PRINTED ISSN: 2249-1260
ONLINE ISSN : 2250-1819

JMS

Volume II * Issue 1 * (March'2012)

Journal of MANAGEMENT AND SCIENCE

Published by
Non Olympic Times

ACCEPTANCE OF E-BANKING AMONG CUSTOMERS
(An Empirical Investigation in India)

K.T. Geetha[1] & V.Malarvizhi[2]
[1]*Professor and* [2]*Assistant Professor, Department of Economics,*
Avinashilingam Institute for home Science and Higher Education for Women
Coimbatore -641043, TamilNadu, India

Abstract

Financial liberalization and technology revolution have allowed the developments of n and more efficient delivery and processing channels as well as more innovative products a services in banking industry. Banking institutions are facing competition not only from each oth but also from non-bank financial intermediaries as well as from alternative sources of financin Another strategic challenge facing banking institutions today is the growing and changing nee and expectations of consumers in tandem with increased education levels and growing wealt Consumers are becoming increasingly discerning and have become more involved in the financial decisions. This paper investigates the factors which are affecting the acceptance of banking services among the customers and also indicates level of concern regarding security an privacy issues in Indian context. Primary data was collected from 200 respondents through structured questionnaire. Descriptive statistics was used to explain demographic profile respondents and Factor and Regression analyses were used to know the factors affecting e-bankin services among customer in India. The finding depicts many factors like security and privacy an awareness level increased the acceptance of e-banking services among Indian customers. Th finding shows that if banks provide them necessary guidance and ensure safety of their accounts customers are willing to adopt e-banking,

Keywords: **Security, Privacy, Awareness, Customers, E-banking**

INTRODUCTION

The rapid advancement in electronic distribution channels has produced tremendous changes in the financial industry in recent years, with an increasing rate of change in technology, competition among players and consumer needs (Hughes, 2001). The proliferation of, and rapid advances in, technology-based systems, especially those related to the internet, are leading to fundamental changes in how companies interact with customers (Ibrahim et al, 2006; Bauer et al., 2005; Parasuraman and Zinkhan, 2002). Internet banking has become the self-service delivery channel that allows banks to provide information and offer services to their customers with more convenience via the web services technology The evolution of e-banking has fundamentally transformed the way banks traditionally conduct their businesses and the ways consumers perform their banking activities (Eriksson et al., 2008; Sayar and Wolfe, 2007). Today e-banking has experienced phenomenal growth and has become one of the main avenues for banks to deliver their products and services (Amato-McCoy, 2005).

Electronic banking (e-banking), also known as Internet banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels (Daniel, 1999; Sathye, 1999). E-banking includes the systems that enable financial institution customers, individuals or businesses, to access accounts, transact business, or obtain

information on financial products and services through a public or private network, including the internet. Customers access e-banking services using an intelligent electronic device, such as a personal computer (PC), personal digital assistant (PDA), automated teller machine (ATM), kiosk, or Touch Tone telephone. Chou and Chou (2000) identified five basic services associated with online banking: view account balances and transaction histories; paying bills; transferring funds between accounts; requesting credit card advances; and ordering checks for more faster services that can be provide by domestic and foreign bank.

E-banking reaps benefits for both banks and its customers. From the banks' perspective, e-banking has enabled banks to lower operational costs through the reduction of physical facilities and staffing resources required, reduced waiting times in branches resulting in potential increase in sales performance and a larger global reach (Sarel and Mamorstein, 2003). From the customers' perspective, e-banking allows customers to perform a wide range of banking transactions electronically via the bank's website anytime and anywhere (Grabner-Kraeuter and Faullant, 2008). In addition, customers no longer are confined to the opening hours of banks, travel and waiting times are no longer necessary, and access of information regarding banking services are now easily available (Hamlet, 2000). However the success of e-banking isn't without its problems. Firstly the adoption of e-banking has not kept pace with that of internet usage (White and Nteli, 2004). This gap is attributed to the lack of trust among bank customers, particularly among internet users age 65 and older (Ilett, 2005; Perumal and Shanmugam, 2005). Secondly, customers still prefer face to face interaction (Asher, 1999) due to reasons such as fear of the online environment and lack of trust in the internet. Recent literature on e-banking showed that the formation of trust can help reduce the impact of key inhibiting factors such as fears about using the online [illegible] among non-e-banking [illegible] (Vatanasombut et al., 2008).

