Factors Affecting Customer Satisfaction Level for Green Banking Practices in Banks of Bangladesh

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Abstract: The inescapable necessity of green activity infers several banks to adopt green banking practices. The green banking concept is very prominent in developed countries. In parallel, Bangladesh has embraced this practice very recently. Depending on earlier research literature, through this study, it has been found that customers have a good perception regarding green banking. However, identification of the customer satisfaction level is paramount. The present study spotlights the several factors which influence customer satisfaction level for green banking practice. For analysis, 10 banks which are located in Dhaka city and practicing green banking practices have been preferred. To select the respondents, the judgmental sampling technique is being used. Descriptive statistics such as frequency, percentage, Regression, ANOVA, and Factor analysis have been used to analyze the data. Here security, trustworthiness, and user-friendly factors influence the customer satisfaction level most. In addition, customer satisfaction and green banking have a significant correlation with customer trust and loyalty. GB has a great influence on customer satisfaction. From the recommendation, to pull more satisfied customers, banks should find better operations for green banking phenomenon. The paper concluded with some strategic guidelines regarding the application of green banking practices to enhance customer satisfaction levels in future.

Keywords: Green Banking (GB), Banks, Customer satisfaction, Customer Loyalty, Bangladesh, Regression Factor analysis

1. Introduction

In the last few decades, one of the most talked-about topics is ensuring the security of the greenery and feasible balance of the environment in a friendly manner. The issue has become so important that various functional units started emphasizing this topic. The practice of green banking in banks has become a major issue around the globe for the well-being of the people and economic development (Fernando & Fernando, 2016). To comply with comprehensive advancement and respond toward ecological dilapidation issues, banks of Bangladesh have become one of the key stakeholders to address the issue properly and developed green banking practices for being involved in performing environmental and social responsibility. Even in Bangladesh, green banking has become one of the major trends in the last few decades. The rapid destruction of the environment has made this topic more prone (Rahman & Barua, 2016)

The concept of green banking which is concentrated on evolving ways that meet the ecological desires of customers has been prompted by the utmost importance given to ecological issues. Bangladesh is being considered as one of the most highly polluted countries in the world, especially the Dhaka city. To ensure the protection of ecological deterioration and sustainability of banking practices, Bangladesh Bank has established a Green Banking Policy in 2011. Following the instructions from Bangladesh Bank, most of the banks of Bangladesh have introduced green banking policy to ensure the proper utilization of the natural assets and implementation of eco-friendly activities (Bangladesh Bank Green Banking Policy, 2012)

Principally, green banking emphasizes electronic
transactions for executing banking activities and minimizing paperwork to prevent deforestation. Banks involved in developing green ideas and products to adhere to green attitudes and behaviors and encourage the assimilation of social and economic benefits with value delivery. Green banking practices represent the banks' commitment to corporate social responsibility (Susanto, 2015). For the banks in Bangladesh, it has now become a challenge to guarantee the proper adoption and implementation of efficient green banking practices. Moreover, banks are getting technical support from the Bangladesh bank which is necessary for the proper adoption of green banking practices (Vijai, 2018).

The main purpose of green banking is to ensure that a nation gets eco-friendly benefits. A conventional bank turns into a green bank by practicing main procedures toward the improvement of the environment. Green banking enables the promotion of ecologically viable and socially accountable investment which leads toward not only economic development but also environmental protection. Even while investors evaluate firms for approving investments, they consider the firms' environmental commitment as a key factor to base their decisions. Here, the term green banking practices covers both ecological and societal responsibilities. Understanding the delicacy of the situation, the banks have started playing a vital role to address the issue (Masukujjaman et al., 2016). Green banking practices serve as a means of strengthening customer satisfaction. Also, the switching done by the banks from traditional banking to green banking practices attracts consumers' attention and thus serves as a competitive advantage for customer satisfaction (Ling, 2015).

This paper provides an overview of the level of satisfaction that is particularly connected with the banks' green banking operations and discusses the ways to improve it. Customers' perspective on green banking practice and its effect on customers' satisfaction has been systematically examined throughout this study and the study has also tried to add more value to the existing information of green banking practices via concluding several research gaps. Examining the contemporary status of the relationship that customer's satisfaction level has with the green banking practices is the actual purpose of this study so that the protection of the environment and maximization of financial sustainability can be ensured. Also, this paper has tried to identify and analyze the relationship between the customers' satisfaction level and the prevailing status green banking practices of the banks.

