Impact of Green Banking Initiatives Adopted by Public Sector Banks on Profitability

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Abstract: In present scenario, the banking industry is playing a vital role in sustainable development of the world. In this aspect, the RBI has emerged the new concept called “Green Banking”. In India, most of the banks have implemented this initiatives in their operational activities. This paper investigates as to how the green banking initiatives such as NEFT, RTGS, ECS, ATM, POS and Mobile banking, impact the profitability of the public sector banks. To achieve this objective, the hypotheses were framed and it was found that ECS and ATM transactions create more impact on the profitability of public sector banks when compared to other green banking initiatives.

Keywords: green banking, profitability, public sector banks
1 Introduction

The banking industry was upgrading their technology very fast manner nowadays. During olden days, the banking industry followed only paper based systems in their operations. Now, all the systems in banking were totally changed because banking industry are concentrating towards the sustainable development of the world. In this aspect, the RBI has introduced the new term called “Green Banking”. Green banking has two dimensions. First the way the banking business is being done – is it paperless or not and in second dimensions of green banking relates to where the bank puts its money. Green banking initiatives such as NEFT, RTGS, ECS, ATM, POS, Internet banking and Mobile banking.

1.1 National Electronic Fund Transfer (NEFT)

According to RBI, NEFT is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme, individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme.

1.2 Real Time Gross Settlement (RTGS)

According to RBI, RTGS, is the continuous (real-time) settlement of funds transfers individually on an order by order basis (without netting). 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually (on an instruction by instruction basis). Considering that the funds settlement takes place in the books of the Reserve Bank of India, the payments are final and irrevocable.

1.3 Electronic Clearing Services (ECS)

According to RBI, ECS is an electronic mode of payment / receipt for transactions that are repetitive and periodic in nature. ECS is used by institutions for making bulk payment of amounts towards distribution of dividend, interest, salary, pension, etc., or for bulk collection of amounts towards telephone / electricity / water dues, cess / tax collections, loan installment repayments, periodic investments in mutual funds, insurance premium etc. Essentially, ECS facilitates bulk transfer of monies from one bank account to many bank accounts or vice versa.
1.4 Automatic Teller Machine (ATM)

According to RBI, ATM is a computerized machine that provides the customers of banks the facility of accessing their account for dispensing cash and to carry out other financial & non-financial transactions without the need to actually visit their bank branch. The ATM/ATM cum debit cards, credit cards and open prepaid cards (that permit cash withdrawal) issued by banks can be used at ATMs/WLAs for various transactions such as account information, cash deposit, mini statement, PIN change, request for chequebook and balance enquiry.

1.5 Mobile Banking

It is a system where the banking transactions can be done by customers at remote place with help of mobile device itself. For this purpose the customer has to get mobile application from the respective banks for using this facility. Through mobile banking the customer can check their account balance, monitor their term deposit, access a loan statement, mutual fund or equity statement and insurance policy management. Mobile banking can be done with the help of mobile application and this service was initially introduced on 1999 by way on SMS banking with the introduction of Smart phone with WAP support but this was became famous in 2010 only.

1.6 Point Of Sale (POS) Terminal

Point of sale is a time and place where the retail transaction is done. It is the point where the customers make payment to their merchant for the purchase of goods or services. The transactions can be done through debit card or credit card. At the point of sale, the merchant would prepare invoice for the transactions and it should be duly signed by the customers. Now days this facility is also available in all banks for with draw, transfer and deposit.

2 Review of Literature

Neetu Sharma, Sarika. K and Gopal. R (2014)\(^1\), found that the green banking concept is new to the banking industry; the level of awareness among the customers is low. They identified that most of the customers are using green banking products without being aware of the ‘Green

Banking’. They suggested that banks in India should adopt Equator Principles Policy in their operations. Finally, the authors concluded that reduction of carbon can be achieved only when all the sectors cooperate for sustainable development of the economy.

A J Joshua and Mol P Koshy (2011), found that the usage pattern of e-banking services of users in different as compared to non-users. Further users frequently use ATM service more than other e-banking services such as internet banking, telephone banking and mobile banking. The authors proposed that banks have to encourage the existing users to use other e-banking services frequently by providing incentives like reduction of service charges in transactions. Finally, they concluded that if users start using all kind of e-banking services, then the adoption of e-banking services was completed and the users can also derive maximum benefits from e-banking services.

Datta Saroj K and Kundu Sukanya (2010), examined the features which affect the customers of Public Sector Banks with regard to Online Payment Systems. The authors used univariate and bivariate analysis for their study. They found that there is a positive trend towards online payment system. Further, the authors found that during the period from 2008 to 2009, the transactions of RTGS and EFT rapidly increased. This indicates that the banking systems is moving towards paperless system from the paper based system.

9 Statement of Problem

Indian economy faces many constraints relating to environment. One of the major problems is carbon footprint levels which are increasing drastically every year leading to environmental degradation. Under these circumstances, the green banking concept emerged. Green banking has two dimensions viz paperless banking and where the banks puts its money viz, green financing. This study considers only one dimension (paperless banking) and an attempt is made to identify how it impact the profitability of public sector banks.

3 Need for the Study

The study is conducted to know how the green banking products (paperless banking) impact the profitability of public sector banks and how it effectively works in their banking operations.

4 Scope of the Study

This study specifically deals with public sector banks include Allahahad Bank, Andhra Bank, Bank of Baroda, Bank of India, Bank of Maharashtra, Canara Bank, Central Bank of India, Corporation Bank, Dena Bank, IDBI Bank, Indian Bank, Indian Overseas Bank, Oriental Bank of Commerce, Punjab & Sind Bank, Syndicate Bank, UCO Bank, Union Bank of India, United Bank of India and Vijaya Bank these banks are chosen based on the continuity of the transaction.

