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Research Article

EMPIRICAL STUDY OF CUSTOMERS'AWARENESS, USAGE AND SATISFACTION OVER GREEN BANKING SERVICES: PUBLIC AND PRIVATE SECTOR BANKS

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ABSTRACT

Green banking is new concept in India. Its growth is slower because no serious efforts have been made to popularize and educate the banking customers. With span of time life style of people is changing very sharply and they feel acute shortage of time in day to day of life. Considering today's lifestyle bank and banking system have become an integral part of everyone's life. India is a fast growing country in the world but unfortunately slower growth of green banking is degrading the environment by emitting pollution. The Green banking services like ATM, Tele banking, internet banking, Mobile banking, cheque deposit machine, plastic money, electronic clearance service, electronic fund transfer etc. users are very important to protect the environment. These services reduce the carbon foot print in day to day life of banking operation. Considering the present situation banks are trying to make their customer aware about it. The scholars made a humble effort to make an assessment regarding customers' awareness of green banking services and usage of public and private sector banks. And to examine the customers' satisfaction of both public and private sector banks over green banking services.

The outcomes of the study reflect that the public sector banks customers are more aware than the private sector banks. So far as concerned with usage, it has been observed that customers of both public and private banks use very frequently ATM. Youngsters and working persons are well acquainted with green banking services and they use them. For the promotion of green banking a serious campaign will have to be launched at large scale by the banking institutions. To make eco-friendly banks must have to call for cooperation from all sect of society.

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INTRODUCTION

Banking is the lubricative wheel of modern economy. All sphere of life now depends on the good and systematic banking system. Now banks perform multiplicity of function by providing various products and services to the customer with this motto to provide maximum satisfaction to the customers as well as raise profit to the organization. ICT has facilitated in increasing the speed and reliability of financial operations ATM, Tele banking internet banking. Mobile banking, cheque deposit machine, core banking solution plastic money electronic clearance services electronic fund transfer an electronic devices. These are the services which help customers and banks both.

Considering today's lifestyle bank and banking system have become an integral part of everyone's life. This kind of institution mainly deals with money meaning a source of fulfilling all the tangible demands of people. So, it's high time that bank should focus on sustainable future for our present and

future needs. Well, banks are working hard to improvise their functioning and services, but now the focus of the bank is shifting towards sustainable banking as India is a fast growing country in the world but unfortunately its growth is degrading the environment by emitting pollution, use of green house gas, etc. However, the government is trying to solve the problem by adopting the sustainable policies which are taking care of environment and economy too. Banks are taking good care of their functioning but while tackling with its customers there are no norms for the violation of rules made for environmental benefit, this loophole in the law helps the customers to take advantage of it and damage the environment. One of the major reasons for this situation is lack of awareness about Green Banking practices. Considering the present situation banks are trying to make their customer aware about it. Today's customers are trying to search for the quality rather than the quantity which has made the work of the banks simpler as well as easier to communicate.

Objectives

- 1 To make an assessment regarding customers' awareness of green banking services and usage of the same of public and private sector banks.
- 2 To examine the customers' satisfaction of both public and private sector banks over green banking services.

The composition of article is as follows - Section 1 presents Introduction, Section 2 deals with Review of Literature, Section 3 describes about adopted Research Methods, Section 4 discusses Empirics followed by Conclusion & Policy Implications in Section 5.

Review of Literature

The green banking concept is new in India and it is one of the emerging fields for researchers and scholars. Very few researchers have made any research on it. Whatever the work, the researcher has found out are more theoretical rather than empirical. Many scholars have tried to investigate about its growth, trend, return on the investment avenues, and usage pattern of the customers.

Jeucken and Bouma (1999) have tried to study the return on investment of the investors on the environmental investment avenues. The result shows that these investment yield lower return as well as take longer duration to yield the return.

Dos *et al* (1993) has o analyzed the impact of e-banking expenses incurred by the banks and its performance with respect to productivity. The correlation between cost of e-banking and profitability of the banks have been observed insignificant. Thus the amount incurred on e-banking is non-productive by nature.

Gupta (2008) studied and made analysis about awareness level of consumer behaviors in private sector Indian banks and drawn conclusion that graduates are very frequent user of ebanking services.

Sahoo and Nayak (2008) have stated in their study the importance of green banking and the reasons for necessity of the concept for India's development.

Ginvosky (2009) has tried to focus on the community banks in the United States to leverage sustainability or green banking.

