

Green Banking Initiatives in Commercial Banks: A NICE Analysis

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Abstract-The financial system of a country reflects its economic strength, and its financial system depends solely on its banking system's strength and efficiency. On the global and national level, the banks have seen many transitions in the last two or three decades, whether it is in terms of reforms in their operation, the facilities they are providing, or the new areas or fields in which they have entered for an operation like insurance, consultancy, financial manager, risk manager and all. Along with a fascinating transition, banks have also threatened the environment. However, banks are not involved in direct pollution in financing projects that harm the environment. Green banking presents the solutions to all these problems.

Keywords: Green Banking, Economic strength, Environment, NICE Analysis, Indian banking system.

1.INTRODUCTION

The concept of green banking is new to the world of finance. The operations of the banks and other financial institutions have a significant role in the process of sustainable development and prevention of the environment by giving preference to financing more environment-friendly projects and by using and implementing environment-friendly products and services. The term 'Green Banking' broadly stands for designing inclusive banking strategies to ensure sustainable development in the country (Sahoo, 2007). It refers to managing the banking institutions in such a way that it will help reduce the institution's external and internal carbon footprints. Banks can mitigate external carbon emissions by involving subsidized finance for pollution-free projects based on green technologies. It is known as green finance (Rai et al., 2019). Also, internal carbon emissions can be reduced by innovating the products and services used by the banks at the internal level. This helps reduce the use of natural resources and protect the environment. This will also help ensure less paper, energy, and water

consumption. Green banking helps to ensure a cleaner and greener future and is also known as 'Ethical Banking.' It also includes making the people associated with these financial institutions aware of the concept of green banking and the importance of going green. This will help bridge the gap between customers' awareness and the environment. Hence, nowadays, banks actively engage in green processes, infrastructure, and strategies and are bent on introducing new green products and services daily to ensure success in protecting the environment and sustainable development (Vadrle & Katti, 2016)

2.OBJECTIVES

- 1.To Study green banking initiatives by commercial banks.
- 2.To study the NICE (Needs, Interests, Challenges, and Expectations) model of green banking.

3.REVIEW OF LITERATURE

(Sharma & Choubey, 2021). In this research, a conceptual framework for green banking activities was presented. It also studies the impact of three initiatives regarding green banking implementation, *i.e.*, corporate social responsibility (CSR), green internal processes, and green product development, on two likely outcomes: green brand image and green trust. (Ghosh, 2018) stated that the development comes with consequences like environmental degradation and pollution. Hence, developing a "Green Economy" has been the focus of many developing countries like India to focus on the well-being of humans and minimize the risks associated with the environment. In his research, the author attempted to highlight the concept of 'Green Accounting' and its related practices and identify the different shortcomings the idea poses in its implementation in India and the suitable solutions.

(Goel *et al.*, 2017) stated that green banking is a strategy for attaining balanced, sustainable growth. In the new millennia, all business activities have been a kind of revolution that focused not only on profits but also on the environment and the living beings associated with it. The prevalent “Go Green” initiatives focus on the concept of 3Rs, *i.e.*, Reduce, Reuse, and Recycle. The author’s research helps understand and examine the concept of green banking and its role in sustainable development in banking and other financial institutions.

Joshi and Shah (2017) also discussed using green banking in the twenty-first century as a strategy for sustainable development. Green banking defines the guidelines that help commercial banks act responsibly, environmentally, publicly, and cost-effectively

Amin (2016) also defined the term “Green,” meaning life. It is an indicator of growth, fruitfulness, and rejuvenation. The author concluded that Indian banks should adopt the Idea of green banking as their new operating strategy. Financial institutions, businesses, and the economy will benefit from this. Additionally, it will boost the banks' reputation in the community; even if any Indian bank wants to enter the global market, they should be able to identify and accept their environmental and societal responsibilities.

Rao (2015) also conducted an empirical study on the concept of green banking in India in which detailed information about green banking, its importance, different initiatives taken by the country, and its role in sustainable development was studied. Green banking is a recently developed phenomenon making its mark in the financial world. It can be seen as a form of banking that considers the environmental and social impacts and aims at protecting and preserving the environment.

Ahuja (2015) also conducted a study on green banking in India. In this study, the author found the significant problems and challenges in implementing the green phenomenon in the country. He highlighted the primary issue of lack of customer education and awareness. For this, he suggested proper guidance and educational programs to be conducted by the banks in this regard that will help to make green banking a success.

