

Empirical Evaluation of Customer Perceived Risk and Customer Attitude towards Internet Banking in North Karnataka

Mrs. Padmapriya R. Katagal

Asst. Professor
BET's Global Business School, Belagavi
padmapriya@betgbs.in

Dr. Anilkumar G. Garag

Director
Global Business School, Hubballi
anilgarag@globalbschool.in

Abstract

Purpose: *The purpose of this paper is to study the customer's perceived risk in using the internet banking and the role of e-banking attributes on attitude development of the customers. It also analyses the impact of customer's perceived risk on attitude development.*

Design of the study: *The causal research type is undertaken to study the stated purpose. The study uses the structured questionnaire which is valid and tested for reliability. Descriptive and correlation analyses have been used in the paper. Descriptive statistics for risk perception analysis and attitude analysis is undertaken using Fishbein's Multiattribute Attitude model. Correlation analysis is done to know the relation between risk perceptions on the attitude of customers towards e banking.*

Findings: *The research finds out that performance risk and security risk are highly perceived risk factors among the customers. Simplicity and confidentiality attributes contribute more towards attitude development. It is discovered that there is a relation between for almost all dimensions of risk perceptions with the customer attitude.*

Key words: e-banking, Customer attitude, Risk perceptions, attributes of e banking, attitude model.

Introduction

The effective banking system is essential for an economy. Banks need to function efficiently to support the increasing demand from the society. Today's banking has to be competent to meet the new challenges in customer service. The role of e-banking gives an edge to banks to perform operations competitively and in customer service. It is considered to enhance customer satisfaction through faster, easier and more reliable services through an online platform (Al-Somali et. al., 2009; Pikkarainenetal. 2004).

For a developing economy the e services of the banks are not very attractive to customers due to lack of basic infrastructures and cost associated with it. Banks are providing various services like fund transfer to bill payments to investment services etc., through e- channels but the adoption rate and usage level is not as expected. The penetration of e- services of banks is increasing in India year on year, In 2014 the penetration was 18% as per Mc Kinsey survey report.

India's internet user base grew over 17% in the first six months of the year 2015 to 354 million, according to the Internet and Mobile Association of India. The penetration of e banking is also growing.

Customers perceive risk in using e banking which inhibits them of availing e services. Cunningham et.al research on e –banking reveals that customer perceive financial risk in e- banking compared to traditional banking throughout the banking process. The research also identified that financial risk drives the risk premium while psychological, physical and time risk play ancillary role.

Customer develop attitudes based on their previous experiences with the product or service, their feeling towards the service and their action to continue to use the product or service depends on the attitude that they develop. It is important to study the customer attitudes and the factors that contribute to attitude development towards e- banking for bank's e-services marketing.

This paper analyses the customer perceived risk and the attitude of customers. It also tries to know the impact of risk on attitude development.

Literature Review

Ankit Kesharwani and Shailendra Singh Bisht(2011), in their research work on “ The impact of trust and perceived risk on internet banking adoption in India-An extension of technology acceptance model” studied IBS adoption in India. They have extended technology acceptance model (TAM) in IBS adoption in India under security & privacy risk. Using TAM model as base the study has developed & tested integrated model incorporating various factors affecting acceptance and usage of internet banking in India. 'Perceived risk' as the new dimension is added to the TAM model. Perceived risk is considered as important element in literature and diffusion of innovation.

Dimitrios Maditinos et.al (2013), the authors focused on examining the factors which affects internet banking adoption. The authors were of the opinion that the earlier researches considered perceived risk as single construct thus failing in measuring the real characteristics of perceived risk, the real inhibits towards usage of online banking. The paper explored the relationship of Technology acceptance model constructs with perceived risk factors like performance risk, social risk, time risk, financial risk, security risk on the consumer's intention to use internet banking. The online survey was conducted with a structured questionnaire and analysis was done with factor analysis. The results underlined the impact of perceived usefulness, security risk, performance risk on the intention to use internet banking.

