

# ***Customer Perception Of Adoption Of Net-Banking Services: A Business Strategy Adopted By Indian Banks***

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## **Abstract**

The information revolution and the communication revolution have made banking sector to go for “i-banking” or “Net banking”, where customers can perform their financial transactions electronically over the internet through their personal computer or laptop, 24 hours at their convenience, without visiting the branch office.

Though number of internet users in India is increasing, people are reluctant to go for net-banking for various reasons.

The present paper depicts customer perception of adoption of net-banking services. A structured questionnaire was used to collect information based on 7 factors from 100 respondents of Scheduled commercial banks (SBI & AXIS). The focus of this study is on the causes to the problem and some suggestions to solve them so as to increase the number of net-banking customers, which will give justice to the strategies followed by Indian banks in India regarding net-banking.

## **Key Words:**

Net banking, adoption of net banking, barriers, factors influencing

## **Introduction**

The use of Internet Technology has removed the constraints of time, distance and communication, making the World Global village. The economic and educational development of the customers in India has influenced the banking sector to upgrade the technology, and adopt e-banking provide the services to the clients over internet.

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This allows the customers banking from anywhere and anytime with minimum time, money and efforts.

The scope of e-banking includes internet banking (also called as i-banking, online banking or net-banking), ATMs, Credit cards and debit cards shopping, mobile banking. The most successful and popular out of these is ATM. The focus of this study is online banking/internet banking/i-banking/online banking/net-banking. Henceforth is referred as net-banking, where customers can perform their financial transactions electronically over the internet through their personal computer or laptop 24 hours at their convenience, without visiting the branch office. Customer can perform transactions online, namely viewing account balance and transaction histories, paying bills, transferring funds between accounts, ordering cheques books, managing investments and stock Trading.

India's Internet population currently stands at 1.16 billion (Dec. 31, 2009, as per the statistics by <http://www.internetworldstats.com>). Though number of internet users in India is increasing, and though the banks provide net-banking services to their customers, a general trend shows non-acceptance of these services for various reasons. The basic concern is the weak internet-ready telecommunication infrastructure, less PC penetration, customer literacy leading to customer attitude.

The net-banking facility promises reduction in transaction cost, Time and efforts of the customer as well as by limiting overheads associated with staff members of the bank. And better services to customers who increasingly desire 24 hour banking, even bank's competitive position and image.

## Background Of The Subject And Review Of Literature

Net-banking banking in India- The Reserve Bank of India constituted a working group on Internet Banking. The group divided the internet banking products in India into three types based on the levels of access granted. They are: Information Only System, Electronic Information Transfer System, and Fully Electronic Transactional System.

Services through e-banking- well all know the e-banking by ATMs. This is the well accepted service offered by the e-banking. The other services through e-banking are bill payment service, fund transfer, Credit card, railway pass, investing through Internet banking, recharging your prepaid phone, shopping. The table 1 shows number of branches & ATMs of Scheduled Commercial Banks in India.

## Literature Review

User acceptance is the biggest barrier in the success of new technology. Technology Acceptance Model -TAM was suggested by Davis in 1989. The model suggested that the adoption of a new technology depends on how easy or hard the technology is to use and how much it is useful to the user. TAM provides the bases for the impact of external factors on internal factors of human being as belief, attitude and intension. The study goes to the explanation of user behavior across end-user computing technologies and user populations. The study was further referred and supported by many researchers. The model specifies the casual linkages between Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), and also users' attitudes, intention and adoption behaviour (Davis, et al., 1989).

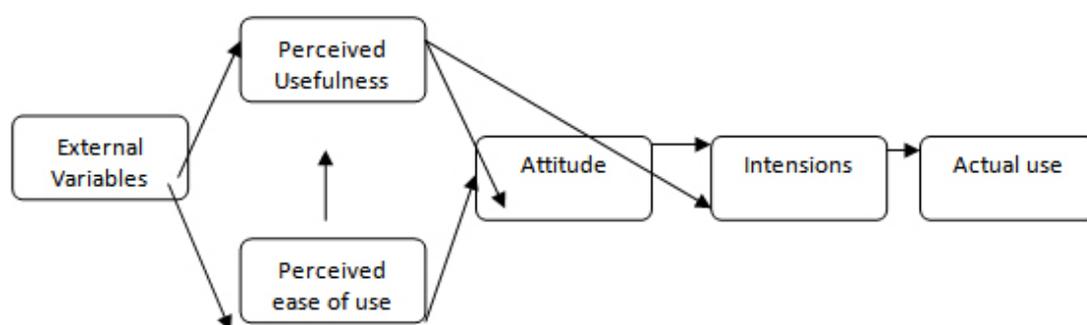


Figure 1. Technology Acceptance Model

Source: Davis, 1989

There are various external variables that decide the usefulness and ease of use of a system. In this context Perceived Usefulness (PU) is the extent to which an individual finds using the system will enhance her/his job performance. At the same time there are certain external variables that decide Ease of Use of a system. A person believes that using a system will be free of effort, i.e. Perceived Ease of Use (PEOU). Extensive research has proved the significant effect of PU and PEOU on behavior, attitude and intention.

