

ABSTRACT OF THESIS

**INTERNET BANKING AND CUSTOMER ACCEPTANCE:
THE INDIAN SCENARIO**

Submitted to

Cochin University of Science and Technology

By

**Sudeep S.
Reg. No: 2806**

Under the Supervision of

Prof. (Dr.) K. C. Sankaranarayanan
Former Dean, Faculty of Social Sciences &
Former Head, Department of Applied Economics
Cochin University of Science and Technology

**DEPARTMENT OF APPLIED ECONOMICS
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
KOCHI-22, KERALA**

May, 2008

***Internet Banking and Customer Acceptance: The Indian Scenario**

By
Sudeep S
Research Scholar, DAE, CUSAT

Under the supervision of
Prof. (Dr) K. C. Sankaranaryanan
Former Dean, Faculty of Social Science, CUSAT

Introduction

Tremendous growth of Internet during the mid-nineties prompted banks to utilize Internet as a medium for offering banking services. In Internet Banking banks allow their customers to perform banking transactions through their web site in a secure way. ICICI Bank was the first bank in India which offered this delivery channel, by kicking off its online banking services in 1996. Other private sector banks like Citibank, IndusInd Bank and HDFC Bank and Timesbank (now part of HDFC Bank) started offering internet banking services in 1999. SBI launched its internet banking services in July 2001. Other public sector banks like State Bank of India, Bank of Baroda, Allahabad Bank, Syndicate Bank and Bank of India, also rolled their services during the same time. Banks in India currently offer 'Fully Transactional Websites' to their customers. The customers could conduct variety of transactions through internet banking facility which includes: account summary, details of historical banking transactions, funds transfer, new service announcements, loan applications, bill payment, cheque book request, cheque status enquiry, stop cheque request, credit card payments/statement, facilities to contact account manager etc. In a survey conducted by IMAI and IMRB (IMRB & IMAI, 2006), estimates the number of internet users as of September 2006 to around 37 million and the number of 'active' users is pegged around 25 million. The survey also estimates around 2.4 million E-Commerce users, which included internet banking users. An estimated 4.6 million Indian internet users are availing Internet banking services as of 2007(Kothari, 2007).

* Published in the Proceedings of UGC-CSEZ Sponsored National Seminar on Banking in the Era of Diverse Development Paradigms: From Financial Inclusion to Special Economic Zones (Kalamassery, Kochi, March 03 2008), Department of Applied Economics, Cochin University of Science and Technology, Kochi 682022, pp. 5-10

Need for the study

Introduction of new technologies allowed banking institutions to offer new channels of service outlets like ATM facility, Internet Banking, Telephone Banking and Mobile Banking. Indian consumers too have access to many new channels to interact with their bank. Banks race against each other in bringing the latest technology for the benefit of their customers and themselves. But not many studies have been conducted to evaluate if “Internet Banking” channel is utilized properly by the customers in India. Reasons for customer apathy towards Internet banking channel, if that exist, have also not been analyzed in an Indian context earlier.

Objective of the Study

This study plans to “plug” gap of research in the acceptance of Internet banking among Indian customers. The primary objectives of this study are to:

- Identify factors influencing the adoption and usage of Internet banking in India
- Examine whether Theory of Planned Behaviour (TpB) or Technology Acceptance Model can be applied in Internet banking adoption and usage.
- Develop a model to explain behavioral intention to use internet banking.

Research Model

Based on the literature review and findings of the qualitative study conducted on a focus group, the researcher developed a research model indicating the acceptance of internet banking among customers. The model contained seven factors that the researcher posits to have an effect on internet banking acceptance (Figure 1). The research model developed is primarily based on the Theory of Planned Behaviour (TPB) (Ajzen, 1985) and the Technology Acceptance Model (TAM) (Davis et al., 1989). The constructs for *consumer security concerns*, *customer security awareness* and *trust and privacy* was added to the model to make it more relevant for internet banking acceptance. Research constructs and hypotheses posited are given in Table 1. Questionnaire for the survey was

designed to gather the respondent's personal information and views about the factors included in the research model. The survey questionnaire contained four sections. Section I contained questions for capturing respondent's demographic details. Section II, questions to collect respondent's computer and internet usage, Section III, questions to collect users banking patronage and usage of e-banking channels and finally Section IV, questions to measure the respondent's views on the research model. In total, fifty four items were added in the survey questionnaire for measuring the seven constructs used in the research model. Pre-testing of the survey questionnaire was carried out. Respondents in the pre-test mentioned that questions were straight forward and they did not face any problems in responding.

