

---

# IT Based Services in Public and Private Sector Banks : A study on Application of Information Technology on Customers

*Sukhjeet Kaur Matharu\**, *Bharti Motwani\*\**, *Sharda Haryani\*\*\**

## *Abstract*

*Information technology has brought about a revolution in the banking industry. Availability of technology such as ICT as well as the increase in the competition in financial services have compelled banking sector to reconsider improving their operational efficiency and marketing strategies. This paper is an attempt to identify the impact of various IT based services offered by public and private sector banks on customers. Using questionnaire method, the study investigates factors that have framed perceptions of customers on IT based services offered by both types of banks. Then, Anova tests are carried out to find whether or not perceptions of customers on two groups of banks i.e. public and private banks for providing IT based services are significantly different. Anova tests are also generated on gender bias of perceptions of the male / female group of customers on the provision of IT based services and levels significance have been listed. This study can be helpful to planners, policy makers, bankers and those who are interested in the study of banking sector.*

**Key words:** *ICT, Marketing Strategies, Public sector & Private Banks by different types of banks.*

## **Introduction**

The world has become a global village with the development of information technology. Technological innovations along with deregulation and liberalization have revolutionized the financial sector. Banking business has been radically altered and the internal working of a bank has been improved to a considerable extent as a consequence of the application of information technology. Use of information technology based services by banks has accelerated customer-centric delivery channel of services round the clock and has played an important role in ensuring customers' satisfaction. New business models, processes and revolutionary distribution channels are the outcome of technological

advancement in the banking industry. Technology has opened up new markets, new products, new services and efficient delivery channels for the banking industry. Due to the change in the model of banking, there has been rapid

**\*Dr. Sukhjeet Kaur Matharu,**  
*Assistant Professor*  
**\*\*Ms. Bharti Motwani,**  
*Assistant Professor;*  
**\*\*\*Ms. Sharda Haryani,**  
*Assistant Professor;*  
*Prestige Institute of Management &  
Research, Indore: 452010*

evolution of wants and desires of the public for better and new banking services. Customers now demand anytime-anywhere delivery of financial services. Customers have started perceiving the internet banking as the prime attractive feature for the convenience and comforts it provides to the customer.

The commercial banks in India comprise of both Public sector as well as Private sector banks. Public sector banks have inclination to be more welfare oriented while private sector banks are more profit oriented though both are under the same regulation of RBI. IT in Indian banking services were first implemented in the Private sector Banks. Since these banks enter

into the sector late, they found it useful to build technological capabilities for establishing networks in remote corners of the country and develop competitiveness in the industry. They took the internet applications as a weapon of competitive advantage to corner the great monoliths like the State Bank of India, the Indian Bank etc. Even now, Private Banks are in the forefront of adoption of versatility of internet applications in delivering services to customers. They are also focusing on integrating IT and business strategies for enhancement of efficiency and productivity. IT related services in banks include services provided in the Table-1.

Table : 1

Serial Number	IT Services	Type of Benefit
1	Mobile banking / Telephone	1. SMS alert facility keeps the customer informed about the significant transactions in the account 2. Enquiry services which provide information on customer's account status through telephone
2	Internet Banking	Operations like payment, balance transfer, account status, transaction details etc. internet banking is the most convenient channel to manage and pay bills anytime, anywhere.
3	Online Trading	Buying and selling of financial securities using internet based services
4	Bill payment	Paying bills through a computer or telephone, and that amount is deducted from the bank account
5	Telephone Banking	It helps the consumer in getting the information they need related to the transaction on their account and other related information.
6	Ticket Booking	Customers can book their travelling tickets on internet and pay the amount with the help of internet banking
7	Automated Teller Machine	Customers can withdraw cash even if away from bank branch. An ATM is a computerized telecommunication device that provides the consumer to access financial transactions in a public space without the need for a human clerk or bank teller.
8	Credit Card	Can be used repeatedly to borrow money or buy products and services on credit. The credit card holder is empowered to spend within the limits fixed by the bank. It is a post paid card.

---

## Literature Review

According to B. Jalan (2003), *IT* revolution has brought about a fundamental transformation in the banking industry. Perhaps no other sector has been benefitted by advances in technology as much as banking & financial sector. *IT* has been enabler in dealing with intense competition in the sector as well as helped rapid proliferation of financial innovations.

A study by Joshua A. J, Koshi M.P (2011) with the sample population of 56.2% males and 33.8% females indicated that men would use the electronic banking services more than women. Similar studies done in other countries also show that mostly the well-educated and well-off youngsters and predominantly males opted for electronic channel self-services.

