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AN EMPIRICAL ANALYSIS OF FACTORS AND VARIABLES INFLUENCING INTERNET BANKING AMONG BANGALORE CUSTOMERS

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ABSTRACT

During the past two decades, Information technology has transformed the banking industry and has provided a way for the banks to offer differentiated products and services to its customers. Internet Banking is an innovative service and is the new & prevailing trend among banking customers. Based on the feedback from 200 bank customers of different banks, this paper explores how far various demographic variables have an influence on usage and what factors have motivated customers in adoption of internet banking. The Chi Square test revealed that Age, Occupation, Income and Type of Banks have significant relation to usage of internet banking service, where as Qualification and Gender have no relation to its usage. Factor analysis was performed to extract the factors responsible for the adoption of internet banking. Factors influencing the adoption of internet banking were found to be Ease of use, Perceived risk, Infrastructure complaints, Operational advantage and Personal Limitations.

KEYWORDS

Adoption, Information technology, Internet Banking.

INTRODUCTION

The progress made in information technologies have changed the banking industry and have provided a way for the banks to offer differentiated products and services to their customers. The advent of technology made the banks which were used to branch based operations for over 200 years, change the nature of financial services offered to its customers. For instance, automated teller machines (ATM) displaced cashier tellers, telephone represented by the call centers replaced the branch banking, the internet replaced mail, credit cards and electronic cash replaced bank transactions.

Earlier, banking techniques required the customer to visit the bank branch where he has his account to perform the basic banking operations like depositing or withdrawing cash, funds transfer or balance enquiry etc. Internet banking enabled the customer to perform these basic banking operations sitting at home or in office with a desktop or a laptop round the clock globally through internet. This is called anytime, anywhere banking where customers can access their account and transact any banking business without any restrictions like banking hours, long queues, geographical distance etc. The development of technology has made time and distance meaningless in banking business.

Internet Banking also called as online banking is the new age banking system. Internet banking uses the internet as the delivery channel to conduct banking activities like transferring funds, paying bills, viewing account statements, paying mortgages and purchasing financial certificates of deposits (Haque et al. 2009). Banks know that the Internet opens up new horizons for them and moves them from local to global frontiers (Mavri & Ioannou, 2006). Banks gain competitive advantage over their rivals by providing electronic banking services as technology induced services reduce cost of operations, removes geographical barrier, provides 24 hr banking, extended hours of business and efficiency in daily banking processes. Without even interacting with the bankers, customers can transact banking activity from any corner of the world. Electronic banking has experienced rapid growth and has transformed the traditional banking practices (Gonzalez et al. 2008).

Internet banking made its debut in UK and USA in 1980s. It was first introduced in India by ICICI bank in mid 1990's. With the globalization of the Indian economy coupled with rapid growth of information and communication technology, Indian banks started a new phase in banking journey. They embraced technology in a big way, with private and foreign banks showing the way. The most significant technological innovation being Internet banking for retail customers, which changed the way, banking was carried on for decades. Internet banking was adopted by banks when Internet was making a slow and steady progress in the country.

The middle and late 90s witnessed a tornado of financial reforms, deregulation and globalization which led to the arrival of private and foreign banks into the banking domain, which was till then dominated by Government controlled public sector banks. These banks entered the industry with state of the art technology right from day one creating competition to the existing Indian banks. In the scenario of severe competition and escalating customer expectations, banks cannot remain lukewarm to IT and yet hope to grow. The key to survival is to provide value added services using state of the art IT. Not to be left behind, public sector banks were also quick to adopt the new technique by computerizing all their branches and adopting Core Banking Systems (CBS).

A combination of regulatory and market forces supported the implementation of technology and automation in the Indian banking industry. As the Central bank in a developing country the Reserve Bank of India (RBI) has adopted development of the banking and financial market as one of its prime objectives. "Institutional development" was the hallmark of this approach from 1950s to 1970s. In the 1980s, the Reserve Bank focused on "improvements in the productivity" of the banking sector. Being convinced that technology is the key for improving productivity and efficiency, the Reserve Bank took several initiatives to popularize usage of technology by banks in India.

Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations. (Thulani et al. 2009). In its simplest form, electronic banking may mean the provision of information about the bank and its products via a page on the internet (Ibrahim et al. 2006). It is the types of services through which bank customers can request information and carry out most retail banking services such as balance reporting, inter account transfers, bill payment, etc via a telecommunication network without leaving their homes or organizations. Daniel (1999) defines electronic banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone or digital television. Internet banking provides universal connection from any location worldwide and is accessible from any internet linked computer (Thulani et al., 2009). According to Christopher (2006), Internet banking has become an important tool for the banks to stay in competition and also be profitable.

RELATED STUDIES IN INDIA & ABROAD

In their study on factors influencing rate of adoption of internet bank services by users in Singapore, Gerrand & Cunningham (2003), concluded that the adopters of internet banking perceive the service to be more convenient, less complex and more compatible and suiting them. Sohail & Shanmugham (2004) in their study done in Malaysia indicates that age and education have no impact on adoption whereas accessibility to the internet, awareness of E-banking and customers' resistance to change are the main factors influencing adoption. Gan et al. (2006) conducted a research to examine customer's preference to electronic and non electronic banking in New Zealand. The decision to use electronic banking depends on service quality dimensions, perceived risk factors, user input factors, price factors, product characteristics, individual and demographic factors such as age, gender, education etc. Abdulaziz, A. Hashim, R. & Chaker, M.N. (2008), found that the major Internet Banking concern amongst customers in Qatar was the safety and security of the service. Padachi et al. (2008) indicate that trust, ease of

use, cost of computer, internet accessibility & security concerns are important factors in adoption of internet banking among customers in Mauritius. Eriksson, Kerem & Nilson (2008), while studying the adoption of internet banking in Estonia, concluded that relative advantage & complexity have strong influence, whereas perceived risk and compatibility have weak/negative influence on adoption.

Waleed Al-Ghaith et al (2010) Gender plays a significant role in the adoption of e-service and it is found that women are more likely to adopt than men. Perceived Complexity followed by Privacy and Compatibility have significance influence on adoption. Quality of the Internet and its relative advantage also had a notable affect on usage and adoption (Saudi Arabia). Marchionni & Ritchie (2007) concluded that adopters of new technology are younger, wealthy, usually have a good level of education, and possess more social mobility than those who adopt innovations later. Chen & Wellman (2004) focused on Internet usage in China, Germany, Korea, Italy, Japan, Mexico, UK, and USA and found that men were more likely than women to use the Internet and the rate of adoption was high for young people who understand English and live in urbanized environment.

Gupta (2008) in his study in Jaipur city has identified certain loopholes such as non awareness of the facility, lack of trust, using only few facilities though e-banking provides various services, concern about safety and security. Other suggestions include improve awareness in rural areas, banks to be transparent about charges, installing e banking facility wherever ATMs are installed and setting up a network of all banks through a single network. Prasad. M. A., (2010) tried to identify e banking channels, study their utility and make suggestions for improvement. He recommended that to enhance the utility of channels, banks need to take certain important initiatives like providing access to internet in ATM booths, removing limitations on operations, reducing service charges and providing smart card facility for pay and use internet in any ATM booths. Yahya, S., et al. (2009) in his study concluded that banks have major role in ensuring that more customers adopt Internet Banking. The more facilities they have in terms of website, locations, security and risk, the more will be the adoption rate.

NEED / RATIONALE OF THE STUDY

According to Internet and Mobile Association of India (Sep 2011), there are 112 mn claimed Internet users in India. Youth and Students constitute the major portion of the total users. Their main purpose of internet access was Education and Entertainment. Online Banking was the last in the list of internet access.

According to a survey by Global Management Consultancy, Mckinsey & Co. (2010-11), Only 7% of the account holders in the country are using internet for banking transactions,. Though this is a massive seven fold jump from 2007(when it was just 1%), still it is very low from bank's perspective. The report also states that it is the younger generation customers who prefer internet banking.

Further findings also indicate that where Internet and ATM usage is growing, the same cannot be said about internet banking. Robinson (2000) reported that half of the people who have tried online banking services do not become active users. Highly publicized cases involving major security failures have contributed to the customers' apprehension and lack of adoption of Internet banking.

