IMPACT OF E- BANKING ON PROFITABILITY OF COMMERCIAL BANKS IN INDIA

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Abstract

Information technology (IT) has become the heart of banking sector, while banking industry is the heart of every robust economy. If it collapses so will the economy. Through reducing banking costs, electronic banking can increase bank incomes. This paper investigates the impact of E-banking on profitability of Indian scheduled commercial banks for the period of 2006 – 2014. The study consists of 31 banks under four major bank groups of scheduled commercial banks in India. Multiple Regression Analysis is used to test the effect of E-banking services on the profitability of banks. The outcome generated from the analysis is that there is a positive effect on nationalised and old private sector banks' profitability while using e-banking. It shows that increase in number of ATMs affects the profitability positively. But in case of Branch banking, insignificant relationship exists between number of branches and profitability of banks.

Keywords: - Commercial Banks, E-Banking, India, Profitability, Regression

INTRODUCTION

Internet technology holds the potential to fundamentally change banks and the banking industry. Internet banking provides alternatives for faster delivery of banking services to a wider range of customers. Internet banking refers to the use of internet as a remote delivery channel for banking services. It means any user with a personal computer and a browser can get connected to his bank website to perform any of the banking functions. Internet banking both as medium of delivery of banking services and as a strategic tool for business development, has gained wide acceptance internationally and is fast catching up in India with more and more banks entering the system. India can be said to be on the threshold of a major banking revolution with net banking having already been unveiled.

In India E-banking is of fairly recent origin. The traditional model for banking has been through branch banking. The credit of launching internet banking in India goes to ICICI bank. Citibank and HDFC Bank followed with internet banking services in 1999. Several initiatives have been taken by the government of India as well as Reserve Bank to facilitate the development of E-banking in India.

To cope with the pressure of growing competition, Indian commercial banks have adopted several initiatives and E-banking is one of them. The competition has been especially tough for the public sector banks, as the newly established private sector and foreign banks are leader in the adoption of E-banking.

The evolution of E-banking has fundamentally transformed the traditional way of operating their activities and also changed the customer's way of performing banking activities. Improvement of this technology in banking also contributes to economic increase of the nation.

A number of services are being offered through electronic banking. Various services are provided into these category mainly internet banking, phone banking, ATM and mobile banking, etc. Its features include: automated teller machines (ATM), electronic fund transfers for retail purchases, automatic payroll deposits and bill payments or direct deposit of pay cheques into saving accounts. Some banks offer home banking, whereby a person with a personal computer can make transactions either via direct connection or by accessing a website. Through the computer-and-telephone based systems, bank customers can check deposits, move money from one account to another, pay bills, set up new accounts, request for loans, and invest spare cash any time of the day or night. Electronic banking has vastly reduced the physical transfer of paper money and coins from one place to another.

This study mainly focuses on deriving the relationship between E-banking and banks' profitability. In terms of E-banking, ATMs are taken as representative for the study of effect of this service on profitability of banks. Profitability of any organization is measured by finding ratio of its net income to its total assets by way to determine the firms' profitability of assets and net earnings on the assets. The profitability defines whether the firm is in profitable condition or not, as well to determine the growth of the firm.

