International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 1, 2025
https://www.theaspd.com/ijes.php

Analyzing the Awareness of Green Banking in Indian Context

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Received: 03rd October 2024
Revised: 30th October 2024
Accepted: 23rd December 2024

Abstract- *~ Banking institutions have increased their commitment to sustainable banking practices due to environmental concerns, emphasizing green finance and investment. Banking promotes sustainable economic development due to cost savings and environmental protection. Green banks claim to be significant players in global sustainability efforts. Consumer impression of public and private sector banks' green banking services was examined. These services should be optimized for competitiveness and client pleasure. Nationalized banks may improve consumer outreach and compete with technology using the findings. Few studies have examined semi-urban populations in emerging nations like eastern India. In this sense this research is unique. Convenience and Snowball sampling was utilized owing to limited resources and easy respondent availability. Authors used EFA to identify the latent constructs and then Confirmatory Factor Analysis. SEM and path analysis were used in PLS-SEM 4.1 to analyze the data. In this study, the observed latent variables have been derived from exploratory factor analysis. The intermittent dependent variable Behavioral Intention and the ultimate dependent constructs have been derived from the existing established scale. It has been seen that, all the latent observed variables have a significant impact on Behavioural Intention and customer satisfaction has a partial mediating effect on Customer loyalty. Green banking requires more effort before it's completely integrated into finance. Top-down and bottom-up interaction raises green banking awareness. Policymakers and regulators increasingly see green banking policy initiatives to change the financial sector as essential to help nations achieve their objectives. Our study's practical applications include increasing brand image by displaying a commitment to environmental conservation and preservation by maximizing resources and applying green technology in the proper offer to improve technology uptake and customer acceptance.*

Keywords~ *Green Banks, Sustainable Economic Growth, Behavioural Intention, Customer Satisfaction, Customer Loyalty, Semi-Urban Segment.*

INTRODUCTION

To align with the United Nation's sustainable development goals (SDGs), banks need to expand their role from being just traditional institutions to being more strategic and environmentally conscious entities (Horvathova, 2010). The global environment has been exacerbated by factors such as the increasing population, reliance on traditional energy sources, carbon dioxide emissions, and intense economic activity (Woo and Kang, 2021). The alarming ecological circumstances have prompted the banking sector to significantly increase their adoption of sustainable banking practices, with a focus on prioritizing green financing and investment operations. Banks are actively fostering a sustainable and clean environment in response to the increasing environmental concerns (Biswas, 2011). The banking sector has become the primary catalyst for sustainable economic development, driven by the goals of saving money and protecting the environment. Green banks actively participate in global initiatives to promote environmental sustainability, establishing themselves as essential contributors to these efforts. Green banking aims to mitigate harm to the environment by promoting investments in eco-friendly products and services

(Annadurai, 2014).While it is widely acknowledged that human activities drive climate change, predicting the extent and likelihood of its impacts on water quality remains complex. This complexity arises from the broad spectrum of natural variations in hydrology, chemistry, and ecology, compounded by significant uncertainties (Al– Delewy et al., 2006). Climate change is a major factor influencing policies for the Environment Agency and the water industry. Understanding its potential effects on water quality is essential for policymakers to provide informed guidance on impact management (Yang et al., 2020; Ahmed et al., 2020).

Green banking is a newly emerged financial phenomenon. Banks play a crucial role in driving comprehensive sustainable development by serving as a financial mechanism for economic and developmental initiatives (Ch, 2014). Green banking refers to the efforts made by banks to promote and implement environmentally responsible practices (Biswas, 2011). Green banking refers to the implementation of fair banking practices that promote sustainable economic and social progress over the long term. Green Banking involves banks promoting sustainable investments and giving priority to funding industries that have already adopted ecologically friendly practices or are striving to do so, with the aim of supporting environmental restoration. In order to achieve "green banking," the banking sector must combine operational savings with technology advancements and shifts in consumer behavior (Singh, 2021).

Globally, people are debating how to solve environmental problems while also ensuring ecological sustainability and preserving natural balance. The significance of the environment to human existence has been recognized by both organizations and consumers. In industrialized nations, the green movement is gaining traction, but in the Indian subcontinent, consumers are becoming more open to the idea of going green as time goes on. The banking industry is crucial for the economic development of a country. Given that banks are significant providers of financial resources for commercial initiatives, they have the potential to greatly contribute to the advancement of environmental sustainability by financing socially and ecologically responsible investment projects (Das, 2013). Organizations in the banking industry are increasingly implementing environmentally sustainable practices as part of their operations. In addition to ensuring that companies are becoming more environmentally friendly, the idea of "Green Banking" will pave the way for future improvements in asset quality, which is good news for the economy, the environment, and the banking industry (Jayalakshmi and Mahalingam,2020). In recent years, Indian banks have also embraced the 'Green Banking' strategy and implemented several green initiatives on all conceivable levels to become more ecologically conscious, seeing the value in doing so. The 'Green Banking' strategies of various Indian banks vary according to their respective viewpoints on environmental sustainability and the stage of green marketing they are now in.

At this point, Environmental sustainability is a significant concern, and the whole planet is grappling with several challenges stemming from environmental crisis (Rakesh et al., 2016). The advent of technological innovation in financial services presents a favorable occasion to establish a distinct identity. In today's world, the implementation of banking automation services is essential to ensure efficiency in meeting fundamental financial requirements. Bankers implemented several environmentally conscious steps to decrease the carbon footprint resulting from their daily banking operations and to limit external carbon emissions (Masukujjama et al., 2018). Existing research shows that understanding green banking attitudes is an important notion for studying decision making in green financing (Jayalakshmi and Mahalingam,2020). The increase in changing preferences can be attributed to rising awareness, improving living standards, and urbanization. Thus, it is necessary to examine the green banking initiatives implemented by banks.

Customers' awareness and expectations have significantly changed with the convenience of banking services being available at their doorstep through technology. They now expect to be able to complete all their banking transactions from one place. The study measures the service usage in terms of a customer convenience prototype. The reason for selecting this topic is to analyze customer perception regarding the

benefits of green banking services offered by both public and private sector banks. The aim is to provide appropriate strategies for effectively utilizing these services to enhance competitiveness and customer satisfaction. The study will assist private and public sector banks in adjusting their strategies to improve customer outreach and effectively compete with the challenges posed by technology as a core capability.

In today's world, ecological sustainability is a crucial concern, and green banking is an area worth considering. Thanks to advancements in technology, there has been a significant change in how customers use and interact with services, moving away from traditional methods towards more modern approaches (Singh, 2021). Today, all industries have the opportunity to address various concerns in order to protect the environment and preserve the delicate ecological balance. It is crucial for every individual to prioritize environmental sustainability in order to address pressing environmental concerns (Mishra, and Sharma, 2010). Failure to do so could render our habitats uninhabitable and jeopardize the safety of our entire nation.