Jay Kumar *et al.* (2010) have discussed about opportunity and prospects emerged due to e-banking. They have discussed about challenges of e-banking also such as security concern round the clock support to business transaction etc.

Khan (2010) has tried to judge dimensions of ATM service quality and its effect on customers' satisfaction in the banking sector in Pakistan. Researcher also observed that their customers are satisfied with ATM service quality

Ullah (2010) inferred that green banking in a component of global initiative to safeguard the environment and climate. However, he found that the commercial banks and the social development banks are hardly bother about it.

Habib (2012) has tried to investigate consumer behavior with respect to internet banking versus, conventional banking. He concluded his work with this note that the number of graduates internet users were observed 37.8 percent followed by

postgraduate who use internet banking not more than two times in a month.

Kaur (2013) tried to work out cost benefit analysis of paper based and electronic transaction based banking business. Kaur identified in the study that electronic based banking business is more effective and economical.

Yadav and Pathak (2013) have studied the adopted green banking approaches by the private and public banks for the sustainability environment.. With the help of the case study method they found out that Indian banks are moving towards the green environment. The results showed that public banks are more conscious and taking more initiatives than the private sector banks towards green banking

Jha and Bhome (2013) have tried to know about awareness quotient of employees, associates and the public related to the public banks towards green banking initiatives taken by the public sector banks of India.

Database and Research Methodology

The study has been conduct in the southern part of Indore city of Madhya Pradesh, India. 100 customers from each public (State Bank of India) and private bank (ICICI) were selected by the convenient sampling method.

The selected customers were given a questionnaire containing a set of questions pertaining to 12 services of green banking. They were asked to respond on the basis of 5 point Likert scale method viz. for strongly agree (SA) 5 points and 1 for strongly disagree (SD).

Econometrics Tools

To comparative study of customers' satisfaction of public and private sector banks regarding providing green banking services. The following dummy variable regression model has been used.

$$Y_i = \beta_0 + \beta_1 D_i + U_i$$

Where

 Y_i = denotes for customers' satisfaction score regarding green banking services of both public (SBI) and private (ICICI) banks

 D_i = is dummy variable

 $D_i = 1$, is defined for customers' satisfaction of private sector bank (ICICI)

Di = O for customers' satisfaction of public sector banks (SBI)

Mean score of customers' satisfaction regarding green banking services of public sector banks (SBI)

$$Yi \Sigma | Yi / Di = 0i | = \beta_0$$

Mean score of customers' satisfaction regarding green banking services of private sector banks (ICICI)

$$Yi \Sigma | Yi / Di = 1i | = \beta_0 + \beta_1$$

+ Means: The customers' satisfaction of private sector banks (ICIC) Mean score is higher regarding green banking services of public sector banks (SBI)

Means - the customers' satisfaction of public sector banks (SBI) Mean score is higher than private sector banks customers' satisfaction.

But the magnitude of the distribution

$$\beta_{1}$$

$$\beta_{1}$$

$$\beta_{1} = 0$$

$$t = \beta_{1} / SE$$

If 't' calculated value is greater than the relevant table values than $^{\wedge}$ is statically

 β_1

Significant and accordingly the difference in customers' satisfactions may be considered as significant.

Empirics

The study has been done in southern part of Indore city. By convenient sampling method 200 customers' of both banks (100 customers from each private and publics banks) were selected. After analyzing the data, the following information have been derived regarding demographic profile of the customers.

A Comparative Demographic profile of the customers' Public and Private sector Banks in given in the following table

Demographic Characteristics	Particulars	Public Sectors Bank	Private Sector Bank	
Gender	Male	48.00	60.00	
Gender	Female	52.00	40.00	
	Illiterate	16.00	16.00	
	up to H.S.	24.00	16.00	
Education	under graduate	40.00	48.00	
	post graduate	08.00	16.00	
	above P.G.	12.00	04.00	
	15-25	16.00	24.00	
Age	26-35	24.00	20.00	
Age	36-50	32.00	32.00	
	50 & above	28.00	24.00	
	Services	48.00	44.00	
Profession	Student	30.00	20.00	
FIOICSSIOII	Business	16.00	20.00	
	Others	04.00	16.00	
	Up to $-$ Rs. $10,000$	28.00	20.00	
	10,000	32.00	40.00	
Income	20,000-30,000	16.00	12.00	
	30,000-40,000	08.00	16.00	
	40,000 & above	16.00	12.00	

On the basis of reported facts, following analysis have been made and inference drawn.