TAM supports that the two related beliefs PU and PEOU could be generalized across different settings. TAM was designed for modeling the uptake of technology in the workplace. Researchers have identified various factors/variables that influence the PU and PEOU. And have tried to correlate the effect of these factors.

Al-Somali, Roya, Ben (2008) conducted a study on 'Internet Banking Acceptance in the Context of Developing Countries: An Extension of the Technology Acceptance Model'. The findings of the study indicate that the security, quality of the Internet connection and awareness about Internet banking and its benefits have significant effects on the PU and PEOU of net-banking acceptance. It was revealed that the effects of education and trust also have significant impact on the attitude towards the acceptance net-banking. Lai, Li (2005) conducted a study on 'Technology acceptance model for internet banking: an invariance analysis'. The reliability and invariance analyses supported the validity of TAM instrument for evaluating Internet banking acceptance. The relationships between PEOU, PU, Attitude Towards Use, and Intension To Use were positive and highly significant. Alsajjan, Charles (2006), conducted a study on 'The Impact of Trust on Acceptance of Online Banking'. The study shows that a positive significance of intension, attitude on PU and PEOU on PU, Trust and Attitude etc. The study had framed a conceptual framework where trust was integrated into TAM model. Adesina, Ayo (2010), conducted a study on 'An Empirical Investigation of the Level of Users' Acceptance of E-Banking in Nigeria'. TAM was employed as a conceptual framework to investigate the factors that influence users' acceptance and intention to use electronic banking. The findings shows that Banks' customers who are active users of e-Banking system use it because it is convenient, easy to use, time saving and appropriate for their transaction needs. Also the network security and the security of the system in terms of privacy are the major concerns of the users.

Other researchers also have studied the net-users intension to adapt the net-banking. Singhal, Padhmanabhan (2008) conducted a study on 'A Study on Customer Perception Towards Internet Banking: Identifying Major Contributing Factors'. The focus of study was demographic variables like occupation, age. Kaleem, Saima (2008) conducted a study on 'Bankers' Perceptions of Electronic Banking in Pakistan'. The study was aimed at the perception of the bank employees about net-banking. The demographic variables like working experience, position and qualification were studied. Other factors cost, time, convenience, efficiency, service quality, reliability, security were studied. Qureshi, Zafar and Khan (2008) conducted a study on 'Customer Acceptance of Online Banking in Developing Economies'. Almost 50% of the clients shifted from traditional banking to online banking system. The core reason of this transfer is perceived usefulness, security and privacy provided by online banking. The variables included were, perceived usefulness, perceived ease of use, perceived enjoyment, security and privacy, quality of internet connection. Haque, Ismail and Daraz (2009), conducted a study on 'Issues of E-Banking Transactions: An Empirical Investigation on Malaysian Customers Perception'. The variable security, service quality and regularity framework were studied. Dixit and Datta (2010), conducted a study on 'Acceptance of E-banking among Adult Customers: An Empirical Investigation in India'. The study indicated level of concern regarding security and privacy issues in Indian context.

## **Research Issues related to net-banking adoption**

Factors affecting customer acceptance or adoption of Internet banking have been investigated in many countries such as the US, Europe, Australasia, Pakistan, China, Mauritius, Saudi Arabia, South Africa, Singapore etc. The researchers have studied the factors that have influenced customer behavior to adopt or use net-banking. The study in India has been done by IAMAI (Internet & Mobile Association of India) and other researchers but their focus gives the statistics about demographic and geographic profile of the users. The need to study the factors that influence the customer tendency to adapt or ignore net-banking facility has not been studied in detail. Some researchers have focused on the quality of the bank-website also.

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The various factors that may influence the adoption process are procedural barrier, language barrier, social reasons, training needs, infrastructural needs, security, manual comfort etc.

