

A Study of Bank Customer's Reliability towards Electronic Banking (E-Banking) Channel's!

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ABSTRACT

"In the increasingly competitive world of retail banking, organizations must establish a presence that sets them apart from the crowd. Low cost, convenience, broad product lines, and customer service, to name a few, are the perfect ingredients to segment the banking industry."

(Booz, Allen & Hamilton)

Electronic banking is thriving in India as bank account holders click their mouse, press telephone keys, slide cards, access e-mails and mobile phones to conduct their banking. These e-channels are the sets of powerful tools which allow banking customers to conduct financial transactions, working from their home, office or elsewhere. In other words, Technology Enabled Banking Channels (TEBS) has transformed the banking industry into an anytime, anywhere, fast, and customized service offering and at the same time has changed the way banks service their customers. As technology continues to redefine how customers interact with their respective banks, the present paper highlights the findings pertaining to customer reliability of individual electronic banking channels viz ATM services, Mobile Banking services, Online Banking services, Telephone Banking services and Electronic Statement. The comparison of reliability across the bank groups (i.e. their most preferred bank) is analyzed. The study firmly believes that reliability (of these channels) is the most crucial factor and has significant effect on customers towards the adoption of e-banking services.

Keywords: ATM, Electronic Banking (E-Banking), Electronic Statement (E-Statement), Information Technology, Mobile Banking, Online Banking, Tele (phone) Banking.

INTRODUCTION:

The banking industry in India is steadily expanding. The I.T. revolution which set the Banking sector in motion appears to be E-banking and into the 1990s, the emerging E-banking technology began to skyrocket. Information technology is a medium that has revolutionized banking and everyday bank operations at the click of a button thus enabling sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and reaching geographically distant and diversified markets (Marion 2008). In recent years, the banking industry around the world has been undergoing a rapid transformation and the constant changes in technology and lifestyles have changed the face of banking. Transcending the traditional barriers of time and space, the Internet is redefining the world of banking. The Internet has created new methods for carrying out a variety of financial transactions. With these developments, a new era of banking has emerged which has come to be known as "*e-banking*". E-banking encompasses an array of financial transactions, once done through the tangible exchange of information, now are done electronically. Banks race against each other in bringing the latest technology for the benefit of their customers and themselves (Sudeep S, 2007).

E-Banking Defined:

Engler & Essinger, "Electronic banking is a generic term encompassing internet banking, telephone banking, mobile banking and automated teller machines. In other words, it is a process of delivery of banking services and products through electronic channels such as telephone, internet, atm's etc".

Burr, "E-banking is described as an electronic connection between bank and customers in order to manage and control financial transactions."

OBJECTIVE OF THE STUDY:

- 1) To study the customer reliability of individual technology-enabled banking services/channels.

REVIEW OF 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.

Hanson and Kalyanam, (2007), in their study on "Growth of ATMs", pointed out that e-banking grew rapidly and growth of ATMs made customer visits to a branch less necessary. They further opined that an ATM is a mini bank branch where a bank customer can do a host of financial activities and at their own convenience.

Joshua, A. (2009), in his study, "Adoption of Technology –enabled banking self services: antecedents and consequence", opined that high level of tele banking service quality are required to achieve a high level of tele banking adoption and usage. Hence the banks have to maintain high level of service quality through maintenance of good performance along the tele banking factors which impacts the quality such as reliable service, ample options, clear instructions, short waiting time and so on.

Kumar and Sinha (2009), cited various instances of hacking and phishing attacks reported throughout India. They remarked that cyber-crimes prove that e-banking has several loopholes that can be easily exploited and users need to be extra cautious while making online transactions.

Srinivas (2009), discussed various e-banking channels and suggested security tips for customers which include changing password frequently, abstaining from revealing PIN either via mails or phone, avoiding cyber cafes for net banking etc.