Xin Luo a, Han Li , Jie Zhang , J.P. Shim (2010), investigated the adoption or rejection of mobile banking in light of consumers perceived risk and trust determinants. The study is to know the impact of consumers perceived risk factors and trust, self-efficacy, and performance expectancy on adoption of a wireless technology use. They found that the perceived risk factors such as performance risk, time, security, Psychological, social, privacy, physical and overall risk a salient antecedent to innovative technology acceptance. Among these the social and physical risk is seen insignificant.

Shwu-Ing Wu in his study “The relationship between consumer characteristics and attitude toward online shopping”, published in Marketing Intelligence and planning, studied the concerns and perceptions of consumers regarding online shopping. The attitudes toward online shopping are measured by using Fishbein's behavioural model. Consumers' decision making is influenced by internal and external factors. The author considered four factors that influence consumer attitudes. They are consumer demographics, Consumer purchase preference, and consumer benefit perception and consumer lifestyle. The researcher investigated the relationship between the attitude and the influence factors. It was found out that the four factors significantly influence consumer attitudes. The researcher demonstrated that Fishbein's model is effective tool in measuring consumer attitude.

Karjaluoto et al. (2002) studied the customer attitude in Finland. The research was conducted using Fischbein model which measured customer attitude with belief and evaluation statements and found that attitude towards online banking and actual behaviour were both influenced by prior experience of computers and technology as well as attitudes towards computers.

There is a clear need to study the factors that influence customers' attitude towards e banking so that banks can better formulate their marketing strategies to increase IB usage in the future. This study aims to investigate the

risk perception of customers to use IB services in the first section and customer attitude in the second section. The third section focuses on to find out the relation between customer risk perceptions towards E- banking and customer attitude.

The Hypothesis developed for the study is: The customer perceived risk has significant relationship with the customer attitude.

Research Questions for the Study are:

- 1) What are the customers perceived risk while using internet banking?
- 2) What are the factors which shape the customers' attitude towards internet banking?
- 3) Is there a relationship between customer perceived risk and customer attitude towards e banking?

Research Methodology

The descriptive and causal research is undertaken to study the research questions. The primary data is collected through the survey method. The questionnaire was used to collect the required data. The area of study was restricted to surveying the customers of e- banking in north Karnataka. The districts covered under the survey are Belagavi, Vijayapur, Bagalkot, Dharwad, Haveri, Uttara Kannada & Gadag. The purposive sampling technique is employed to collect the data. The sample size of the study is 1000. The samples were collected from the various offices of Govt, private and educational institutes, shops etc.

Analyzing the customer risk perception towards e- banking

To measure the reliability or internal consistency of a test items Cronbach alpha is used. Cronbach alpha measures of any given instruments consistency that is the extent to which it is consistent to measure the concept. Eleven risk statements were used to measure the customer perceived risk.

Analysing Customer Attitude towards E- banking

Scale reliability analysis is being carried out to validate the measurement scale used for the various statements which measure the customer attitude, towards e-banking highlighted in the questionnaire.

Attitude toward e banking has significant relationship with risk perceptions of customers

The attitude is formed based on various cognitive, affective and conative factors. The risk perceptions of E-banking are important constructs in the study of E banking attitude of customers

The purpose of our study is to find out the relation of customers' risk perceptions towards E- banking on customer attitude. The Hypothesis developed for the study is:

Hypothesis: The overall customer's attitude towards e-banking has significant relationship with various dimensions of risk perceptions.

The variables considered for the study are performance risk, security risk, financial risk, privacy risk, time risk, psychological risk and social risk with overall customers' attitude.

Hypothesis 1 : The performance risk perception has positive and significant impact on customer attitude toward internet banking.

Correlations

		Overall Attitude	E banking websites have technical problems
Overall Attitude	Pearson Correlation	1	-.193**
	Sig. (2-tailed)		.000
	N	993	993
E banking websites have technical problems	Pearson Correlation	-.193**	1
	Sig. (2-tailed)	.000	
	N	993	993

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

From the above table it is seen that the correlation between the performance of E banking and customers' overall attitude is negative. This implies that lower the risk perception of the customers; higher will be their attitude towards e-banking. Here we observe that the correlation is significant at 1% level of significance performance dimensions of risk perceptions.

