research, there is no model or theory that sees the effect of trust in offline banking. We consider trust in offline banking is a critical factor that affects trust in online banking because trust in offline banking could be generated first before trust in online banking, and could have bias to online services. The research model is shown in Figure 1.

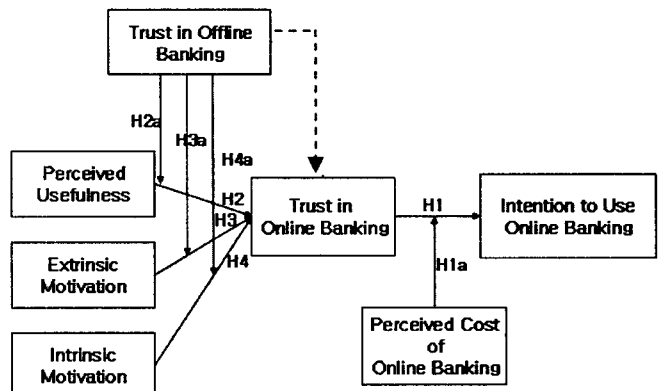


Figure 1. A research model

## ■ Hypotheses

According to past research on TAM, the TAM has been modified and enhanced by many researchers, and in time, this model has extended into consumer online behavior to explain the acceptance of B2C commerce [26]. Trust was added as a factor to see the relation of other constructs [2, 3, 21, 25, 26]. In many models [4, 27], trust affects intention to use or attitude towards using them, and this attitude towards using and intention to use is connected to the actual use or usage in each model. Thus, we can derive H1.

*H1 : Trust in online banking is positively related with the intention to use online banking.*

As Davis et al. [11] suggested, attitude toward using online banking is related with perceived usefulness, and it also affects using a system. In deriving H1, usefulness was added to see the relation with the intention to use or attitude towards using in some integrated TAMs [2, 25]. Thus, it shows that perceived usefulness affects trust [26]. Therefore, we can derive H2.

*H2 : Perceived usefulness is positively related with trust in online banking.*

Venkatesh et al. [29] suggested a model that concerns motivation and TAM. In their model, extrinsic and intrinsic motivation is related with intention to use. In H1, we hypothesize that trust in online banking affects the intention to use online banking. We intend to put these two motivations on the same level where perceived usefulness is in H2. Therefore, we can derive H3 and H4.

*H3 : Extrinsic motivation is positively related with trust in online banking.*

*H4 : Intrinsic motivation is positively related with trust in online banking.*

Cost savings such as employing less staff and maintaining fewer physical branches are possible when banks provide online services [28]. But there is no research about perceived cost for customers when using online banking. Therefore, we can derive H1a.

*H1a : The perceived cost of online banking has a moderating effect on the relation between trust in online banking and the intention to use online banking.*

There is a model researched that concerns trust in banking [18]. In this model, trust in offline banking affects the adoption of Internet banking. However, we do not agree with it and put trust in offline banking as a moderator to the relations with trust in online banking. We do not see that trust in offline banking directly affects the adoption of online banking; however, we see trust in offline banking has already existed and influences trust in online banking. Therefore, we can derive H2a, H3a and H4a.

*H2a : Trust in offline banking has a moderating effect on the relation between perceived usefulness and trust in online banking.*

*H3a : Trust in offline banking has a moderating effect on the relation between extrinsic motivation and trust in online banking.*

*H4a : Trust in offline banking has a moderating effect on the relation between intrinsic motivation and trust in online banking.*

Additionally, though we hypothesized that trust in offline banking has moderating effect on the relations to trust in online banking, we put another dashed arrow to see if there is direct effect to trust in online banking.

## ▪ Measures development and data collection

The questionnaire consists of three parts: general questions about online banking, questions related to each construct in our model, and questions about demographics of respondents. We used a seven-point Likert scale, and the range of the scale was from 'strongly disagree' to 'strongly

agree.' In the survey, we asked the respondents whether they have experienced online banking or not in the general questions. We made them choose 'Yes' or 'No,' and we allowed both of those who said 'yes' and 'no' to answer the question on experience in using online banking.

However, we omitted those who said 'no' in validation of the model. We explained why we conduct this survey at the beginning of the questionnaire, and the questions related to each construct were separated with groups of constructs so that the respondents could see which questions are related to which constructs. The questions of constructs such as perceived usefulness, extrinsic motivation and intrinsic motivation were made based on Venkatesh et al.'s research [30]. We borrowed their concept but developed our own questions.