Awareness of the Customers towards the Green Banking Services

As 100 customers from each public (SBI) and private (ICICI) sector banks were selected to know, their awareness, usage and satisfaction towards green banking services.

Awareness of the Customers- Green Banking Services

	Public		Private		Total	
	No	%	No	%	No	%
Yes	48	48.0	39	39.0	87	43.5
No	52	52.0	61	61.0	113	56.5
Total	100	100.0	100	100.0	200	100

From above table it has been observed that only 43.5 percent are aware about green banking SERVICES in urbanite area of Indore. In wake of demonetization the progress of awareness has been found lower.

Sources of Information

A brief summary of sources of information is given in the following table.

Sources of Information

Sources of Information	No	Percentage
Media (Print + Electronic	42	48.28
Advertisement	21	24.14
Friends	9	10.34
Relatives	15	17.24
Total	87	100.00

Researchers have made an effort to know the sources of information regarding awareness of green banking services. Majority of the customers (48.28%) told that both electronic and print media have made significant contribution in educating persons about the green banking services. Advertisement has also played a vital role in diffusing the information about green banking services amongst rank and file of Indore public. Friends and relatives were also the source of information to their friends and relatives. It has also been also informed that some has got information more than one sources also.

Awareness Regarding Various Green Banking Services

S.No	Green Banking Services	Public		Private		Total	
		No	%	No	%	No	%
1	Solar ATM	27	56.3	_		27	31.03
2	e-payment (on line)	31	64.7	13	33.3	44	50.6
3	e-deposit	10	20.8	6	15.0	16	18.4
4	Green loan	7	14.6	4	10.3	11	12.6
5	Green Mortgage	11	22.9	9	23.1	20	23.0
6	Reduction of wastage Paper	10	20.8	11	28.2	21	24.1
8	e & i Ticketing	21	43.8	12	30.8	33	37.9
9	e- bank draft	9	18.8	12	30.8	21	24.1
10	e-transfer of funds	10	20.8	6	15.4	16	18.4

In general, the most of the customers agree that these initiatives are not still started at large scale. This concept is new in India. This is the reason for poor awareness amongst customers. Some green banking services have been started by the banks but not serious effort has been made to propagate and educate customers. In India, SBI has started first to introduce certain green services i.e. Solar ATMs but only 31.03 percent customers know about this. Majority of them are still unaware. 51 percent customers are aware of green banking services like

online bill payment. Only 18.4 percent customers know about the e-cash deposit scheme. Majority of the customers, 87.36 percent don't know about the green loans. Similarly about green mortgage 23 percent customers are aware about it. From above table it may be said that customers of public sector banks are more aware in comparison with private sector banks.

Usage of Green Banking by customers of Public & Private sectors Banks

As per given information by the respondents regarding the usage of Green banking services have been summarized in the following table.

S.No	Usage of Green Banking Devices	Public 48		Private 39		Total87	
		No	%	No	%	No	%
1	Solar ATM/ATM	24	60.00	16	40.0	40	(100.0) 45.9
2	e-payment	21	67.74	10	32.26	31	(100.0) 35.6
3	e-deposit	4	66.67	2	33.37	6	(100.0) 6.9
4	Green loan	3	100.00		-	3	(100.0) 3.4
5	Green Mortgage	3	60.00	2	40.00	5	(100.0) 5.7
6	Reduction of wastage Paper	4	46.44	5	55.56	9	(100.0) 10.3
8	e & i Ticketing	12	60.00	8	40.00	20	(100.0) 23.0
9	e- bank draft	17	62.96	10	37.04	27	(100.0) 31.0
10	e-transfer of funds	8	61.54	5	38.46Æ	13	(100.0) 14.9
		48	55.17	39	44.83	87	100.0

Green Banking Services

In actual 45.9 percent customers are using ATM / Solar ATM in day to day life. Out of 45.9 percent customers, 60 percent customers of this green banking service users are from public sector banks while rest of the users belong to Private sector banks.