Nair, N.K. *et al.* (2012), PricewaterhouseCoopers LLP (PWC), in their CII Banking Tech Summit Report on "Carving a new path through innovation", analyzed that seamless delivery across all channels (branch, internet, mobile, phone, etc.) means that customers can shift easily between different channels, and complete an activity in a channel different from where it was initiated. Successful multi-channel banks extend full-time support (e.g. 24/7 support on phone or the internet) to enable customers to access their channel of choice anytime anywhere. The survey results revealed that banks realize the role of alternate delivery channels to reduce costs. They are increasingly using technology to provide enriched and seamless delivery across various service channels.

Roshan Lal (2012), analyzed that development of e- banking in banking sector is due to advent of IT. Banks today operate in a highly globalized, liberalized, privatized and a competitive environment. In order to survive in this environment banks have to use IT. Indian banking industry has witnessed a tremendous developments due to sweeping changes that are taking place in the information technology.

Talukdar, R. *et al.* (2012), PricewaterhouseCoopers LLP (PWC), in their CII Banking Tech Summit Report on "Carving a new path through innovation", carried out the research work on Internet banking and concluded that internet banking has transformed cashless banking in India and has given banks a wider reach at a marginally higher cost and has helped improve customer experience by providing banking services at their fingertips. Customers can now handle transactions like payments, remittances, trading, wealth management and portfolio management online. This has significantly reduced customer footprint at the branches. The survey participants unanimously responded that internet banking has reduced actual branch visits.

Verma, A. (Dec 2013), E-banking has become very important for the survival of bank in the changing banking industry. More efforts should be taken by bank in undertaking advertisement and promotional campaign so that greater awareness among consumer is created.

Joseph, F. (2013), concluded that Information technology has played a vital role in the advancement of banking system. The reach of Indian banking to every individual is possible because of the computerization process adopted by banking sector. Information technology has not only simplified the operation but it has also given a great comfort an individual who does not have a good knowledge of IT but need to access banking in an optimum manner.

Unyathanakorn, C. *et al.* (2014), uncovered that e- banks must fixate on service quality to increment customer

contentment and trust and to obtain customer staunchness. Implicative insinuations are discussed in cognation to e-bank management. The Cyber World has become a vital part of people's daily lives. It has transmuted consumer deportment in many ways, including financial transactions formerly requiring a visit to a bank branch to electronic banking.

RESEARCH METHODOLOGY:

The study is confined to Indian Banking Industry. Hence, the universe of the study is banking industry of India.

Selection of Banks:

Banks are selected through purposive sampling as the study is confined to Indian Banking Sector.

S.No	B-1(Public Sector Banks)	B-2(Old & New Private Sector Banks)	B-3(Foreign Banks)
1.	State Bank of India(SBI)	Axis Bank	Standard Chartered Bank(SCB)
2.	Industrial Development & Credit Bank of India(IDBI)	Housing Development Finance Corporation (HDFC)	The Hongkong and Shanghai Banking Corporation (HSBC)

Selection of Bank Customers:

Retail customers of four Indian scheduled commercial banks consisting of two public sector banks, namely, State Bank of India (SBI) and Industrial Development Bank of India (IDBI) and two private sector banks, namely, Axis Bank Ltd. and HDFC Bank Ltd. and two Foreign Banks viz. Standard Chartered Bank and HSBC Bank have been considered as sample unit of the study.

Collection of Data:

The present study carried out a questionnaire survey to garner data from the sample units selected via simple random sampling within the cities of Allahabad, Varanasi, Lucknow and Kanpur. The study was confined to metros and urban banked centers. Uttar Pradesh (U.P.) state was selected for conducting the study.

Final Usable Sample Size:

A total of 550 questionnaires were distributed out of which 347 were received back, yielding a response rate of 63.09%. On further scrutiny of the responses collected, only 308 were found valid for further analysis as rest were incomplete and hence it was decided to remove them. So the sample size used for analysis in the present study is 308.

