IMPACT OF TECHNOLOGY ON PROFITABILITY OF PUBLIC AND PRIVATE SECTOR BANKS IN INDIA

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Abstract: *The paper examines the impact of technology on profitability of public and private sector banks in India. Technology changes have revolutionized the way banking is done. Technology has led to alternative ways of providing banking solutions for customers. The investment on technology can make sense if it also improves profitability apart from financial inclusion. The paper uses secondary data from annual reports of two private and public sector banks with largest market capitalization to evaluate the impact of profitability. SBI, PNB, HDFC and ICICI banks were selected for the study. Date from 2004 to 2017 was analysed through paired t test. It was found that ROA of public sector banks has declined and private sector banks have improved. ROE improved only in case of HDFC bank and decreased for other banks. Technology has different impact on banks. Technology alone cannot create miracles for banks. Quality of leadership and employee engagement cannot be ignored.*

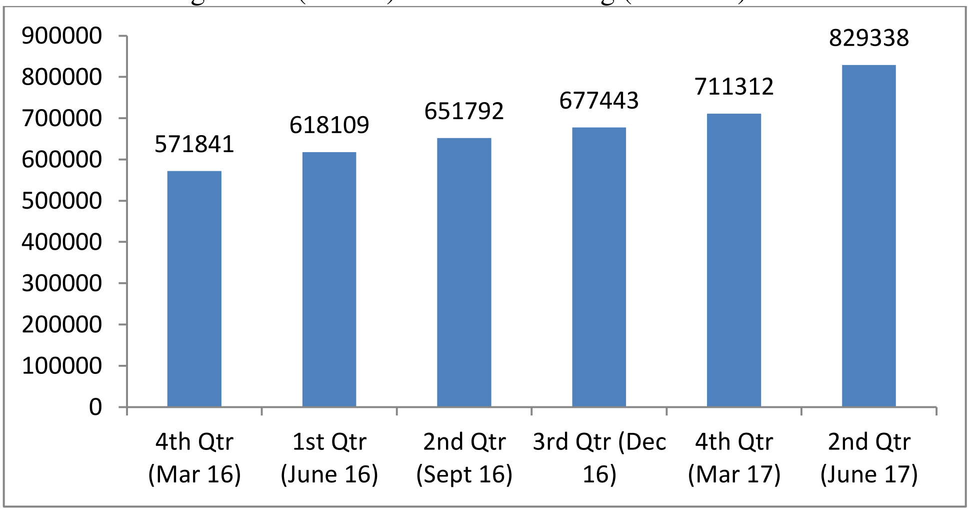
Key Words: *Profitability, Technology, Public, Private, ROA, ROE.*

1. INTRODUCTION:

India has well regulated diversified banking system comprised of 93,913 rural cooperative banks, 1574 urban cooperative banks, 56 regional rural banks, 46 foreign banks, 27 public sector banks and 26 private sector banks (ibef, 2017). To unleash the power of technology for people, RBI has given license to Paytm, Airtel, and IndiaPost to operate payment banks(ibef, 2017).Small finance banks have been promoted to improve credit flow to ignored section of the society and MSME's. Jandhan scheme and demonetization has been major changes in the banking sector in recent past. The reforms are directed to improve financial inclusion and promote electronic transactions. Direct benefit transfer, unified payment interface and Aadhar enabled payment, contact less credit and debit cards, chatbot, robotics and artificial intelligence has immense potential to grow the banking sector reach among the masses. Deposits in Indian banking have grown at a CAGR of 12.03% between FY06 and FY 2017 to reach US$ 1.54 trillion in FY2017 (ibef, 2017).

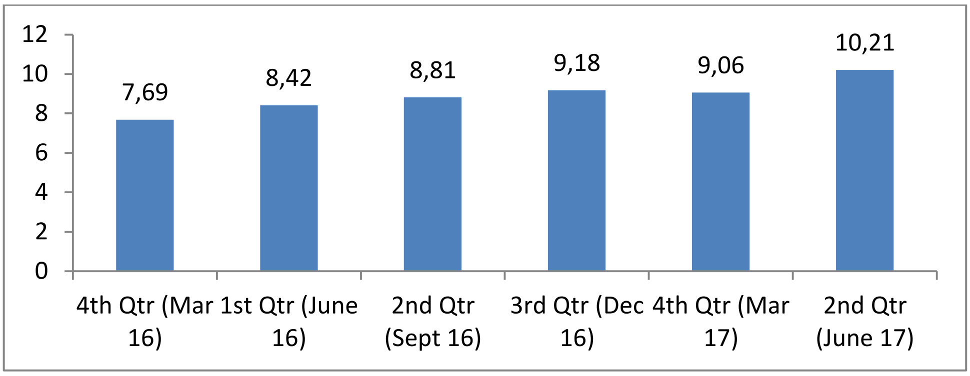
Rising NPA's are a cause of concern for banking sector in India. The NPA's have increased from Rs. 571841 crore in March 2016 to Rs. 829338 crore in June 2017, the NPA have increased from 7.69% in March 2016 to 10.21% in June 2017 (careratings, 2017).