Virginia and Yakim (2015) discussed that green banking has recently attracted much attention worldwide. Many financial institutions have adopted it as a part of their PR strategy. The work done by these

authors aimed to define the term “green banking” and its scope. Hence, they were able to propose a working green banking business model based on the study. According to the authors, green banking is a means to promote environment-friendly practices in banking activities so that carbon footprints can be reduced.

Packing Lakshmi and Ramesh (2014) also studied the green banking trends in India. Every person can contribute to saving the environment, thus making the earth a better place to live. In this paper, the authors have suggested ways to go green by using online banking instead of traditional banking, paying bills online through modern green apps instead of sending by mail, and others. They also said that RBI and India’s government need to play a proactive role in formulating guidelines related to green banking.

4. RESEARCH METHODOLOGY

The current research paper is conceptual, based on a thorough literature review, of websites of banks, Newspapers, and magazines. A unique NICE Model also has been introduced in the research. Some Secondary data have been also used in the study.

5. ORIGIN OF THE CONCEPT OF GREEN BANKING

The concept of green banking formally came into existence in 2003, aiming to protect the environment from any harm caused by banking sectors’ activities. The idea of green banking was initially presented by Reed Hundt (United States) in 2003, and a green bank (Green Investment Bank) was established in the US in Mt. Dora, Florida, in the year 2008 (Ahuja, 2015). It was a public or quasi-public financial institution that was quite famous for using innovative banking techniques and market development tools in association with private sector organizations for the deployment of technologies for clean energy, even the employees in the bank were staffed based on their attainment of Leadership in Energy, and Environmental Design (LEED) accredited professional designations. It helped to ensure that all the bank employees were well-versed in green building practices. They also aimed to promote the concept of green banking by providing incentives and perks to the customers opting to purchase vehicles

having high efficiency (Bihari & Pandey, 2015). They even used a hybrid Toyota Prius as their courier car.

Green banking, as the name itself, implies, promotes banking practices that are environment-friendly and help to reduce carbon footprints because of different banking activities. More simply, green banking can be defined as a form of banking that guarantees less utilization of natural resources and optimal reduction in carbon footprints (Bihari, S.C. and Pandey, B., 2015).

Green initiatives are steps or start-ups taken to attain sustainable operations focusing on environmental awareness in businesses. Green initiatives are designed to handle the risks of climate change and economic risks and enhance quality with productivity by attaining sustainable development goals (Jatana & Jain, 2016). The services with an alert of the ecological and sustainable operations for business practices and taking initiatives for the customer progress in understanding environmental, economic, and social concerns are green services. In precise, the environment-friendly practices or operations of business services are also known as green services. Therefore, the actions that are environment-friendly and motivate environmental protection as an aspect of sustainable development are known as green practices.

6.GREEN BANKING INITIATIVES FROM A GLOBAL PERSPECTIVE

Any country on the path of economic development faces undesirable environmental effects and issues in the form of increased carbon emissions and greenhouse gases, global warming, changes in climate, and many other artificial disasters. This damages the quality of the environment (Bahl, 2012). Hence, it is high time to give the required attention to sustainable development and preservation of the environment at the global level. At the International level, many initiatives have been undertaken by the United National Environmental Protection Finance Initiative (UNEP FI) and Equator Principles (EPs). UNEP FI ensures the implementation of sustainability principles efficiently using the operations of financial organizations (Vadrle & Katti, 2016). To develop and promote the relationship between economic performance and sustainability, it has been working with the lead banks of each state, investment funds, and insurance companies. Also, a large number of

financial institutions in many different countries have adopted the Equator Principles. This has even motivated the RBI to issue guidelines to the banks in India to motivate them so that these banks can also contribute to sustainable development (Nath *et al.*, 2014). Some green banking initiatives at the international level are presented as follows:

- The banking changes in recent times are noticed as better customer experience services, and increasing collaboration with business partners and governments. Fintech has more introduced to the banking sector in recent times to improve customer interaction facilities in the banks control the cost of operations and save time (Forbes Expert Panel. 2022). The COVID-19 pandemic introduced innovation and creativity into fintech, raising the bar for leveraging fintech into the banking system.
- The banking sector in the USA has faced a decreasing number of banks because the consolidation or merger of small banks into big banks has happened due to poor fundraising and survival operations. But using fintech, the big banks can serve customers for lending or commercial and retailing business. The fintech-driven data analysis and information have made the bank capable of merger and acquisition decisions and financial valuations.
- Digital lending has become the global and domestic banking trend, effectively supporting green banking initiatives to save paperwork, staff working hours, and lengthy formalities.
- Neo-banking is another popular trend in global banking practices that promotes mobile banking as a portable and handy option for the customer (UNEP - UN Environment Programme. 2022). Neo-banking is an advancement over the traditional physical banking system, which has shifted the preference of customers to use digital banking instead of physical operations.
- The automation of the banking system has been improved after the use of mobile banking as well as digitalized communication using bank websites. It has increased the personalization for an efficient and effective customer experience.
- Blockchain technology gives instant transfer of amounts between two accounts or one-to-many as well as many-to-one accounts, which has

enhanced the work efficiency of the banks and consumer support system.

- The new global trend of banking is providing loans to online consumers who are not having physical, financial institutions. Such loan lending applications and online financial businesses will grow shortly, which will save costs and time for consumers.
- The green banking initiatives use the democratic financial service as a new customer service model while providing credit line analysis and financial capability to buy something (Pesme, 2022). It also helps retail businesses to specify each person's financial capacity with a bank account and have a profile of their regular retail customers.

7. THE GREEN BANKING INITIATIVES AT NATIONAL LEVEL

The concept of green banking is new to the world of finance. The operations of the banks and other financial institutions have a significant role in the process of sustainable development and prevention of the environment by giving preference to financing more environment-friendly projects and by using and implementing environment-friendly products and services. The term 'Green Banking' broadly stands for designing inclusive banking strategies to ensure sustainable development in the country (Sahoo, 2007). It refers to managing the banking institutions in such a way that it will help reduce the institution's external and internal carbon footprints. Banks can mitigate external carbon emissions by involving subsidized finance for pollution-free projects based on green technologies. It is known as green finance (Rai et al., 2019). Also, internal carbon emissions can be reduced by innovating the products and services used by the banks at the internal level. This helps reduce the use of natural resources and protect the environment. This will also help ensure less paper, energy, and water consumption. Green banking helps to ensure a cleaner and greener future and is also known as 'Ethical Banking.' It also includes making the people associated with these financial institutions aware of the concept of green banking and the importance of going green. This will help bridge the gap between customers' awareness and the environment. Hence, nowadays, banks actively engage in green processes, infrastructure, and strategies and are bent on

introducing new green products and services daily to ensure success in protecting the environment and sustainable development (Vadrade & Katti, 2016). Some keynote points denoting green banking initiatives of the Indian banking sector are as follows:

- The Indian banks are also using fintech services, which have globally introduced a practical impact on customer services and banking system collaborations with corporates and retail customers.
- Indian banks also focus on paperless transactions, and most retail users have used mobile banking and net banking facilities for digital transactions (Sharma & Choubey, 2022). It reduced the wastage of paper and energy and the awful use of furniture for extensive banking infrastructure (Park & Kim, 2020). The office space has started to go short in the regional and crowded areas to have green digital transaction initiatives using financial IT technologies.
- The banks are getting more advanced in investing in digital communication, mobile banking cyber security, the safety of customers' money, and infrastructures. Indian top financial institutions like RBI, SBI, the Bank of Baroda, ICICI banks, etc., have invested in green initiatives to increase digitalized transactions through mobile banking.
- The banking sectors are also taking initiatives towards enhancing interactive technologies, which reduce the wastage of paper and energy, infrastructure, and use of furniture.
- The Indian banking system also focuses on supporting the ecological system and CSR, promoting the plantation of trees and associations, and introducing carbon emission control (Maity, 2019). The banks have personally initiated the green corridor and plantation at their buildings with greenery, reuse of the used water with water harvesting and filtration, and recycling plants at banks. Alongside such environment-friendly actions *i.e.* digitalization, decentralization, and democratic fintech services are introduced to the banking sector in India. The banks have started using blockchain technologies, artificial intelligence (AI), machine learning, and cyber security for the data centers.
- The Indian banking sector is moving towards investment in decarbonization and bringing

innovation around the financial system. It also undertakes the financial system to understand the risk of the environmental impact on the economy of the banking sector (Pesme, 2022). Thus, it takes the green initiatives to invest in digitalized banking and the green infrastructure project, or CSR, to reduce pollution and carbon emissions or promote ecological projects in the Indian banking sector.