In India, ICICI bank was [illegible] bank which offered this delivery channel, kicking off its online services in 1996. [illegible] private sector banks like Citibank, Indus Bank and HDFC and Timesbank (now part of HDFC bank) started offering [illegible] services in 1999. State bank of [illegible] launched its services in July 2001. [illegible] public sector banks like Bank of Baroda, Allahabad Bank, Syndicate Bank and [illegible] of India, also rolled its services during the same time. Banks in India currently offer "Fully Transactional Websites" to their customers. The customers would [illegible] variety of transactions through [illegible] banking facility which includes: account summary, details of historical [illegible] transactions, funds transfer, loan applications, bill payments, cheque book request, cheque status enquiry, stop cheque request, credit card payments/ statements, facilities to contact account managers, etc. In a [illegible] conducted by IAMAI and IMRB (IMRB-IMAI, 2006) the estimated number of internet users as of September, 2006 was 42 million and the number of "active users" was pegged at 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 [illegible] users are availing internet banking services as of 2007(Kothari, 2007) .In India, slowly but steadily, the Indian customer is moving towards Internet banking. But they are still concern about security and privacy in internet banking (Malhotra and Singh, 2009).

The purpose of this paper is to [illegible] an understanding of the acceptance of e-banking in an Indian market where [illegible] percent population reside in rural areas and 30 percent population reside in urban areas of the country (Gerrard and Cunningham, 2003). This study explore acceptance of e-banking in India from the point of view of [illegible]

and investigate how customers perceive electronic banking services.

LITERATURE REVIEW

Following the boom of new technologies such as the internet and mobile phones in practice, e-banking has also been the focus of numerous academic papers Adoption, perception and usage of internet banking by consumers is one of the topics heavily examined in e-banking literature. Centeno (2004) argues that speed, the convenience of remote access, 7/24 availability and price incentives are the main motivation factors for the consumers to use internet banking. Durkin, et. al. (2008) notes that the simplicity of the products offered via internet banking facilitates the adoption of internet banking by consumers. Calisir and Gumussoy (2008) compare the consumer perception of internet banking and other banking channels and report that internet banking, ATM and phone banking substitute each other. Maenpaa et.al. (2008) examine the consumer perceptions of internet banking in Finland and their findings indicate that familiarity has a moderating role in the perception. Guerrero, et,al. (2007) examine the usage of internet banking by Europeans and their results indicate that ownership of diverse financial products and services, attitude towards finances and trust in the internet as a banking channel influence clients' usage of internet banking. Confirming other papers, Sohail and Shanmugham (2003) document accessibility of internet, awareness of e-banking and resistance to change are found to be influencing Malaysian's use of internet banking. Another factor that promotes clients usage of internet banking is seller support (Nilsson, 2007).

Perceived risk was one of the major factors affecting consumer adoption, as well as customer satisfaction of online banking services (Polatoglu and Ekin, 2001). Perceived risk usually arises from uncertainty. To Howcroft, et. al., (2002) the principal characteristics that inhibit online banking adoption are security and privacy. In Malaysia it was found that security was main barrier to e-commerce expansion. Security is perhaps the most feared problem on the internet. Banks and customers take a very high risk by dealing electronically (Mukti, 2000; Chung and Paynter, 2002). It is noted that although consumer's confidence in their bank was strong, yet their confidence in the technology was weak (Roboff and Charles, 1998). Today's consumers are increasingly more concerned about security and privacy issues (Howcroft et al., 2002).

Potential customers mentioned Internet security, online banking regulations, consumers' privacy, and bank's reputation as the most important future challenges of online banking adoption. (Aladwani, 2001). Indeed, in Aladwani's (2001) study of online banking, potential customers ranked internet security and customers' privacy as the most important future challenges that banks are facing. Perceived usefulness, perceived Web security has a strong and direct effect on acceptance of internet banking, too. A high level of perceived risk is considered to be a barrier to propagation of new innovations (Ostlund, 1974). Influenced by the imagination-capturing stories of hackers, customers may fear that an unauthorized party will gain access to their online account and serious financial implications will follow. The survey by White and Nteli (2004) found that UK consumers ranked the security of bank's website as the most important attribute of internet banking service quality. This widespread anxiety is vividly illustrated by the results of Sathye (1999), who reported that three-quarters of Australian respondents expressed security concerns with regard to electronic banking. Overall, the literature appears to be unequivocal in its finding that the level of perceived risk is negatively related to the attitude towards banking on the World Wide Web (Black et al., 2001; Rotchanakitumnuai and Spence, 2003; Singh, 2004; Lee et al., 2005 and Gerrard et al.,

2006). For this reason, this study uses perceived security as a predictor of customer acceptance.