LITERATURE REVIEW

E-banking is defined as the provision of retail and small value banking products and services through electronic channels. Such products and services can include taking deposit, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money (Basel Committee on banking supervision, 1998 and 2003). Electronic banking offers the convenience of conducting most of the banking transactions at a time that suits the customer. The customer can access funds and transfer funds between accounts, pay bills and make purchases 24 hours a day as well as 7 days a week (Siam 2006). Anyanwokoro (1999) defined electronic banking as the application of computer technology to banking especially the payment (deposit transfer) aspects of banking. He also defined e-banking as a system of banking with an electronic communication network which permits on-line processing of the same day credit and debit transfers of funds between member institutions of a clearing system. In short, we can say that E- Banking is defined as using electronic devices like internet, wireless connection networks, ATM, phone and cell phone in banking services. These services were parts of providing currency for economic system of the country. Godarzi & Zobaidi (1999), in their research paper stated that the more we are going to the higher levels of E- Banking, the less manual work will be; the more computer systematize, more the networks available, lesser is the time restriction, and ultimately the more secure banking system will be. For banks to stay on track of competition there is need to be aware of the rapid and continual growth of information technology and telecommunications which encourage the introduction of electronic services of the banking activities, (Kondabagil, 2007). In addition to cost minimization, Simpson (2002) suggests that E-banking is driven largely by the prospects of operating costs minimization and operating revenues maximization. To know the profitability through using e- channels, Kamesam (2001), studied the changes that took place in the Indian banking industry which emphasized on technological advancements and profitability in banks. He concluded that the technology has helped in centralized data storage with decentralized processing which has helped in reduction of costs and NPAs. Further emergence of services such as ATM, electronic data interchange (EDI), usage of smart cards, RTGS, e-commerce; all resulted in increasing the level of profitability and productivity of banks. In support of previous studies, Lustsik (2004) in his study tried to assess the profitability of electronic banking services for the banks. In order to analyze the cost structure for traditional and electronic channel transactions, the author explored the implementation techniques of activity based costing (ABC). The results of the study indicated that electronic channels provide cost saving for banks and their clients. The study revealed that with the help of ABC technique, banks can reduce and regulate some costs. It was also found that the decrease in transaction costs after introduction of electronic channels was slower than expected as existing traditional channels could not be closed at the same speed as the new electronic channels were introduced. Siam (2006), evaluated the effects of electronic banking on the profitability of Jordanian banks. The study investigated the reasons behind providing electronic banking services through internet, their impact on banking services in general, and banks profitability in particular. The results of the study revealed that electronic banking services had a negative impact on the profitability of banks in the short run because of increased capital costs involved in technical and electronic infrastructure, cost of training to employees and also the cost involved in creation of environment where the banks can operate smoothly. However, these services had a positive impact in the long run on the profitability of banks. Indian banks are very dramatically moving towards E banking. It is therefore a big gap in the literature to identify its impact on profitability of Indian commercial banks.

OBJECTIVES

There is a substantial gap in literature on adoption of E banking services and profitability of scheduled banks in India. Therefore following are the objectives of the research:-

1. To study the impact of e-banking on profitability of Indian scheduled commercial banks.
2. To study the comparative picture of E-banking on profitability between different bank groups within Indian scheduled commercial banks.

METHODOLOGY AND DATA

The research is designed to undertake an empirical investigation in finding the impact of E banking on profitability of Indian banks. The study which is confined to Indian banks divided these banks into four groups namely Nationalized Banks, Old Private Sector Banks, New Private Sector Banks and SBI & its associates. Out of the total population of Indian banks we had taken following sample:

Nationalized Banks	(13 Banks)
Old Private Sector Banks	(8 Banks)
New Private Sector Banks	(5 Banks)
SBI and its Associates	(6 Banks)

In Nationalized banks group, 13 banks which were included are, Allahabad Bank, Andhra Bank, Bank of Baroda, Bank of India, Dena Bank, IDBI Bank, Punjab National Bank, UCO Bank, Vijaya Bank, Indian Overseas Bank, Indian bank, Union bank of India and Canara Bank. Old Private Sector Bank group included Federal Bank, Karnataka Bank, ING Vyasya Bank, Karur Vyasya Bank, Catholic Syrian Bank Ltd, Jammu & Kashmir Bank Ltd, South Indian Bank Ltd and The Dhanlakshmi Bank Ltd. New Private Sector consists of 5 Banks that are Axis Bank, HDFC Bank, ICICI Bank, IndusInd Bank and Kotak Mahindra Bank. State Bank of India in its group was taken with its five associate banks namely State Bank of Bikaner and Jaipur, State Bank of Hyderabad, State Bank of Mysore, State Bank of Patiala and State Bank of Travancore.

The study was done using the pooled data of the mentioned banks for the period ranging from April 2006 to March 2014. It was collected from various sources like Report on Trend and Progress of Banking in India, Annual reports of the banks and other RBI publications.

The basic objective of the study is to find the causal relationship between the profitability of banks and E banking facilities. This was done using the following multiple regression model:-

$$y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \varepsilon_{it} \qquad \textbf{eq. (1)}$$

Where y_{it} represents the dependent variable i.e. ROA, measured by ratio of bank's pre-tax profits to total assets (ROA), x_{1it} and x_{2it} are the explanatory variables or regressors namely, Number of ATMs and Number of Branches respectively. β_0 is intercept term which could be interpreted as the average value of y_{it} when x_{1it} and x_{2it} are set equal to zero. It is interesting to note that no. of branches is taken because greater number of bank branches creates financial inclusion, penetrates the banking industry and thus increases the overall demand for E banking services.