DATA ANALYSIS AND FINDINGS:

Demographic Profile of the Respondents (Bank Customers)

(A) Gender:

Gender	Frequency (N=308)	Percentage (100%)
Male	212	68.8%
Female	96	31.2%

(B) Age:

Age	Frequency (N=308)	Percentage (100%)
18-32	162	52.6%
33-49	104	33.8%
50-64	38	12.3%
65 & Above	4	1.3%

(C) Educational Qualification:

Educational Qualification	Frequency (N=308)	Percentage (100%)
Below Matric	0	0%
Matric & Senior Secondary	0	0%
Graduate	136	44.2%
Post Graduate & Above	172	55.8%

(D) Income Group (Annually):

Income Group	Frequency (N=308)	Percentage (100%)
Less than Rs.2 Lakh	45	14.6%
Rs.2 Lakh – Less than Rs. 5 Lakh	141	45.8%
Rs.5 Lakh –Less than Rs.10 Lakh	114	37.0%
Rs.10 Lakh & Above	8	2.6%

Customer Reliability Of Individual Technology – Enabled Banking Services/Channels:

The findings pertaining to customer reliability of individual electronic banking channels viz ATM services, Mobile banking services, Online banking services, Telephone banking services and Electronic statement across the bank groups (i.e. their most preferred bank) are analyzed.

(A): Reliability of E-Banking Channels:

Reliability is one of the significant service quality dimensions of electronic banking channels (Jun and Cai, 2001).E-banking has developed enormously over the past several years and will persist to develop as banks continue to strive to provide secure and reliable e-banking services to its customers. Rotchanakitumnuai and Speece, (2003) assumed that customers are concerned about security and reliability of transactions via the electronic banking channels.

Thus, ‘reliability’ in true sense, is an essence of technology enabled banking channels Cass and Fenech, (2003). In the present study, reliability of electronic banking channels was analyzed using the multiple item scale (Likert scale) in order to get more accurate and trusted results. The scale consisted of five parameters i.e. highly unreliable, unreliable, neutral, reliable and highly reliable.

Table (A.1): Reliability Measurement: Cronbach Alpha

Cronbach's Alpha	N of Items
0.979	5

An alpha test was carried out (which is measure of reliability based on internal consistency of the items used in scales) and found to be well above the benchmark level of 0.7 as recommended by Nunnally and Bernstein, (1994) see table (A.1) above. Reliability of electronic banking services were measured using the scales purposely developed for this and the outcomes were compared across the various bank groups.

Table (A.2): Computation of Reliability of E-Channels among the Respondents

E-Banking Channels	Highly Unreliable		Unreliable		Neutral		Reliable		Highly Reliable	
	(F)	(%)	(F)	(%)	(F)	(%)	(F)	(%)	(F)	(%)
ATM	38	12.3%	21	6.8%	24	7.8%	26	8.4%	199	64.6%
Online Banking	47	15.3%	26	8.4%	35	11.4%	28	9.1%	172	55.8%
Mobile Banking	40	13.0%	24	7.8%	32	10.4%	30	9.7%	182	59.1%
Telephone Banking	34	11.0%	26	8.4%	50	16.2%	27	8.8%	171	55.5%
E-Statement	45	14.6%	23	7.5%	44	14.3%	12	3.9%	184	59.7%

From the table (A.2), it may be interpreted that 199 (64.4%) respondents have found ATM as highly reliable electronic banking channel. 172 (55.8%) respondents say that online banking is a highly reliable e-banking channel . 182 (59.1%) respondents accept that mobile banking is a highly reliable e-banking channel and 171 (55.5%) respondents feel that telephone banking is a highly reliable e-banking channel and lastly 184 (59.7%) respondents accept that electronic statement is a highly reliable electronic banking channel.