A majority of studies highlight the fact that "security" is the biggest single concern for customers when faced with the decision to use internet banking. Security has always been an issue, but its scope has changed from mere doubts about the privacy of personal information to worries of financial loss (Sayar and Wolfe, 2007). White and Nteli (2004) find that "security" is the most important attribute for UK internet banking customers. It is follow[illegible] "responsiveness of service delivery [illegible] and timeliness)", "ease of use", "[illegible] of the bank", and "product variety". [illegible] al. (2004) find that the selection [illegible] internet banking service provider is [illegible] by security, reliability and privacy. [illegible] which involves protecting users from [illegible] of fraud and financial loss, has been [illegible] important issue in safe use of the [illegible] when conducting financial transactions [illegible] Saudi Arabia (Sohail and Shaikh, 2007)

RESEARCH GAP

The review of literature suggest that most of the studies have been done on issues related to Internet banking in countries like Australia (Sathye, 1999), Malaysia (Mukti, 2000; Chung and Paynter, 2002; Sohail and Shanmugham 2004), Singapore (Gerrard and Cunningham, 2003a, 2006b), Turkey vs. UK (Sayar and Wolfe, 2007) and Saudi Arabia (Sohail and Shaikh, 2007). Much [illegible] not been done in India with regard to [illegible] banking issues. The present study [illegible] know the factors affecting the acceptance [illegible] e-banking by the customers and [illegible] indicates level of concern regarding [illegible] and privacy issues in Indian context.

RESEARCH HYPOTHESIS

It is indeed essential to emphasize the fact that the Indian culture is different from the countries where previous research was conducted. The researchers predicted that the familiarity and economic benefits of using the Internet has a significant impact on the acceptance of online banking. If the customers are not used to accessing [illegible] Internet frequently, and if they do not [illegible] the Internet as a secure environment [illegible] conduct financial transactions, then [illegible] nearly impossible for them to accept [illegible] banking. Therefore, the following hypotheses were adopted:

- Security and trust has significant impact on adoption of e-banking among customers.
- Innovativeness has significant impact on adoption of e-banking among customers.
- Familiarity has significant impact on adoption of e-banking among customers.
- Awareness has significant impact on adoption of e-banking among customers.

METHODOLOGY

Data were collected from 200 bank customers belonging to 19 commercial banks in the city of Coimbatore, India during April-June 2011. Purposive sampling method was used in the selection of the sample respondents. The survey instrument used in the study was a structured questionnaire. The questionnaire was made up the dimension which measures the acceptance of e-banking among Indian customers. The variables were measured using multiple items. All of the scale items represented in the [illegible] instrument utilized a five point categorical rating scale. The anchors used included [illegible] 1= strongly disagree, b) 2= disagree, [illegible] neither agree nor disagree, d) 4= agree, [illegible] strongly agree. Factor analysis [illegible] performed to assess the validity of [illegible] constructs and regression analysis [illegible] employed to analyze the data. Statistical Package for Social Sciences ([illegible]) version16 was used has the analysis tool.

RESEARCH FINDINGS

Table 1 presents the demographic characteristics of the 200 respondents. About 67 percent of the respondents are males and 33 percent respondents are females. Table 1 also shows that all respondents are adults with 39 percent of the respondents in the age group of 20-30 years, 30 percent between 30-40 years, 20 percent between 40-50, 10 percent above 50 years and one percent being less than 20 years. The highest category using online banking services are in the age group of 20-30 years. Majority of the users of e-banking services were graduates (45 percent) and were earning a monthly salary of Rs. 10,000-30,000.

Table-I
Distribution of Respondents on the Basis of Demographic Factors

Demographic Variables	Categories	No. of Respondents
Gender	Male	134 (67)
	Female	66 (33)
Age (in years)	Less than 20	2 (1)
	20-30	78 (39)
	30-40	60 (30)
	40-50	40 (20)
	Above 50	20 (10)
Qualification	Up to 12th	47 (23.5)
	Graduates	90 (45)
	Post graduates	38 (19)
	Professionals	25 (12.5)
Income (per month)	Below 10,000	41 (20.5)
	10,000-30,000	73 (36.5)
	30,000-60,000	66 (33)
	Above 60,000	20 (10)

Source: Field Survey, 2011

Internal consistency tests were conducted using Cronbach alpha tests (Cronbach, 1946) for the four multi-item measures and are presented in table 2.

Table -II
Reliability Statistics

Measures	No. of Items	Reliability for this Sample
Security and Trust	7	0.836
Awareness	5	0.856
Familiarity	4	0.789
Innovation	4	0.749

Source: Estimation based on Field Survey

The alpha values for all factors vary from 0.75 to 0.86 which are considered acceptable for this type of study (Nunnally, 1978). This reveals that the variables load properly on these four factors.