With India taking giant leaps after globalization, the internet banking also needs to keep pace with it. With a booming economy triggered by the IT sector and sophisticated customers, it becomes imperative for the banks to get a feedback on the features of internet banking. Thus this paper, based on the feedback from 200 bank customers of different banks, explores how far the various demographic variables have an influence on usage and what factors have motivated customers in adoption of internet banking.

OBJECTIVES

1. To find out the encouraging / discouraging factors influencing customers of internet banking
2. To analyze the impact of various demographic factors on the usage of internet banking
3. To find out the difference in usage of internet banking by customers of public and private sector banks

HYPOTHESES

Hypothesis 1: There is significant relation between various demographic variables and usage of internet banking.

Hypothesis 2: There is significant difference between the public and private sector bank customers and usage of internet banking.

Hypothesis 3: There is significant relation between encouraging and discouraging factors on the satisfaction level of customers of internet banking.

RESEARCH METHODOLOGY

The population for the study is the bank customers of Bangalore. Since, Bangalore is considered as the IT capital of the country and also most of the young lot of population working in IT or ITES sector with constant access to computers, it would be ideal to find their perception and usage of internet banking. The sample consisting of 200 bank customers, 54 from State Bank of India, 44 from ICICI, 27 from HDFC, 19 from other private sector banks, and 56 from other public sector banks. A convenience sampling technique was adopted for selecting the respondents. General background of the respondents is given in Table 1

Tool for measuring the variables was developed by the researcher with the help of previous studies. Various features of internet application which encourages and discourages the customers in using internet banking were considered based on earlier studies. Ten encouraging and ten discouraging factors were considered to develop a questionnaire. The questionnaire was developed on a five point likert scale, where 1 represents strongly disagree and 5 represents strongly agree.

TABLE 1: GENERAL BACKGROUND OF THE RESPONDENTS

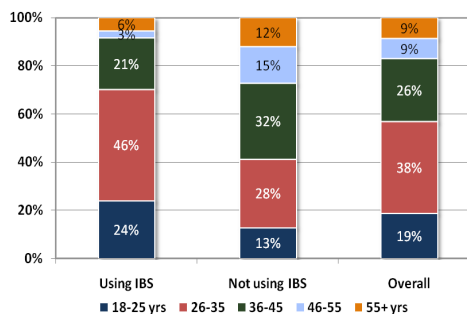
Age	Frequency	Percentage
18 -25 years	38	19
26-35 years	76	38
36-45 years	52	26
46-55 years	17	9
Above 55 years	17	9
Gender	Frequency	Percentage
Male	111	55
Female	89	45
Profession	Frequency	Percentage
IT industry	54	27
Non IT industry	46	23
Professional	9	5
Businessmen	18	9
Others	73	37
Income	Frequency	Percentage
< 2 Lakhs	64	32
2 to 5 Lakhs	59	30
>5 Lakhs	77	39
Education	Frequency	Percentage
PU	4	2
Graduates	108	54
Post Graduates	75	38
Others	13	7
Types of Banks	Frequency	Percentage
SBI	54	27
ICICI	44	22
HDFC	27	14
Other Public sector banks	56	28
Other Private sector banks	19	10

ANALYSIS AND INFERENCE OF THE STUDY

The reliability of the scale of items was tested with the application of Cronbach’s alpha and it was found to be 0.7501. The chi-square is used to test whether two variables are independent or not. In other words, this test is used to test whether one variable has significant influence over the other variable. To check the impact of various demographic variables on the Internet usage and also to find the difference in the perception among customer’s of different banks to the usage of Internet banking, Chi square analysis was done.

TABLE 2/GRAPH 1 - CHI SQUARE RESULT ON - AGE VS. USAGE OF INTERNET BANKING SERVICES

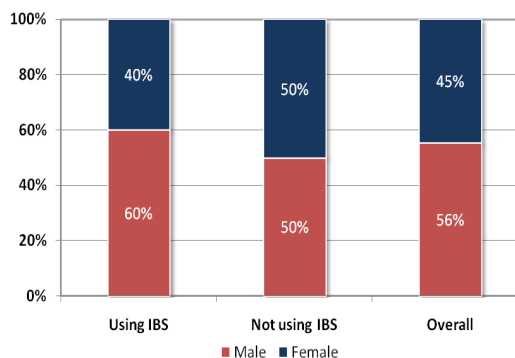
Statistics	
Chi square	20.87
d.f.	4.00
Sig.	.000(*)



With Chi Square values of 20.87, age was found to be statistically significant at 1% level with internet usage. 70% of the customers in the age group of 18-35 were found using internet banking, with majority of 46% falling in the age category of 26-35 years, which confirms the hypothesis that age has relation to usage of internet banking.

