A STUDY ON RELEVANCE OF GREEN BANKING IN THE INDIAN FINANCIAL SYSTEM

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***ABSTRACT**: the objective of the study is to highlight the importance of green banking in Indian financial system. From the past three decades' the issues like population growth , urbanization, environmental degradation has been discussed widely across the globe .Post demonetization, the government of india government of india promoting all kind of activities with a slogan "digital india'. The study adopted exploratory research model based on past literature using information from research journals, reports, news papers and magazine covering wide collections of academic literature on relevance and significance of green banking in the current globalised era. The study explores the available data set and draws conclusion on green banking which has reduced the paper work and catalyst in maintaining records easier.*
Keywords: Green banking, demonetization, Globalization, Artificial Intelligence& Machine Learning, NPA's

I. Introduction:

IDRBT (Institute for Development and Research in Banking Technology), defines Green Banking as the practices and guidelines that make banks sustainable in economic, environment, and social dimensions. It aims to make banking processes and the use of IT and physical infrastructure as efficient and effective as possible, with zero or minimal impact on the environment. Green banking is to accelerate clean energy market growth while making energy cheaper and cleaner for consumers, driving job creation, and preserving taxpayer money.

1.1. Globalization and Reforms in Banking Sector

The Narasimham committee report has given a Blue print for modern banking as like liberalization of interest rates, reduction of reserve rates, reduced control on government in banking operations and establishment of market regulator for stock markets and dismantling the prohibitions on foreign direct investment. Hence, Steps were taken to move to a market determined exchange rate system, and a unified exchange rate was achieved in the 1990s itself. The government also released a slew of measures regarding to asset classification, income recognitions, capital adequacy etc. Current account convertibility was allowed for the Rupee in accordance with IMF conditions from 1994. Nationalized banks were allowed to raise funds from the capital markets to strengthen their capital base

Also, banks were allowed to fix their own interest rates on domestic term deposits that matures within two years Customers were encouraged to move away from physical cash, as RBI issued guidelines to the banks regarding to the issuance of debit cards and smart cards

Capital index bonds were introduced in India for the first time. The newly adopted policy of liberalization led the RBI to provide licenses to conduct banking operations to some private banks such as ICICI Bank, HDFC Bank etc. The Industrialization and expansion of economic operations also revamped banking operations, which had to keep up with the demand for various banking operations.

1.2. The Decade of Internet Banking:

The early millennium started with consolidation of existing banks and entrance into the market of other financial intermediaries: non-bank financial institution. Large corporate players entered into the financial service community, offering competition to established banks. The main services offered included insurances, pension, mutual, money market and hedge funds, loans and credits and securities.

The process of financial innovation advanced enormously in the first decade of the 21 century, and banks explored other profitable financial instruments, diversifying banks' business and this had a positive impact on the economic wellness of the banking industry. The era in which the distinction between different financial institutions, banking and non-banking is gradually off the market. Innovations during the decade shifted the way banks operate from conventional branch banking to internet and e-banking.

1.3. Turbulence of banking sector in Last Decade

The impact of Asian Crisis followed by Recession in 2008-09, (default of Lehman Brothers, Citi Bank Crisis) had an enormous impact on the banking industry. There have been many changes in the banking industry in the past 10 years. The banks have been collecting vast amounts of data about customers, channels, financials and risk, and the availability of analytical technology opened means to effectively manage and analyze data. Security, privacy and fraud prevention became an area of prime focus and many measures have been taken in this regard. Globalization of financial products and services continued at an unprecedented pace drives were made for the financial inclusion of unbanked, poor and marginalized people.

1.4. Problem of NPA' and PSU Bank Merger:

The Oriental Bank of Commerce (OBC) and the United Bank of India (UBI) have been merged into the Punjab National Bank (PNB). At present PNB will be the second largest PSU bank after the State Bank of India, which earlier it was consolidated with all its associates merging with it. The Syndicate Bank has been merged with the Canara Bank while the Andhra Bank and Corporation Bank will be merged with the Union Bank of India. The Allahabad Bank will merge into the Indian Bank. This will make it the seventh largest state-owned bank in India. The announcement of merger of banks, the total number of PSU banks will come down to 12. Before 2017, the government has rolled out bank-merger plan, the number of public sector banks in India was 27.