A survey was conducted to collect data. We made a questionnaire aimed at people who are familiar with online environment. The data were collected via e-mail and face-to-face interview. We made 200 questionnaires, and they were done by graduate and undergraduate students at one of the major universities and with office workers in Korea. The reason why we chose those samples is that university students are considered to be familiar with computer circumstances, and office workers are expected to use computers with their daily jobs. Most of the survey was done by e-mail for the office workers and by face-to-face interview for students. The response rate was higher with the survey by face-to-face interview.

Though the students on whom we conducted the survey seem to be in the same age group, there is a much wider range of age because there is an MBA program in the graduate school, and the range of the age in the MBA program is between middle 30s and early 40s. Therefore, we can say that the bias related to age range is lower than with undergraduate students. Totally, we received 126 finished questionnaires out of 200, giving a response rate of about 63 percent. We dropped 22 questionnaires that were marked by respondents who have no experience of using online banking.

## ▪ Analysis and results

### ▪ Model analysis

To test the validation of the model, we used Partial Least Squares (PLS) to evaluate it. Instead of exploratory approaches such as regression analysis, this study selected a confirmatory approach using PLS. The PLS method was chosen to examine the proposed model and its hypotheses because of the following reasons: First, PLS is suitable for assessing theories in the early stages of development [5]. Second, according to Chin [32], PLS has a minimal demand on sample size in order to validate a model, as we gathered 104 valid data sets. This makes PLS appropriate for testing the proposed model using the gathered data. This study used Visual PLS 1.04 for analyzing measurement and the models.

Convergent validity was assessed by looking at the composite reliability and the average variance extracted (AVE) from the measures [16]. Although many studies

employing PLS use 0.5 as the threshold reliability of the measures, 0.7 is the recommended value for a reliable construct [32]. As shown in <Table 1>, our composite reliability values range from 0.888 to 0.970. Factor loading values are shown over 0.7. Values of AVE are over 0.6, and values over 0.5 are considered valid. Finally, the values of Cronbach's alpha are over 0.8, and the values over 0.7 are considered valid [5]. Therefore, all constructs are significantly reliable [4, 6].

We checked for the correlation of latent variables. As shown in <Table 2>, the results revealed that the square root of AVE for each construct on models is greater than the correlations between it and all other constructs. Also, the results of the inter-construct correlations exhibited that each construct shared a larger variance with its own measures than with other measures. It shows the correlation of latent variables of our model. All values are under 1.0 when horizontal and vertical variables are met.

Table 1. Result of confirmatory factor analysis

Construct	Indicator	Loading	Composite Reliability	AVE	Cronbach Alpha
Offline Trust	offt1	0.8594	0.938413	0.753098	0.916335
	offt2	0.9058			
	offt3	0.8622			
	offt4	0.8821			
	offt5	0.8276			
Extrinsic Motivation	emo1	0.9138	0.970578	0.891897	0.959543
	emo2	0.9496			
	emo3	0.9477			
	emo4	0.9657			
Intrinsic Motivation	imo1	0.8152	0.888091	0.613636	0.838613
	imo2	0.7484			
	imo3	0.8109			
	imo4	0.798			
	imo5	0.7416			
Usefulness	usf1	0.9214	0.945461	0.812832	0.921587
	usf2	0.9435			
	usf3	0.8342			
	usf4	0.9033			
Online Trust	ontrust1	0.9455	0.964916	0.846295	0.952687
	ontrust2	0.9544			
	ontrust3	0.9232			
	ontrust4	0.8792			
	ontrust5	0.8951			
Intention	inten1	0.8881	0.940128	0.758534	0.916522
	inten2	0.8821			
	inten3	0.8932			
	inten4	0.8564			
	inten5	0.8542			
Perceived Cost	cost1	0.7314	0.922682	0.750455	0.876257
	cost2	0.9265			
	cost3	0.9069			
	cost4	0.8865			