Figure 1: Trend of Non-Performing Assets (NPA's) in Indian Banking (Rs Crore)



Source: Care Ratings, 2017

Figure 2: Percentage of NPA's in Indian Banking (%)

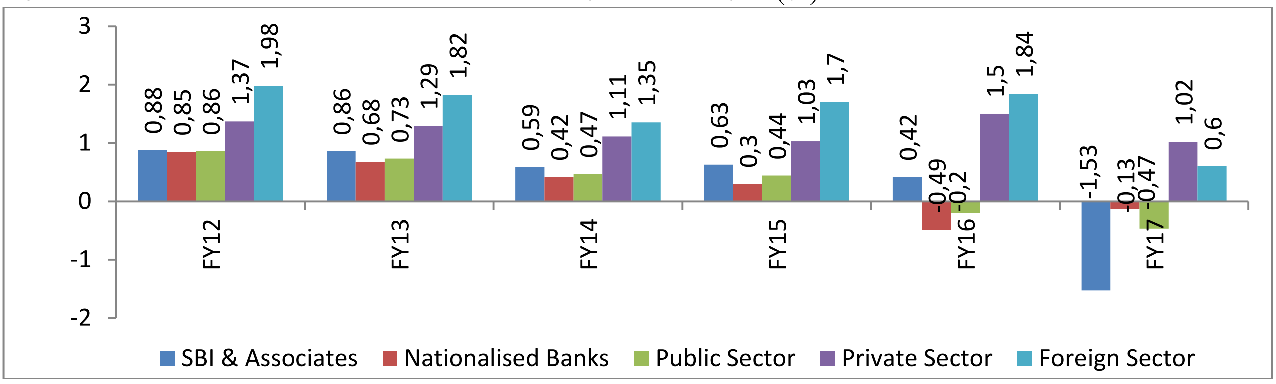


Source: Care Ratings, 2017

Concentration on NPA in few banks is another cause of concern in India. SBI alone accounts for 22.7% NPA's of June 2017 quarter, five large public sector bank (SBI, PNB, BOI, IDBI, BOB) account for 47.4% of NPA. Among private sector banks, ICICI alone accounts or 5.2% of NPA, on the other hand HDFC bank accounts for just 0.87% of NPA's (careratings, 2017). Thus quality of leadership and governance is an issue in Indian banks.

In spite of adoption of technology in banking, the return on assets has not shown significant improvement. In recent years, in FY16 and FY17 the return on assets has been negative for public sector banks. In FY 2017 the return on assets for SBI & Associates was -1.53%, for nationalized banks ROA was -0.13%, for public sector banks it was -0.47%. The return on assets has also declined for private and foreign banks but the return on assets was positive. The return on assets for private banks was 1.02% in FY2017 and for foreign banks ROA was 0.6% (ibef, 2017).

Figure 3: Return on Assets for Indian Banks from FY2012 to FY 2017 (%)



Source: India Brand Equity Foundation, Ministry of Commerce & Industry, Government of India, 2017

The return on assets from FY 2012 to FY 2017 has not been encouraging, despite the gradual rise in adoption of technology in Indian banking. It raises doubts on the significance and highlights the limitations of technology in profitability, productivity and efficiency of bank in India.

2. OBJECTIVE:

To analyse the impact of technology on the profitability of Public Sector and Private Sector Banks in India

3. LITERATURE REVIEW:

Uppal (2010) examined productivity and profitability of Indian banks in pre and post e-banking period. It was found that new generation private sector banks and foreign banks have a dominant position as compared to public sector banks. Public sector banks are facing tough competition from fully IT oriented banks. It was highlighted that banks should focus on human resource management, improving the skills of staff, customer centric approach and mergers and acquisition.

Arora and Arora (2013) examined the impact of performance of banks. Data from 2004 to 2009 was considered for the study. It was found that investment on information technology had a significant impact on operating profit and profit per employee, but no conclusive evidence was found for business per employee. No significant relationship was found between investment in IT and return on assets (ROA).Abubakar, Gatawa and Kebbi (2013) analysed the impact of investment in IT on bank performance in Nigeria. It was found that ROE has improved with investment in IT in Nigeria, but an inverse relationship was found between additional sustained investment in IT and efficiency. It was recommended that proper utilisation of IT infrastructure should be ensured and reckless investment in technology should be avoided. Romdhane (2013) analysed the impact of technology on performance on Tunisian banks. Data from 1998-2009 was considered. It was found that technology has a significant and positive impact on cost efficiencies of Tunisian banks. It was also found that public sector banks are slightly more efficient than private sector banks.