TABLE 3/GRAPH-2 - CHI SQUARE RESULT ON - GENDER VS. USAGE OF INTERNET BANKING SERVICES

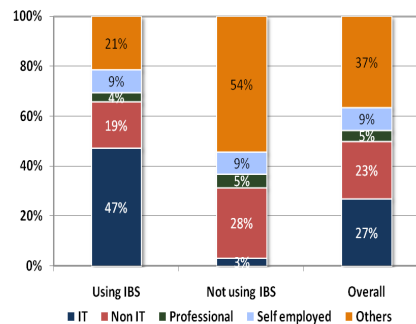
Statistics	
Chi square	2.09
d.F	1.00
Sig.	0.15



Contrary to Literature, this study found no relation between gender and usage of internet banking services. With a Chi square value of 2.09, gender was found to be statistically insignificant to internet usage.

TABLE 4/GRAPH 3 - CHI SQUARE RESULT ON - OCCUPATION VS. USAGE OF INTERNET BANKING SERVICES

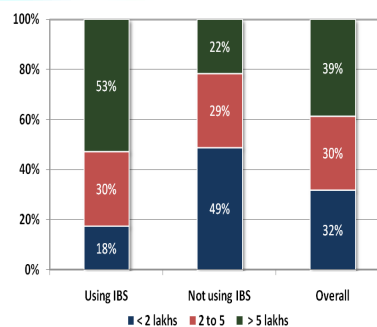
Statistics	
Chi square	52.83
d.F	4.00
Sig.	.000(*)



In line with the literature, 47% of the respondents working in IT sector were found to be using and only 3% from IT sector were found not using internet banking. With a chi square value of 52.83, at 1% significant level, occupation was found to be statistically significant to usage of internet banking.

TABLE 5/GRAPH 4 - CHI SQUARE RESULT ON - INCOME VS. USAGE OF INTERNET BANKING SERVICES

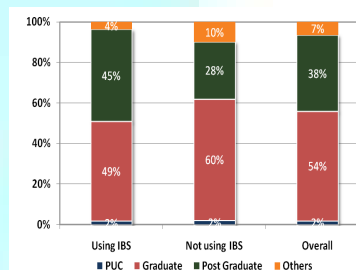
Statistics	
Chi square	27.66
d.F	2.00
Sig.	.000(*)



53% of the respondents drawing more than 5 lac were found to be using and 49% of the respondents drawing less than 2 lac were found not using internet banking services, which is in confirmation to the previous studies, i.e., higher the income, greater is the adoption rate. The chi square value of 27.66 at 1% significant level, statistically also income was found to be significant.

TABLE 6/GRAPH 5 - CHI SQUARE RESULT ON - EDUCATION VS. USAGE OF INTERNET BANKING SERVICES

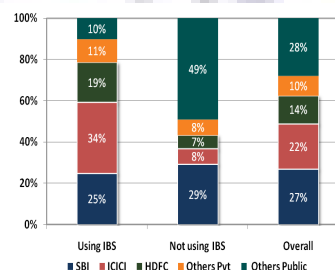
Statistics	
Chi square	7.78
d.F	3.00
Sig.	.051(a)



Contrary to the literature, this study found no relation between education and internet banking usage. With a chi square value of 7.78 at 1% significant level, education was found to be statistically insignificant.

TABLE 7/GRAPH 6 - CHI SQUARE RESULT ON - TYPES OF BANKS VS. USAGE OF INTERNET BANKING SERVICES

Statistics	
Chi square	49.79
d.F	4.00
Sig.	.000(*)



64% of the customers of Private sector banks and 25% of the customers of SBI, were found to be using internet banking. Only 23% of the Private sector banks customers were not using internet banking, with SBI maintaining status quo with 29%. Majority of 49% of customer of public sector banks were found not using internet banking. The chi square result with 49.79 at 1% sig. level, types of bank was found to be statistically significant to usage of internet banking.

