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Research Article

IMPACT OF DIGITAL BANKING ON PROFITABILITY OF PUBLIC & PRIVATE SECTOR BANKS IN INDIA

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Abstract

E-Banking is a major innovation in the field of banking. Generally electronic banking systems where the transactions and relationship between bank and clients grow through electronic devices instead of paper documents. Further, electronic banking is defined as the automated delivery of new & traditional products &services directly to customer through electronic, interactive communication channel. E- Banking has proved to be the game changer in banking industry. Imagine world before that!! People would depend highly on cheque and demand draft payments with long queue in bank branches much of the time energy manpower being wasted .in these hectic schedules where people juggle for work life balance e banking is a boon.

With all these facts researcher wanted to identify the impact of E banking services on the profitability of bank considering much of the time, manpower and infrastructure to be used otherwise is saved with e banking. The variables considered for the study are - Return on Net Worth, Return on Assets, Net Profit Margin ATM Transactions, POS Transactions, Mobile Banking. It has been opined in the paper that if all the banks could proceed to the path of e-banking in a proper manner, the overall profitability due to e-banking will improve in coming years.

Keywords: Digital banking, ATM, PoS, Mobile banking, contemporary banking

1. INTRODUCTION

The banking industry has always been vital to any economy, particularly emerging ones. With new innovations and technical breakthroughs, this industry has evolved from its traditional form to e-banking and, more recently, m-banking. Sumra (2011) The electronic banking services provided by the banks include Debit cards, credit cards, funds transfer, cheque payment, funds deposit, balance enquiry, utility bills payment, statement of account, remittance, draft, pay order, mobile banking, internet banking etc. The purpose of this research study is to describe the current situation of Internet banking in India. This research evaluates the influence of e-banking on the profitability of Indian banks.. After over 70 years of independence, however, this sector continues to face a serious problem in terms of financial inclusion. According to Census 2011, about 35 percent of individuals had bank accounts, and according to a World Bank report, this proportion grew to around 53 percent in 2014, owing to liberal government policies, increasing globalisation, and a growth in people's purchasing power.

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2. REVIEW OF LITERATURE

Malhotra and Singh (2009) investigated the influence of online banking on performance and risk tracing in Indian commercial banks during June 2007 and discovered that profitability and internet banking offerings had no meaningful relationship, which is consistent with De Young (2005) and Arnaboldi and Claeys (2010).

Sumra (2011) The efficiency of banks has grown as a result of the introduction of e banking, and labour expenses have decreased. Because of electronic means, fewer employees are required to deliver services; the accuracy of transactions and maintenance has also been supplemented as computers have taken the place of humans, reducing human errors; procedures, processes, and services are now fast and reliable, saving time, effort, and money; and the procedures, processes, and services are now fast and reliable, saving time, effort, and money.

M. S. Saluja and T. Wadhe (2015), Using Multiple Regression Analysis, this study examines the relationship between e-banking and profitability of 31 Indian scheduled commercial banks from 2006 to 2014. The findings show that e-banking has a beneficial impact on the profitability of both nationalised and traditional private sector banks. R. K. Uppal (2011), In his work, he uses ratio analysis to evaluate the performance of commercial banks in India. According to the findings, branch and labour productivity increased significantly during the e-banking period as compared to the pre-e-banking period. Foreign banks' labour and branch productivity is also shown to be considerably higher. Overall, the data show that there is an increase in the profitability after arrival of e-banking services.

A study by Vikas Gautam (2012), examines the impact of e-banking on 14 Indian banks' profitability, efficiency, and service quality. It has been shown that e-banking has considerably boosted profitability while also lowering costs. A study by Pooja Malhotra and Balwinder Singh (2007) attempts to analyse factors affecting adoption of e-banking of 88 banks in India during 1998 to 2005. The findings revealed that size, deposit, and expense ratio all influence the likelihood of e-banking adoption, whereas age and market share had a substantial negative impact. Overall, private banks have found that e-banking capabilities have been more efficiently employed to expand their branch network.

Kanika (2017) the impact of e-banking factors on bank performance is shown to be substantial in public sector banks but minor in private and international banks, according to empirical findings. The findings also revealed that e-banking had a little impact on bank performance. Meihami et al (2013) According to a research on the use of IT in banking, we can reduce the number of financial transactions by employing various IT tools. It means that we can save money by using E-banking instead of the traditional banking system. Using IT in banking reduces risk taking, increases security, and reduces time waste. Siddik et al (2016) show that e-banking has had a favourable influence on bank performance in Bangladesh, as assessed by ROE.