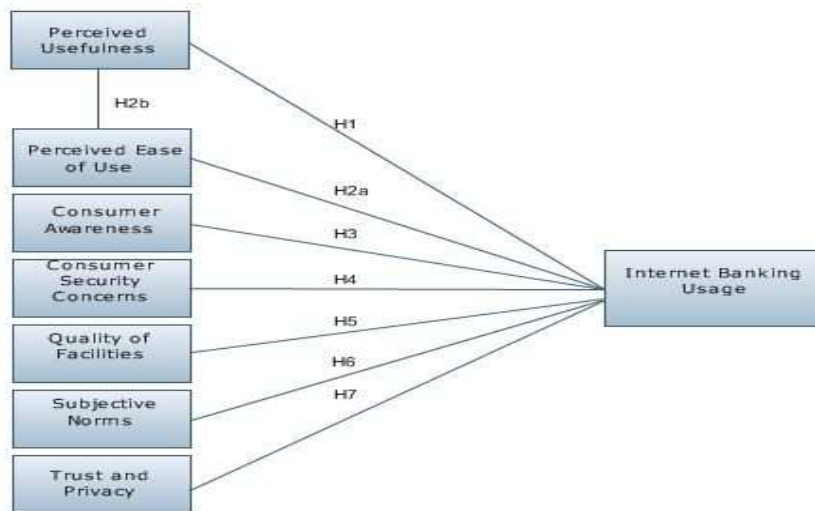


Figure 1: Research Model

Research Construct	Hypotheses
Perceived Usefulness (PU)	H1: <i>Perceived Usefulness (PU) has a positive effect on the customer acceptance of online banking</i>
Perceived Ease of Use (PEOU)	H2a: <i>Perceived Ease of Use (PEOU) has a positive effect on the customer acceptance of online banking</i>

	<i>H2b: Perceived Ease of Use (PEOU) has a positive effect on the perceived usefulness of online banking</i>
Consumer Awareness (CA)	<i>H3: Perceived consumer awareness (CA) has a positive effect on the customer acceptance of online banking</i>
Consumer Security Concerns (SC)	<i>H4: Perceived consumer security concerns (SC) has a negative effect on the customer acceptance of online banking</i>
Quality of Facilities (QF)	<i>H5: Perceived quality of facilities for accessing bank site has a positive effect on the customer acceptance of online banking.</i>
Subjective Norms (SN)	<i>H6: The beliefs associated with subjective norms are significantly related to an individual's intention to adopt Internet banking.</i>
Trust and Privacy (TP)	<i>H7: Perceived trust and privacy on the bank has a positive effect on the customer acceptance of online banking</i>

Table 1: Research Constructs and Hypotheses

Collection of data

Both quantitative and qualitative methods have been used in the current study. Qualitative approach using an open-ended questionnaire was used in the initial phase to understand the outlook of customers to online banking. The research model developed for this study was tested using quantitative method by conducting a survey. In this study two different data collection method were employed viz. web based (online) survey and paper based survey. Web based survey was chosen as Internet is the most suitable medium for communicating the target group of the survey i.e. internet banking customers. The researcher resorted to a choice-based or convenient sampling approach for selecting the

respondents for this survey. Respondents to this survey were chosen from the alumni list of Cochin University, membership list of professional associations like ICAI, IET, ISACA etc and employees of service industry companies. For the research study 500 invitation e-mails were sent and 169 responses were received. To increase response rate three reminders were sent to the respondents. The survey was made online during May 2006 and data were collected for a period of 3 months. The response rate of 33.8% falls in the typical response rate of web surveys. Paper based survey was also conducted to gather data for the study. 300 survey questionnaires were distributed among the participants, 250 questionnaires were filled and returned, and 97 fully filled questionnaires were taken for the final analysis. Thus the effective response rate of paper based survey is 32.3%. After discarding incomplete and vague responses 266 responses were taken for final analysis.

Data analysis

Data collected from the survey were analyzed and interpreted using various statistical techniques usually employed in positivistic study. Statistical analysis was carried out using SPSS (Statistical Package for Social Sciences) version 14.0. Descriptive analysis techniques like average, percentage, frequencies etc were performed on the data for getting an overall structure of the sample. The reliability and construct validity of the research instrument were assessed before final analysis of the data. The Cronbach alpha coefficient for each research variable was computed to test for reliability. To analyze for convergent and discriminant validity of the constructs, factor analysis was used. Hypotheses were tested using linear regression analysis and multi-linear regression analysis was used to test model's prediction capabilities.

Major Findings

The main objective of the study was to identify the factors that were influencing internet banking adoption among customers in India. The survey produced empirical confirmation of seven factors which did influence internet banking acceptance. The factors produced by survey were: *perceived usefulness*, *perceived ease of use*, *consumer awareness*,

consumer security concerns, quality of facilities, subjective norms and trust and privacy. The survey instrument's reliability and construct validity test results were found satisfactory.