FACTOR ANALYSIS

An exploratory Principal Component Analysis was used to extract the factors. The study considered 20 variables (statements rating varying from 1 to 5) 1 is strongly disagree and 5 is strongly agree and the determined Eigen value greater than 1 was the extracted variables for the factors. The variances extracted by the factors are called the *Eigen Values*. The Table 4 shows the Eigen Values and the 'Total Variance Explained' on the new factors that were successively extracted. The values are expressed as a percentage of the total variance. i.e., Factor 1 for about 25.28 Percentage of the total variance and Factor 2 for about

14.50 Percentage etc. The sum of the Eigen Values is equal to the number of variables which contains the cumulative variance of 67.59%. The 5 factor model explains only 67.59% of the variance in the selected variables. Table 9 provides the results of the factor analysis.

20 variables yielded 5 factors such as:

Factors encouraging customers to use internet banking -

Ease of use
Operational advantage

Factors discouraging customers to use internet banking -

Perceived Risk
Personal Limitations
Infrastructure Complaints

TABLE 8: RESULTS OF FACTOR ANALYSIS

Ease of use		Perceived Risk	Personal Limitations	Infrastructure constraints	Operational Advantage
E2.More reliable	0.84				
E4.Easy to maintain transaction activity	0.80				
E3.Transactions can be done faster	0.78				
E1.More convenient	0.78				
E5.Safety and Security	0.77				
E6.Cost effective	0.70				
E7.Time saving	0.70				
E10.Web site is user friendly	0.60				
D8.Formalities involved in opening IB a/c is more	0.77				
D6.Do not trust internet as a channel for banking	0.74				
D7.Have more hidden costs	0.71				
D5.Do not ensure privacy	0.63				
D9.Prefer face to face banking	0.56				
D1.Lack of Knowledge			0.83		
D2.Lack of Infrastructure			0.80		
D10.Reluctance to change			0.58		
D3.Quality of Internet Banking service is bad				0.76	
D4.Takes time to finalize the transactions				0.63	
E8.Overcomes geographic limitations					0.84
E9.Updated information available online					0.57
Total variance Explained (%) = 67.59	25.28	14.50	11.59	8.77	7.45
Eigen Value	6.53	3.61	1.23	1.12	1.03

IMPLICATIONS – ENCOURAGING FACOTRS

Ease of use: Out of the cumulative variance of 67.59% explained vide factor analysis, 25.28% of variance explained is by the factor ease of use. For successful adoption of internet banking, banks must ensure that the services offered are simple, easy to understand and operate. Mols (2000) suggested that it is crucial for the Internet to be easy to use to increase the adoption rate Internet banking. Customers look for ease in performing banking transactions along with more and update information when adopting internet banking (Geetika et al. 2008). A user friendly website, with sufficient tips and information enables customer’s easy navigation within the site for transacting. Well connected web site of different accounts and Web based services have to be more convenient, easier to use, and less expensive than the alternative, to win the loyalty of customers (Cronin,1998).

Operational Advantage: Internet banking provides the greatest advantage to customers by enabling them to access at any time. With banking services available 24*7, the concept of “banking hours” is unheard of these days, as customers can deposit, withdraw, and make purchases from any place and time without bothering to have cash on hand. Thus, a bank’s Internet presence transforms it from 'broucheware' status to 'Internet banking' status once the bank goes through a technology amalgamation effort to facilitate the customer to access information about his or her specific account. The convenience of online banking is helping people gain greater control of their finances and contributing to changing patterns in cash withdrawal and day to day money management (Beer, 2006).

DISCOURAGING FACTORS

Perceived Risk: Security of banking transactions, customers’ privacy, etc., which have all along been concerns of both bankers and supervisors have assumed different dimensions given that Internet is a public domain, not subject to control by any single authority or group of users (rbi.org.in). Customer protection and data privacy are areas which assume great significance when banking transactions are carried over a medium as insecure as the Internet. Out of all methods for transactions, consumers trust the branch the most (84%). “Connecting with consumers in a one-on-one manner can drastically influence bank loyalty,” said (Gary Edwards, 2010).

The distant and impersonal nature of on-line environment and the implicit uncertainty of using a global open infrastructure for transactions have rendered risk an inevitable element of e-commerce (Pavlou, 2003). The banks also need to be transparent about charges involved in internet banking services. Since human-internet interaction is the main service delivery and communication channel, offering high quality services to satisfy consumers' needs, at lower costs, are potential competitive advantage of e-banking.

