



Internet Banking Adoption Analysis using variables of Technology Acceptance Model (TAM): Empirical study of NSE 50 Bank E-Customers in Ahmedabad city

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ABSTRACT

Technology has made tremendous impact in banking. 'Anywhere banking' and 'Anytime banking' have become a reality. The fundamentals of banking may remain the same, but the manner in which we perceive 'value', from banking services has been changing very fast. Currently it can be said that bank's internet presence transforms itself from 'brouchureware' status to 'Internet banking' status once the bank goes through a technology integration effort. Internet banking has become the ultimate choice of the tech savvy modern consumer. The paper therefore examines the proposition that Technology Acceptance Model variables such as Computer Self Efficacy, Computer Experience and System Characteristics such as Relevance, Security and Privacy as well as Interface Design have significant influence on the perception that internet banking is easy to use leading to the strong acceptance of the internet banking services by the e-users.

Key Words:Internet Banking, Technology Acceptance Model, NSE 50,Banks, E-CustomersBanks, E-Customers

IT has revolutionized various aspects of our life. It has transformed the repetitive and overlapping systems and procedures into simple single key pressing technology, resulting in speed, accuracy and efficiency in conducting business. The computerization of banks has provided a major push for enabling them to enter into newer activities. The banking industry has prepared itself and is strongly emerging to play a major supplementary role in nurturing e-commerce applications, which are still in their infancy in India. While a few of the new generation private banks have taken an early initiative in these innovative areas, others are gradually catching up. It can be said that Internet banking is a new type of service delivery channel and has reduced the role of physical distribution outlets. The modern customer who has access to updated technology anticipates the same or better services through virtual channels where he/ she can have access to a variety of services at a convenient time and location. This is indicative of the fact that Technology Acceptance Model variables such as Computer Self Efficacy, Computer Experience and System Characteristics such as Relevance, Security and Privacy as well as Interface Design play very important role for the internet banking to be embraced and accepted everywhere.

REVIEW OF LITERATURE

Davis (1989) stated that The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably: · Perceived usefulness (PU) - This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". · Perceived ease-of-use (PEOU) - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort"

Bagozzi, Warshaw (1992) further emphasized that because new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using. Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strivings to learn to use the technology evolve.

Thus, actual usage may not be a direct or immediate consequence of such attitudes and intentions.

Nicoletta Corrocher (2002) in the paper Does Internet banking substitute traditional banking? Empirical evidence from Italy proposed that theInternet banking will substitute traditional banking. Its relevance will ensure customers' adopting more of internet banking services.

Nugrohoand Achjari (2004) states that TAM is able to predict the interests and usage of information technology savvy customers. It is known to be simpleand easy to use yet more powerful in modeling the determinants of user acceptance of computer technology.

PROBLEM STATEMENT

Will the Tech savvy consumer be in a position to embrace and accept the opportunities as well as benefits provided by the internet banks?

RESEARCH OBJECTIVE

To know whether the that Technology Acceptance Model variables such as Computer Self Efficacy, Computer Experience and System Characteristics such as Relevance, Security and Privacy as well as Interface Design have significant influence on the perception that internet banking is easy to use leading to the strong acceptance of the internet banking services by the e-users.

RESEARCH HYPOTHESIS

To know the perception of people of NSE 50 banks in Ahmedabad cityfollowing null and alternate hypothesis is made:

H0: Technology Acceptance Model variables such as Computer Self Efficacy, Computer Experience and System Characteristics such as Relevance, Security and Privacy as well as Interface Design does not significantly influence the decision of accepting internet banking services.

H1:Technology Acceptance Model variables such as Computer Self Efficacy, Computer Experience and System Characteristics such as Relevance, Security and Privacy as well as Interface Design significantly influence the decision of accepting internet banking services.

For validating the hypothesis the statements indicating the level of agreement i.e. strongly agree to strongly disagree (based on five point LikertScale) are devised and statistically tested with the use of Descriptive Statistics and Chi square test(the measure of goodness fit).