Table 2. Correlation of latent variables

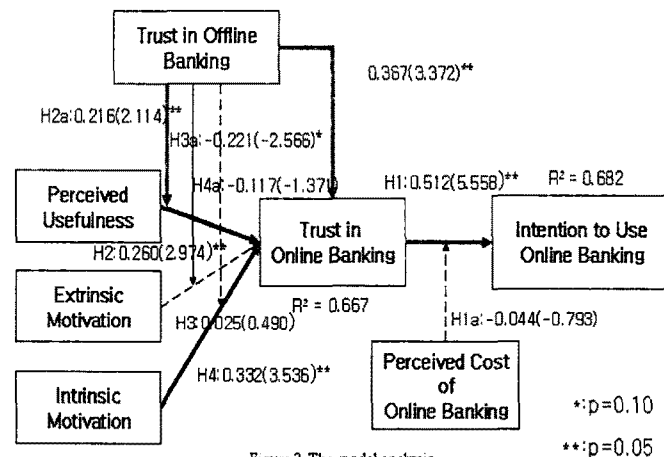
	Offline Trust	Extrinsic Motivation	Intrinsic Motivation	Usefulness	Online Trust	Intention	Perceived Cost
Offline Trust	1.000						
Extrinsic Motivation	0.243	1.000					
Intrinsic Motivation	0.308	0.459	1.000				
Usefulness	0.222	0.349	0.794	1.000			
Online Trust	0.617	0.388	0.446	0.543	1.000		
Intention	0.257	0.419	0.771	0.712	0.728	1.000	
Perceived Cost	0.203	0.278	0.633	0.634	0.510	0.704	1.000

\* Results of the model

With adequate measurement for the model and an acceptable level of multicollinearity, the proposed hypotheses were tested with PLS. The result of the model validation for offline/online trust and perceived cost is summarized with the path coefficients and t-values in Figure 2. The test of significance of all paths in the model was performed using the bootstrap re-sampling procedure.

As shown in Figure 2, each hypothesis has the result value from PLS analysis with path loadings and t-value of the path. Five hypotheses (H1, H2, H4 and H2a) out of eight are significant at the level of 0.05. The other hypothesis (H3a) is significant at the level of 0.10 but the others (H3, H1a and H4a) are rejected.

H1, H2, H4 and H2a results are as expected and are presented as thick arrows. H3a turned out to be significant, but it is revealed that trust in offline banking has a negative effect on the relation between extrinsic motivation and trust in online banking. It is presented as a thin arrow. H3, H1a and H4a are proven to be insignificant and are presented as dotted arrows. The R-square values of both constructs (trust in online banking and intention to use online banking) are high (0.667 and 0.687, respectively), and it means both constructs have significant explaining power.



Discussion

Findings from the results

From the results of our model, we found that trust in online banking highly affects the intention to use online banking. Most of the hypotheses are supported except for H3, H1a, and H4a. H1a is one of our main concerns, but the result shows that it has no effect on the relation between trust in online banking and the intention to use online banking. Also, it seems not to have any relation between extrinsic motivation and trust in online banking.

It shows that trust in offline banking has a moderating effect on some relations to trust in online banking. However, trust in offline banking has a more significant effect when it directly affects trust in online banking. One interesting thing was that extrinsic motivation has no effect on trust in online banking directly, while trust in offline

banking has a moderating effect on the relation between extrinsic motivation and trust in online banking. In addition to this, trust in offline banking has a negative effect on the relation between extrinsic motivation and trust in online banking.

This unexpected result made us spend more time on extrinsic motivation and trust in offline banking. Trust in offline banking makes extrinsic motivation negatively affect trust in online banking, and it is understood that if trust in offline banking is so strong then extrinsic motivation does not help generate trust in online banking. Also, because impression about banks as heard from others could be different from those that one has in ones' mind, those impressions, when heard, could create uncertainties.

Therefore, we agree that the result of H3a could be accepted and could have a negative effect. Though trust in online banking has a moderating effect on some relations positively and negatively, we found that trust in offline banking directly affects trust in online banking more powerfully. It means that even though trust in offline banking has a moderating effect on the relations it affects trust in online banking more directly and with more significance. Hence, we can consider it as an independent variable.

Both constructs of trust in online banking and intention to use online banking have significant explaining power. Especially, the intention to use online banking is explained by trust in online banking and the perceived cost of online banking at 68 percent. This means that we have chosen the right factors for the intention to use online banking.