Hypothesis 2 : The security risk perception has positive and significant impact on customer attitude toward internet banking.

Correlations

		Overall Attitude	There is a risk that my account can be hacked
Overall Attitude	Pearson Correlation	1	-.056
	Sig. (2-tailed)		.078
	N	989	989
E banking websites have technical problems	Pearson Correlation	-.056	1
	Sig. (2-tailed)	.078	
	N	989	989

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

From the above table it is seen that the correlation between the security of E banking and customers' overall attitude is closer to zero. This implies that lower the risk perception of the customers; higher will be their attitude towards e-banking. Here we observe that the correlation is not significant at 1% level of significance security dimensions of risk perceptions.

Hypothesis 3 : The financial risk perception has positive and significant impact on customer attitude toward internet banking

Correlations

		Overall Attitude	I may lose money in internet banking
Overall Attitude	Pearson Correlation	1	-.128**
	Sig. (2-tailed)		.000
	N	978	978
E banking websites have technical problems	Pearson Correlation	-.128**	1
	Sig. (2-tailed)	.000	
	N	978	978

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

From the above table it is seen that the correlation between the financial risk of E banking and customers' overall attitude is negative. This implies that lower the risk perception of the customers; higher will be their attitude towards e-banking. Here we observe that the correlation is significant at 1% level of significance financial risk dimension of risk perceptions.

Hypothesis 4 : The privacy risk perception has positive and significant impact on customer attitude toward internet banking

Correlations

		Overall Attitude	Others can get my information online
Overall Attitude	Pearson Correlation	1	-.135**
	Sig. (2-tailed)		.000
	N	960	960
E banking websites have technical problems	Pearson Correlation	-.135**	1
	Sig. (2-tailed)	.000	
	N	960	960

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

From the above table it is seen that the correlation between the privacy risk of E banking and customers overall attitude is negative. This implies that lower the risk perception of the customers; higher will be their attitude towards e-banking. Here we observe that the correlation is significant at 1% level of significance privacy risk dimension of risk perceptions.

Hypothesis 5 : The Time risk related perception has positive and significant impact on customer attitude toward internet banking.

Correlations

		Overall Attitude	Risk of spending extra time
Overall Attitude	Pearson Correlation	1	-.147**
	Sig. (2-tailed)		.000
	N	981	981
E banking websites have technical problems	Pearson Correlation	-.147**	1
	Sig. (2-tailed)	.000	
	N	981	981

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

From the above table it is seen that the correlation is significant at 1% level of significance. The correlation between the Time risk of E banking and customer's overall attitude is negative. This implies that lower the risk perception of the customers; higher will be their attitude towards e-banking.

Hypothesis 6 : The psychological risk perception has positive and significant impact on customer attitude toward internet banking

Correlations

		Overall Attitude	I will be nervous while operating net banking
Overall Attitude	Pearson Correlation	1	-.133**
	Sig. (2-tailed)		.000
	N	977	977
E banking websites have technical problems	Pearson Correlation	-.313**	1
	Sig. (2-tailed)	.000	
	N	977	977

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

From the above table it is seen that the correlation is significant at 1% level of significance. The correlation between the psychological risk of E banking and customers' overall attitude is negative. This implies that lower the psychological risk perception of the customers; higher will be their attitude towards e-banking.

Hypothesis 7 : The social risk perceptions has positive and significant impact on customers attitude toward internet banking.

Correlations

		Overall Attitude	I will look foolish to others in case of any problems arise during net banking
Overall Attitude	Pearson Correlation	1	-.135**
	Sig. (2-tailed)		.000
	N	979	979
E banking websites have technical problems	Pearson Correlation	-.135**	1
	Sig. (2-tailed)	.000	
	N	979	979

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

From the above table it is seen that the correlation is significant at 1% level of significance. The correlation between the Social risk of E banking and customers' overall attitude is negative. This implies that lower the social risk perception of the customers; higher will be their attitude towards e-banking.

