

## Customer Awareness and Adoption of Sustainable Green Banking Practices: An Empirical Study on banks in Delhi

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### EDITORIAL BOARD EXCERPT

Initially at the Time of Submission (ToS) paper had a 10% plagiarism, which is an accepted percentage for publication. The editorial board is of an observation that paper had a successive close watch by the blind reviewer's which at the later stages had been rectified and amended by the authors (Rajnish & Neelu) in various phases as and when required to do so. The reviewers had in a preliminary stage remark with minor revisions which at a short span were restructured by the author. The comments related to this manuscript are tremendously noticeable related to **Optimization of Time of Mobile Robot Using Genetics Algorithm** both subject-wise and research wise. The authors have crafted the paper in a structured manner. As the sensor based mobile robot coverage path planning is exigent for robotics management. It mostly increases with the increase in a distance travelled by robot. The paper made an attempt to find such an optimal path for robot by which robot have to travel least distance. All the comments had been shared at a variety of dates by the author in due course of time and same had been integrated by the author in calculation. By and large all the editorial and reviewer's comments had been incorporated in paper at the end and further the manuscript had been earmarked and decided under "**Empirical Research Paper**" as in this work a new algorithm is designed which reduces the power consumption in the robots.

### ABSTRACT

**Purpose:** The banking sector in today's era has taken up various initiatives through their lending and investment decisions to ensure sustainable development of the economy; Green Banking is one of them. Green Banking is an upcoming concept which means eco-friendly banking. The banks are adopting numerous strategies into their daily operations and in promoting Green Banking amongst customers so that a balance can be maintained when it comes to environmental concerns. This research highlights the awareness levels of customers in Delhi regarding Green Banking and the Green Services adopted by the customers like Online Banking, etc.

**Design:** A primary research on 200 respondents has been conducted.

**Findings:** It is ascertained that age is a major factor which affects the awareness levels of the customers. Also, the level of technology efficiency influences the customer's perception towards use of Online Banking.

**Value:** This research studies the impact of different age levels and technology efficiency levels on Green Banking. Both these factors play a crucial role in the adoption and execution of the concept of Green Banking as they both influence the customer's opinion towards adopting Green Banking.

**KEYWORDS** Environmental Degradation | Sustainability | Green Banking | Online Banking | Low Carbon Economy

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## Introduction

The most significant issue faced by the human race in today's era is that of environmental deterioration, which is not only being caused by natural activities but also by the actions of the businesses and various organizations. Due to the continuous changes in the climate, it is now that the society is realizing that development needs to be both sustainable as well as reasonable. In an emerging economy like India, the management of the environment holds greater importance as it is the need of the hour to use resources effectively and efficiently. The banking industry here can play a pivotal role in the up-gradation of the environment by forming policies and providing financial opportunities to the businesses which are planning to develop the economy successfully and sustainably. The banks these days are adopting the term Green Banking which means to create a greener environment and reducing carbon footprints with the help of banking practices. It aims to protect the environment by following green practices in its day to day operations. A green bank is also called an ethical bank or a socially responsible bank that is taking pro-active measures to benefit the environment. By adopting the principles of sustainable development, the green banks are trying to reduce the impact on environment by coming up with various green products and services like solar powered ATMs, paperless banking, online banking, green credit cards, kiosk banking, green loans, etc. These services are not only beneficial to the economy but also to the banks and the customers as it is cutting down costs and saving on a lot of time, effort and money. The aim of the paper is to find out the strategies adopted by the banking industry to reduce environmental degradation and how the customers are responding to those strategies in making the environment a better place to live in.

## Literature Review

According to the study of Parab (2010), one of the major challenges faced by customers in adopting Mobile Banking is technology inefficiency. Other challenges included security issues, anti-virus compatibilities in mobile phones, etc. He also stated the advantages of Green Banking and how educating the customers can result in proper execution of the same. Bihari, Suresh Chandra (2011), provided an analysis on the social responsibility of the banking sector. He stated that the banks need to quantify the effects of their lending and speculation decisions on the environment. The conclusion drawn stated that the banks can do a lot to attain sustainability by putting in efforts for corporate social responsibility as controlling environmental degradation is of great importance. Biswa (2011) also pointed out the advantages of green banking and the challenges faced by the banking industry to adopt the green banking strategies. He highlighted that the not many initiatives have been taken by the Indian banking industry to make the banks go green. Similarly, the study of Verma, MK (2012), showed that

very less number of banks have adopted green banking and invested in projects which led to environment sustainability. The consumer and staff awareness levels regarding green banking were insignificant. The study conducted by Hardeep Singh & Bikram Pal Singh (2012) showed that green banking would not only promote environment friendly activities in the customers but also reduce the paper work in the banks. The authors also highlighted that India lagged behind in the adoption of green banking strategies when compared to other developed countries and can overcome this by adopting the green strategies into their day to day operations. Bahl, Sarita (2012) in her study on public sector banks took responses of the managers of the banks on various green banking products, paperless banking and how efficient use of energy can lead to low carbon economy and reduce the carbon footprints. According to the study of Singhal et al (2014), protection of the environment is the most important responsibility of the individuals and since the banks play a crucial role in the economic development and growth, green banking can prove to be beneficial for both. Sreesha ch (2014), studied about the green initiatives taken up by public and private sector banks. The research highlighted the environmental sustainability concepts and how adoption of these initiatives can create long term value for business and increase its goodwill in the market. The study showed that public sector banks were more engaged into adoption of green banking as compared to the private sector banks. To ensure environment sustainability, information related to the environment should be used to take lending and financing decisions. In the study of Bimha (2014), it was stated that through diverse ethical strategies, there can be reduction in carbon emissions which can lead to environment sustainability and the banking sector's image can be improved. Deka, Gobind (2015), studied Green Banking with reference to SBI and stated that it has a downright impact on the environment and its sustainability as the customers who adopt the green strategies save time, money as well as energy. The study of Ramila, M. (2015) about reduction in carbon footprints concludes that the usage of electronic payment systems in the retail sectors is proving to be beneficial and is effectively reducing the carbon footprints on the environment. Narang D (2015) highlighted the steps taken by the banking industry to adopt green banking. It not only included paperless banking but various strategies such as solar powered ATMs, Green debit/credit cards, etc. According to the research of Ramnarain, T.D., & Pillay, M.T. (2016), the financial institutions and the banking industry can launch new products and services based on the concept of green banking keeping in mind the sustainability of the environment. Barhate, G.H., & Tambol M. A. (2016) study shows that green banking is useful for the banks as well as the economy. It concludes that the Government should take necessary actions to make sure that the green policies are being adopted and people are made aware about them which lead to environmental up-gradation.