Results of the study by Nicole et.al (2010) indicated that compatibility, perceived usefulness, and risk are significant indicators for the adoption of m-banking services. Compatibility not only had a strong direct effect but was also identified as an important antecedent for perceived ease of use, perceived usefulness and credibility. Men were significantly more likely to use m-banking than women. This is consistent with findings of Chau and Hui (1998) who found comparable results in their study of early adopters of new *IT* products. Furthermore, the same study found that users of smart phones were significantly more likely to use m-banking than those who used other mobile phones. Younger customer (aged 25 to 34) was particularly interested in mobile banking services.

Mukherjee and Nath (2003) have studied the role of trust in online banking services in India and have concluded that trust enhances customer's commitment in online banking transactions. This research found that the perceived risk was the key dimension of trust. Factors like extra services offered, image of the bank and convenience were given much importance by customers of local banks. Cunningham and Gerrard (1999) studied how undergraduates of Singapore chose their banks. Among factors in consideration on the most important were "feel secure" and the least important "third party influences".

Padhy (2007) studied the impact of technology development in the banking system highlighting the future of banking sector through adoption of technology. His study showed that the core competencies would provide comparative advantages. Shastri, R.V. (2000) highlighted some challenges faced by banks regarding *IT* implementation. Uppal & R. Kaur (2007) studied the impact of Information Technology on various parameters of bank performance and concluded that Indian banking industry was speedily moving towards *IT*. The future of e-channels was found to be very bright.

Jun and Cai (2001) identified reliability as one of the very important dimensions of i-banking service quality. Wolfenbarger and Gilly (2002) also observed that reliability was an important factor for customer satisfaction. The significance of security and privacy for the adoption of online banking figured in many banking studies (Hernandez and Mazzon, 2007; Chen and Barnes, 2007; Sathye, 1999; Hamlet and strobe, 2000; Tan and Teo, 2000; Polatoglu and Ekin, 2001; black et al, 2002; Howcroft et al, 2002). Jabnoun and Al-Tamimi (2003) examined perceived services quality in commercial banks in the United Arab Emirates and concluded that customers value human skills as the most important service quality.

## Scope and Design of the Study

The study is exploratory in nature and focuses basically on primary data for analyzing general as well as gender bias of customers' perception towards implementation of *IT* based services in the public and private sector banks. The sample of 200 respondents availing *IT* based services of both public & private banks from the city of Indore were chosen as sample. For the purpose of data collection, a self structured questionnaire containing 8 services was developed with 12 different factors for each service. Findings of previous research are used for framing the questionnaire. All responses are measured on five point scale having 1 = Strongly Disagree/ Completely Irrelevant to 5 = Strongly Agree/ Completely Relevant. Data were analyzed using Anova and Post hoc.

---

## Reliability of Measures

Cronbach's alpha allows us to measure the reliability of different variables. As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and is a good indicator of reliability. In the present study the reliability of the questionnaire comes to be 0.96. Correlation coefficient is also calculated and four questions are dropped since their correlation are less than 0.196.

## Hypotheses

H01: There is no significant difference in the perception of customers towards IT based services of the public sector and private sector banks.

H02: There is no significant difference between the perception of customers on the basis of gender about the IT based services provided by Public and Private Sector Banks.

H03: There is no significant difference between the perception of the male and the female customers about the IT based services provided by Public sector banks.

H04: There is no significant difference between the perception of the male and the female customers about the IT based services provided by Private sector banks.

H05: There is no significant difference among the perception of male customers about the IT based services provided by Public and Private sector banks.

H06: There is no significant difference among the perception of female customers about the IT based services provided by Public and Private sector banks.

## Results and Discussion

As shown in Table 1, the calculated value of  $t = 0.017$  is less than 0.5 level of significance. Therefore, null hypothesis H01 is rejected which means there is significant difference between the IT based services provided by public sector and private sector banks as perceived by customers. Use of technology in expanding banking is one of the key focus areas of the Reserve Bank of India. Private sector banks have

adopted to ICT more extensively. It can be inferred from the study that the public sector banks are expected to incorporate services based on ICT in order to be competitive with banks in private sector. Table 2 depicts that the F value between groups is 4.512 and p value is 0.004; therefore null the hypothesis H02 is rejected at 5 % level of significance i.e. male and female respondents have significant difference in their mean values as far as their perception towards IT based services offered by both types of banks. H03, H04, H05, and H06 have been tested by using Tukey Test method.