The initial section of the paper explains the concept of green banking practices, the use of green banking practices in Bangladesh, how the green banking practices are being used in the banking industry, and the factors that affect the level of customer satisfaction toward green banking practices. The literature review section then discusses the process of employing green banking practices and the current condition of green banking practices adopted by the banks. Thereafter, the research methodology section describes the data collection methods and the findings and analysis section presents the main ideas derived from the results and their implications for management. The final part of the part describes the limitations of the study and suggests the future scope of research to engender this rising field. Overall, this paper contributes to the existing body of knowledge by clarifying how different factors have significantly affected customer satisfaction level towards green banking practices.

1.1. Statement of the Problem

Even though customer satisfaction is highly connected with the performance of the green banking practice developed by the banks, lots of hindrances are affecting the relationship. It has been identified that even though the technology-based banking initiatives are offering potential benefits, customers adopt these initiatives on a very limited scale. Also, some of the customers are uncomfortable with the integration of new technology with banking services and prefer to remain conventional banking activities' follower. (Martins, Oliveira & Popovic, 2014). Trust and security become major issues when it comes to online banking or mobile banking which is also part of green banking practices. Besides these issues, another major problem is the urban and rural constraints that hamper the proper implementation of the green banking practices of the banks (Hossain et al., 2015). The level of customer satisfaction level towards green banking practices is very low. The maximization of customer satisfaction regarding green banking practices through the formation of confidence in consumer's minds must be emphasized by the banks. (Mary, 2015). The acceptance and adoption of the technology-based green banking initiatives presented by the banks by the customer and customers' urge to adopt such initiative are highly important than from the banks' perspective (Moorthy & Pradeepa, 2014). Even though the importance of green banking practices is rising, the practical evidence on how green banking practices affects customer satisfaction is
missing. Furthermore, despite the significant attention on overall customer satisfaction level, only a limited number of empirical studies have tried to explore the relationship between green banking practices and customer satisfaction. Therefore, an attempt to explore the factors which are significantly affecting customer satisfaction level towards green banking practices is felt needed by the authors.

1.2. Importance of the Problem

Although green banking has been a trending concept in Bangladesh, little is known regarding the impact of the application of green banking practices on customer satisfaction levels. In this era, consumers are not only concerned about financial benefits but also concerned regarding society's and the environment's well being. Therefore, it is crucial for practitioners and academics to more readily comprehend this fact. And for banks, ensuring corporate social responsibility as well as developing environment-friendly practices has become inevitable to guarantee customer satisfaction. Hence, this study will attempt to recognize how the enactment of green banking practices by the banks sway the customer's satisfaction level.

The literature on green banking practices diverges in its focus. Hence, this study will contribute to filling the gap of current knowledge on the factors affecting customer satisfaction towards green banking. This study will also help envisage future researchers to undertake further intensive and conclusive research on how green banking products should be adopted cost-effectively in comparison to other forms of traditional banking practices. An evaluation of the factors that influence customer satisfaction towards green banking can also be done based on this study. The findings, limitations, and recommendations incorporated in this study are anticipated to help the policy-planners of the Bangladesh banking industry to make strategic and effective decisions in this regard.

1.3. Relevant Literature

Global warming poses a considerable influence on markets, societies, and economies (EBF Report, 2017). Green Banking is one of the greatest initiatives taken by banks all over the world to prevent environmental deterioration and ensure the habitability of this planet. A type of banking practice under which a bank operates its usual activities ensuring environmental sustainability and well being of the society is identified as green banking and banks that implement green banking activities are acknowledged as a green bank. The conventional banking activities that are being operated considering the social and environmental factors to ensure the sustainability of the environment and adequate application of the resources gathered from nature (Indian Banks Association, 2014). The development, application, and promotion of environment-friendly actions and reduction of carbon footprints in both internal and external banking operations are termed as green banking. Online banking, green loans, green mortgages are considered as environment-friendly practices (Green Banking Report, 2016). A normal bank that operates intending to protect the environment and considers all the social and environmental factors to conserve natural resources is known as a green bank. Green Banking involves both environmental sustainability and energy efficiency. Green banking products include automatic teller machines, mobile banking, remote deposit, green money market accounts, green checking accounts, online banking, green credit cards, green loans, green savings accounts, green mortgages, green channel counters, green homes, etc. (Vijai, 2018). A green bank is also known as an ethical bank, environmentally responsible bank, socially responsible bank, or a sustainable bank and it is expected that a green bank will consider all the social and environmental issues that are involved in the banking process (Rahman & Barua, 2016).