8.GO GREEN INITIATIVES

The banking industry was never considered a polluting industry. But many banking activities have substantially increased the carbon emissions of the banks due to the massive use of electricity for lighting, air conditioning of the bank branches, machines that are being used, use of different types of electrical or electronic equipment, use of IT in banks and others (Lalon, 2015). Also, most banks maintain the bank data online and offline. This leads to much waste of paper, which is not an environment-friendly practice (Yadav & Pathak, 2013).

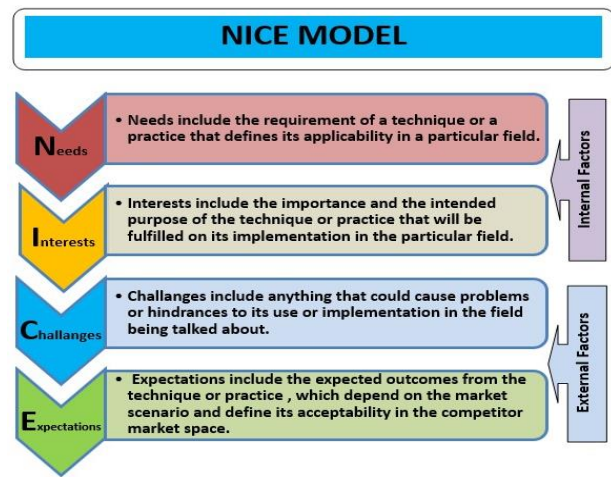
However, over time, the banks' awareness of green banking solutions has increased. Today, many banks are taking initiatives for sustainable banking solutions. They are now moving towards adopting technologies, processes, or products that have substantially helped reduce carbon emissions and develop sustainable businesses (Herath & Herath, 2019). Some green banking initiatives by Indian banks are as follows:

Digital Saving accounts	Scan and Pay
E-Statements	Contactless Payments
BHIM UP	RFID Payments
Use of AI	Digisaathi
Virtual credit cards	UPI123Pay
Chatbots	Green Loans
Missed call banking	Eco- friendly Paper Shredder
AEPS	Green Deposits
BBPS	CDMs
UPI	Core Banking
Neo banking	Green Chanel Counter
Mobile banking	Solar ATMs
Internet banking	Wind miles
Doorstep banking	Green Infrastructure

NICE Analysis

The NICE analysis model helps in analyzing and defining the perception of the users of the green banking initiatives, whether they are the ones availing of the banking services or the ones lending them. The model stands for Needs, Interests, Challenges, and Expectations, which sums up the success and feasibility of any green banking initiative in practice. The needs and interests associated with any techniques used to implement green banking practices depend on the internal factors that concern and control the initiatives. Similarly, challenges and expectations related to green banking techniques can be linked to external factors.

Figure 8.1 NICE Model



8.1 Need for Green Banking in the Country

Keeping the country's current scenario in view regarding environmental conservation and preservation, the proper drafting and implementation of green banking concepts and initiatives are much needed. The necessity of green banking concepts can be categorized under the following heads:

- **Environmental Sustainability:** Green banking initiatives are needed to create awareness in both the internal and the external subsystems among the target groups to impart the required education to attain environmentally sustainable development. India's overall score for the Sustainable Development Goals (SDGs) has increased by 6 points, going from 60 in 2019 to 66 in 2020-21 in infrastructure, energy, and health (IndBiz | Economic Diplomacy Division, 2022).
- **Reducing the Carbon Footprints:** Green banking is the banking business that is conducted in a particular manner which can help in an overall reduction of carbon emissions externally and

carbon footprints on the internal level. In a recent 26th Conference of Parties, a five-fold strategy, termed “Panchamrita,” was introduced, which aims to reduce the total projected carbon emissions by 1 billion tons by 2030, reducing the country’s carbon intensity by less than 45 percent (Narain, 2021). India is also on the path to achieving net-zero emissions by 2070, which will help to tackle climate change in the country as well, and in this, the banking sector will play a crucial role.