To determine the underlying structure, the correlation matrix was initially examined to determine how appropriate it was for factor analysis. The Kaiser- Meyer- Oklin (KMO) value was .764, which was higher than the recommended minimum of 0.6

(Kaiser, 1974) indicating that the sample size was adequate for applying factor analysis. In addition, the value of the test statistic for sphericity (Bartlett, 1954) on the basis of a Chi-square transformation of the determinant of the correlation matrix was large (1.632E3). Bartlett's test of sphericity was significant, supporting the factorability of the correlation matrix and the associated significance level was extremely small (0.000). For factor extraction, principal component method was used, under the restriction that the eigen value of each generated factor was more than one. A factor analysis was conducted to develop constructs that will help to identify factors that will influence customer's [illegible] of e-banking. Four factors were generated which explained 60.08 percent of the variance. The extracted factors were then rotated using variance maximizing method (Varimax). These rotated factors with their variable constituents and factor loadings are given in table 3. These factors are labeled as security and trust, innovativeness, familiarity and awareness.

Table-III
Factor Analysis for Acceptance Factors of e-banking

Measurement Items	Security &Trust	Awareness	Familiarity	Innovativ[illegible]
Safety	.820			
Reliability	.790			
Liquidity	.716			
Insurance coverage	.782			
Transparency	.815			
Security &less risk to use	.841			
Privacy is maintained	.792			
Bill payment		.748		
e- ticket		.603		
Innovative services				
One stop banking		.758		.758
Demat holdings				.812
Easy to use				
Quick transaction				
Time saving			.826	
Convenient			.765	
No need to carry cash			.815	
Order cheque book		.782		
Apply for loans		.751		
Wide area network				
Online trading				
Eigen Values	4.484	3.913	1.770	1.297
Percentage of Variance	39.983	8.43	6.177	5.49
Cumulative Variance	39.983	48.413	54.590	60.08

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization, Rotation converged in 14 iterations

The regression analysis was conducted to reveal how different factors identified through factor analysis affect the use of online banking. The respondents' intention to intensify

acceptance of e-banking services was regressed on the four independent variables, namely security and trust, innovativeness, familiarity and awareness. The results are reported in table 4.

Table-IV

Regression Analysis on E-banking Acceptance Factors

Diffusion Factors	Regression Co-efficient	t values	Significance Level
(Constant)	2.175	65.923	.000
Security and Trust	.078	2.346	.020
Awareness	.646	19.539	.000
Familiarity	.007	.222	.825
Innovativeness	-.035	-1.051	.294
R^2	.665		
F ratio	96.946*		

*** Significant at 1 percent level**

The regression equation was significant at 1percent level with the F value of 96.946 and the independent variables account for 67 percent of the variance in degree of the acceptance of e-banking by the customers. Security and trust (β=0.078) and awareness (β=0.646) were significantly positively related to the acceptance of e-banking services, while familiarity and awareness did not emerge as significant factors in explaining the acceptance of e-banking services by the respondents. Koufaris and Hampton-Sosa (2004) also demonstrated that perceived security control of the site strongly influenced acceptance of online banking by customers. If the customers are less concerned about unauthorized use of or illegal access to their personal and financial data by third parties, they will have greater influence on the willingness to use online banking, which in turn will lead to higher acceptance to it. Thus, banks should improve their web security features in order to enhance the customer's acceptance. White and Nteli (2004) find that "security" is the most important attribute for UK internet banking customers. Akinci et al. (2004) find that the selection of an internet banking service provider is effected by security, reliability and privacy. Security, which involves protecting users from the risk of fraud and financial loss, has been another important issue in safe use of the internet when conducting financial transactions in Saudi Arabia (Sohail and Shaikh, 2007).

CONCLUSION AND RECOMMENDATIONS

In a country like India, there is need for providing better and customized services to the customers. Banks must be concerned about the attitudes of customers with regard to acceptance of online banking. The importance of security and privacy for the acceptance of internet banking has been noted in many earlier studies and it was found that people have weak understanding of internet banking, although they are aware about risk. The present study shows that customers are more reluctant to join new technologies or methods that might contain little risk. Hence, banks should design the website to address security and trust issues. The recommendations to the banks are that they have to increase the level of trust between banks' website and customers. In order to achieve this, the following strategies should be applied by banks.

- Banks should ensure that online banking is safe and secure for financial transaction like traditional banking.
- Banks should organize seminar and conference to educate the customer regarding use of online banking as well as security and privacy of their accounts.
- Some customers are hindered by lack of computer skills. They need to be educated on basic skills required to conduct online banking.
- Banks must emphasize the convenience that online banking can provide to people, such as avoiding long queue, in order to motivate them to use it.
- Banks must emphasize the cost saving that online can provide to the people, such as reduce transaction cost by use of online banking.

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