Figure (A.2) : Showing Reliability of E-Banking Channels Among the Respondents

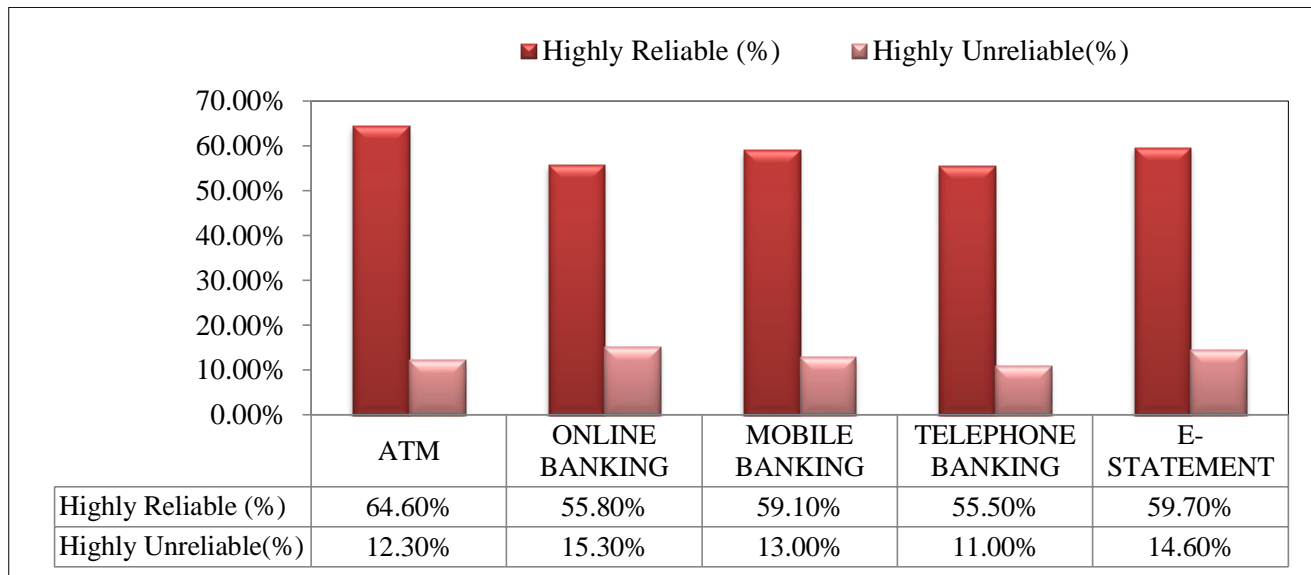


Table (A.3) : Showing Mean Computation.

Most Preferred Bank		ATM	Online Banking	Mobile Banking	Telephone Banking	E-Statement
Public Sector Bank	Mean	3.2286	2.8667	3.0190	2.8952	2.8857
	N	105	105	105	105	105
	Std. Deviation	1.52074	1.38721	1.39354	1.24749	1.34675
Private Sector Bank	Mean	4.5462	4.2615	4.4231	4.3923	4.3538
	N	130	130	130	130	130
	Std. Deviation	1.12140	1.37843	1.25671	1.21678	1.39134
Foreign Bank	Mean	4.3973	4.3973	4.4110	4.4384	4.4110
	N	73	73	73	73	73
	Std. Deviation	1.36157	1.36157	1.33162	1.26915	1.33162

- **Reliability for ATM:** High in case of the respondents of private sector banks (4.5462) followed by the respondents of foreign banks (4.3973) and finally the respondents of public sector banks (3.2286).
- **Reliability for Online Banking:** High among the respondents of foreign bank group. Next are the private sector bank group (4.2615) and finally the public sector bank group (2.8667).
- **Reliability for Mobile Banking:** High among the respondents of private sector banks (4.4231) closely followed by foreign banks (4.4110) and lastly the public sector bank respondents (3.0190).
- **Reliability for Telephone Banking:** High for foreign bank customers (4.4384) followed by private sector bank customers (4.3923) and then the customers of public sector banks (2.8952).
- **Reliability for E-Statement:** High amongst the respondents of foreign banks (4.4110) followed by the respondents of private sector banks (4.3538) and lastly the respondents of public sector banks (2.8857).

Table (A.4): ANOVA Test for Determining Significant Variations in Mean Values For “Reliability of E-Banking Channels” Among the Respondents For Their Most Preferred Bank Group

E-Banking Channels		Sum of Squares	df	Mean Square	F	Sig.
Atm	Between Groups	111.611	2	55.806	31.742	.000*
	Within Groups	536.217	305	1.758		
	Total	647.828	307			