A merger is the third wonderful answer for the issue confronting open area banks. The ideal arrangement is to sell them and give full opportunity to the buyer. Guideline should be fortified to guarantee that advertisers do now not abuse open assets and store protection will shield 99% of the contributors. Be that as it may, this isn't politically a practical choice. The 2d quality decision is to loosen up the more vulnerable banks, work them as thin banks and close them down. Again this is beyond the of imagination because of the reality money related organization associations are extremely strong. This leaves just the one third decision of merger. This is the handiest method to forestall tossing suitable cash after horrendous. Utilizing the merger way the specialists can consideration on certain banks and not should go lower back on its promise of providing cash-flow to best performing banks.

The key detail to a merger is an ordinary IT stage. Indeed, even inside the indistinguishable center financial machine banks are chipping away at dissimilar structures. The extremely least that can be finished is to consolidate banks principally dependent on IT stage. I accept the top choice sooner than the administration is to take out a leaf from the SBI buddies merger. As an essential advance it can change ownership of the bank to an increasingly strong monetary organization on a similar stage. My thought is that the littler banks shareholding can be moved to the stay money related establishment.

Unfortunately, sought after extremity, fix and assurance by utilizing RBI came about to contain PSU banks net non-acting credits proportion at 9.1 rate in 2019 down from eleven.2 rate a yr sooner than, says the monetary power.

The gross non-performing resources (NPAs) of open area banks (PSBs) have declined through Rs 89,189 crore from a pinnacle of more than Rs 8.95 lakh crore in March 2018 to over Rs 8.06 lakh crore in March 2019-Reported in Rajyasabha. The specialists embraced a far reaching 4R's technique alongside notoriety of NPAs straightforwardly, choice and improving expense from anxious bills, recapitalizing PSBs, and changes in PSBs and financial surroundings to guarantee a responsible and clean gadget. Change in credit subculture changed into affected, with the Insolvency and Bankruptcy Code (IBC) on a very basic level changing the loan boss borrower dating, disposing of control of the defaulting organization from advertisers/owners and suspending willful defaulters from the goals procedure and suspending them from hoisting assets from the market. In the course of the last 4 monetary years, PSBs had been recapitalized to the degree of Rs 3.12 lakh crore, with an implantation of Rs 2.46lakh crore by the specialists and preparation of over Rs 0.66 lakh crore through PSBs.

Hence the banking sector is in crisis due to hovering NPA's, the banking sector can take this as an opportunity through green banking. The First part of the study consists of defining Green banking, banking in Globalized era, Problem of NPA's. The second part of the study dedicated to Review of Literature, Objectives and Methodology of the study. Third part discusses the recent trends in green banking, Innovations in Banking and Fourth part offers Conclusion of the study.

II. Review of Literature:

Likitha et.al (2015) studied the concept of green banking and a moving trend towards ecological economies .To study aimed at sustainable development and the growth of the banking sector .The study is based on secondary data and adopted by the primary data for finding functioning of green banking through interview method with various bank manger .The study concludes that in the era of the globalization and the growth of digital banking its ever increasing competition in the banking sector bringing issues competition and the bank should play proactive role to take environment and ecological aspects in its operation. The green banking has the opportunity for investing, cleaning, renewable energy, technology and the government also should follows laws to shift the market as per the current digital era.

Bibhu Prasad sahu et.al (2016) analyzed the green banking in India and to understand the adoption the green banking where in to examine the various age groups, gender and occupants as well to explore the relationship between the gar groups and adoption of green banking product to promote digital banking not only for the convience of customer but also to reduce the cost of the bank. The study is based on primary data to test the relationship between green banking & age of individuals. This study concludes that the digital banking gives importance to use of online, mobile banking, and green loans. Where it promotes the environment friendly practices and reducing the carbon foot print. At present the young generation are more inclined towards the green banking.

MRS .T.R Srilatha (2018) highlighted the awareness form the public regarding to eco-friendly projects which are adopted by households business & institutions. It also examine how the implementation of green banking in are taken further..And the study is also based on secondary data it also have been adopted by the primary data from the business man. The main goal is to implement the clean energy market growth whereas the bank gives more importance's **"technology risk".** Although there are lots of challenges in India, The bank is trying to promote regarding the digital banking. India can also get into providing assistances to eco friendly projects which helps in reducing carbon emission.