To ensure responsible use of limited resources and prioritize the well-being of future generations, it is important to exercise caution and avoid unnecessary waste. Therefore, it is crucial that every paperless activity has a direct impact on the environment. Financial institutions are actively involved in bridging the gap between the economy and environmental development. As a result, the banking industry has taken steps to address these issues and prevent environmental degradation while preserving the ecological balance (Sudhalakshmi, and Chinnadorai, 2014). This has led to the introduction and gradual adoption of the concept of green banking. It is crucial to prioritize sustainable banking in order to safeguard the environment from potential disasters. It is important for banks to consider the environmental impact when making lending decisions, in addition to considering security and profitability. Indian banks have also implemented green banking practices, including online banking, mobile banking, Green channel counters, e-statements, green loans, solar ATMs, and more. The global warming issue should not be limited to mere debate but rather addressed by adopting environmentally friendly practices. To gain a deeper understanding of how bankers are implementing environmentally friendly practices and the impact of the go-green concept on society, the environment, and the economy, it is important to assess the level of awareness among customers regarding the effectiveness of green banking. It is crucial to engage important stakeholders and raise awareness about the importance of environmentally conscious banking. Therefore, the current study is being conducted.

Extensive research has been carried out on the topic of Green Banking, focusing mostly on developed countries and urban regions, namely metropolitan cities. There is a dearth of study that specifically examines the target demographic, namely the semi-urban area of a developing country such as the eastern region of India. Thus, from this point of view, this study is unique and addressing a perfect research gap which triggers the following questions:

RQ1: Is there any impact of Demographic variables on awareness of Green Banking elements in semi-urban or sub-urban segments.

RQ2: Do the latent constructs [derived by EFA] have a significant impact on Intention to use the Green Banking components in the specific semi-urban or sub-urban segments?

RQ3: Is there any mediation effect of customer satisfaction on Behavioral Intention and Customer Loyalty?

LITERATURE REVIEW

1.1 *Concept of Green Banking in Indian Context*

Green banking refers to the integration of environmental and social considerations into banking operations, aimed at promoting sustainable development. In the Indian context, green banking has gained momentum

due to increasing awareness of environmental issues and regulatory encouragement. This literature review synthesizes key insights from existing studies on the subject. Several researchers have explored the concept of green banking as a proactive strategy to address environmental challenges. According to Anjalidevi et al., 2024, green banking involves eco-friendly practices such as financing green projects, adopting paperless banking, and promoting renewable energy investments. The focus is on achieving a balance between profitability and environmental sustainability. The push for green banking in India stems from multiple factors: The Reserve Bank of India (RBI) has encouraged banks to adopt sustainable practices through initiatives like priority sector lending for renewable energy. India's participation in global agreements like the Paris Accord has further spurred the adoption of green banking. Customers, investors, and civil society demand greater environmental accountability from financial institutions (Sakhare et al., 2023). Key green banking practices identified in the literature include: Paperless Banking: Internet and mobile banking have reduced dependency on physical branches and paper-based transactions (Sharma, and Choubey, 2022).

Green Financing: Indian banks are increasingly funding renewable energy projects and eco-friendly businesses and Green Bonds: Several banks and financial institutions have issued green bonds to support sustainable projects. As per Bihari (2010) points out banks are adopting computerization, networking, and internet banking to reduce paper usage and pollution. This promotes sustainability by offering green credit and supporting eco-friendly organizations. In a study conducted by Biswas (2011), it was found that internet banking offers benefits like reduced documentation, mail reliance, and fewer branch visits. It also enhances efficiency and competitiveness by cutting expenses and reducing the need for expensive branches. Green banking serves as a means to mitigate pollution and conserve the environment, while fostering sustainable economic development. Prior to making the choice to fund a project, banks must assess their environmental risks and verify that the project business has incorporated environmental protection measures in their plans, such as recycling facilities or smoke and gas arresting devices. Implementing a reward system for ecologically responsible institutions and imposing sanctions on those who contribute to pollution is essential for the progress of sustainable banking. Green banking fosters environmental preservation and establishes banks as socially responsible entities. It also aids in alleviating financial risks linked to climate change, connecting the banking industry with overarching sustainability objectives (Raghavan, 2022). Sudhalakshmi and Chinnadorai (2014) observed that green banking addresses ecological and social concerns like conventional banking. Also called an ethical bank. Environmental protection was the main goal of ethical banks. These banks prioritize environmental sustainability and follow the same regulations imposed on conventional banks. Green banks emphasize environmental considerations and promote sustainable business. They painstakingly assess all relevant factors to ensure high ecological and sustainability standards. In a recent study by Sarma and Roy (2021), it was found that Indian private sector banks are now seen as appealing options for entering global markets. It is crucial for these banks to recognize and fulfill their environmental and social responsibilities. Green solutions have gained popularity not only among smaller alternatives and cooperative banks, but also among diversified financial service providers, asset management organizations, and insurance companies. Green initiatives involve the creation of environmentally friendly products that consume less energy, along with the establishment of efficient distribution, marketing, and communication channels.

1.2 *Consumers' Awareness on Green Banking*

Sharma et al. (2014) studied Mumbai consumers' green banking knowledge across public and private banks. They found that respondents were unfamiliar with press communication, environmental policies, energy savings concessions, solar ATMs, and bank green CDs.

Hundal and Kumar (2015) polled 100 Amritsar UG and PG students on their eco-friendly preferences. Green product perceptions were based on seven factors: Desire, Trustworthiness, Preference, Ethical,

Awareness, Initiative, and Social Welfare. Cronbach's alpha was .814, showing reliability. Their subjective assessment is that the idea is unique and may take time to accept. A green movement arose from the unknown benefits of green products. Green Myopia occurs when other companies provide cheaper compared to green goods. Concerningly, customers dislike pricey green products.

According to Sahoo (2016), few research have examined the relationship between green product uptake and demographic characteristics. ANOVA was used to examine the adoption of green banking products among clients of various age groups to bridge the gap. Significant differences were detected in green product utilization across age groups. The study found that younger generations favor green goods, whereas older generations lack knowledge.

Malliga and Revathy (2016) examined Theni District private bank customers' green banking knowledge. A theoretical framework for Green Banking was given utilizing SWOC analysis and Green Products. Using genuine data, a few local commercial banks showed initiative. Most banks provide green banking training, but consumer touch is lacking. Security and privacy help clients understand the concept. Green objectives should be set and promoted by the bank to educate customers. Age and other characteristics were examined using ANOVA. Saving time was the only element that varied significantly by consumer age.

Ravikumar and Jagadeesha (2016) studied green banking awareness and online banking usage in Mysore and Mandya, southern Karnataka. Compare parameters between the two cities. District, Profession, and Gender were used in Chi Square Analysis. The research compared these three parameters to Green Banking awareness and online banking usage. Researchers found that Mysore customers, especially males, are more aware of green banking and that their career affects their understanding. Internet banking is popular with Mysore businesspeople, regardless of gender.