E-Banking Channels		Sum of Squares	df	Mean Square	F	Sig.
Online Banking	Between Groups	145.098	2	72.549	38.235	.000*
	Within Groups	578.720	305	1.897		
	Total	723.818	307			
Mobile Banking	Between Groups	135.584	2	67.792	38.766	.000*
	Within Groups	533.364	305	1.749		
	Total	668.948	307			
Telephone Banking	Between Groups	158.652	2	79.326	51.608	.000*
	Within Groups	468.813	305	1.537		
	Total	627.464	307			
E-Statement	Between Groups	153.519	2	76.760	41.362	.000*
	Within Groups	566.023	305	1.856		
	Total	719.542	307			

(*The mean difference is significant at the 0.05 level of confidence)

With regard to the '**reliability**' of e-banking channels among the respondents of public sector, private sector and foreign banks, we found from the table (A.4) above, that variation in the mean values (table A.3) among the respondents for e-channels is significant at 95% confidence level since the value of **p** (0.000, table I.3) is less than 0.05 ($p < 0.05$).

MAJOR FINDINGS, SUGGESTIONS AND CONCLUSION:

In the present study, reliability of electronic banking channels was analyzed using the multiple item scale (Likert scale) in order to get more accurate and trusted results. The scale consisted of five parameters i.e. highly unreliable, unreliable, neutral, reliable and highly reliable. An alpha test was carried out (which is measure of reliability based on internal consistency of the items used in scales) and found to be well above the benchmark level of 0.7 as recommended by Nunnally and Bernstein, (1994) see table (A.1) above. From the study undertaken, it may be interpreted that 199 (64.4%) respondents have found ATM as highly reliable electronic banking channel. 172 (55.8%) respondents say that online banking is a highly reliable e-banking channel. 182 (59.1%) respondents accept that mobile banking is a highly reliable e-banking channel and 171 (55.5%) respondents feel that telephone banking is a highly reliable e-banking channel and lastly 184 (59.7%) respondents accept that electronic statement is a highly reliable electronic banking channel.

REFERENCES:

- Agarwal, S. (2009). Customer Perception towards Internet Banking w.r.t. Private and Foreign Banks in India, available at <http://www.EBSCOhostdatabase.com>
- Al-Ashban, A.A. and Burney, M.A. (2001). Customer adoption of tele banking technology: the case of Saudi Arabia, *International Journal of Bank Marketing*, Vol. 19, No.5, pp 191-200.
- Al-Hawari, M., Hartely, N. and Ward, T. (2005). Measuring Banks' Automated Service Quality: A Confirmatory Factor Analysis Approach. *Marketing Bulletin*, Vol. 16 Article 1, pp 1-19.
- Balaraju, K., and Balakrishnan, M. (2008). Phishing Threat: how to secure Online Banking, *The Indian Banker*, Vol. 3. No.3, pp 14-20.
- Balwinder, S., and Malhotra, P. (2004). Adoption of Internet Banking: An Empirical Investigation of Indian Banking Sector, *Journal of Internet Banking & Commerce* Vol.9, No.2, available at www.arraydev.com.
- Bhatt, O.P. (2009). SBI & Green Banking, available at www.thehindubusinessline.com/todays-paper/article997461.ece.
- Centeno, (2004). Adoption of Internet Banking Services in the Acceding and Candidate Countries, *Telematics and Informatics*, Vol. 21, No.4, pp293-315.
- Cooper, J., Jayakumar, A., Kim, W. and Palmer, G. (2011). The new digital tipping point, *Pricewaterhouse Coopers LLP (PWC) Report*, pp10-20.
- Dabholkar, P. A. (1996). Consumer evaluations of new technology based Self service options: An investigation of alternative models of service quality, *International Journal of research in Marketing*, Vol. 13, No 1