Dr.Gobinda Deka (2015) studied about the green banking which is introduced by the SBI bank and to explore the awareness about the digital banking to the customer. The present study has been incorporated by the both secondary and primary data. For primary data both open ended and close ended questionnaire are formed as well as the information has been collected by visiting the local head offices & bank manger. By above research we can conclude that clearly we are getting the positive impact from the customer where in it also saves energy, fuel, paper, water, time as well as money. The digital banking practices are very convents to the customer where they do not need to go bank for the transactions. But in India the green banking are very far because due to the awareness.

Kanak Tara et.al (2015) study mainly aims to promote the green banking by all the banks for the purpose of environmental conservation by which the initiatives taken by the SBI & ICICI bank. It includes both primary data and secondary data where the data is collected through the personal visit to the bank &bank manger. India economy is an emerging& there is huge development by the growth of Indian bank where they have adopted innovative strategy and also in India the green banking products & services are excepted to be in the future very innovatively. The present era it's very important for the bank to pro active & huge completion in the global market.

Dr.Gobinda Deka (2018) explored about the digital banking in India & to analysis about the SWOC analysis of the green banking. It has incorporated by both the primary data & secondary data and the data has been collected by distributing the questionnaire to the customer also the data has been collected by the interviewing the head office & the branch manager. It concludes green banking in India are very far. By now we can conclude that green banking practices is playing a vital role where it saves energy, paper, water, time as well as money.

Deepti Narang (2015) identified various modernization techniques taken by selected banks and to know the importance of digital banking. This study relied on secondary data that is SBI, PNB, HDFC & ICICI banks are the highest profitable banks by the RBI in the report trend & progress of banking in India. At the present era the green banking are start up mode in India where in they are suppose to promote to the public where as thus will help in environmental performance & creating the long term values .Rite now the RBI has to play a major role in implementing digital banking.

Atul Gupta (2018) observed that digital banking is secured or unsecured; there modes of digital banking, user friendly technology & the updating of technology, due to constraints the transactions are not pro-active. This study is based on secondary data where the numerous changes in the regulatory frame work & the challenges, issues faced by the banks are enlightened.

Suresh Chandra Bihari et.al (2014) explored the concept of green banking wherein to identify the procedure which is adopted by digital banking .To create the awareness among the public about the digital banking. Verify the awareness of green banking among the banks, employees, associates& general public. The study is based on secondary data & primary data where the data are collected from the various journals, articles & direct interviewing from the branch manger& head office. In recent era of the economy the green banking which ir try to reduce the carbon emission& renewable resources where it has adopted the modern technology especially it saves the energy ,consumption of time, paper less work where in the customer can do the transactions through the digital banking.

CA Mahesh et.al (2016) studied about the green banking, to verify the various steps which are adopted by the green banking and to create and promote the awareness to the bank employees .And it includes both secondary & primary data whereas the data collected through the telephonic interview and direct interactions with the employees where it gives the awareness to the public. Now days the online banking is playing vital role where the banks try create the awareness to the public for the better global environment & ethical banking avoids paper work, “get to go green cards”.

Dr.Karpagam &Geetha (2018) studied customer’s awareness on green banking in selected public and private sector banks with reference to Tripura. The objective of the study is to
Assess the green banking customers demographic and socio-economic status and to know about their level of awareness about green banking practices . The study based on primary and secondary data and information collected through questionnaire and the review reports were collected from websites of various banks and journals related to banking. The study finds that Majority of respondents associated with SBI and other private banks 77% of the respondents opined that public sector banks are most technological advanced public sectors (includes SBI) with respect to green banking. The study concludes that India’s growth account and obligation to cut its carbon intensity by 20-25 percent from 2005 levels by 2020 provides tremendous opportunities for Indian banks from funding sustainable projects to offering

innovative products and service in the areas of green banking. The survival of the banking industry is inversely proportional to the level of global warming. Therefore, for sustainable banking, Indian bank should adopt green banking as a business model without any additional postponement. This concept of "Green Banking" will be mutually beneficial to the banks, industries and the economy. Not only "Green Banking" will ensure the greening of the industries but it will also facilitate in improving the asset quality of banks in future.

Dr. Riya doshi & Ms. Anita sule (2018) conducted a study A Study of Evolution of Concept of Green Banking. The study based on secondary data and it concludes that The banks should change traditional methods and encourage their routine operations through the adoption of paperless banking, online banking, mobile banking, mass transportation system, green cards made up of recycled plastic and efficient use of resources. The bank should motivate customers to adopt environmental standards for the lending and financing principles, so that borrowers could direct themselves towards reducing the carbon footprint by using the appropriate technologies. They can go for discounted loan rates for the hybrid products, adoption of Equators Principles, green mortgages, green loans, etc.