3. RESEARCH METHODOLOGY

Research type: Analytical

Source of data: Secondary (RBI website)
Sample size: 10 banks (5 Public & 5 Private bank)
Period of study: 10 years (2008 to 2018)
Variables under study: Return on Net worth (RONW), Return on Assets (ROA), Net Profit Margin (NPM), ATM Transactions, Point of sale (PoS) Transactions, Mobile Banking

Analytical Tool: analytical tools used are regression analysis and correlation.
Software used: Ms .Excel, SPSS
Banks under study are as follows :
Public Sector Banks-

1. Bank of India
2. IDBI Bank
3. Dena Bank
4. Union Bank
5. Vijaya Bank

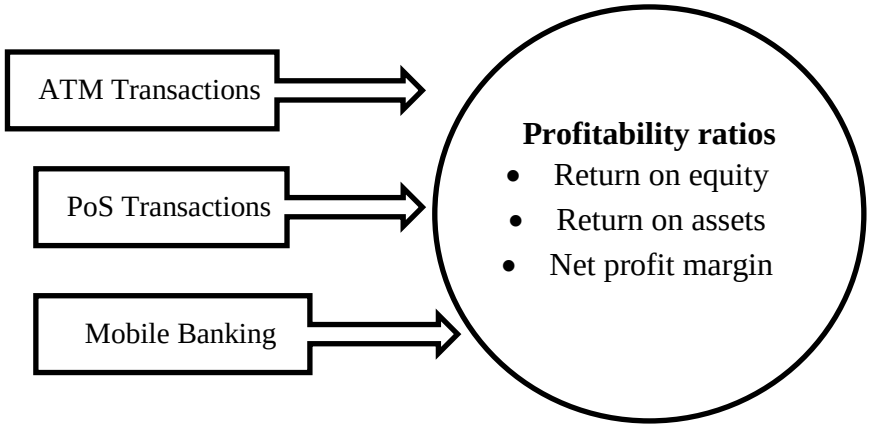
Private sector Banks-

1. Axis Bank
2. HDFC Bank
3. ICICI Bank
4. Yes Bank
5. Bandhan Bank

Objectives of the Study

- To analyze the profitability of selected public sector and private sector banks in India.
- To analyze the e-banking services of selected public sector and private sector banks in India.
- To study the Impact of E-banking services on profitability of selected public sector and private sector banks in India

Theoretical Model of the study



DEPENDENT VARIABLES : Return on equity , Return on assets, Net profit margin
INDEPENDENT VARIABLES : ATM Transactions, PoS Transactions, Mobile Banking
Banks profitability is the dependent variable for this study. Profitability is the state or condition of yielding a financial profit or gain. On the other hand, Volume of ATM transactions, point of sales transaction and mobile banking transaction are the independent variables in this study.

Hypothesis:

H01 -There is no significant impact of ATM, MB, POS transactions on ROE of Private Banks.
H02 -There is no significant impact of ATM, MB, POS transactions on ROE of Public banks.
H03 -There is no significant impact of ATM, MB, POS transactions on ROA of Private banks.
H04-There is no significant impact of ATM, MB, POS transactions on ROA of Public banks.

H05 -There is no significant impact of ATM, MB, POS transactions on NPM of Private Banks.
H06 -There is no significant impact of ATM, MB, POS transactions on NPM of Public Banks.

(IV) ANALYSIS AND INTREPRETATION

Results of Correlation Analysis of the selected variables:

Correlations

		ROE	ROA	NIM	ATM	POS	MOBILE_BANKING
ROE	Pearson Correlation	1	.972**	.700*	.252	.497	.565
	Sig. (2-tailed)		.000	.024	.482	.144	.089
	N	10	10	10	10	10	10
ROA	Pearson Correlation	.972**	1	.741*	.381	.651*	.523
	Sig. (2-tailed)	.000		.014	.277	.042	.121
	N	10	10	10	10	10	10
NIM	Pearson Correlation	.700*	.741*	1	.196	.347	.073
	Sig. (2-tailed)	.024	.014		.586	.326	.841
	N	10	10	10	10	10	10
ATM	Pearson Correlation	.252	.381	.196	1	.824**	.025
	Sig. (2-tailed)	.482	.277	.586		.003	.946
	N	10	10	10	10	10	10
POS	Pearson Correlation	.497	.651*	.347	.824**	1	.114
	Sig. (2-tailed)	.144	.042	.326	.003		.753
	N	10	10	10	10	10	10
MOBILE_BANKING	Pearson Correlation	.565	.523	.073	.025	.114	1
	Sig. (2-tailed)	.089	.121	.841	.946	.753	
	N	10	10	10	10	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Interpretation:

From the above correlation table, it can be indicated that,

- There is a significant positive relationship between Return on assets & PoS transactions of bank
- There is an insignificant relationship between Return on equity & Volume of ATM, PoS, and Mobile banking transactions.
- There is an insignificant relationship between Return on assets & Volume of ATM & mobile banking transactions.
- There is an insignificant relationship between net income margin and Volume of ATM, PoS, Mobile transaction

The null hypothesis is accepted. This means there is no significant relation between return on equity & ATM, PoS, and Mobile Banking transactions.

The null hypothesis is accepted there is no significant relation between NIM & ATM, POS, and MB transactions

In other case, the null hypothesis is accepted; there is a significant relation between ROA & POS.

Results of Multiple Regression Analysis of E-banking variables on ROE

A multiple regression was used to model the relationship between the independent variables and dependent variable. The dependent variables were transformed in to natural logs for proportionality. Volumes of transactions were in numbers.