#### ▪ Implications

Our model shows that trust in online banking is significantly related with the intention to use online banking. This seems to be the only relation that can be thought of intuitively. However, there has been no study on this, and our study is in fact the first one in this field. The initial adoption of online banking cannot guarantee the continuous use of online banking.

Our interesting finding is that trust in offline banking as a moderating effect has a negative effect on the relation between extrinsic motivation and trust in online banking. Its implication for practitioners is that that trust in offline banking is as important as trust in online banking. Therefore, it is important not to force their customers to use online banking merely on the merits of low cost for transactions. The perceived cost of online banking does not have any effect on intention of using online banking.

#### ▪ Limitations

There are some limitations of this study. In data gathering, we did not control the identification of respondents' offline banking and online banking. This means that in the questionnaire, there is no question about the respondents' primary offline bank and online bank thus, the data may contain non-identical offline and online bank.

#### ▪ Conclusion

The questions that we have in the first section are answered through the model. Trust in online banking affects the intention to use online banking; trust in offline banking as a moderating effect affects some relations positively and negatively; trust in offline banking is also proven to directly affect trust in online banking.

Finally, the perceived cost of online banking does not have a moderating effect on the relation between trust in online banking and the intention to use online banking. Those answers would be the contributions of this study. It is proven that trust in online banking is really important to draw customers to use online banking constantly, and the strategy of low transaction cost, which most banks are using, should be reconsidered because it may not influence the continuous use of online banking.

The interesting finding would be another contribution of this study. The moderating effect of trust in offline banking negatively affects the relation between extrinsic motivation and trust in online banking. This suggests that trust in offline banking is considered to be important, and trust in online banking is emphasized. To make this study more valuable, as we have acknowledged in our limitations, further study is needed to verify our research findings.

#### ▪ References

- [1] Lederer, A.L., Maupin, D.J., Sena, M.P. and Zhuang, Y.L., (2000) "The technology acceptance model and the world wide web," *Decision Support Systems* 29, pp 269-282.
- [2] Chiravuri, A. and Nazareth, D., (2001) "Consumer Trust in Electronic Commerce: An alternative framework using Technology acceptance," *Proceedings of the Seventh Americas Conference on Information Systems*.
- [3] Suh, B. and Han, I., (2002) "Effect of Trust on Customer Acceptance of Internet Banking," *Electronic Commerce Research and Applications*, Vol.1, pp 247-263.
- [4] B. Suh B. and Han, I., "The Impact of Customer Trust and Perception of Security Control on the Acceptance of electronic Commerce," *International Journal of Electronic Commerce*, Vol. 7, No. 3, Spring, 2003, pp 135-161.
- [5] Fornell, C. and Larcker, D., (1981) "Structural Equation Models with unobservable Variables and Measurement Errors," *Journal of Marketing Research*, (18:2), pp 39-50.
- [6] Fornell, C. and Larcker, D. F., "Structural equation models with unobservable variables and measurement errors," *Journal of Marketing Research* (18:2), 1981, pp 39-50.
- [7] C. Fornell, and F. L. Bookstein, "Two Structural Equation Models: LISREL and PLS Applied to Consumer Exit-Voice Theory," *Journal of Marketing Research*, (19:4), Special Issue on Causal Modeling, pp. 440-452.
- [8] D. Gefen., D. Straub, and M. Boudreau, "Structural Equation Modeling and Regression: Guideline for Research Practice," *Communications of the AIS*, (4:7), 2000, pp 1-77.
- [9] D. Stenmark, "The role of intrinsic motivation when managing," *Management of Innovation and Technology*, 2000, ICMIT 2000, Proceedings of the 2000 IEEE International Conference on (1), 2000, pp. 310-315.
- [10] D. Gefen, E. Karahanna, D. Straub, "Trust and Tam in Online Shopping: an Integrated Model," *MIS Quarterly*, (27:1), 2003, pp 51-90.