Sharma and Prasad (2014) analyzed the development and challenges of Indian banking after liberalization. It was found that new opportunities have emerged due to liberalization in banking sector, at the same time many challenges have emerged for the banks. It was recommended that banks should increase the coverage to services masses and reduce cost and expand globally. Narwal and Pathneja (2015) compared productivity and profitability of Indian Banks. Data from 2010 to 2014 was considered for the study. The time period was divided into two segments; 2005 to 2009 and 2010 to 2014. It was found that public sector banks were less productive. There was no significant difference between profitability of two groups of banks.

Chai, Tan and Goh (2016) examined influence of technology on bank performance. It was found that employee commitment has a significant relationship with performance of a bank. Committed employees with high level of motivation will lead to increased productivity and performance of bank.

Maken and Shekhar (2017) compared the performance of public and private sector bank. Performance of HDFC and PNB was used for the study. Data from 2012 to 2016 was considered. It was found that HDFC had performed better as compared to PNB. The total income of HDFC had grown by 118.18% as compared to 33.65% of PNB. Total investments of HDFC have grown at a rate of 93.42% as compared to 28.72%.It was argued that public sector banks are lagging behind technology.

4. RESEARCH METHDOLOGY:

A descriptive research design was used for the study. Secondary data was used for the study. Data from 2004 to 2010 and 2011 to 2017 was considered for analyzing impact of profitability of banks. Fourteen year data was divided into two parts (2004 to 2010 and 20114 to 2017) of seven years to evaluate the impact of technology. Return on assets (ROA) and return on equity (ROE) was used to measure profitability. The data was analysed by paired t test.

5. FINDINGS:

The profitability in terms of return on assets (ROA) and return on equity (ROE) was analysed using paired t test. ROA and ROE of seven years up to 2010 and after 2010 was analysed.

Table 1: Paired T Test for Return on Assets (ROA) (%)

	Mean Upto 2010 (%)	SD	Mean After 2010 (%)	SD	t value	Sig.
ICICI Bank	1.20	0.22	1.55	0.17	2.86	0.029
HDFC Bank	1.39	0.15	1.86	0.09	5.803	0.001
SBI	0.94	0.20	0.68	0.07	-3.118	0.021
PNB	1.19	0.67	0.61	0.16	-1.892	0.107

Source: Computed from Annual Reports of Banks

The return on assets had shown a significant change in the period after 2010 for ICICI, HDFC and SBI (P value <0.05). The return on assets had increased from 1.20% to 1.55% in case of ICICI bank. HDFC bank had registered improvement of return on assets from 1.39% to 1.86%. SBI had shown a decrease in return on assets from 0.94% in period upto 2010 to 0.68% in the period after 2010. Technology had shown different impacts on different banks with regard to return on assets.

Table 2: Paired T Test for Return on Equity (ROE) (%)

	Mean upto 2010 (%)	SD	Mean after 2010 (%)	SD	t value	Sig
ICICI Bank	12.59	1.78	11.90	3.93	-0.441	0.674
HDFC Bank	18.06	1.58	18.89	1.89	0.798	0.455
SBI	16.13	3.23	11.40	1.85	-4.623	0.004
PNB	18.09	11.10	9.42	4.41	-1.53	0.177

Source: Computed from Annual Reports of Banks

It was found that return on equity had no significant change in the period upto 2010 and period after 2010, as all P values were more than 0.05 for ICICI bank, HDFC Bank and PNB. SBI had shown a significant change (P<0.05) in return on equity (ROE). ICICI bank had mean return on equity of 12.59% in the period upto 2010 and return on equity had declined to 11.90% in the period after 2010. HDFC bank had shown a marginal increase in return on equity from 18.06% to 18.89%. SBI had shown a significant decline in return on equity from 16.13% to 11.40%. The decline was significant as the P value (0.004) was less than 0.05. PNB has shown a decline of return on equity from 18.09% to 9.42%.

6. CONCLUSION:

Return on assets has improved significantly for all three banks except PNB. Return on assets was more in case of private sector banks. HDFC Bank had the highest return on assets of 1.86%. Only SBI had shown a significant improvement in return on equity. Highest ROE was obtained by HDFC Bank at 18.89%.Overall best performance was achieved by HDFC Bank. Thus it is concluded that technology alone cannot be a tool to improve profitability of a bank. HDFC bank accounted for just 0.87% of total NPA's in June 2017 quarter as compared to 5.2% NPA share of ICICI bank. Quality of Management, employee engagement and motivation should also be considered for leveraging the benefits of technology to improve financial inclusion, customer satisfaction and profitability of banks in India.

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