Results of Tukey test depicted in the table 3 shows that p value between male and female groups on the difference in IT service provided by the Public and Private Sector Banks is 0.508. Therefore null hypotheses H03 is rejected at 5 % level of significance i.e. there is significant difference between the perception of male and female respondents on the perception on IT based services. The p value between other group is 0.087. Therefore null hypotheses H04 is rejected at 5 % level of significance i.e. the male and the female respondents differ in their perception towards IT based services provided by Private sector banks. The p value in among male respondents on the perception of IT based services offered by Public sector banks and Private sector banks is 0.535 therefore null hypotheses H05 is rejected at 5% level of significance i.e. there is significant difference in the mean values as far as the perception of male respondents towards the IT based services offered by Public and Private banks is concerned.

The p value between female respondents towards their perception of IT based services offered by Public sector banks and Private sector banks is 0.121 therefore null hypothesis H06 is rejected at 5% level of significance i.e. There is significant difference in the mean values as far as the perception of female respondents towards the IT based services offered by Public and Private banks is concerned.

## Implications of the Study:

This comprehensive survey regarding the perception of the youngster regarding IT delivery channels of various products and services in banks, will be of great use for those banks which have still not fully adopted IT particularly public sector banks. Public

---

sector banks can modify some services, delivery channels as per requirements of customers. It will further be helpful in improving the customer relationship management in banks.

#### CONCLUSION:

Information technology has played a vital role in the advancement of banking system. The reach of banking service to every individual in India is possible because of the computerisation adopted by banking sector. Information technology has not only simplified operation but it has also given a great comfort to an individual who does not have a good knowledge of IT but need to access banking services in an optimum manner. Out of total respondents' more than 50 % agreed that information technology based services offered by banks are very convenient and offer flexible ways of banking. These services also offer various transaction related benefits. Thus, the provision of information technology based services by banks is increasingly becoming a "need to have" than a "nice to have" service.

#### References

- Anguelov, C.E., Hilgert, M.A. and Hogarth, J.M. (2004), U.S. Consumers and Electronic banking, 1995-2003. Federal Reserve Bulletin, 90(1), 1-18.
- Avasthi, G.P. and Sharma, M. (2000-01). Information Technology in Banking: Challenges for Regulators. Prajnan. XXIX (4). 17.
- Janki, B. (2002). Unleashing Employee Productivity: Need for a Paradigm Shift. Indian Banking Association Bulletin. XXIV (3). 7-9.
- Black, N., Lockett A., Ennew,C., Winklhofer H. and McKechnie S. (2002), Modelling consumer choice of distribution channels: An illustration from financial services, International Journal of Bank Marketing 20(4),161-173.
- Chau, P.Y.K. and Hui, K.L. (1998), Identifying early adopters of new IT products: a case of Windows 95, Information & Management, 33 (5), pp. 225-230.
- Chen, YH and Barnes S. (2007), Initial trust and Online Buyer Behaviour, Industrial . Manage. Data System, 107(1), 21-36.
- Cunnigham, B.J., and Gerrard, P. (1999), The Multiple Banking Behavior of Singaporeans, The International Journal of Bank Marketing, 12(1), 26-35.
- Davis, F.D., Bagozzi, R. and Warshaw, P. (1989), User Acceptance of Computer Technology: A Comparison of Two Theoretical Models, Management Science, 35(8), 982-1003.
- Hamlet, C. and Strube, M. (2000), Community Banks go Online. ABA Banking Journal's 2000 White Paper/ banking on the Internet, 61-65.
- Hernandez, JMC and Mazzon, JA (2007), Adoption of Internet Banking: Proposition and Implementation of an Integrated Methodology Approach, The International Journal Bank Marking, 25(2), 72-88.
- Howcraft, B., Hamilton R. and Hewer P. (2002), Consumer Attitude and the Usage and Adoption of Home-Based Banking in the United Kingdom, The International Journal Bank Marking , 20(3), 111-121.
- Hua G. (2009). An Experimental Investigation of Online Banking Adoption in China. Journal of Internet Banking and Commerce, 14(1). April. Accessed on 20th January, 2011 on <http://www.arraydev.com/commerce/jibc/>.
- Jabnoun, N. and Al- Tamimi, H. (2003), Measuring Perceived Service Quality at UAE Commercial Banks, International Journal of Quality and Reliability Management, 20(4), 458-472.
- Jalan, B. (2003), Strengthening Indian Banking and Finance: Progress and Prospect, IBA Bulletin, Vol. XXV, No. 3 (March), 5-14.
- Jayawardhena ,C., and Foley, P. (2000), Changes in the Internet Banking Sector- The Case of Internet Banking in UK, Internet Research, Electronic Networking Application and Policy. 10(1), 19-30.
- Joshua, A.J, Koshi M.P (2011), Usage Patterns of Electronic Banking Services by Urban Educated Customers: Glimpses From India, *The Journal of Internet Banking and Commerce*, April 2011, vol. 16(1-2), pp.1-12. (<http://www.arraydev.com/commerce/jibc/>)