Er. Amandeep kaur & Mr. Damanjit Singh (2017) studied green banking as a new perspective and the objective of the study is to identify the steps necessary to adopt Green Banking and create awareness about green banking among the general public and consumers and bank employee. The methodology of the study is an intensive desk research undertaken to collect and incorporate the collection of secondary/ published data for the in-depth investigation. The study analyzed steps in green banking. The study concludes that green bank should give priority to environmental factors their aim is to provide good environmental and social business practice, they check all the factors before lending a loan, whether the project is environmental friendly and has any implications in the future, a loan is allowed only when all the environmental safety standards are followed.

Raad Mozib Lalon (2015) studied phenomenon green banking the objective of the study is to get acquainted with the green banking practices of the banking institutions of Bangladesh. The focus on the process of adopting green banking policy, environmental issues and in-house activities and the methodology of the paper on the basis of data from various sources of Bangladesh Bank and with the practical experience of the banks of our country. The Findings of the study are online banking and ATM facilities of SCBs and SDBs are very poor, BB needs necessary steps for that regards, Shrink giving loans to environmentally harmful projects. Make sure the necessary environmental compliance factors before lending a loan/investment. The study concludes that Green Banking has become a buzz word in today's banking world. For going green products, electronic compliances, motor vehicles etc. for eco friendly atmosphere. Automation and improved in house green activities, required and rigorous training program for top/mid/lower level management and at the same time clients as well need to be carried on.

Objective of the study:

1) The study describes the evolution of green banking and digitalization and brings out the steps taken by the RBI and Public, Private sector banks.
2) To highlight the importance of Green banking and Usage of Innovations in Banking.

Methodology: The study adopted exploratory research thus methodology was based on literature review and secondary data from research articles, reports, Publications and online sources etc.,

III. Recent trends in green banking in India:

The Reserve Bank of India document titled 'Policy Environment' dated 8th November, 2010 includes on Pages No. 56 and 57 a reference to Green Banking and Green IT initiatives for banks in India. Like any other Corporates, banks in India too are adopting the principle of Corporate Social Responsibility (CSR) and are concerned about the protection of environment. Mainly, the computerized environment and facilities like on-line banking are helping the banks to promote the green banking concept. Paper work is being reduced consciously at all levels by bankers and customers. In addition to providing of on-site and off-site ATMs, some banks have gone ahead with innovative ideas like installing Bio-metric ATMs, Solar-based ATMs, White-labeled ATMs, Brown ATMs, SMS alerts, Mobile Banking etc. for the convenience of their customers

As a part of green banking initiative practicing green banking arrangements, the specific initiatives taken by Indian Banks - IndusInd Bank introducing solar powered ATMs, SBI adopting green banking policy and offering green home loans, Union Bank of India's energy efficiency measures, IDBI Bank's membership in National Action Plan on Climate Change, ICICI Bank's Corporate Environmental Stewardship initiatives and also Clean Technology Initiatives, YES Bank's community development initiatives, ABN Amro Bank's (now Royal Bank of Scotland) launching of Indian Sustainable Development Fund as also the Role played by RBI in its CSR initiatives. Green Banking goes a long way it serving its objectives. The incorporation of social and environmental strategies into the development goals of the banks helps them in arriving effective environmental management system.

Report of RBI: The Reserve Bank of India said that "policy action is needed" to set up an enabling framework to promote green financing in India. The development of green financing—funding of environment-friendly sustainable development— faces many challenges including false compliance claims, non-standard definitions of what constitutes green loans, and maturity mismatches between long-term green investment and relatively short-term interests of investors-RBI Report. India's green bond issuance stood at around $7.7 billion during 2012-2018, making it the second largest issuer of green bonds within emerging markets in that period, according to RBI's Report on Trend and Progress of Banking in India 2018-19.

However, India's green bond issuance lags far behind that of China, which issued bonds worth over $108 billion during 2012-18. Preliminary estimates conducted for the Paris Agreement, signed by 195 countries to combat climate change, indicated that India requires massive funding of around $2.5 trillion to meet climate change actions between 2015 and 2030. The central bank said as public funding alone cannot finance the necessary transformation required to address climate change, green finance is required to be harnessed for financing environment-friendly sustainable development. In 2015, RBI had included lending to small renewable energy projects and social infrastructure projects within its priority sector lending targets. The market for green bonds has issuers from more than 50 countries, including multilateral institutions like the World Bank. Total green bond issuance between 2007 and 2018 stood at $521 billion.