RESEARCH METHODOLOGY

A survey was conducted with the help of questionnaire. The questionnaire was filled up by the 400 users of internet banking facilities having an account in NSE 50 banks viz State Bank of India, Punjab National Bank, ICICI bank and HDFC Bank of Ahmedabad city. Following variables were covered for the survey which was undertaken to complete the study.

TABLE 1

Points	Variables	Description
1	Research Design	Descriptive Research Design
2	Universe(bank's perspective)	Top 4 Banks among NSE 50 (S & P CNX Nifty) companies which has average market capitalization of 5 billion rupees or more during last six months. These banks are State Bank of India, Punjab National Bank, ICICI Bank Ltd. and HDFC Bank Ltd.
3	Universe (e-customer's perspective)	E customers of the above mentioned banks In Ahmedabad City.
4	Sampling Method	Convenience Sampling
5	Sample size	400 e-customers
6	Research Tool	Questionnaire
7	Contact method	Personal Contact Method

HYPOTHESIS TESTING BASED ON DESCRIPTIVE STATISTICS

Parameter with a mean higher than 3 is considered to be agreed whereas mean equals to 3 implies unbiased response of respondent and mean lesser than 3 is considered to be disagree.

TABLE 2

No.	Statement	Banks	Mean Score	Standard Deviation
1	Computer Self Efficacy(Ability in using the computer) always influence the ease of use of internet-banking	ICICI	4.660	0.741
		HDFC	3.300	1.159
		SBI	4.260	0.786
		PNB	3.960	0.937

Respondents of all the banks covered under study agree to the statement. Bu the highest level of strong agreement is reflected by the mean score of ICICI Bank(4.660)

(n = 100*4 = 400)

TABLE 3

No.	Statement	Banks	Mean Score	Standard Deviation
2	Computer Experience always influence the ease of use of internet-banking	ICICI	4.470	0.904
		HDFC	4.080	0.861
		SBI	4.100	0.979
		PNB	4.217	1.025

Respondents of all the banks covered under study without any doubt agree to the statement. But the highest level of strong agreement is reflected by the mean score of ICICI Bank(4.470)

(n = 100*4 = 400)

TABLE 4

No.	Statement	Banks	Mean Score	Standard Deviation
3	Relevant System Information has significant influence on the ease of use of internet-banking	ICICI	4.130	1.001
		HDFC	4.390	0.680
		SBI	3.140	1.172
		PNB	3.356	1.109

Respondents of all the banks covered under study agree to the statement. Bu the highest level of strong agreement is reflected by the mean score of HDFC Bank(4.390)

(n = 100*4 = 400)

TABLE 5

No.	Statement	Banks	Mean Score	Standard Deviation
4	High Security and Confidentiality will make customers feel secure in the use of Internet Banking	ICICI	4.190	0.812
		HDFC	4.110	1.081
		SBI	3.700	1.058
		PNB	4.069	0.919

Respondents of all the banks covered under study unanimously agree to the statement. But the highest level of strong agreement is reflected by the mean score of ICICI

Bank(4.190)

(n = 100*4 = 400)

TABLE 6

No.	Statement	Banks	Mean Score	Standard Deviation
5	The Display of the Internet banking website has significant influence on the ease of use of internet-banking	ICICI	2.920	1.236
		HDFC	3.580	1.138
		SBI	3.060	1.269
		PNB	2.861	1.257

Respondents of the banks covered under study have mixed opinion which is indicative of the difference in the level of agreement. This is revealed by the fact that the mean score of ICICI Bank (2.920) and Punjab National Bank (2.861) is less than 3, which means they reflect the strong level of disagreement. However the mean score of HDFC Bank (3.580) and State Bank of India (3.060) are greater than 3 which indicate that the respondents positively believe that the display of the internet banking website has significant influence on the ease of use of internet-banking.