- i) Procedural:** In different banks, there are different procedures the customer should go through which may induce customers to avoid net banking. The 1-touch-device, cell-phone-for-SMS, net-banking-passwords, need-to-visit-the-branch-office-for-several-reasons etc. could be categorized as procedural barriers.
- ii) Language:** The customers who are not much familiar with English avoid transacting through net banking. The websites of the banks are in English language. And this could be one of the reasons for non acceptance of net-banking.
- iii) Social:** While transacting online, the personal interaction is missing. The customers who are habituated to manual transactions may find it difficult. Some category of customers, for example, the retired persons go to the bank where they meet their old colleagues and friends, they enjoy the bank visit.
- iv) Training needs:** Many customers are computer literate but still are not using the net-banking. The formal training of the net-banking could be one of the reasons.
- v) Infrastructural needs:** The availability of PC & Internet connection has high impact on the usage of internet and then net-banking.
- vi) Security of transaction:** Customers read the various happening about the issues in the newspapers and without going into the detail they make their opinion about the fraud of internet transactions. This could be the reason for the customers to avoid net-banking.
- vii) Manual comfort:** Some customers are happy with manual transactions because of less transactions and proximity of the branch.

## **Objectives And Hypothesis**

### **Objectives:**

1. To identify the factors influencing net-banking adoption.
2. To analyze the impact of security-awareness on net-banking adoption.

### **Hypothesis:**

#### ***I: there exists language barrier in adoption of the net-banking by the customers***

English being the business language and its global impact, and its development in IT has made it a language of internet. In India English being the global language is being learnt. But being the second or third language in their educational system is not as successful as the regional languages are. A need arises to see if language is a barrier for net-banking adoption.

#### ***II: Awareness of security has positive impact on net-banking adoption.***

The security is most sensitive as per as the money transactions are concerned. People read in the news-papers about hacking in the net-world and make their opinions without going into the deeper of the subject. The awareness of the security aspect is one of the reasons which need to be studied.

#### ***III: there exists procedural barrier in adoption of the net-banking by the customers***

Banks are well aware of these issues and are providing the security to their websites. These websites are well secured with SSL. VeriSign-one of the agencies provides Secure Sockets Layer (SSL) Certificates to the e-commerce websites. But apart from this, other precautions are to be taken so as to be more secure about your net-banking. Banks have taken maximum care to secure the net-banking aspect, which leads to the procedural headache to the ordinary customer. E.g. touch button or SMS on mobile etc.

## Research Methodology

**Research Design:** The research in this study is a descriptive type of research. The data about the citizens with reference to net-banking adoption is collected.

**Primary Data** – A survey is conducted to collect the primary data from the respondents through a structured questionnaire.

**Secondary data** – This data is collected from the websites. Journals and magazines have also contributed towards the collection of data. The Press and bank websites have also provided good collection of data.

**Population** – the saving bank customers from Scheduled commercial banks from Pune city is the population.

**Sample size** – for this study a convenience sampling method is used to select a sample size of 100 respondents. Eight questionnaires were rejected due to incompleteness.

**Testing of Hypothesis-** The data collection is in the form of questionnaire. The data analysis is based on the data collected. The Hypotheses I and III is tested on the percentages. Hypotheses II is tested on calculating Cross Tabulation.

## Data Analysis :-

**Table No. 1- Scheduled Commercial Banks-ATM-Branch Statistics**

( All India - As at end-March 2010)

Sr. No.	Bank	Branches					ATMs		
		Rural	Semi-urban	Urban	Metro	Total	On-site	Off-site	Total
1.0	Sched. Comm. Banks	20,773	17,638	16,007	14,742	69,160	32,679	27,474	60,153
1.1	Public Sector Banks	19,567	14,595	12,920	11,743	58,825	23,797	16,883	40,680
1.11	Nationalized Banks	13,652	9,376	9,607	8,961	41,596	12,655	7,047	19,702
1.12	State Bank Group	5,915	5,219	3,313	2,782	17,229	11,142	9,836	20,978
1.2	New-Private-Sector	1,201	3,037	3,027	2,762	10,027	8,603	9,844	18,447
1.3	Old-Private-Sector	861	1,626	1,435	1,030	4,952	2,266	1,124	3,390
1.4	Foreign Banks	5	6	60	237	308	279	747	1,026

Source–RBI-Appendix Table IV.11 : Branches & ATMs of Scheduled Commercial Banks

**Table 2-Gender**

	Male	Female	Total
Frequency	58	34	92
Percent	63	37	100

**Table 3-Age-Groups**

	Below 25	26 to 35	36 to 45	46 and above	Total
Frequency	18	47	13	14	92
Percent	19.6	51.1	14.1	15.2	100

**Table 4-Qualifications**

	Undergraduate	Graduate	Master	Doctor Phd	Total
Frequency	13	36	39	4	92
Percent	14.1	39.1	42.4	4.3	100

**Table 5-Profession**

	Bank Emp	Govt. Emp	Private	Self Emp	Total
Frequency	9	10	62	11	92
Percent	9.8	10.9	67.4	12.0	100

**Table 6-Income**

	up to 20000	20000 to 35000	35000 to 50000	50000 & above	Total
Frequency	53	22	10	7	92
Percent	57.6	23.9	10.9	7.6	100