- pp 29-51.
- Daniel, E. (1999). Provision of electronic banking in U.K. and the Republic of Ireland, *International Journal of Bank Marketing*, Vol. 17, No.2, pp 72-82.
- Eriksson, K., Kerem, K. and Nilsson, D. (2005). Customer acceptance of Internet banking in Estonia, *International Journal of Bank Marketing*, Vol. 23, No.2, pp 200-216.
- Fatima, A. (2011). E-Banking Security Issues – Is There A Solution in Biometrics?, *Journal of Internet Banking and Commerce*, Vol. 16, No 2, pp 1-9.
- Forrester Research Report, (2007). ‘Internet banking usage in U K’ exerts viewed at <http://www.finextra.com/fullstory.asp>.
- Forrester Research Report, (2008). Survey on the “Adoption of e-statement”, available at <http://www.cutimes.com> and also at www.forrester.com.
- Higdon, E.(2008). E-statements save a lot of trees!, available at www.ebscohostdatabase.com.
- Howcroft, B., Hamilton, R. and Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom, *International Journal of Bank Marketing*, Vol. 20, No. 3, pp 111-121.
- Israni, and Naveena. (2006). ATM: All That Matters at the push of a button, *Economic Times News Network*, 23rd November 2006.
- Jain, A.K., and Jain, P. (2006). Customer Satisfaction in Retail Banking Services, *NICE Journal of Business*, Vol.1, No.2, pp 95-102.
- Joshua, A. (2009). Adoption of Technology –enabled banking self services: antecedents and consequence, (*conference proceedings of International conference on Services Management organized by TAPMI, Manipal*), February 15-16, 2008, pp 90-105.
- Kaleem, A. and Ahmad, S. (2008). Bankers’ Perceptions of Electronic banking in Pakistan, *Journal of Internet Banking and Commerce*, Vol.13, No.1, available on www.arraydev.com.
- Keswani, S. and Chaturvedi, M. (2010). Impact of Customer’s Awareness on Their Satisfaction: A Study on E-Banking in Gwalior City, *SIES Journal of Management*, Vol. 6, No.2, pp 79-91.
- Khanapurkar, N., Pande, K., Pillai, V.S., Crasto, G. and Nalwaya, S. (2010). Banking on Technology-India, *KPMG Survey*, pp 6-18.
- Kiran, K.S.R. (2009). Evolution of Mobile Banking, *Perspective by Infosys Technologies Limited*, available at www.infosys.com/finacle.
- Laforet, S. and Li, X. (2005). Consumers’ attitudes towards online and mobile banking in China, *International Journal of Bank Marketing*, Vol. 23, No. 5, pp362-380.
- Laukkanen, (2007). Mobile banking technology, *International Journal of Mobile Communications*, Vol. 3, No.4, pp 325-338.
- Malhotra P., and Singh B. (2005). New Revolution in the Indian Banking Industry: Internet Banking, *Punjab Journal of Business Studies* Vol.1, No.1,pp 75-86.
- Manoharan, B. (2007). Progress in ATM Technology, *Professional Banker*, pp 42-44.
- Nair, K. N. C. (2005). Technology: A Strategic Resource, *ICFAI*, pp 38-40.
- Nair, N.K., Khanna, P., Shukla, S. and Barik, S., (2012). Carving a new path through innovation, *Pricewaterhouse Coopers LLP (PWC) CII Banking Tech Summit Report*, pp 3-20.
- Pande, K., Parashar, A. and Crasto, G. (2011). Technology Paradigms for the Banking Industry, *KPMG Survey*, pp 14.
- Qureshi, (2008). Customer Acceptance of Online Banking in Developing Economies, *Journal of Internet Banking and Commerce*, Vol.13, No.1, pp 1-12.
- Rao, N. and Tiwari, S. (2009). A Study of Factors Affecting Efficiency of Public Sector Banks, *Journal of Services Research* , Vol.8, No.2, pp 73-89.
- Sanghavi, A., Bisht, H., Mitra, H., Jain, N. and Das, S (2012). Carving a new path through innovation, *PricewaterhouseCoopers LLP (PWC) CII Banking Tech Summit Report*, pp 2-24.
- Talukdar, R., Banerjee, S. and Srivastav, S., (2012). Carving a new path through innovation, *PricewaterhouseCoopers LLP (PWC) CII Banking Tech Summit Report*, pp 4-14.
- Uppal, R.K. and Kaur, R. (2007). Transformation in Indian banks through E-banking services, *Contributions-Banknet Publications*, Vol. 4, No.2, pp 16-28.
- Venugopalan, M. (2005). Implementation of Core Banking Solutions to Withstand Competition, *IBA Bulletin*, Vol. 27 No. 2,pp 3-15.