- [11]F. Edelman, "Managers, Computer Systems and, and Productivity," *MIS Quarterly* (5:3), September 1981, pp.1-19.
- [12]F. D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly* (13:3), 1989, pp 319-339.
- [13]F. D. Davis, R.P. Bagozzi and P.R. Warshaw, "User acceptance of computer technology: a comparison of two theoretical models," *Management Science* (35), 1989, pp 982-1003.
- [14]F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, "Extrinsic and Intrinsic Motivation to Use Computers in the Workplace," *Journal of Applied social Psychology* (22:14), 1992, pp.1111-1132.
- [15]F. Fukuyama, *Trust: Social Virtues and the Creation of Prosperity*, Hamish Hamilton, London, 1995.
- [16]F. F. Reichheld and P. Scheffer, "E-Loyalty: Your Secret Weapon on the Web," *Harvard Business Review* (78: 4), 2000, pp105-113.
- [17]H. Karjaluoto, T. Koivuma and J. Salo, "Individual differences in private banking: empirical evidence from Finland," *Proceedings of the 36th Hawaii International Conference on System Sciences (HICSS)*, Big Island, Hawaii, 2003, p. 196.
- [18]J. F. Hair, R. E. Anderson, R. L. Tatham and W. C. Black, *Multivariate Data Analysis with Readings* (4th ed.), 1995, Prentice Hall, NY.
- [19]K. K. Kim and B. Prabhakar, "Initial Trust, Perceived Risk, and the Adoption of Internet Banking." *Proceedings of the 21st Int. Conference on Information Systems*, 537-543.
- [20]Kyung Kyu Kim and Bipin Prabhakar, "Initial Trust and the Adoption of B2C E-Commerce: The Case of Internet Banking," *Database for Advances in Information Systems* (35:2) , Spring 2004 pp 50-64.
- [21]L. C. Harris, M. M. H. Good, "The Four Levels of Loyalty and the Pivotal Role of Trust: a Study of Online Service Dynamics," *Journal of Retailing* (80), 2004, pp 139-158.
- [22]N. Kumar, "The power of trust in manufacturer-retailer relationships," *Harvard Business. Review* ( 74.; 6), 1996, pp 92--106.
- [23]P. A. Pavlou, "Integrating Trust in Electronic Commerce with the Technology Acceptance Model: Model development and Validation," *Seventh Americas Conference on Information Systems*, 2001.
- [24]R. Mayer, J. Davis and F. Shoorman, " An Integrative Model of Organizational Trust," *The Accademy of Management Review* (20:3), 1995, pp 709-734.
- [25]R. J. Vallerand, "Toward a hierarchical Model of Intrinsic and Extrinsic Motivation," in *Advances in Experimental Social Psychology* (29), M.Zaanna(ed.), Academic Press, New York, 1997, pp.271-360.
- [26]S. L. Jarvenpaa, J. Tractinsky and M. Vitale, "Consumer trust in an internet store," *Information Technology and Management* (1:1&2), 2000, pp45-71.
- [27]T. Dahlberg, N. Mallat and A. Oorni, "A Trust Enhanced Technology Acceptance Model – Consumer Acceptance of Mobile Payment Solutions," *Proceedings of the CIC Roundtable*, 2003.
- [28] T.K., Keat and A. Mohan, "Integration of TAM based Electronic Commerce Models for Trust," *The Journal of American Academy of Business*, Cambridge, Sep 2004, 5, 1/2 ABI/INFORM Global pp 404.
- [29]T. Pikkarainen, K. Pikkarainen, H. Karjaluoto, and S. Pahnla, "Consumer acceptance of online banking: an extension of the technology acceptance model," *Internet Research*, (14:3), 2004, pp. 224-35.
- [30]T.C. Edwin Cheug, David Y.C. Lam, Andy C.L. Yeung, "Adoption of Internet banking: An Empirical Study in Hong Kong," *Decision Support Systems* (41), 2006, pp1559-1572.
- [31]V. Venkatesh, S. Cheri and M. G. Morris, "User Acceptance Enables in Individual Decision Making about Technology: Towards an Integrated Model," *Decision Sciences* (33), 2002, pp 297-316.
- [32]V. Venkatesh, M. G. Morris, G. B. Davis and F. D. Davis, "User Acceptance of Information Technology: Towards a United View," *MIS Quarterly* (27:3), Sep, 2003, pp 425-478.
- [33]V. Venkatesh and C Speier, "Computer Technology Training in the Workplace: A Longitudinal Investigation of the Effect of the Mood," *Organizational Behavior and Human Decision Processes* (79:1), 1999, pp.1-28.
- [34]W.W. Chin, *The partial least squares approach to structural equation modeling in Modern Methods for Business Research*, G.A. Marcoulides (ed.), Lawrence Erlbaum Associates, Mahwah, NJ, 1998, pp 295-336.