- 
- Julian, C. and Ramaseshan, B. (1994), The Role of Consumer-Contact Personnel in the Marketing of a Retail Bank's Services, *International Journal of Retail and Distribution Management*, 22(5), 29-34.
- Jun, M. and Cai, S. (2001), The key Determinants of Internet Bank Service Quality: a Content Analysis, *The International Journal of Bank Marketing*, 19(7), 276–291
- Mittal, R.K. & Sanjay (2007), Technology in Banking Sector : Issues and Challenges, *Vinimaya*, Vol. XXVII, No. 4, (Jan – March), 14 – 22.
- Moore, G. and Benbasat, I. (1991), Development of an Instrument to Measure the Perception of Adopting an Information Technology Innovation, *Information Systems Research*, 2(3), 192-222.
- Nicole Koenig-Lewis, Adrian Palmer, Alexander Moll, (2010) Predicting young consumers' take up of mobile banking services, *International Journal of Bank Marketing*, Vol. 28 Iss: 5, pp.410 - 432
- Padhy, K.C. (2007), *Banking Future*, (ed.book), Dominant Publishers and Distributors New Delhi.
- Polatoglu, V.N. and Ekin, S. (2001), An Empirical Investigation of the Turkish Consumers' Acceptance of Internet Banking Services, *he International Journal of Bank Marketing*. 19(4), 156-165.
- Robinson, G. (2000), Bank to the Future, *Internet Magazine*.
- Roboff, G. and Charles C. (1998), Privacy of Financial Information in Cyberspace: Banks Addressing What consumers want, *Journal of Retail Bank Service*, XX(3), 51-56.
- Sathye, M. (1999), Adoption of Internet Banking by Australian Consumers: An Empirical Investigation. *The International Journal of Bank Marketing*. 17(7), 324-334.
- Shastri, R.V. (2003), Recent Trends in Banking Industry: IT Emergence, *Analyst*, (March), 45-46.
- Shetty, V.P. (2000), E-Banking, *IBA Bulletin*, Vol. XXI(3), (March Special Issue), 31-34.
- Singhal, D. and Padhmanabhan, V. (2008), A Study on Customer Perception Towards Internet Banking: Identifying Major Contributing Factors, *The Journal of Nepalese Business Studies*, V(1), 101-111.
- Uppal, R.K. & Kaur, R. (2007), Indian Banking Moving Towards IT, *Journal of Commerce and Trade*, 2 (1), 26-32.

**Table 1**  
**Independent Samples Test**

H10 : There is significant difference in the perception of customers towards IT based services of the public sector and private sector banks		F	Sig.	T	df	Sig. tailed)	Mean Difference	Std. Error difference	95% Interval difference	Confidence of the
Total	Equal variances assumed	4.523	.035	2.417	198	.017	14.84	6.141	2.731	26.949
	Equal variances not assumed			2.417	183.843	.017	14.84	6.141	2.725	26.955

**Table 2**  
**ANNOVA test for Group Deference**

H02 : There is no significant difference between the perception of customers on the basis of gender about the IT based services provided by Public and Private Sector Banks.	Sum of Squares	Difference	Mean Square	F	Significance
Between Groups	24823.130	3	8274.377	4.512	0.004
Within Groups	359476.3700	196	1834.063		
Total	384299.5000	199			

Table 3

Results of Tuckey HSD tests on Mean defence between Groups

Tukey HSD	Hypothesis	Mean Difference	Std. Error	Sig.
Tukey HSD	H03 : There is no significant difference between the perception of male and female customers about the IT based services provided by Public sector banks.	11.9054	8.57205	.508
	H04 : There is no significant difference between the perception of male and female customers about the IT based services provided by Private sectors Banks	20.33	8.59	.089
Tukey HSD	H05 : There is no significant difference between the perception of male customers about the IT based services provided by Public and Private sector banks	11.1994	8.32073	.535
Tukey HSD	H06 : There is no significant difference between the perception of female customers about the IT based services provided by public and Private sectors Banks	19.6313	8.83632	.121