**Table 7- Security-Awareness**

	Firewall		Anti-Virus Package		SSL		Encryption		Overall Awareness	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Frequency	55	37	80	12	18	74	24	68	85	07
Percent	59.8	40.2	87.0	13.0	19.6	80.4	26.1	73.9	92.39	07.61

**Table 8- Net-Banking Users**

	Yes	No	Total
Frequency	43	49	92
Percent	46.74	53.26	100

**Table 9- Reasons Behind non-acceptance of Net-Banking**

	Procedural Barrier	Language Barrier	S o c i a l Reasons	No Formal Training	N o n - availability of Infra.	Security	M a n u a l Comfort
Yes	4	3	1	7	2	16	32
No	45	46	48	42	47	33	17
Total	49	49	49	49	49	49	49

**Table 10- Intension towards acceptance of Net-Banking**

	If Procedural Barrier Reduced	If Regional Language used	If Formal Training is Provided	I	Not Interested At All
Yes	4	2	11	23	21
No	45	47	38	26	28
Total	49	49	49	49	49

**Testing of Hypotheses-**

*I: there exists language barrier in adoption of the net-banking by the customers*

From the data analysis and interpretation it can be stated that –

- Table no. 8 shows that out of 92 respondents 43 are the net-banking users and 49 are not net-banking users.
- Table no. 9 shows that out of 49 such respondents, only 3 say that there exists a procedural barrier while accepting the net-banking services.

From the above results the hypothesis ‘there exist language barrier in adoption of the net-banking by the customers’ cannot be validated and not accepted.

**II: Awareness of security has positive impact on net-banking adoption.**

From the data analysis and interpretation we come to know following facts –

- Table no. 7 – 92.39% respondents are aware of security.
- Table no. 8 – 46.74% respondents are users of Net-Banking facility.

The hypothesis is tested to see the association between the two variables awareness-Of-Security and Users-Of-Net-Banking.

The Yule’s coefficient is calculated to see the association and degree of association between these two variables.

	Security Awareness			Total
		A-Yes	α-No	
Using Net Banking	B-Yes	43	0	43
	β-No	42	7	49
	Total	85	7	92

$$\text{Yule's Coefficient } Q_{AB} = \frac{AB \times \alpha\beta - A\beta \times \alpha B}{AB \times \alpha\beta + A\beta \times \alpha B} = 1$$

Q<sub>AB</sub> is 1, which indicates that there is a positive impact of awareness-of-security on net-banking acceptance.

From the above results the hypothesis ‘Awareness of security has positive impact on net-banking adoption’ can be validated and accepted.

**III: there exists procedural barrier in adoption of the net-banking by the customers**

From the data analysis and interpretation it can be stated that –

- Table no. 9 shows that out of 49 such respondents, 4 say that there exists a procedural barrier while accepting the net-banking services.

From the above results the hypothesis ‘there exist procedural barrier in adoption of the net-banking by the customers’ cannot be validated and not accepted.

**Findings:**

- Among the factors stated behind non-acceptance of net-banking, security is the main reason. 16 out of 49 i.e. 33% of the respondents say that they are not using the net-banking due to security reason.
- But 32 out of 49 i.e. 65% the respondents are comfortable with manual working.
- 11 out of 49 i.e. 22% say that if formal training is provided to them they will use the net-banking.
- 23 out of 49 i.e. 47% say that if PC with secured net connection is provided to them they will use the net-banking.
- More interesting thing is that 21 out of 49 i.e. 43% say that they are not interested to use net-banking at all.
- Only 9% respondents demanded for reduction in procedural barriers and 4% demanded that the website of bank should be in regional language.

**Conclusion and Recommendations-**

Suggestions-Based on the study and observations researcher has made some suggestions to increase the usage of

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net-banking facility provided by banks-

1. Banks may try to reduce the procedural barriers which are imposed by the banks for security reasons.
2. Bank may take initiatives to have websites in regional languages, so as to increase the use of net-banking.
3. Banks may take more initiative for formal training sessions at the branch level, to promote the net-banking. Currently banks are providing the facility to provide the demo at branch level but customers may not be aware of this.
4. Bank may take some steps to make their customer knowledgeable about security aspects of e-transactions by way of some publication, awareness campaign etc.

## **Recommendations-**

1. There may be a society/regulatory body to control/regulate e-commerce throughout India, where the grievances may be addressed.
2. Like ATM centers, banks may provide the Net-Centers where PC with secured internet connection is provided only for net-banking.

## **6.3 Conclusion**

Results of this study clearly indicated that security and comfort in manual system are main obstacles in acceptance of the net-banking. Other obstacles like language, procedures etc. are also playing important role in this. Banks or the Government agencies should take initiatives to tackle these issues so as to increase the number of net-banking customers.

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