THEORETICAL FRAMEWORK AND DEVELOPMENT OF HYPOTHESIS:

Today, businesses prioritize sustainability. From Walmart to Apple, everyone is promoting their green strategy, packaging, or processes. The concept of green business is still developing, and its future will likely focus on specific aims and methods. Bankers may dispute the relevance of the "green movement" to their institution. A green bank is the conventional community bank that places a high importance on environmental and social responsibility, while still delivering excellent services to their investors and customers. Indians are increasingly embracing the concept of "green banking" as a means to contribute to environmental conservation. A "green bank" incorporates sustainability concepts throughout all parts of its operations, including people, infrastructure, products, services, and management.

Green banking facilitates the development of a comprehensive and wide-reaching market-driven approach to tackle various environmental issues. Green banking prioritizes environmental issues. The objective is to promote effective environmental and social business practices. By actively participating in green banking, businessmen may significantly help to environmental preservation and improve the overall quality of life on Earth.

A green bank that cares about the environment can reduce its carbon footprint by building branches with less energy consumption, implementing operational protocols that use less energy, offering staff transportation services, and carefully reviewing its lending practices in sectors that are not harmful to the environment. Furthermore, the financial institutions may support ecologically aware groups, lend money to businesses that prioritize sustainability, and raise money for environmental initiatives in their communities. The environment benefits from eco-friendly banking initiatives including cutting down on paper consumption. This entails promoting the use of paperless deposit, withdrawal, and remittance transactions to customers. Eliminating paper statements, decreasing the number of letters sent, doing away with cheque books and paying-in books for current accounts, and avoiding paper-based marketing are all examples of

ecologically friendly measures that a bank may do.

The different key benefits of Green Banking are extracted. Almost every bank in India uses some kind of computer system or runs on a single core banking solution (CBS). So, there's a lot of room for banks to go paperless or at least use less paper for things like office communication, audits, and reports. One way these banks may help curb deforestation is by moving to electronic reporting and communication. Another great way to save expenses is for banks to make their infrastructure more eco-friendly. This includes both physical and IT aspects. All banks in this day and age are run by computers. It is imperative that bankers in this IT-enabled world utilize these resources responsibly. Another way, digitization of Banking foster customers' cost minimization. With the right technology, green banking can be a reality. Banks have adapted to this wave of change in a variety of ways, including Online Net Banking System, Paying bills online, Opting for Mobile Banking, Green Checking Accounts, ATM, Conducting the meetings through Video Conferencing. Going green provides a competitive advantage from bankers' point of view. From the customers' point of view green banking triggers customers' contentment through digitization.

Thus, from the consumers' point of view the Statements, "1. Internet and mobile banking contribute to environmental sustainability in the banking industry (V1) ; 2. Technology enables to access to green financing and funding in paper less environmental initiatives (V2); Digitalization expedites transactions and conserves energy(V3);Technology-driven banks help to save natural resources and optimize the cost of offering services to customers(V4); Technology has lowered the amount of documentation in green banks(V5); As Customers, we can avail Green Financial Services offered by the bank in a cost effective way(V6);Technology reduces paper overload and as customer our transportation costs(V7); IT and infrastructure improve paperless green bank opportunities to us(V8); Green technology helps to decrease carbon emissions which helps to live in ecofriendly environment(V9)." are very relevant for Likert scale survey study and meant for Exploratory Factor Analysis.

3.1 Sor Model

The S-O-R model has been widely accepted and adopted by the researchers. These studies have been conducted in order to investigate consumers' behaviours. According to Jacoby (2002), the term "stimulus" refers to offered components that have an effect on people or groups. The stimulus in our research are predicted as latent variables and it reflects the effects that these factors have on the intention to use and satisfaction of the digital banking customer sector in a particular semi-urban segment. According to Bagozzi (1986), organisms are internal processes that act as mediators between stimuli and reactions; this is how they are characterized. According to Fu et al.'s research from 2020, the link between stimulus and reaction may also be seen as being mediated by biological organisms. Within the paradigm that has been described in this study, the concepts of intention to use and satisfaction are seen as creatures that serve as intervening constructs between the stimulus and the response. According to the S-O-R paradigm, the response is a representation of the behavioural outcomes of individuals or groups (Donovan et al. 1994; Spence, 1950). The final output willingness to be loyal has been taken into consideration as the response in our study framework for this particular investigation. The purpose of this research was to evaluate how customers' intentions to utilize technology enabled green banking and their level of pleasure with the service may function as organisms and generate loyalty.

3.2 Technology enabled Bank Services Usage

From the TAM model the variable Behavioural Intention (BI) has been extracted and defines the actual use of a given system and therefore determines acceptance of technology driven green banking.

Some have argued that the desire to use a service is a necessary condition for its eventual adoption (Ajzen, 1991). According to Thakur and Srivastava (2013) and Sobti (2019), among others, the desire to utilize

digital banking has a substantial influence on the actual use of digitized green banking. This research agrees with this hypothesis. To what extent do customers see digital banking platforms as meeting their banking service needs? If so, they will likely continue to utilize these platforms to access their banking services.

Customer satisfaction increases brand loyalty and repeat business. Customer satisfaction is a strong predictor of the retention of customers, according to different studies conducted. According to research cited by Lenka et al., 2009, which looked at the Indian banking industry, satisfied clients are more likely to remain loyal to the same banks year after year. Consumers that have a positive experience are more inclined to stay with a company, as shown in these studies.

Thus, from the above discussion we have postulated the following Hypothesis:

$H_{A:}$ *There is a significant association and impact of different demographic variables on awareness level of Green Banking Products and Services in this specific assigned market segment*

$H_{B:}$ *There is a significant impact of different latent variables on Behavioral Intentions [BI] of Green Banking Products and Services in this specific assigned market segment*

$H_{C:}$ *There is a significant impact of Behavioral Intentions [BI] on Customer Loyalty [CL] of Green Banking Products and Services in this specific assigned market segment*

$H_{D:}$ *There is a significant impact of Behavioral Intentions [BI] on Customer Satisfaction [CS] of Green Banking Products and Services in a specific assigned market segment*

$H_{E:}$ *There is a significant impact of Customer Satisfaction [CS] on Customer Loyalty [CL] of Green Banking Products and Services in this specific assigned market segment*

$H_{F:}$ *There is a significant mediation impact of Customer Satisfaction [CS] on Behavioral Intentions [BI] and Customer Loyalty [CL] of Green Banking Products and Services in this specific assigned market segment*

METHODOLOGY ADOPTED

1.3 *Sampling and Questionnaire Administration*

In this country, technology driven green banking is becoming more popular due to the widespread availability of mobile phones and internet infrastructure. More than 521 million people in India utilize the internet, and over a billion people have mobile phone subscriptions (TRAI, 2019). India has the second-highest number of mobile phone subscribers and internet users combined. According to Shankar and Kumari (2016), the Indian Government has been encouraging its citizens and businesses to embrace digital transformation, which includes digital-banking. The seamless progress of technology-enabled green banking has been facilitated by the country's quick expansion of internet infrastructure and widespread use of mobile phones. Data were gathered offline using a standardized questionnaire by physically visiting banks and ATMs in two prominent non-metro area better to say suburban regions of Kolkata metropolitan City. Four private bank branches and four private bank ATMs were selected randomly from a comprehensive list of all branches and ATMs obtained from a market agency in each location. Similarly, four nationalized bank branches and four nationalized bank ATMs were also chosen randomly from the same list. Prior permission was obtained from the competent authorities to survey a combined total of 40 bank branches (both private and nationalized banks) and 40 ATMs.