(n = 100*4 = 400)

HYPOTHESIS TESTING WITH HELP OF CHISQUARE TEST

TABLE 7

HYPOTHESIS	P Value ICICI BANK	P Value HDFC BANK	P Value SBI	P Value PNB	α Value	RESULT
(H1) Computer Self Efficacy(Ability in using the computer) always influence the ease of use of internet-banking	0.000	0.000	0.000	0.000	0.05	H1 Accepted (P < α)
(H2) Computer Experience always influence the ease of use of internet-banking	0.000	0.000	0.000	0.000	0.05	H1 Accepted (P < α)

(H3) Relevant System Information has significant influence on the ease of use of internet-banking	0.000	0.000	0.000	0.000	0.05	H1 Accepted (P < α)
(H4) High Security and Confidentiality will make customers feel secure in the use of Internet Banking	0.000	0.000	0.000	0.000	0.05	H1 Accepted (P < α)
(H5) The Display of the Internet banking website has significant influence on the ease of use of internet-banking	0.003	0.000	0.007	0.021	0.05	H1 Accepted (P < α)

*(Tested at Confidence Interval 95%, n = 100 respondents for each bank)

Thus in context of both the private sector banks as well as public sector banks covered under study, all the alternate hypothesis are accepted. It indicates that variables of TAM do really influence the ease of use of internet banking.

RESULTS AND DISCUSSION

Hypothesis Analysis (Overall)

The results for Hypothesis 1 indicates that person’s ability in using computers (computer self-efficacy or CSE) significantly influence the perception of ease of use or perceived easy-of-use (PEOU).The result support Goh (1995), that if the technology infrastructure that supports are available easily and quickly and the user knows all the operational aspects of the same then, the Internet-banking applications will become more and more easy to use. This will also lead to the favourable attitude of the internet banking user towards the entire internet banking services he avails. This has been asserted strongly by the respondents who avail internet banking facilities from the various branches of ICICI bank in Ahmedabad City.

The results of Hypothesis 2 indicates that the experience on the use of computers owned by the customer will make customers more easily use internet-banking. The longer the customer experience in using computers, it is increasingly easy for customers to use internet banking. This result is the same as Yuadi (2009), that abilities and skills(including the experience of the use of computers) have an influence on perceived ease of use of internet banking. This is also confirmed by the

respondents who avail internet banking facilities from the various branches of ICICI bank in Ahmedabad City.

The results of Hypothesis 3 indicates that Relevant System Information has significant influence on the ease of use of internet-banking. It means that if the systems relevance exist, the information becomes relevant which will influence ease of use of internet banking. By producing relevant information, the customers feel ease of using internet banking. The irrelevant information will make the bank customers complain, which makes the use of internet banking become not easy. The e-customer will have to approach bank or contact the service center to lodge a complaint for the irrelevant system information. This result support Yao (1995) who states that users tend to search for relevant documents. This fact is very well agreed by respondents who avail internet banking facilities from the various branches of HDFC bank in Ahmedabad City.

For the Hypothesis 4, study shows that the variables Security and Confidentiality (SC) has a significant effect on perceived ease of use (PEOU). This shows that the level of high security and confidentiality will make customers feel secure in the use of internet banking. If the safe condition is not met, then the customer will move on to other banks. This is unanimously agreed by e-customers of NSE 50 banks of Ahmedabad city. The highest level of strong agreement is shown by the respondents who avail internet banking facilities from the various branches of ICICI bank in Ahmedabad City.

For the Hypothesis 5, study shows respondents of ICICI Bank and Punjab National Bank in the Ahmedabad city feel that the variable Interface Design (SD) had no significant influence on perceived ease of use or Perceived easy-of-use (PEOU). This shows that the probability of symbols, menus available are not easily understood by them, or it could be the possibility that they lack sufficient ability to understand the feature of internet banking. And may be caused by the customers’ concentration who open other websites at the same time. On comparison the customers assume that the display of the internet banking web site is too formal and rigid. However e-customers of various branches of HDFC Bank as well as of State Bank of India of Ahmedabad city reveal that the display of the internet banking website has significant influence on the ease of use of internet-banking.

CONCLUSION

Thus it can be summed up that the consumers acceptance of the internet banking as the effective mechanism of transacting with the banks is highly dependent on the prior computer experience, usage of the internet, awareness about the internet banking services, knowledge of the manner in which the internet banking services are availed, support from the internet bank of the user. Not only that the training inputs provided by the banks to their employees in the terms of the technological changes which embrace the intense usage of internet also is responsible for ensuring that the more number of customers are converted into e customers.

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