RESULTS

An ATM is able to do lots of banking activities and reduce human interference. According to statistic, since 1998-2004 ATM devices installation all around the world had increased at a rate of 45%. The installation rate of ATM devices in developed countries shows that for each 742 person there is one ATM device (Meihami *et.al*, 2013). This is less than 50 in India. It has been observed that scheduled commercial banks in India are investing in ATMs at a very fast rate. This is expected to significantly increase their financial efficiency in the form of higher returns.

Table – 1
Profitability of Nationalised Banks

Dependent Variable	β_0	β_1	B_2	R^2
ROA	0.558208419* (0.0296)	0.001717187* (0.0134)	2.59195E-05 (0.9735)	0.554

*** Significant @ 5% level of significance**
P values are shown in bracket

It could be observed from table -1 that the 13 nationalised Indian banks (exclusive of SBI group) are successful in improving their ROA by shifting their branch business on to ATMs. Though the growth in financial efficiency is not very high, but still every single ATM is successful in increasing their profitability by 0.0017% of their total assets. However they failed to significantly expand their assets base even after increasing their branches.

Table – 2
Profitability of Old Private Sector Banks

Dependent Variable	β_0	β_1	B_2	R^2
ROA	0.8365* (4.86493E-10)	0.00031* (0.0173)	-3.96099E06 (0.9426)	0.486

*** Significant @ 5% level of significance**
P values are shown in bracket

Like their nationalised counterparts, the old private sector banks also succeeded in improving their profitability at a rate of 0.00031 % of their total assets base over a period of 9 years. The old and strong regional base of these banks makes them very important players of Indian banking industry. The Indian economy is among those economies which have very low level of financial inclusion. This is very low in those regions, where these banks are present. Although these banks because of high operational cost failed to expand their branch business, but innovated themselves a bit in line with other new private players because of stiff competition from these new players.

Table – 3
Profitability of New Private Sector Banks

Dependent Variable	β_0	β_1	B_2	R^2
ROA	1.125* (3.20101E-15)	5.75201E-05 (0.22)	-1.4445E-06 (0.993)	0.225

*** Significant @ 5% level of significance**
P values are shown in bracket

The low level of R^2 in table -3 does not reflect a promising picture for new private sector banks. Although these banks to the like of ICICI bank, HDFC bank etc. had been able to gather a substantial market of Indian banking sector through innovative technology, but are still struggling to increase their financial efficiency with E-banking. A very big reason for this is their low ATM penetration. They unlike SBI is very reluctant in opening mass ATMs, but parallely are increasing their share in banking industry.

Table – 4
Profitability of SBI & Associate Banks

Dependent Variable	β_0	β_1	B_2	R^2
ROA	0.975* (2.21762E-27)	6.8987E-06 (0.59432305)	-1.38522E-05 (0.3952)	0.209

*** Significant @ 5% level of significance**
P values are shown in bracket

For the sample period, if both variables x_1 and x_2 were fixed at zero, the average Return on Assets (ROA) would have been about 0.975%. But as noted on several occasions, this interpretation of intercept is purely mechanical. Very often it has no physical or economic meaning. The value of both β_1 and β_2 are statistically insignificant for SBI and its associated banks. The insignificance of β_1 is very surprising as SBI is having the largest ATM network in the country. But it also points out that even after such a large number of ATMs, the footfall at branches is very high hinting towards the need for more number of SBI ATMs in the country.

CONCLUSION

The study basically tried to create a new knowledge that explains the impact of fast growing E-banking facilities on the returns of Indian commercial banks. The research also aimed to find the difference if any between different bank groups classified as nationalised banks, old private sector banks, new private sector banks and SBI & its associates. Taking a sample of 31 banks for the period of 9 years i.e. April 2006 to March 2014, it was found that no. of ATMs representing a E banking service had a positive and significant impact on banks performance. However the research also found that that this significance exist only in the group of nationalised banks and old private sector banks. The banks classified under new private sector banks and SBI & its associates, which are also the leading top 10 banks by size and market share failed to generate a significant impact on their financial performance measured as ROA. This is certainly a big irony as new private sector banks are the innovators of E-banking in India.

The implication of this finding is that the ATMs are mainly used by customers as compared to traditional branch system in India, because of the level of awareness of the product made by banks in India. Further more the result implies and concludes that higher the usage of E-banking instruments as ATMs in India, the better the profitability of the banks.

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