The restrictions imposed by limited resources and the ease with which potential respondents may be contacted led to the introduction of convenience and snowball sampling. With the help of friends, the researchers sent out self-administered questionnaires to individuals and asked them to voluntarily participate. Each participant received adequate information to exercise their right as volunteers and make an educated choice about participating in the study. In order to physically deliver the surveys to their clients,

the interviewers made on-site visits to the respondents' locations.

However, measures were taken to guarantee the integrity of the survey when answering the questions. The main purposes of the filter questions were to ensure that the responder was at least eighteen years old and had experience with digital financial transactions. The last filter question was designed to test respondents' interest in participating in the survey while keeping anonymity in mind. Approaching the subjects with grace, the researchers gave them an explanation of the study's purpose. Respondents might choose to reply to the survey immediately or at their convenience. A stamped envelope was given to them so they could return their responses. The authors contacted 1000 respondents in all, and 372 of them responded. After eliminating responses that were either irrelevant or incomplete, 345 remaining responses were reviewed. Data was gathered between October to December of 2023. The goal of combining technology enabled green transactions from many locations is to increase the relevance of results and the representation of customers who use online banking and are digitally proficient. The private and nationalized banking business was chosen for analysis due to its significant role in India's economic growth as a notable service sector, particularly considering the nation's growing economic importance.

The population was made up of patrons of the ATMs and branches of Axis Bank, ICICI Bank, HDFC and, Bandhan Bank (in respect of private bank) and State Bank of India, Union Bank of India, PNB, and Bank of Baroda (in respect of nationalized bank) in the region of Baruipur, Narendrapur, Sonarpur, (South 24 Parganas), Madhyamgram, Sodepur, Belghoria, Birati, and Barrackpore (North 24 Parganas). These dispersed chosen locations help to get an integrated idea total non-metro semi-urban segment.

1.4 ***Development of Instruments***

The research paradigm of this study is examined experimentally using a survey questionnaire. In line with the positivist research paradigm, a survey questionnaire is created that includes the demographic information of the respondents as well as scale items. The first component of the surveys included inquiries about respondents' age, gender, education, and Income Level. Consequently, for the second portion of the survey questionnaire, we used scale questions some of which are previously used in other research investigations [i.e. from established scale] and some of which are derived from literature and has been validated through exploratory factor analysis [EFA] by which we can derive the factors through step wise factor extraction method. Research has shown that a five-point Likert scale is often favoured over a seven-point Likert scale. Therefore, the items were evaluated using a five-point Likert scale, where a rating of 1 denoted substantial disagreement and a rating of 5 denoted significant agreement.

Table 01: Demographic Structure of the Sample

	AGE					INCOME				
	18-35	36-50	51-60	60+	TOT	>25	25K-50K	51K-100K	100K+	TOT
unaware	06	24	07	18	55	05	27	1	22	55
aware	66	76	104	44	290	67	73	110	40	290

n=345

	GENDER			EDU QUALIFICATION			
	MALE	FEMALE	TOT	UG	PG	PROFESSIONAL	TOTAL
unaware	15	40	55	27	13	15	55
aware	110	180	290	66	81	143	290

Sources: Primary Data; n=345

Thus, from the above table, which ensures that 55 respondents are not aware of green banking approach. Thus, from the above table, it is clear that total number of effective samples is 290 and the remaining study

is conducted on 290 samples who have some awareness about technology driven Green Banking and Green Channels of transactions.

DATA ANALYSIS

5.1 Measures Development

From a scale that had been previously validated, the items used to capture the responses were extracted. The latent items are extracted from the literature and constructs have been developed through EFA and clubbing the items as per their factor loading. To accommodate the digital banking context, the wording of the questions was modified. Following the placement of the questions assessing the research components, the respondents' demographic data was collected in the last part. The screening questions were situated in the first section. The constructs were assessed using a five-point Likert scale, with 1 representing strong disagreement and 5 representing strong agreement. The content validity of the measuring scale was determined by a thorough examination of its content. This examination was conducted by a panel of specialists consisting of a marketing professor, marketing research professional, e-commerce professor, and bank managers. The questions have been modified somewhat in response to their ideas. In addition, proficient bilingual specialists translated the questionnaire into Bengali. Subsequently, the questionnaire underwent a thorough review to ensure accurate and suitable translation. The participants were provided with the choice to complete the survey in either English or Bengali. Data was analyzed using primarily SPSS statistical software for EFA analysis and for confirmatory factor analysis we have taken the help of PLS-SEM4.0 software (Hair et al., 2017). This statistical program was used by us for two reasons: first, since our sample size was comparatively smaller, and second, because some variables (indicator) did not follow normal distribution, and we are aware that this software is the most effective tool to employ in this type of situations(Hair et al., 2017).

5.2 Demographic Analysis and Testing Hypothesis A

H_A: There is a significant impact of different demographic variables on awareness level of Green Banking Products and Services in a specific assigned market segment

The above-mentioned Hypothesis has been segregated into four derivative Hypothesis:

H_{A1}: There is a significant association of AGE on Awareness Level of Green Banking Products and Services

Chi-Square Tests

χ^2 (3, N=345) = 23.575, p=0.000

Table 1A. Chi-Square Table

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.575	3	.000
Likelihood Ratio	24.245	3	.000
Linear-by-Linear Association	2.590	1	.108

N=345 ***Source:*** Created based on Primary data

H_{A1}: Supported /Accepted at 99% significance level.

H_{A2}: There is a significant impact and association of Income Level of the customers on Awareness Level of Green Banking Products and Services

Chi-Square Tests

χ^2 (3, N=345) =45.847, p=0.000

Table 1B. Chi-Square Table

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	45.847	3	.000
Likelihood Ratio	53.960	3	.000
Linear-by-Linear Association	2.550	1	.110

N=345; ***Source:*** Created based on Primary data

H_{A2}: Supported/Accepted at 99% significance level.