Personal Limitations: Though Internet banking is an effective tool; many customers are not using it due to lack of knowledge, poor awareness and lack of facility (Dabholkar, 2000). Consumers would look out for those products which provide the best value for money and they are aware about it. Banks need to make the customers aware of internet banking and take the responsibility of educating them through mass communication, advertisement, personal contacts etc and guide them to use internet banking. Consumers must become aware of the new brand or technology. An important characteristic for any adoption of innovative service or product is creating awareness among the consumers about the service/product (Sathye, 1999).

For nonusers the knowledge on advantage of Internet banking may be poor, because the adoption would require them to purchase a computer and acquire an Internet connection (Kuisma et al., 2007). To address this problem, banks can provide internet access in ATM Kiosks to customers who are unable to invest in a computer for internet banking. Banking kiosks can be opened to provide various banking services on 24x7 basis. These kiosks will be an improved version of present day ATMs and will be in a position to provide all the banking services.

Generally, human beings resist change and more so if it is technology based. A sense of satisfaction is experienced if the transactions especially financials are done with a person at the other end rather than a machine. Sathye (1999) emphasized that customers, particularly the senior citizens, prefer personal interaction and that they have technology phobia. Reluctance to change from branch banking to internet banking is yet another drawback which banks need to overcome.

Infrastructure Constraints: The quality of Internet connectivity to be a reason for greater inclination to online banking among the people involved in banking activity, (Yahya.S., et al. 2009). Any disruption during the course of the transaction leaves the customer in doubt whether the transaction has been completed or not. In such cases, the customer is dissatisfied and would not opt for IB in future. If the time taken to finalize the transaction is also too long, that will also make the customer lose interest in internet banking. The Operational difficulties of using Internet banking must be minimized by the bankers to make it more appealing to the customers.

CONCLUSION

Internet banking has changed both the banking industry as well as banks' services to its customers. It is clearly in the interest of the banks to encourage their customers to use internet banking. User friendly web sites can achieve this. In India banking just like other transactions, continues to be relation based and a need for personal touch and human assurance are needed despite technological growth. So it is particularly necessary that banks have user centered web sites for internet banking.

True benefits for the banks will be when they use this technology to reduce customer service costs and increase sales by maximizing self service. As 21st century banking customers are entrusting their most important assets to cyber space, a stress free and successful experience is essential. User friendly web sites, backed up with demos & presentations, building the trust & confidence of customers regarding the safety & security of transactions, establishing banking kiosks at ATM centre's and improving the quality of internet connections will justify the banks investment made in technology through better usage of internet banking by satisfied customers. Besides providing cost and revenues to banks, it enhances the potential for customer satisfaction and retention. Internet banking is no longer a competitive advantage but a necessity which serves as a powerful tool to the banks to satisfy and retain their customers. Thus providing Internet banking service is increasingly becoming a 'need to have' than a 'nice to have service' (Singhal et al. 2008).