Interpretation

From all the above tables we observe that the overall customer's attitude towards e-banking has significant relationship with various dimensions of risk perceptions. The correlation in all the cases is negative implies that lower the risk perception of the customers; higher will be their attitude towards e-banking. Here we observe that the correlation is significant at 1% level of significance for almost all dimensions of risk perceptions i.e. performance risk, financial risk, privacy risk, time risk, psychological risk and social risk except for security risk dimension.

Based on the Table 1, Table 2, Table 3 and table 4, we find that the simplicity attribute contributes more towards attitude of E banking. Confidentiality is in second place followed by safety are the most important attributes which help in forming the positive attitude towards the internet banking. Promptness attribute is the fourth attribute followed by Trustworthiness and website updating attributes that contribute towards forming attitude. Speed of transaction attribute is in seventh place followed by Easy navigation, Financial product information, website aesthetics attributes in the following order of attitude formation. Responsiveness attribute is in the last place among all the attributes that contribute towards the formation positive customer attitude.

Discussion & Conclusion

From the above analysis it is clear that the customer perceive risk in usage of e- banking. Among all the risk factors analysed they perceive Performance risk and security risk higher than any other risk. Social risk and Psychological risk are the least perceived risk factors. Proper guidelines and safety measure awareness or information from banks have to be given to consumers at regular interval of times to boost the confidence of customers in net banking.

Attitude development based on the customer beliefs and evaluations of e- banking attributes were studied and it is noted that the customer overall attitude is positive towards e- banking. They have very high attitude towards simplicity followed by confidentiality and safety attributes of e- banking. Responsiveness attribute contribution towards attitude development is the least compared to all other attributes of e banking. Therefore, the banks have to concentrate on developing employees responsiveness towards e banking problems or queries of customers in time.

Practical Implications

Banks should focus on reducing high risks perceived by the customers noted in the research in order to develop positive attitudes. This will help in retaining existing customers as well as attracting new customers. Attitude development strategies can be designed based on the outcomes of the research.

References

1. Al-Somali, S.A., Gholami, R. and Clegg, B (2009), "An investigation into the acceptance of online banking in Saudi Arabia", *Technovation*, Vol. 29, pp. 130-141
2. AnkitKesharwani, Shailendra Singh Bisht, (2012), "The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model", *International Journal of Bank Marketing*, Vol. 30 Issue: 4, pp.303-322
3. DimitriosMadininos et.al , "An examination of the critical factors affecting consumer acceptance of online banking- A focus on the dimensions of risk", *Journal of Systems and Information Technology*, Vol. 15 No. 1, 2013 pp. 97-116 , Emerald Group Publishing Limited 1328-7265
4. Sonia Barquin ,Vinayak HV "Digital Banking in Asia: What do consumers really want?" Mc Kinsey Report, 2015, Mc kinsey.com

5. Neha Alawadhi, " India's internet user base 354 million, registers 17% growth in first 6 months of 2015: IAMAI report, ET Bureau Sep 3, 2015
6. Irfan Bashir, Chendragiri Madhavaiah, (2015), "Consumer attitude and behavioural intention towards Internet banking adoption in India", Journal of Indian Business Research, Vol. 7 Issue: 1, pp.67-102, doi: 10.1108/JIBR-02-2014-0013
7. Pikkarainen, K., Pikkarainen, T. Karjaluoto, H. and Panhila, S (2004), "Consumer acceptance of online banking an extension of the of Technology acceptance model" Internet Research, Vol 14, No.3, pp224-235.
8. S.M. Cunningham, D. Cox (Ed.), "The major dimensions of perceived risk, in: Risk Taking and Information Handling in Consumer Behavior", Harvard University Press, Cambridge, Mass, 1967.
9. Serkan Akinci, S. Afak Aksoy and Eda Atilgan "Adoption of Internet banking among sophisticated consumer segments in an advanced developing country", The International Journal of Bank Marketing, Vol. 22 No. 3, 2004 pp. 212-232, Emerald Group Publishing Limited 0265-2323
10. Xin Luo a, Han Li, Jie Zhang, J.P. Shim, "Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services", Decision Support Systems, Vol. 49 pp. 222–234, (2010) Elsevier publication.
11. Ziqi Liao, Michael Tow Cheung, (2002), " Internet-based e-banking and consumer attitudes: an empirical study", Information & Management, Vol. 39 pp.283–295.