H_{A3}: There is a significant impact and association of Educational Qualification level on Awareness Level of Green Banking Products and Services

Chi-Square Tests

χ^2 (2, N=345) =17.108, p=0.000

Table 1C. Chi-Square Table

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.108	2	.000
Likelihood Ratio	15.939	2	.000
Linear-by-Linear Association	15.585	1	.010

N=345; ***Source:*** Created based on Primary data

H_{A3}: Supported/Accepted at 99% significance level.

H_{A4}: There is a significant impact and association of Gender on Awareness Level of Green Banking Products and Services

Chi-Square Tests

χ^2 (1, N=345) =2.273, p=0.132

Table 1D. Chi-Square Table

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.273[a]	1	.132
Likelihood Ratio	2.356	1	.125
Linear-by-Linear Association	2.267	1	.132

N=345; ***Source:*** Created based on Primary data

H_{A4}: Not Supported/Not Accepted at 95% significance level.

Thus, it can be observed from the above study, that apart from Gender, all demographic factors have a significant impact / association on awareness level of Technology enabled Green Banking Products and Services. The observation of this study is aligned with a study conducted by Padmaja and Mohan (2015). It is also aligned with the result found out from the research of Sahoo (2016).

5.3 Development of Factor(s):

Table 2. Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.863
Bartlett's Test of Sphericity	Approx. Chi-Square	2250.483
	df	36
	Sig.	.000

Source: Created based on Primary data

The Kaiser-Meyer-Olkin (KMO) values of the anti-image correlation matrix in SPSS were used to assess the appropriateness of the sample. The diagonal elements of the anti-image correlation matrix correspond to the values of MSA (Measurement of Sampling Adequacy) for the variables (Hair et al., 2017). Both KMO and MSA may have values ranging from zero (0) to one (1). The threshold requirements for both cases are as follows: a value over 0.5 and below 0.7 is considered "acceptable", a value above 0.7 is considered "good", a value above 0.8 is considered "great", and a value over 0.9 is considered "superb" (Bertsch and Pham, 2012). Upon reviewing Table 02, it is evident that all the latent items together meet the criteria for sample adequacy. The whole of the items jointly met the criteria for sample adequacy.

Table 3. Total Variance Explained

"Component"	"Initial Eigenvalues"			"Rotation Sums of Squared Loadings"		
	"Total"	"% of Variance"	"Cumulative %"	"Total"	"% of Variance"	"Cumulative %"
1	6.925	42.899	42.499	3.521	23.944	23.944
2	2.392	15.119	58.018	2.455	20.488	44.432
3	1.898	11.339	69.357	1.904	17.556	61.988
4	.972	9.388	78.745			
5	.723	7.855	86.600			
6	.606	5.331	91.931			
7	.409	3.213	95.144			
8	.366	2.901	98.045			
9	.293	1.955	100.000			

Source: Created based on Primary data

The test requires that the total variance extracted be more than 0.5, indicating that over 50% of the variation is accounted for by the observable variables. More precisely, this implies that less than 50% of the variability is attributable to mistake. Exploratory Factor Analysis revealed the extraction of 3 latent observed components, which serve as observed latent constructs.

Factor rotation was limited to the cases with more than one independent construct. This step applied Varimax rotation method in SPSS. The final rotated factor structure is very clear and extracted three separate and distinct independent factors. Next, we analyzed the Eigenvalues to verify the presence of the three factors. As demonstrated in Table 03, three factors were extracted (i.e., there are three factors with Eigenvalues above 1.0) for the three constructs are independent observed latent constructs. Note that 61.988% of the total variance is explained which is respectably high (Bertsch and Pham, 2012). In the next table i.e. table 4, a satisfactory value has been observed in the nine indicator variables which are categorized in three components. Here we have applied Principal Component Analysis as Extraction Method and Varimax with Kaiser Normalization has been used as Rotation Method.

Table 4. Rotated Component Matrix

	Component		
	1	2	3
V7	0.688	0.853	0.756
V4	0.673	0.772	0.677
V6	0.656	0.841	0.712
V1	0.859	0.714	0.682

V9	0.653	0.533	0.547
V3	0.831	0.664	0.739
V5	0.722	0.802	0.885
V8	0.635	0.632	0.766
V2	0.728	0.716	0.828

Source: Created based on Primary data

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 4 iterations

In the next step, we categorized the variables in three distinct constructs or components and categorized and named the observed latent constructs as per table 5.

Table 5. Development of Factors and Categorization of Variables

F1		GREEEN TECHNOLOGY [Derived from EFA]
V1	GT1	Internet and mobile banking contribute to environmental sustainability in the banking industry.
V9	GT2	Green technology helps to decrease carbon emissions which helps us to live in ecofriendly environment
V3	GT3	Digitalization expedites transactions and conserves energy.
F2		EXPENDITURE OPTIMIZATION [Derived from EFA]
V7	EO1	Technology reduces paper overload and as customer our transportation costs.
V4	EO2	Technology-driven banks help to save natural resources and optimize the cost of offering services to us as customers
V6	EO3	As Customers, we can avail Green Financial Services offered by the bank in a cost effective way
F3		PAPER OPTIMIZATION [Derived from EFA]
V5	PO1	Technology has lowered the amount of documentation in green banks
V8	PO2	IT and infrastructure improve paperless green bank opportunities to us
V2	PO3	Technology enables to access to green financing and funding for paper less environmental initiatives.

The first aspect is Green Technology, which includes elements like mobile and Internet banking that support the banking industry's eco-friendly efforts to cut carbon emissions, green technology projects.

Digitalization expedites transaction times while saving energy. The second aspect, known as Expenditure Optimization, pertains to the consumer's perspective and encompasses several statements including as Technology mitigates the excessive use of paper and decreases the expenses incurred by clients for transportation. Technologically advanced banks contribute to the conservation of natural resources and enhance the efficiency of providing services to consumers by reducing costs. Using technology is a cost-effective method, customer(s) can avail the green banking facilities. Factor number three is the paperless approach or Optimization of Paper, which involves the use of technology to reduce documentation in green banks. This is achieved through computerization, networking, and internet banking. Technology has also reduced the consumption of paper, water, and energy in the banking sector. Furthermore, technology-driven banks contribute to the conservation of natural resources and environmental preservation.