- Conservation and Judicious Use of Natural Resources: Green banking initiatives are also needed to ease the pressure on natural resources. With less paperwork and more pressure on online work, India is already heading in this direction. The nation generated 9.2% of its electricity from renewable sources in 2019. The power requirement in the country is projected to be 2518 BU in 2030, which we are targeting to meet at least 50 percent from renewable resources.
- Promoting Green Businesses: Building industries that will help us transition to a low-carbon economy is essential. Additionally, it has been discovered through studies that companies that use less energy and emit fewer greenhouse gases are considerably more profitable. For instance, the promotion of the LED lights system has been acknowledged to be a massive success in this regard, with approximately 367 million LED bulbs, 7.2 million LED lights, and 2.3 million energy-efficient fans. (Andersen, 2022).
- Transforming the Internal Operations of the Organizations: green banking initiatives must be implemented at any organization's internal level so that a more significant difference can be made at the national or global level. It has always been said that charity begins at home.
- Environmentally Responsible Credit Policies and Financing: The significance of green credit and financing strategies was acknowledged in 2007 for the first time. The RBI developed many initiatives to motivate banks to achieve sustainability objectives. The Priority Sector Lending (PSL) program included small-scale renewable energy projects. The amount of outstanding bank credit for the non-conventional energy sector as of March 2020 was estimated to

be over 365 billion rupees or around 8% of the total in the power generation sector. (Chaudhry, 2022).

8.2 Interest Areas Opened up by Green Banking

The green banking concepts also open up many new interest areas of the banking institutions in the financial market, which could help boost the global finance industry and assist in addressing environmental concerns. Some of these interest areas include:

- Competitive Advantage and Opening of New Business Opportunities: Every operational unit and activity must be environmentally friendly in a green bank, which leads to increasing the sustainability of the environment. Green banking creates several new options in supply chain management, corporate resource planning, customer relationship management, and various green banking initiatives like green loans, certificates of deposit, mortgages, etc.
- Awareness of Global Warming: Green banking is a significant step that banks must take to protect the environment. By reducing both internal and external carbon footprints, the application of various green banking strategies aims to raise awareness for protecting the environment from global warming.
- Consciousness Building and Awareness: The introduction of the “green banking” concept has increased awareness among banking sector employees and customers. And has them aware of its increasing importance and need. The people are now more vigilant about their surrounding environment and are paying attention to how its conservation can be done at both internal and external levels.
- Increase in Profitability: Green banking reduces energy and water use while also improving the bank's reputation in the community. This idea is advantageous to the economy, businesses, and banks alike. Additionally, it will boost banks' asset quality in the long run. The net profit of almost all the banks has also increased substantially over the years.
- Higher Growth Rate: The increase in the revenue and net profit of the financial institutions will

automatically lead to a higher growth rate for the entire banking sector and the economy.

8.3 Challenges Faced in Adopting Green Banking

The banking industry is also prone to some challenges that can be faced while converging toward green banking processes. These challenges are at the adoption as well as implementation levels. Some of the different challenges faced are:

- **Reputational Risks:** Financial institutions are exposed to the risk of reputation if they get involved in financing massive projects related to the safety of the environment if they are found to be socially or environmentally damaging.
- **High Initial Startup Cost:** Banks implementing green banking concepts will have to invest more to hire individuals with specific expertise and skills. For instance, a loan officer should have more expertise in dealing with clients who wish to go green and work with green businesses.
- **Market Risks:** In implementing green banking initiatives and green financing, market risks are also involved, resulting in non-performing assets for the financial institutions and default of credits by the industries involved in big green projects.
- **Limitation of Technical Expertise of Banking Personnel:** The banking sector has always worked in a particular traditional way and has always been a manual sector. Many officials working in these financial institutions lack in technical expertise involved in implementing the concept of green banking at the institution level.
- **Technological Backwardness of the Customers:** On the other hand, some customers still prefer to seek banking services the traditional way. They are also technologically backward in using green banking services like mobile banking or Internet banking, which creates a complete hindrance in implementing the concept of green banking.
- **High Rate of Transaction Failure:** Transaction failure is a significant issue that creates a hindrance in the path of green banking. There are two types of transaction failure:
 - i. **Business Decline (BD)** “Transaction declined due to business decisions by participating stakeholders in the transaction. These shall be Insufficient Balance, Blocked account, Incorrect PIN, Do not Honor, etc.

- ii. **Technical Decline (TD)** “Transaction declines that are due to technical shortcomings like internet connectivity issues, switch unavailability, incorrect message data elements, etc. (NPCI, 2022).