3.1. Future of digital banking and Recent Trends in Banking:

Crypto currency is an internet-based medium of exchange which uses cryptographically functions to conduct financial transactions. Crypto currencies leverage block chain technology to gain decentralization, transparency, and immutability. The most important feature of a crypto currency is that it is not controlled by any central authority: the decentralized nature of the block chain makes crypto currencies theoretically immune to the old ways of government control and interference. Crypto currencies can be sent directly between two parties via the use of private and public keys. These transfers can be done with minimal processing fees, allowing users to avoid the steep fees charged by traditional financial institutions.

3.2. The fate of India's crypto currency ecosystem has been dilemma

In April 2018, the country's central bank cut off the community's ties with the financial system by barring banks from dealing with crypto exchanges. Inter-ministerial panel, set up to study bit coins, headed by finance officials recommended imprisonment for those who even hold crypto coins. Yet, a steering committee report by the finance ministry recommended a softer approach, citing the importance of block chain technology, which powers crypto currencies, to fintech.

MNC's such as Face book, Google, JP Morgan and Goldman Sachs are investing heavily in research and developmental efforts in crypto currencies. Institutions such as MIT, Stanford, and Berkeley are found to be leading centers of bit coin research.

3.3. Digital rupee

India's Panel of Economist recommended that India must consider introducing an official virtual currency, the "Digital Rupee," to replace private crypto currencies such as bit coin. Hence, there are the infrastructural bottlenecks. The sector needs to invest heavily to build out the payment gateways and the user and exchange interfaces that will be needed to drive adoption of a crypto rupee. The public sector has limited resources to develop virtual currencies. So, Private players can invest and make more profits

3.4. Artificial Intelligence and Banking

Compliance

AI is used in compliance initially in investments management and banking, because of the volume of data and transactions. It is helpful for screening for money laundering, market manipulation, insider trading, and third-party risk, according to Compliance Week.

The UK Central Bank and other European banks are using AI machine learning to enforce financial compliance. Hence, they are still investigating how to properly implement this new technology, their Governments say they are looking to support and adopt automated digital compliance in banking this will be a trend changer in banking and will have cascading effect across the globe.

Sales

AI has the potential to improve the customer experience by analyzing the data and providing better insights into consumer behavior. Cutting-edge voice and chatbot technology will likely be incorporated into the process for online sales. In addition, the insights AI delivers can be used to support marketing and sales communications.

Bank of America recently introduced an intelligent assistant called Erica to share financial guidance with their 45M+ customers.

Management

Because AI has the potential to supplement and even replace certain human functions, the technology and automation may result in reduced costs.

Operations

JPMorgan is using AI to analyze legal documents and identify the most important details and clauses with their recently adopted Coin technology.

3.5. Consumer Behavior in Banking Services

Consumer behavior in banking is changing dramatically from the decade with an increase in

Volume of mobile banking, the idea of more banks and more profitability has gone. The bank branch is not only the primary source of banking. The everyday customer is just as interested in the quality of your website, mobile app, and ATM locations as the locations of your physical branches. Replacing older ATMs with on deposit-taking ATMs in strategic locations. Investing in online and mobile banking that really meets their customers' needs

As a part of green banking process the online banking services are helped the customers to reduce the carbon foot prints indirectly and make the convenience to the customer in all banking services .Few services do not require manual intervention of banking officials. Fund Transfer to Self Accounts, Third Party Fund Transfer, Inter Bank Payee Fund Transfer, PPF transfer, E-Tax Payment, E-ticketing using banking apps and other e-commerce apps, Bill Payments, Demat Enquiry and issue of IPO’s.

IV. Conclusion:

Green banking said to be promoting environmental friendly practices in banking reducing the harmful effects on environment by using all types of online services- reducing the usage of paper. Hence it is 3R’s –Reduce, Reuse and Recycle. The study find the changing consumer behavior in banking and how the country could can turn the crisis in to opportunities. In case of NPA’s, the government merged the banks which are using same kind of software to reduce the operational cost. The study highlighted the concept of crypto currency and its features and its importance in the future and Innovations like AI and Machine learning could help in finding the solutions for banking frauds through automation and compliance.

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