Conceptually Proposed Model

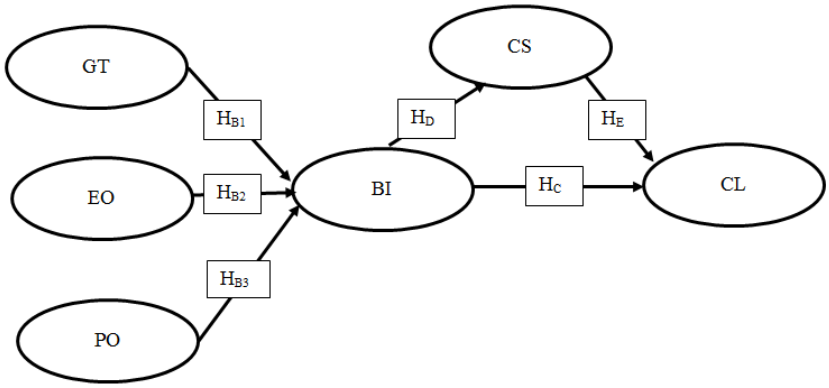

Figure 1. Conceptually Proposed Model

Green Technology [GT]; Expenditure Optimization[EO]; Paper Optimization[PO]; Behavioural Intention [BI]; Customer Satisfaction[CS], Customer Loyalty [CL]

From the above Conceptually Proposed Model, Green Technology [GT]; Expenditure Optimization [EO]; Paper Optimization [PO] has been derived from exploratory factor analysis [EFA] and other three intermittent dependent and dependent constructs are derived from established scale i.e. that have been previously used in other research investigations. The concepts of Behavioural Intention (BI) and Customer Satisfaction (CS) are derived from the work of Davis in 1989, and Customer Loyalty (CL) has been adopted from Ou et al., 2014.

5.4 Confirmatory Factor Analysis:

Table 7. Validating Constructed Scale [Measurement Model]

		CONSTRUCTS AND SCALED ITEMS	Loading >0.50	ALPHA (α) >0.70	CR (rho_a)	CR (rho_c)	AVE
C1		**GREEN TECHNOLOGY [Derived from EFA]**		0.704	0.706	0.827	0.618
V1	GT1	Internet and mobile banking contribute to environmental sustainability in the banking industry.	0.859				
V9	GT2	Green technology helps to decrease carbon emissions which helps us to live in ecofriendly environment	0.653				
V3	GT3	Digitalization expedites transactions and conserves energy.	0.831				
C2 EXPENDITURE OPTIMIZATION [Derived from EFA]				0.761	0.767	0.863	0.678
V7	EO1	Technology reduces paper overload and as customer our transportation costs.	0.853				

V4	EO2	Technology-driven banks help to save natural resources and optimize the cost of offering services to us as customers	0.772				
V6	EO3	As Customers, we can avail Green Financial Services offered by the bank in a cost effective way	0.841				
C3		PAPER OPTIMIZATION [Derived from EFA]		0.768	0.781	0.867	0.685
V5	PO1	Technology has lowered the amount of documentation in green banks	0.885				
V8	PO2	IT and infrastructure improve paperless green bank opportunities to us	0.766				
V2	PO3	Technology enables to access to green financing and funding for paper less environmental initiatives.	0.828				

Source: Created based on Primary data

Table 8. Validating the Scale [Constructs derived from Established Scale or Literature]

	Scaled Items	**Loading >0.50**	**ALPHA (α) >0.70**	**CR (rho_a) >0.70**	**CR (rho_c) >0.70**	**AVE >0.70**
	Behavioral Intention (BI) adopted from Davis in 1989		0.709	0.718	0.838	0.634
BI1	I will continue to use AI-enabled online banking for most transactions.	0.713				
BI2	AI-enabled digital banking is easier for me than brick-and-mortar banking.	0.824				
BI3	I use bank's AI digital banking facility more frequently	0.846				
	Customer Satisfaction (CS) adopted from Davis in 1989		0.715	0.722	0.840	0.638
CS1	Utilizing AI-enabled digital banking is a judicious choice.	0.752				
CS2	AI-enabled digital banking service completely satisfy me.	0.788				
CS3	I am delighted with the AI-enabled digital banking	0.852				
	Customer Loyalty (CL) adopted from Ou et al., 2014		0.794	0.799	0.880	0.709
CL1	I will continue utilizing AI – driven electronic banking in the future.	0.870				

CL2	I like to utilize AI – driven electronic banking over conventional banking system	0.854				
CL3	I will recommend AI – driven electronic banking to my friends.	0.800				

Source: Created based on Primary data

The measuring model is used to assess a unidirectional link between items intended to measure a single concept. Evaluation of a concept is based on three pillars: discriminant validity, convergent validity, and reliability. For the construct to provide significant item dependability and demonstrate that it accounts for more than half of the indicator's variation, the observed variables must have an factor loading higher than 0.70. Furthermore, it is advised that in order to satisfy the requirements for providing composite reliability and Cronbach's Alpha should both be greater than 0.7. Second, a scale's reliability and validity may be assessed using its convergent validity. According to Fornell and Larcker (1981), if a construct's average variance extracted (AVE) is more than or equal to 0.5, it can explain at least 50% of the variation in its component parts. Third, discriminant validity demonstrates that there is no relationship between the components and constructs used to assess constructs. To assess discriminant validity, Fornell and Larcker (1981) propose comparing the square root of the average variance extracted (AVE) for each construct to the correlation between the constructs or latent variables. When taking into account the square root, the AVE is projected to have a higher value than the other constructs.

Harman's single-factor test was implemented to examine common method bias (CMB) in the data, as advised by Fuller et al. (2016) and Podsakoff et al. (2003) in their study. The total variance that was accounted for was 31.63%, which is less than 50%. Consequently, it can be concluded that the data does not contain any significant CMB. We identified the underlying factors through a principal component analysis of the nine observed items or indicator variables. The analysis revealed three distinct factors with Eigenvalues greater than one, collectively explaining 61.988 percent of the total variance. The analysis revealed no single factor, as the first factor accounted for merely 23.944% of the variance. Therefore, without a single general factor, common method bias does not present a threat to this data.

Table 7 and 8 illustrates that the factor loading results were almost adequate, and the alpha value exceeds the threshold value that indicates internal consistency and reliability. This implies that the alpha coefficient is within the acceptable range. Consequently, the data was determined to be suitable for inclusion in the structural model, as all of the Construct (Factor) loadings for each variable exceeded 0.5. Furthermore, the results suggest that the composite reliability (CR) values exceeded 0.7 and the average variance extracted (AVE) values exceeded the recommended threshold of 0.5, as established by Bagozzi and Yi (2012). Consequently, the measures employed in the study were within acceptable limits, as illustrated in Table 7 and 8.

Table 9. Fornell Larcker Criterion

	Green Technology	**Expenditure Optimization**	**Paper Optimization**	**Behavioural Intention**	**Customer Satisfaction**	**Customer Loyalty**
Green Technology	**0.786**					
Expenditure Optimization	0.381	**0.823**				
Paper Optimization	0.363	0.375	**0.828**			
Behavioural Intention	0.307	0.319	0.331	**0.796**		

Customer Satisfaction	0.211	0.237	0.280	0.316	**0.799**	
Customer Loyalty	0.158	0.288	0.297	0.370	0.392	**0.842**

Source: Created based on Primary data

As per Table 9, Discriminant validity is established when the square root of the average variance extracted (AVE) for each construct surpasses its correlation coefficient with other constructs, as articulated by Fornell and Larcker (1981). The diagonal components, emphasized in bold inside the specified matrix, denote the square root of the average variance extracted (AVE). In contrast, the off-diagonal components provide the straightforward correlation coefficient between the related constructs.