According to NPCI data following are statistics of BD and TD as of May 2022:

Table 8.1: Business Decline and Technical Decline

Name of Bank	NFS (National Financial Switch)		AEPS	
	BD%	TD%	BD%	TD%
SBI	13.45	0.51	20.85	4.07
BOB	16.09	1.34	34.57	1.51
ICICI	12.21	0.24	19.20	1.60
Axis	10.16	1.83	23.47	1.74

Source: NPCI.ORG.IN

NPCI data shows that the country’s largest mass lender, the State Bank of India, recorded a 3.7% technical failure rate. Axis Bank and ICICI Bank recorded failure rates of less than 1% in October 2021 (Economic Times, 2021).

8.4 Expectations from Green Banking

The introduction of green banking initiatives in different financial institutions also gets many suppositions into force. These expectations are from the environment, society, and nation changes. Some of these comprise:

- **Increased Sources of Revenue:** The introduction of digital banking or green banking has entirely revamped the way banking is done in the country. These financial institutions are expected to have increased revenue and profitability as well in the current scenario of banking. For example, the State Bank of India (SBI) initiated the concept of electronic annual reports for the shareholders by charging them a nominal fee. In 2014, the bank collected around Rs. 3 Crore by charging only Rs. 100 per eAR (Kaur *et al.*, 2019).
- **Improvement in Goodwill:** The banks or financial institutions that have associated themselves with the cause of green banking tend to have better goodwill in the global banking industry. Green banking will bring them to better light for the shareholders and customers. Better customer service builds trust in customers toward the bank and increases the bank’s goodwill. It helps banks in adding more customers and generating more revenue.

- Building a Better World: Associating with green banking concepts and initiatives will ultimately make this world a better place to live for our generations to come in terms of lessening pollution, controlling climate change, and the conservation of essential natural resources.
- Sustainable Development of the Country: The cause of digital banking or green banking is to fulfill the dream of the country's sustainable development to make a mark on the global map.
- Green Brand Image and Green Trust: Implementation of green banking strategies is also expected to help to set a brand perception in the customer's minds to associate themselves with environmental concerns and commitments. Building its green bank reputation and building green trust among its customers will be made more accessible by the financial institutions involved in green CSR, green internal processing, and green product development.
- Green Satisfaction: The green marketing strategies will also help the customers and stakeholders of the financial institutions to have complete green satisfaction. Thus, they can be retained for more extended periods and at any time in the global banking scenario.
- Increasing Internet Penetration Rate: Internet access is one of the basic requirements for green banking. The Internet penetration rate is increasing rapidly in India. According to data, almost half of the population uses the Internet. It has risen from 4% in 2007 to 47% in 2021. Similarly, No. of Internet users has a rapid increase in India. According to data No. of Internet users was 92.57 million in 2010, which increased to 932.23 million in the year 2022. It is supposed to grow up to 1134.04 million by the year 2015 (Statista, 2022).
- Increasing Ease of Accessibility: To access green banking services, a device, either a laptop or smartphone, is required. No. Smartphone users have increased tremendously in India. No. of Smartphone users was 304.51 million in 2016, which has grown to 931.30 million in 2022, and it's supposed to increase to 1132.9 million by 2025. Similarly, UPI transactions have been a proven boon for the digital economy. According to available data, UPI is the customer's most

preferred payment mode, with a 56% share in March, ending 2022. Many mobile UPI and other applications have made accessibility of digital banking available on more OK tips (Business Standard, 2022).

The above study indicates that financial regulators, such as the Reserve Bank of India and the National Payments Corporation of India, are essential in encouraging green banking initiatives and practices through their strategies. Commercial banks comply with the directions of RBI and the NPCI to implement these practices and ambitions in their bank branches and offices. These banks have implemented additional green banking initiatives and procedures in their organizations. SBI and BOB are leading public sector banks that have pioneered numerous green banking strategies. It has decreased crowding in branches as well as carbon footprints. In the green banking initiative, private sector banks also play a positive role. ICICI Bank and Axis Bank facilitate their customers with green banking services. It has improved these banks' cost-effectiveness as well as Customer satisfaction.

9 FINDINGS AND CONCLUSION

The above study indicates that green banking is not a new concept for financial institutions. Various green banking initiatives have been introduced at global as well as national level. It has made available financial transactions at the fingertips of the people. It has reduced carbon emissions also. The study also reveals the Needs, Interests, Challenges, and Expectations of green banking.

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