Similarly 35.6 percent customers use e-banking for on line payment and majority of its users are also from public sector banks i.e. 67.7 percent. It is astonishing fact that users of e-cash deposit are very few i.e. 6.9 percent only. It has been observed that about its relevance has not been propagated as well as educated to the customer. Similarly customers are not only less aware about e-loans and e-mortgage (3.4%) and 5.7 percent respectively. In other words it can be said that the users of e loan (Green loan) and Green mortgage are very negligible. e and i ticketing is very popular among customers. The percentage of users is 23 percent. It has been observed also that public sector banks customers are more user (60 %) than private sector bank customer (40 %). In case of e-draft, private sector banks customers are quite ahead from public sector banks customers. So far as concerned to e-transferring of funds/ money, once again public sector banks customers are far ahead from private sector banks customers.

Thus in nut shell, it can be said that the majority of the customers are still not aware about the green banking initiatives as well as services adopted by the banks. This is the reason of less users of Green banking services.

Assessment of Gustomers' Satisfaction over green Banking services between Public Sector Bank and Private Sector Banks

An effort has been made to assess the customers' satisfaction between public and private sector banks over green banking services like ATM, Online bill payment , Online ticketing , edraft, Online transfer of money,e-pass-book, green channels etc. It has been assessed with the help of Dummy variable regression model.

$$Y_i = \beta_0 + \beta_1 D_i + U_i$$

Where

 Y_i = denotes for customers' satisfaction score regarding green banking services of both public (SBI) and private (ICICI) banks

 D_i = is dummy variable

 $D_i = 1$, is defined for customers' satisfaction of private sector bank (ICICI)

Di = O for customers' satisfaction of public sector banks (SBI) Mean score of customers' satisfaction regarding green banking services of public sector banks (SBI)

$$Yi \Sigma | Yi / Di = 0i | = \beta_0$$

Mean score of customers' satisfaction regarding green banking services of private sector banks (ICICI)

$$Yi \Sigma | Yi / Di = 1 | = \beta_0 + \beta_1$$

S. No	Statements	Mean Score
1	Smoothly transaction held through ATM	3.56 - 0.04 (2.52)
2	Number of transaction as per norms of banking satisfied	4.30 + 0.01 (0.61)
3	Promptly ATM card delivered	4.73 +0.07 (1.654)
4	Credit card is offered often and delivered promptly	3.57 +0.45 (2.02)
5	On line Bill Payment Save Time	4.44 -0.06 (0.78)
6	Online Ticketing Save Time	4.42 -0.02 (10.21)
7	Online Demand Draft easy, convenient and save time	4.64 -0.34 (3.74)
8	Online money transfer, instant transfer & convenient	4.51 + 0.37 (2.78)
9	Online statement of account save time and avoid irritability in queue.	3.78 + 0.12 (0.312)
10	e-pass book provides update information avoid wastage of time	4.05 + 0.75 (0.371)
11	Green channel is more convenient in banking	4.30 – 0.1 (4.37)
12	SMS update regarding deposit & withdraw keep customers update	3.75 + 0.2 (0.378)

Smoothly Transaction held through ATM

The study reflects that customers of public sector banks feel more convenient and smooth in making transaction through ATM. The public sector bank customers' mean score is higher than the private sector bank customers. The difference is statistically observed significant at 5 percent level of significance. Thus it can be said that customers of public sector banks are more satisfied with ATM services.

Number of Transaction Through ATM as per Norms of Banking is not Suffices.

The opinion of customers irrespective of public and private sector banks are alike they feel that it is less and it forces customers to restrict to use the ATM for emergency period. As the mean score of private bank customers is slightly higher but statistically difference has not been recorded significant at 5 percent level. Thus customers of both banks are unsatisfied with present banking norms of ATM transaction.

ATM card Delivered to Customers Promptly

Once again the customers of both public and private banks feel alike and they found that ATM card is delivered to customers very promptly. They are well satisfied with their (banks) promptness.

Credit card is Offered, Delivered Promptly

The outcome reflect that private sector banks often offer credit card to their customers and delivered very promptly in comparison with public sector banks. The observation reflects that the mean score of private sector banks customers are higher than the mean score of public sector banks and the difference were observed statistically significant at 5 percent level.

It is, therefore,, inferred from study that the private sector banks customers are well satisfied with card delivering system.

Online Bill Payment Saves time

No doubt the mean score of private sector banks is less but the difference has not been observed statistically significant. Then, it can be inferred that the both public and private sector banks customers' agree to statement. In other words customers feel happy by paying bill online and save their time.