Table 10. Goodness to Fit Model

	Saturated model	**Estimated model**
SRMR	0.056	0.063
d_ULS	0.3011	0.3103
d_G	0.2251	0.2312
Chi-square	741.355	752.581
NFI	0.919	0.927
rms Theta	0.0451	

Source: Created based on Primary data

It is imperative to verify the proposed research model's suitability for the intended purpose of this study before testing the primary hypotheses. This can be achieved by utilizing a set of indicators. This was achieved by employing a goodness-of-fit model. The model has a reasonable fit, as evidenced by different criteria which gives a moderately satisfactory result exhibited in Table 10.

Table 11. Structural Model Estimation

Path	**Original sample (O)**	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**p-values**	**Remarks**
H_{B1}: GT→BI	0.260	0.261	0.059	4.428	0.000**	Significant
H_{B2}: EO→BI	0.159	0.160	0.075	2.110	0.035*	Significant
H_{B3}: PO→BI	0.502	0.500	0.081	6.209	0.000**	Significant
H_C: BI → CL	0.333	0.334	0.062	5.354	0.000**	Significant
H_D: BI → CS	0.863	0.864	0.014	61.076	0.000**	Significant
H_E: CS → CL	0.588	0.587	0.064	9.152	0.000**	Significant

Source: Created based on Primary data ; Note: ** corresponds to p-value<0.01

Table 12. Estimation of R^2 and adjusted R^2

Dependent Variables	**Squared multiple correlations (R^2)**	**Adjusted R^2**	**Remarks**
Behavioural intention	**0.770**	**0.768**	Satisfactory
Customer Satisfaction	**0.745**	**0.744**	Satisfactory
Customer Loyalty	**0.795**	**0.793**	Satisfactory

In **Table 11** the Structural Model Estimation has been done. The finding has been discussed in the following Results and Finding Section. The authors have shown the R^2 and adjusted R^2 values in **Table 12**, and these results are discussed in the following Section. In **Table 13** the authors have tried to show the

mediation analysis and the results have been depicted in the following Results and Finding Section.

RESULTS AND FINDINGS

According to Table 11 indicates that hypothesis HB1, which investigates the impact of Green Technology on Technology driven Green Banking adoption on consumers' Behavioral Intention to use (BI), is accepted as the associated p-value is less than the 0.01 threshold. Consequently, we found that, Green Technology significantly impacted the consumers' intention to use.

The p-value that corresponds to hypothesis HB2 is below the 0.05 threshold, which indicates that the hypothesis is accepted. This hypothesis investigates the effect of Expenditure Optimization (EO) on the adoption of technology-driven green banking with reference to customers' Behavioral Intention (BI). Table 11 provides evidence that supports this hypothesis. As a consequence of this, we came to the realization that the Expenditure Optimization (EO) had a significant impact on the customers' likelihood to implement it.

Given that the p-value that corresponds to hypothesis HB3 is lower than the threshold of 0.01, it may be concluded that the hypothesis is accepted. Using the concept of consumers' Behavioural Intention (BI), this hypothesis analyzes the impact that Paper Optimization (PO) has on the uptake of technology-driven green banking for customers. It was as a result of this that we came to the understanding that the Paper optimization (PO) had a major influence on the possibility that the customers would apply it.

Given that the p-value that corresponds to hypothesis HC is greater than the threshold of 0.01, it may be concluded that the hypothesis is accepted. That means that Behavioural Intention [BI] has direct significant impact on Consumer Loyalty [CL].

The p-value that corresponds to hypothesis HD is also below the 0.01 threshold, which indicates that the hypothesis is accepted. This hypothesis investigates the effect of Behavioural Intention [BI] on the adoption of technology-driven green banking with reference to customers' satisfaction [CS].

The p-value for hypothesis HE is less than 0.01; hence, the hypothesis is accepted. This hypothesis studies the influence of customer satisfaction [CS] on the adoption of technology-driven green banking with a focus on customer Loyalty [CL].

Based on the results obtained from our statistical study, it has been determined that the adjusted R2 value, which serves as an indicator of Customers' intention to use, Customers' satisfaction and Loyalty with regards to technology enabled green banking usage, exhibits adjusted values of 0.768; 0.744, and 0.793 correspondingly.

Table 13. Mediation Analysis

Paths	Direct Impact	Indirect Impact	Mediation Impact
Behavioral Intention → Consumer Satisfaction → Consumer Loyalty	0.333**	0.507**	Partial Mediation

Source: Created based on Primary data

During the evaluation, particularly in the context of mediation analysis, it was observed that, customer satisfaction plays a "partial" mediating role in the relationship between intention to use and loyalty & recommendations. Table 13 and Figure 2 provide further information on this finding. The indirect influence has a magnitude of 0.507** which is statistically significant at a confidence level of 1%. Conversely, the direct impact has a value of 0.333**, which is also statistically significant at the 1% level. Thus it can be inferred that, there is a partial mediation effect.

International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 1, 2025
https://www.theaspd.com/ijes.php

Thus, there is a significant mediation impact of Customer Satisfaction [CS] on Behavioral Intentions [BI] and Customer Loyalty [CL] of Green Banking Products and Services in a specific assigned market segment.

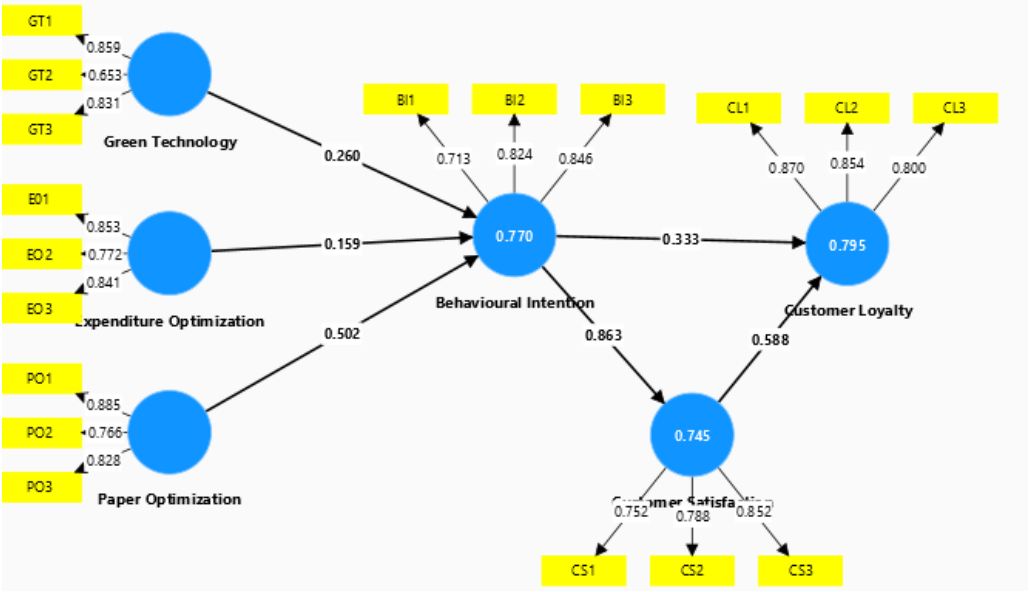

Figure 2. Statistically Proven Model

DISCUSSION

Technology-driven green banking is becoming an increasingly popular method for delivering financial services, and banks are interested in knowing the factors that impact people's willingness to use digitized green banking. Literary works have made several attempts to study the characteristics that assist the adoption of digital banking activity. Considered advantages such as Green Technology, Expenditure, and Paper Optimization were proven to be critical in encouraging individuals to utilize digitally enabled green banking.