Volume of transaction (ATM, PoS, Mobile Banking) & ROE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793[a]	.630	.444	.13983

a. Predictors: (Constant), MB_O, ATM_O, POS_O

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.199	3	.066	3.400	.094[b]
	Residual	.117	6	.020		
	Total	.317	9			

a. Dependent Variable: ROE

b. Predictors: (Constant), MB_O, ATM_O, POS_O

ROE=1.043+ (-1.424*ATM) + (1.225*POS) + (6.599*MB)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.043	.091		11.447	.000
	ATM_O	-1.424E-009	.000	-1.028	-2.262	.064
	POS_O	1.225E-009	.000	1.340	2.941	.026
	MB_O	6.599E-010	.000	.500	1.931	.102

a. Dependent Variable: ROE

Interpretation

- From above table, it can be interpreted that R Square is 63.0% which means that 65% of variation in ROE is explained by changes in selected e-banking variables.
- (p>0.05)-0.09 which means that there is not much impact of ATM, POS, Mobile banking transaction on ROE.
  - In above table, the result shows that there is a negative insignificant relationship between ATM transaction & ROE, And a positive insignificant relationship exist between ROE & mobile banking transactions, And a positive significant relationship between ROE & POS transactions

Results of Multiple Regression Analysis of E-banking variables on Return on Assets

Volume of transaction (ATM, POS, Mobile Banking) & Return on assets

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.552[a]	.305	-.042	.69974

a. Predictors: (Constant), MB, POS, ATM

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.290	3	.430	.879	.503[b]
	Residual	2.938	6	.490		
	Total	4.228	9			

a. Dependent Variable: ROA

b. Predictors: (Constant), MB, POS, ATM

ROA=-0.519+ (-1.978*ATM) + (3.728*POS) + (2.002*MB)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.519	.337		-1.542	.174
	ATM	-1.978E-010	.000	-.213	-.175	.867
	POS	3.728E-010	.000	.585	.493	.639
	MB	2.002E-009	.000	.359	.950	.379

a. Dependent Variable: ROA

Interpretation

- From the above, the result shows R Square is 30.5%, which means only 30.5% of variation in ROA is explained by e-banking variables
- Overall p>0.05-0.503 that means their does not exist a relationship between ROA & ATM, POS, mobile banking transaction.
- From above table, the result shows that there is insignificant negative relation that exist between ATM transaction & ROE, And insignificant positive relationship between ROA & POS , Mobile banking transaction

Results of Multiple Regression Analysis of E-banking variables on NPM

Volume of transaction (ATM, POS, Mobile banking) & NPM

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.432[a]	.187	-.220	.16051

a. Predictors: (Constant), MB, POS, ATM

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.036	3	.012	.460	.721[b]
	Residual	.155	6	.026		
	Total	.190	9			

a. Dependent Variable: NIM

b. Predictors: (Constant), MB, POS, ATM

NPM=0.386+ (-1.617*ATM) + (3.879*POS) + (-3.883*MB)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.386	.116		3.340	.016
	ATM	-1.617E-010	.000	-.151	-.226	.829
	POS	3.879E-010	.000	.548	.829	.439
	MB	-3.883E-011	.000	-.032	-.085	.935

a. Dependent Variable: NIM

Interpretation:

- From above table it can be interpreted that R Square is 18.7% which means the model is not a good fit.
- From the result of table 3.8, (p>0.05)-0.721 which means there is no impact of ATM, POS, Mobile banking transaction on NIM.
- In table 3.9, the result shows that there is a positive insignificant relationship between POS transaction & NIM, And a negative insignificant relationship exist between NIM & mobile banking transactions, ATM transaction.

(V) FINDINGS

The goal of the study was to see how E-banking affected the performance of Indian commercial banks. The research looked at how ATM transactions, POS transactions, and smartphone transactions affected bank performance (ROE, ROA, and NPM)

According to the correlation data, there is a strong positive link between ROA and POS & an insignificant relationship between ROE, NPM & ATM, POS, and Mobile banking transactions.

Independent Variables	**ATM**	**POS**	**Mobile Banking**
Dependent Variables	Relationship of Dependent Variable with Independent Variable		
ROE	Insignificant	Insignificant	Insignificant
ROA	Insignificant	Significant	Insignificant
NIM	Insignificant	Insignificant	Insignificant

(VI) CONCLUSION

According to the findings of this study, the volume of ATM, POS, and mobile banking transactions has increased significantly during the previous five years. On the other hand, it has been discovered that these banks' profitability has been steadily declining. In this study, it was also discovered that there is a significant relationship between ROE, ROA, and the volume of transactions of public banks' ATM, POS, and mobile banking, but there is an insignificant relationship between ROE, ROA, NPM, and the volume of transactions of private banks. The decrease in profitability due to internet banking has been attributed to the networking effect of mobile banking. Researchers can take a bigger sample size to check the implication of the present hypothesis on a larger sample.

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