REFERENCES

1. Abdulaziz, A., Hashim, R., & Chaker, M.N. (2008), "Customers' perception of online banking in Qatar", Oxford Business & Economics Conference Program, 22-24.
2. Beer, S. (2006), "Customers' preference on internet banking", survey (Retrieved from <http://www.itwire.com/content/view/4570/53>).
3. Chen, W., & Wellman, B. (2004), "The Global Digital Divide – within and between countries", *IT & Society*, 1(7), 39-45
4. Christopher, G. C., Mike, L., Visit & Amy, W. (2006), "A logit analysis of electronic banking in New Zealand", *International Journal of Bank Market*, 24, 360-383.
5. Cronin, M. J. (1998), "Defining net impact: The realignment of banking and finance on the web", in Cronin, M. J. (Ed.) *Banking and Finance on the Internet*. Chapter 1, John Wiley & Sons, New York, USA, 1-18.
6. Dabholkar, P. A. (2000), "Technology in service delivery: Implication for self service and service support". *Handbook of service alternatives and management*, Sage, Thousand Oaks, CA. 103-109
7. Daniel, E. (1999), "Provision of electronic banking in the UK and the Republic of Ireland", *International Journal of Bank Marketing*, 17(2), 72 – 83.
8. Edwards, Gary., (2010), "Empathic study on people bank online, but prefer branch service", *The Financial Brand.com*
9. Eriksson, K., Kerem, K., & Nilson, D., (2008), "The adoption of commercial innovations in the former central and eastern European markets: The case of internet banking in Estonia", *The International Journal of Bank Marketing*, 26(3), 5- 14.
10. Gan, C., Clemes, M., Limsombunchai, V., & Weng, A. (2006), "A logic analysis of electronic banking in New Zealand", *International Journal of Bank Marketing*, 24(6), 360-383.
11. Geetika, Nanada, T., & Upadhyay, A.K., (2008), *Internet banking in India: Issues and prospects*. The ICAI Journal of Bank Management, 7(2).
12. Gerrard, P., & Cunningham, J. (2003), "The diffusion of internet banking among Singapore consumers", *International Journal of Bank Marketing*, 21 (1), 16-28.
13. Gonzalez, M.E., et al (2008), "An alternative approach in service quality. An E-banking case study", *Quality Manage*, 15, 41-48.
14. Gupta, S. (2008), "A study of customer perception to e-banking with special reference to Jaipur city", *Professional Banker*.
15. Haque, A., et al (2009), "Issues of E-Banking transaction: An empirical investigation on Malaysian customers perception", *Journal of Applied Sciences*, 9(10), 1870-1879.
16. IAMA report Sep 2011
17. Ibrahim, E.E., Joseph, M., & Ibeh, K.I.N. (2006), "Customers' perception of electronic service delivery in the UK retail banking sector", *International Journal of Bank Marketing*, 24(7), 475-493
18. Kuisma, T., Laukkanen, T. & Hiltunen, M. (2007), "Mapping the reasons for resistance to approach", *International Journal of Information Management*, 27(2), 75-85
19. Marchionni, C., & Ritchie, J. (2007), "Organizational factors that support the implementation of a Nursing best practice guideline", *Journal of Nursing Management*. 16(3), 74-266
20. Mavri, M & Ioannou, G. (2006), "Consumers' perspectives on online banking services. *International Journal of Consumer Studies*", 30(6), 552–560.
21. Mckinsey & co., "A Global Management company report 2010-11".
22. Mols, N. P. (2000), "The internet and services marketing – the case of Danish retail banking Internet Research", 10(1), 7-18
23. Padachi, K., Rojid, S., & Seetanah, B. (2008). "Analyzing the factors that influence the adoption of internet banking in Mauritius", *Proceedings of the 2007 Computer Science and IT Education Conference*.
24. Pavlou, P., (2003), "Consumer acceptance of electronic commerce: Integrating trust and risk with the Technology Acceptance Model", *International Journal of Electronic Commerce*, 7(3), 101-134.
25. Prasad, M. A., & Harish, K.S., (2010), "E-banking channels: A study on user perceptions", *Professional Banker*, 47-54.
26. Robinson, T., (2000), "Internet banking: still not a perfect marriage", *Information week.com*, 104-106.
27. Sathye, M., (1999), "Adoption of Internet banking by Australian consumers: an empirical investigation", *International Journal of Bank Marketing*, 17(7), 324-334.
28. Singhal, D., & Padmanabhan, V., (2008), "A study on customer perception towards internet banking: Identifying major contributing factors", *The Journal of Nepalese Business studies*, 5(1).
29. Sohail, M, & Shanmugham, B. (2004), "E-banking and customers' preferences in Malaysia: an empirical investigation", *Information sciences, Informatics and Computer Science: an International journal*, 150 (3-4), 207-217.
30. Thulani, D., Tofara, C., & Langton, R. (2009), "Adoption and use of internet banking in Zimbabwe: An exploratory study", *Journal of Internet Banking and Commerce*, 14(1).
31. Waleed AL-Ghaith et al (2010), "Factors influencing the adoption & usage of online services in Saudi Arabia", *The Electronic Journal on Information System in Developing Countries*, 40(1), 1-52.
32. www.rbi.org.in
33. Yahya, S., Harashid, Singh, & Thakur, Rajendra, (2009), "A case study on internet banking in Hyderabad – Issues and Prospects", *Professional Banker*.

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