Online Ticketing save time

According to the mean scores it can be concluded that public sector banks customers' are enjoying more in comparison to private sector banks customers because the mean score of public sector bank customers are little bit higher. But it is important to note that the difference has been observed statistically significant at 1 percent level.

Thus it can be concluded on the basis of observation that customers of public sector banks are more satisfied.

Online Demand Draft - easy Convenient and saves time

So far as concerned demand draft, it has been observed that public sector banks customer are agreeing to the statement i.e. online demand draft are easy, convenient and time saving The public sector banks customers Mean score is higher than the Mean score of private sector banks . The difference in both the mean scores haves been recorded statistically significant at 1 percent level. Once again public sector bank customers are found to be more using on line demand draft and they are well satisfied with the green banking services of public sector banks.

Online Money Transfer Instant Transfer and Convenient

It has been found in the study that the customers of private sector banks are more agreeing to the above statement in comparison with customers of public sector banks. The difference in the mean scores of both has been observed statistically significant at 1 percent level. Thus customers of private sector banks are more satisfied with money transfer mechanism of green banking service.

Online Statement of Account save time and Avoid Irritability in queue

Customers of both (Public & Private) feel alike. No doubt the mean score of Private sector banks customers are higher but difference in their opinion means have not been found significant. Thus it can be said that the customers are well satisfied with on line statement of account.

e-passbook Provides Update Information & saves time

Once again customers of both public and private sector banks have shown their agreement with the above statement. It has also been recorded that there is no statistically significant in their mean scores. Thus it can be said that they think alike about this green banking services

Green Channel is more Convenient in Banking

It has been observed in the study that customers of public sector banks are more agreeing with the above statement rather than private sector banks customers. The difference in the mean scores of both bank customers has been found statistically significant at 1 percent level. Thus customers of public sector banks are very satisfied with Green Channel service.

SMS Update Regarding deposit and Withdrawal keep Customers Update.

Both customers of public and private sector banks have shown their agreement with the above statement. The mean score of private sector banks customers are slightly higher than the mean score of public sector bank but there is no significant difference been observed in their opinion. It reflects that the customers of both public and private sector banks are satisfied with SMS update service.

Inferences and Policy Implications

The outcomes of the study reveal that practitioners of green banking services are 63.5 percent customers. These customers use one or more services of green banking. Out of 63.5 percent (127) customers 62.2 percent (79) belong to public sector banks (SBI) while rest of 37.8 percent (48) are from private sector bank (ICICI) Further effort has been made to know about the green banking practitioners' age, 15.74 percent customers belong to 36-50 years age group and maximum users 74.8 percent are from 15-35 years age group say younger group and rest of customers is older and belongs to 50 and above age group

Similarly out of 37.8 percent customers of private sector green banking practitioners, 20.83% customers are from 36-50 years age group, maximum numbers of customers who use green banking services are from 15 to 35 years age group and 18.75 percent customers are from the age group 50 and above

The outcomes of the study reflect that 53.2 percent and 70.83 percent female customers respectively belong to public sector and private sector banks. They are very friendly with Green banking services.

and Private Sector Banks

The outcomes reveal that under graduate youth is major user of green banking services.. 35 percent of public sector banks and 28 percent of private sector banks customers of Green banking services are undergraduate. No doubt the demonetization has forced illiterate persons also to use green banking services

Amongst the green banking practitioners 66 percent customers are working persons. They are in service. Next to service sector the number of students is 42 percent. These guys are well acquainted with the knowledge of green banking services. Business class customers have little bit fear about using Green banking services.

Implications

Green banking policy in India is running with lower pace as compare to the world. Banking system has started its campaign with "Go Green Mantra". It is a multi- stakeholder' effort where banks will have to work closely with all sphere of organizations and persons like Government, NGOs., IFIs, IGOs, Central Bank, Corporate and Business communities to achieve goal. Concession on energy savings, solar ATM green Cds are such green initiatives which have been initiated by the green banking institution but customers are not very much aware about them.

The study revel that 63.5 percent customers are aware and they are using more or less green banking services whatever available. It can be promoted strategically. From very early stage of childhood, children should be introduced the knowledge of green banking system so that they may, frequently, use the green services in their life and also motivate their family members to use Green Banking Services more and more. Advertisement, documentary films may be useful in promotion of green banking system in India. If people of India become techno savvy, they may contribute a lot in reducing carbon foot prints. To make environment friendly banks must have to call for cooperation from all sect of society.

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