Second objective of the study was to check if theoretical base of internet banking acceptance could be developed, in particular, two theories in social psychology area were tested for their applicability in this study. One of the model tested was Technology Acceptance Mode (TAM) (Davis, 1989), which is a widely used model for predicting technology adoption. In this study two constructs in TAM namely *perceived usefulness* and *perceived ease of use* is tested in the context of internet banking acceptance. The results gave empirical evidence that the acceptance of internet banking was significantly influenced by the two constructs of the TAM. Results showed that the factors *perceived usefulness* and *perceived ease of use* had positive influence on internet banking acceptance.

Third objective of the study was to develop a model that could explain behavioral intention of internet banking adoption. The researcher developed a model for predicting internet banking adoption and framed eight hypotheses vis-a-vis with that model. All the hypotheses framed for the study were found to be empirically accepted (Table 2). Overall research model is statistically significant ($F= 10.264$ and $p < 0.001$) and all the independent variables together explain for 21.8% ($R^2 = 0.218$) variance on the dependent variable (*Internet Banking Use*). But out of the independent variables β coefficient of only *Perceived Usefulness* ($\beta = 0.290$, $t = 2.915$, $p = 0.004$) and *Consumer Security Concerns* ($\beta = -0.197$, $t = -3.290$, $p < .001$) are statistically significant. The significant levels of other five independent variables are higher than the accepted level of $p < .005$. The β coefficient of five variables *Perceived Usefulness*, *Perceived Ease of Use*, *Consumer Awareness*, *Quality of Facilities* and *Subjective Norms* are positive showing that they help acceptance of dependent variable *Internet Baking Use*. On the other hand, β coefficient of two variables *Consumer Security Concerns* and *Trust and Privacy* are negative indicating that these factors hinder acceptance of dependent variable *Internet Banking Use*.

Hypothesis	Dependent Variable	Independent Variable	β	t-value	p-value
H1	Internet Banking Use	Perceived Usefulness	.422	7.560	.000
H2a	Internet Banking Use	Perceived Ease of Use	.371	6.497	.000
H2b	Perceived Usefulness	Perceived Ease of Use	.698	15.821	.000
H3	Internet Banking Use	Consumer Awareness	.246	4.124	.000
H4	Internet Banking Use	Consumer Security Concerns	-.186	-3.083	.002
H5	Internet Banking Use	Quality of Facilities	.286	4.855	.000
H6	Internet Banking Use	Subjective Norms	.231	3.861	.000
H7	Internet Banking Use	Trust & Privacy	.303	5.172	.000

Table 2: Hypotheses Testing (Regression Analysis)

Conclusion

Indian economy is witnessing stellar growth over the last few years. There have been rapid developments in infrastructural and business front during the growth period. Internet adoption among Indians has been increasing over the last one decade. Indian banks have also risen to the occasion by offering new channels of delivery to their customers. Internet banking is one such new channel which has become available to Indian customers. Customer acceptance for internet banking has been good so far. In this study the researcher tried to conduct a qualitative and quantitative investigation of internet banking customer acceptance among Indians. The researcher tried to identify important factors that affect customer's behavioral intention for internet banking. The researcher also proposes a research model which was extended from Technology Acceptance Model for predicting internet banking acceptance. The findings of the study

would be useful for Indian banks in planning and upgrading their internet banking service. Banks could increase internet banking adoption by making their customer awareness about the usefulness of the service. It is seen that from the study that the variable *perceived usefulness* has a positive influence on internet banking use, therefore internet banking acceptance would increase when customers find it more usefulness. Banks should plan their marketing campaigns taking into consideration this factor. Proper marketing communications which would increase consumer awareness would result in better acceptance of internet banking. The variable *perceived ease of use* had a positive influence on internet banking use. That means customers would increase internet banking usage when they find it easier to use. Banks should therefore try to develop their internet banking site and interface easier to use. Banks could also consider providing practical training sessions for customers at their branches on usage of internet banking interface. The findings of the study would be useful for Indian banks in planning and upgrading their internet banking service.

References

- Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behaviour. in Action Control (Kuhlman, J., and Beckman, J. (Eds) , From Cognition to Behaviour, pp.11-39). Heidelberg: Springer.
- Davis, F., Bagozzi, R., & Warshaw, R. (1989). User Acceptance Of Computer Technology: A Comparison Of Two Theoretical Models. *Management Science*, 35(8), pp. 982-1003 .
- Davis, F. D.. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), pp.318-339.
- IMRB, & IMAI. (2006). *Internet in India-2006 (Summary Report of I-Cube 2006)*. New Delhi: IMRB International(eTechnology Group@IMRB).
- Kothari, D. (2007). Count on IT: Banks are now just a click or SMS away. *The Week*, Vol.25 (No.48) October 28,2007, pp. 63-76.