5 Objective

To study the impact of green banking products such as RTGS, NEFT, ECS, Mobile banking, ATM and POS terminal transactions on the profitability of Public Sector Banks

6 Hypothesis

Ho: There exists no impact of RTGS, NEFT, ECS, Mobile banking, ATM and POS terminal transactions on the profitability of Public Sector Banks

H1: there exist impact of green banking products such as RTGS, NEFT, ECS Mobile banking, ATM and POS terminal transactions on the profitability of Public Sector Banks

7 Research Design

The study is empirical in nature which attempts to analyze the impact of RTGS, NEFT, ECS, ATM, POS Terminal and Mobile banking transactions on the profitability of Public Sector Banks. Sample period of 7 years is considered for RTGS, NEFT, ECS and Mobile banking products and 4 years for ATM and POS terminal. SPSS software has been used for the data analysis. The study is based on secondary data accessed from RBI website.

8 Empirical Results and Discussion

In this section, the data collected from Reserve Bank of India, were analyzed and interpreted using regression analysis. The results of the analysis are presented in this section.
8.1 Impact of RTGS, NEFT, ECS and Mobile banking transaction on the profitability of Public Sector Banks

Table 1: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.952</td>
<td>0.906</td>
<td>0.528</td>
<td>0.36547</td>
</tr>
</tbody>
</table>

Source: Computed data

From the above table, it is found that the R = 0.952, R square value is 0.906 and adjusted R square = 0.528. This shows that the variance ranges from 95.2% to 90.6%. The independent variable namely RTGS, NEFT, ECS and Mobile banking are create variance over the profitability of public sector banks. Green banking initiatives such as RTGS, NEFT, ECS and Mobile banking adopted by the banker contributed to the great extent on the profitability of public sector banks. This leads to the subsequent verification of regression model fit in the following ANOVA table.

Table 2: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1.281</td>
<td>4</td>
<td>.320</td>
<td>2.398</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>.134</td>
<td>1</td>
<td>.134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.415</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computed data

From the table 2, it is found that F=2.398, P=0.000 are statistically significant at 5 percent level. This shows that the independent variables namely RTGS, NEFT, ECS and Mobile banking contributed significantly to the profitability of public sector banks. This lead to the shaper estimation of individual influences of the green banking products transactions such as RTGS, NEFT, ECS and Mobile banking can be measured through co-efficient table.
Table 3: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std.Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>RTGS</td>
<td>2.069</td>
<td>.823</td>
<td>.783</td>
</tr>
<tr>
<td>Mobile banking</td>
<td>.428</td>
<td>.169</td>
<td>.785</td>
<td>2.531</td>
</tr>
<tr>
<td>NEFT</td>
<td>-.747</td>
<td>.253</td>
<td>.828</td>
<td>2.953</td>
</tr>
<tr>
<td>ECS</td>
<td>4.298</td>
<td>1.037</td>
<td>.901</td>
<td>4.145</td>
</tr>
</tbody>
</table>

Source: Computed data

From the above table, it is found that RTGS (t = 2.516, p = 0.005), Mobile banking (t = 2.531, p = 0.005), NEFT (t = 2.953, p = 0.042) and ECS (t = 4.145, p = 0.014) are statistically significant at 5 percent level. Since the t value of ECS is more than the RTGS, Mobile banking and NEFT, it can be concluded that ECS play a major role on the impact of the profitability of public sector banks.

8.2 Impact of ATM and POS terminal transactions on the profitability of Public Sector Banks

Table 4: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.999</td>
<td>0.998</td>
<td>0.993</td>
<td>0.04297</td>
</tr>
</tbody>
</table>

Source: Computed data

From the above table, it is found that the R = 0.999, R square value is 0.998 and adjusted R square = 0.993. This shows that the variance ranges from 99.9% to 99.8%. The independent variable namely ATM and POS terminal are create variance over the profitability of public sector banks. Green banking initiatives such as ATM and POS terminal adopted by the banker contributed to the great extent on the profitability of public sector banks. This leads to the subsequent verification of regression model fit in the following ANOVA table.
Table 5: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>0.836</td>
<td>2</td>
<td>0.418</td>
<td>226.416</td>
<td>0.047</td>
</tr>
<tr>
<td>Residual</td>
<td>0.002</td>
<td>1</td>
<td>0.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.838</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computed data

From the table 5, it is found that $F = 226.416$, $P=0.047$ are statistically significant at 5 percent level. This shows that the independent variables namely ATM and POS terminal contributed significantly to the profitability of public sector banks. This lead to the sharper estimation of individual influences of the green banking products transactions such as ATM and POS terminal can be measured through co-efficient table.

Table 6: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>ATM</td>
<td>3.261</td>
<td>0.380</td>
<td>0.987</td>
</tr>
<tr>
<td></td>
<td>POS</td>
<td>1.773</td>
<td>0.356</td>
<td>0.962</td>
</tr>
</tbody>
</table>

Source: Computed data

From the above table, it is found that ATM ($t = 8.582$, $P = 0.013$) and POS terminal ($t = 4.978$, $p = 0.038$) are statistically significant at 5 percent level. Since the t value of ATM is more than the POS terminal transactions, it can be concluded that ATM play a major role on the impact of the profitability of public sector banks.

Conclusion

The analysis presented above shows that the ECS and ATM transactions play a major role in impact on the profitability of public sector banks. The other green banking initiatives such as RTGS, NEFT and Mobile banking also impact the profitability of the public sector banks but it is not that much effective when compared with ECS and ATM transactions. Thus, the green
banking initiatives adopted by the public sector banks especially related to paperless banking is creating a major impact on their profitability.

References

Article

5. Website www.rbi.org.in