The research reveals that sustainability is a top priority for both public and private commercial banks in India, aligning with the first purpose of studying green banking efforts. Indian banks now prioritize environmental conservation as part of their strategy. Adopting environmentally friendly methods in the banking industry benefits both the environment and the firm, such as obtaining carbon credits and reducing costs.

In this study, the observed latent variables have been derived from exploratory factor analysis. The intermittent dependent variable Behavioural Intention [BI] and the ultimate dependent constructs have been derived from the existing established scale. It has been seen that, all the latent observed variables have a significant impact on Behavioural Intention [BI] and customer satisfaction has a full mediating effect on Customer loyalty.

Green Banking has contributed to environmental development while also fostering economic advancement. The association between customer satisfaction and the aspects of green banking activities, including green technology, resource efficiency, and environmental and social concerns, is significantly favorable. The association between customer satisfaction with the value creation aspects of green banking activities and overall customer loyalty and referrals is somewhat good.

THEORETICAL AND PRACTICAL IMPLICATIONS

This research presents numerous theoretical and practical implications. This study theoretically enhances the understanding of consumer adoption behaviour within the context of bank marketing literature. Several

previous studies focused on the impact of green initiatives on behavioural intention (Pham et al., 2018). The influence of online green banking on the uptake of financial services remains in its nascent phase, with limited exploration into how online convenience affects the intention to embrace green banking. This research addresses a notable gap in the existing literature by exploring the influence of various dimensions of environmentally friendly efforts on the intention to adopt digital banking and its continued usage.

In order to educate consumers on green banking products, it is necessary to establish financial and educational infrastructure. Seminars and conferences must be conducted by banks to inform customers, bankers, and staff about the advantages of online digital banking, as well as the security and privacy of their customers. In order to establish policies that are both adaptable and appropriate for the service consumers, the sustainability of green banking activities in India necessitates the collaboration of policy makers and service providers. Not only will the profit of banks be increased, but customers will be able to operate at their discretion, thereby encouraging and sustaining financial inclusion, as a result of the increased awareness of green banking activities among both bankers and customers.

This study importantly introduces green indicatives as a multi-dimensional first order construct and investigates the relative influence of each dimension on the adoption of digital banking. In various prior studies, digital green initiatives have been utilized as either a second-order construct or a uni-dimensional variable (Ellahi, et al., 2023), with a qualitative examination of their influence on the intention to adopt or purchase a product or service. This study examines green antecedents as a first-order construct, exploring their direct and indirect effects on customer adoption, thereby contributing valuable insights to the online green banking literature.

The literature indicates that SOR theory has primarily been utilized to explore how environmental cues affect consumer responses within the realm of digital banking (Sivapalan and Jebarajakirthy, 2017). This study represents a distinctive approach by employing SOR theory to examine the influence of green initiatives on the intention to adopt online banking. Thus, this study has applied SOR theory to a novel and a new context. The findings of the study contribute to a better understanding of SOR theory in the context of digital banking.

The latent constructs of our study intricate a value proposition and customer intention to adopt technology enabled green banking has been influenced and impacted by the derived observed constructs which is the major contribution of our study. Our study also delves the customer awareness of technology enabled green banking in respect of different demographic proposition in a particular assigned segment. It is also contributed a lot theoretically and practically due to notable scarcity of this types of research in this particular semi-urban segment.

Whenever we are speaking about practical Implications of our study is to focus on enhancing the goodwill or elevate brand image by demonstrating a commitment to environmental conservation and protection through optimization of different resources and implementing Green Technology in right proposition so that technology adoption can be optimized, and consumer acceptance can be ensured.

CONCLUSION

The impact of green banking products on the performance of financial institutions in India is significant. Environmental concerns have been acknowledged as a source of competitive advantage by financial institutions, which have developed green banking products that project a sustainable image. It is established that satisfied consumers exhibit the highest loyalty and consistently support the firm. It is imperative for every industry to ensure customer satisfaction, as this is essential for retention and the promotion of positive word-of-mouth and goodwill in the market. The findings indicate that consumers are happy with green banking goods and services, recognize the importance and advantages of green banking practices, and

understand their impact on the environment (Umamaheswari, and Elangovan, 2024; Chandrasekaran, and Narayanan,2024). Factor analysis has yielded three criteria that demonstrate its value and customer behavioural intention. Customer Satisfaction plays a mediating role in our study and partial mediation has been observed.

This work has beneficial ramifications and serves as a foundation for other researchers in their investigations. The findings of this research may assist the banking industry and financial sector in India in making informed choices related to green banking practices and customer engagement. Previous research hardly addressed environmental and social concern elements; nevertheless, the current study has validated the significance and need to include these features when providing an optimal collection of factors that characterize technology enabled green banking projects. The suggested conceptual model would delineate the extent of influence generated by each feature set on total consumer satisfaction about green banking. A robust comprehension of these links regarding client satisfaction in green banking would evidently be significant. Bankers and policymakers will comprehend the degree of client contentment about several facets of green projects. Crucially, they will comprehend the extent of influence exerted by each category on total green consumer satisfaction. Consequently, organizations may determine the necessary measures to enhance their green activities, thereby improving overall consumer satisfaction and loyalty in green banking.

SCOPE OF FUTURE RESEARCH

Prospects for future studies may be illuminated by the study's limitations. Respondents from semi-urban areas who utilize technology enabled green banking were the focus of the current study. By adding the perspectives of rural digital banking users and considering diverse demographic profiles, it is recommended to recreate the suggested approach in order to have a deeper understanding of the proposed model. As a mediator, this article just takes customer satisfaction into account. To enhance the current model's evaluation, future studies may use mediator features like AI, the IoT, biometrics, and decentralized finance on current digitized banking services. Here the authors have not considered any moderator constructs. Financial inclusion and its societal effect can be the subject of future studies. In order to understand how consumer behaviour affects digitized green banking services, it is important to consider a number of factors, including ethical considerations, cross-cultural and cross-sector relationships, and others. The primary limitations of our work are outlined, and in this context, future research may be advanced. The bankers' perspective is also not considered in this study and it is also a major scope of future study.

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