Table No. 1: Reliability Statistics of Risk Perception Measuring Statements.

Cronbach's Alpha	N of Items
.836	11

From the above table the following inference is as follows:

- The Cronbach's Alpha co-efficient for risk analysis is 0.836, which is sufficiently reliable (>0.7) which validates the scale reliability for the statements which measured the risk perception of customers.

Risk Analysis: The respondents' perception related to the risk of using online banking were measured using the Likert scale of five point from strongly agree to strongly disagree. The eleven statements related to various risk perceptions like Performance risk, Security risk, Financial risk, Privacy risk, Time risk, Psychological risk and Social risk were used to measure the users risk perception.

Table No 2: Showing the Respondents Risk Perceptions of E-banking.

Descriptive Statistics			
	N	Mean	Std. Deviation
While using e banking ,I have to be careful to avoid mistakes.	1000	4.03.	.958
There is a risk that my account can be hacked	1000	3.40	1.207
Fake internet sites are present and difficult to identify the genuine site.	1000	3.39	1.211
E banking websites have technical problems	1000	3.26	1.204

Risk of spending extra time	1000	3.12	1.201
Others can get my information online	1000	2.90	1.319
I may lose money in internet banking	1000	2.84	1.260
My usage of net banking will not be accepted by others	1000	2.79	1.269
I will look foolish to others in case of any problems arise during net banking.	1000	2.68	1.199
Instead of net banking it is convenient to go the branch.	1000	2.56	1.319
I will be nervous while operating net banking	1000	2.53	1.258
Valid N (listwise)	1000		

Based on the above table it is inferred that the users perceive the Performance risk and Security risk higher in operating internet banking. Next they perceive time risk or convenience risk in case of any problems encountered in transacting online followed by privacy risk and financial risk. Financial risk is followed by social risk. Psychological risk is the least perceived risk with 2.53 mean this can be inferred that users are confident of using internet for banking.

Table No 3: Reliability statistics of Attitude statements

Cronbach's Alpha	N of Items
.738	22

The Cronbach's Alpha co-efficient for the statements which measure the attitude is 0.738 which is sufficiently reliable (>0.7), which validates the scale reliability for the statements which measure the customer attitude.

The attitudes towards E-banking was measured using Likert scales. The attitude was measured using Fishbein Model. The respondents were asked to express the Belief and the Importance that they attach to the attributes of E-banking. Attitude was measured using the Formula: Attitude = Summation of $b_i \cdot e_i$, where b_i is strength of belief and e_i is the evaluation score that they attach to the attribute b_i .

Example: Salient belief of e banking is measured using Likert scale of five point strongly agree to strongly disagree

e- banking is simple to transact:	SA	A	Neutral	DA	SDA
bi:	(5)	(4)	(3)	(2)	(1)
Simplicity of usage of e-banking is important:	SA	A	Neutral	DA	SDA
ei:	(5)	(4)	(3)	(2)	(1)

The attitude towards simplicity is calculated by multiplying b_i and respective e_i score.

The maximum attainable attitude score of simplicity attribute is 25; least score is 1; neutral score is 9. After ascertaining the belief and the respective evaluation scores of all attitude statements the sum of the product of b_i and e_i is calculated to know the overall attitude.

In the research 11 statements of belief and respective 11 statements of evaluation are developed to measure the customer attitude towards E- banking. The following table analyses the attitude scores of each attitude attribute.

Table No 4: Showing Likert Scores of Customer Attitude toward E-banking

Variable	Mean	Std. Deviation
Attitude – Simplicity	18.79	5.209
Attitude –Confidentiality	18.23	5.549
Attitude – Safety	17.24	5.199
Attitude – Promptness	17.04	5.228
Attitude – Trustworthy	16.99	5.421
Attitude – Website Updation	16.98	6.019
Attitude – Speed	16.98	5.281
Attitude – Easy Navigation	16.96	5.425
Attitude – Product information	16.42	5.486
Attitude – Website Aesthetics	15.40	5.789
Attitude – Responsiveness	15.17	6.388