## Objectives of the Study

The following were the objectives of the study:

- To assess the awareness levels of customers in Delhi regarding Green Banking.
- To examine the usage and the adoption of Green Practices such as Online Banking.

## Hypothesis of the study

The following hypotheses were formulated to carry out the research:

H1: There exists no significant relationship between the customer's age and their level of awareness towards Green banking services.

H2: There exists a significant relationship between usage of Online Banking and Technology efficiency.

## Research Methodology

Study area: The study has been conducted in Delhi to ascertain the awareness levels of customers towards Green Banking.

Collection of data: The data has been collected from primary sources. The primary data has been collected with the help of a self structured questionnaire. As the entire population of Delhi could not be taken into consideration, a convenience sample of 250 respondents was taken. The questionnaires were sent out and 200 questionnaires were duly filled giving a response rate of 80%.

Statistical tools applied: The data was collected and analysed with the help of SPSS software. Descriptive statistical tools like T-test and Chi-square test were used to examine the awareness and adoption levels of Green Banking services.

## Analysis and Interpretation

### Hypothesis 1

H0: There is no significant relationship between age of the customers and their awareness levels towards Green Banking Services.

H1: There is a significant relationship between age of the customers and their awareness levels towards Green Banking Services.

Table 1

			Age				Total
			18-30	30-40	40-50	50 and above	
Are you aware of the green banking services?	Yes	Count	47	32	12	0	94
	No	Count	21	35	25	28	106
Total		Count	68	67	37	28	200

Source: SPSS Output

Table 2

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	75.633 <sup>a</sup>	3	.000
Likelihood Ratio	83.219	3	.000
Linear-by-Linear Association	42.118	1	.000
N of Valid Cases	200		

Source: SPSS Output

Interpretation: The value of Chi-square test is less than the value at 5% level of significance as shown in Table 2. Hence, the null hypothesis H<sub>0</sub> has been rejected and it is found that the age of the customers has an influence on the awareness level towards Green Banking Services. Therefore, the customers of different age groups are not alike in terms of their awareness about the Green Banking services.

### Hypothesis 2

H0: There is no significant relationship between usage of Online Banking and Technology efficiency.

H1: There exists a significant relationship between usage of Online Banking and Technology efficiency.

Table 3

		Level of Efficiency					Total
			Experts	Proficient	Beginners	Novice	
Do you use Online Banking?	Yes	Count	35	42	17	0	94
	No	Count	0	31	38	37	106
Total		Count	35	73	55	37	200

Source: SPSS Output

Table 4

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.981 <sup>a</sup>	3	.000
Likelihood Ratio	198.612	3	.000
Linear-by-Linear Association	141.321	1	.000
N of Valid Cases	200		

Source: SPSS Output



Interpretation: The value of Chi-square test in Table 4 that is 0.00 is less than the value of significance (0.05). Therefore, the null hypothesis has been rejected. It is found that the efficiency levels of the customers in using technology influences their use of Online Banking services. Therefore, the customers with higher technology efficiency levels generally use Online Banking services.

## Conclusion

Green Banking can be considered as a developmental change by the banking industry to protect the environment and contribute to sustainable development. The customers and the staff of the bank can contribute to this change by promoting the concept of green banking and the green products and services in the society. The paper highlights that both age and technology efficiency play a pivotal role in adoption of Green Banking as many consumers of the higher age group are not aware of the term green banking. The people who are not skilled or lack technology efficiency are sceptical in using green services like online banking. Many customers haven't heard about the term Green Banking but are using green banking services in their daily lives. The banks must use a strategic plan to adopt green practices and make the customer aware about them so that it can lead to saving of paper, energy, time and effort. RBI and the government should make policies to promote Green Banking and take steps to make people technology efficient. The banks should set both short term and long term green goals only then can they attain sustainable development and protect the environment from the adverse impacts (Bahl, 2012) of the human activities.

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## Annexure 1

Submission Date	Submission Id	Word Count	Character Count
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Reviewers Comments



Reviewer's comment 1:

It is a well-structured, clear and understandable paper. The introduction portion is really strong but the references lack synonymity.

Reviewer's comment 2:

The title of the paper clearly defines the content. It is very well written manuscript. The author has designed a new algorithm which reduces the power consumption in the robots. This is remarkable and praiseworthy.

Reviewer's comment 3:

The quality of research work produced in this work is very good. The paper contains many interesting facts. To select an optimum and efficient path, number of turns must be minimum which has been achieved perfectly by the newly developed algorithm. Also all possible best cases has also been analysed by the researcher and the explanation of the test cases is good.

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