Green banking activities are being controlled by the same banking authorities, just putting more emphasis on the ecological feasibility (Singh and Singh, 2012; Jha and Bhome, 2013; Karunakaran, 2014; Nath et al., 2014). The worldwide atmosphere is changing at a fast pace which is very hard to be adjusted by the eco-frameworks because of the impact on dry land, bio-diversity, ranger service, farming, water assets, and human well being. Hence, the matter of global warming needs to be addressed globally. Due to the unstable weather pattern, especially in Bangladesh, it is really important to ensure proper safeguarding of the planet (Bangladesh Bank Green Banking Policy, 2012).

Green banking is considered to be a global action but for developing countries like Bangladesh such type of eco-friendly policies play a major role in socio-economic development. Environmental degradation is now a major concern in Bangladesh as the country has become highly prone to climate changes and natural disasters. Green banking practices can contribute to the reduction of environmental degradation by decreasing the scope for loans to environmentally harmful projects. Moreover,
green banking helps both customers and employees by introducing new technologies in banking operations. (Nisha, 2016). In this era of extreme national and global banking competition, the new green product development process should be adopted by every bank in Bangladesh and stakeholders should contribute more in green banking practices. Besides banks should play a vital role in reducing the rate of environmental degradation as the banking sector is being considered as one of the key players in the growth and development of a country (Masukujjaman et al., 2016). The Governor of Bangladesh Bank had raised the issue that peoples' mindset needs to be changed regarding ecological problems for ensuring a better future through greening the financial transactions (Susanto, 2015). To ensure sustainable banking practices along with the protection from environmental degradation, the comprehensive green banking policy should be initiated in a structured and appropriate manner with the globally adopted norms (Bangladesh Bank Green Banking Policy, 2012).

In the South-Asian Continent, Bangladesh Bank is probably the only central bank that issues green banking guidelines. By developing and implementing a three-phase Green Banking Policy framework, Bangladesh Bank has become the precursor in the banking sector. (Hossain et al., 2015). In Bangladesh, the environmental guideline issued by the Bangladesh bank is also concerned with the increased environmental disclosure (Bose et al. 2018).

The use of carbon footprints in banking operations can be reduced by implementing green banking in the work environment. Furthermore, stakeholders of the banks should be motivated and encouraged to adopt environment-friendly practices in business and banking transactions and realize their responsibility towards the environment and (Hossain et al., 2015). Furthermore, green banking practices are being considered as an important instrument for developing long term and mutually beneficial relationship between banks and customers (Falcone, P.M., 2018).

Even a few years ago, environmental sustainability and other sustainability practices were not well known in the financial sector and green banking practices were not considered a lucrative business opportunity. In fact, it is only recently that the financial system in Bangladesh is paying attention to 'green banking'. Gradually, it has been realized by the countries that banks are performing their responsibilities toward society effectively by making voluntary environmental disclosure through the Corporate Social Responsibility (CSR) activities. Hence, regulatory authorities have formulated guidelines for bringing the environmental behavior of banks into a certain standard and banks have also started complying with the regulatory requirements. China has even already initiated Green Credit Policy which has played a vital role in making banks environmentally aware and active in environmental risk management (Meng et al. 2019). Green banking combines the policies and practices that help a bank to become sustainable in environmental, economic, and social dimensions. Green banking focuses on the idea of minimizing the environmental impact of carbon footprint and carbon emissions to protect the environment from degradation (Shaumya & Arulrajah, 2017). There are also other important drivers that motivate banks to be environment-friendly. In fact, it has been found out that there is a positive relationship between banks' governance and corporate environmental awareness. Although it is being considered that corporate governance highly connected to the management and the organizational structure, surprisingly it is closely related to CSR and ethical business practices as well (Amore et al. 2015). It has been estimated that, in terms of the global climate risk index, nine out of the ten most affected are developing countries. Banks in developing countries like Bangladesh should spread information regarding environmental awareness and help regulatory authorities formulate appropriate policies to mitigate GHG emissions. (Ketkar et al. 2017).

In developing countries across the world, environmental-friendly policies are being adopted through the financial sectors. Especially, banks as an eminent part of a country's economic system are selected for this role and can accelerate globalization by affecting all types of business practices (Hossain et al., 2015). Like many developing countries, Bangladesh is also facing difficulties in asserting a balance between economic growth and ecology. Banks play a significant and crucial role in this regard by deploying financial resources and transmitting them towards socially responsible investments. For Bangladesh, advancement and innovation in the financial sector in the guise of 'green banks' can make provisions for ecological sustainability (Pandey & Kumar 2016). Banks play a vital role in saving the environment through investment in environment-friendly projects and CSR activities. Banks have the power to influence businesses, productions, and other economic activities (AUBHI, 2016). Various initiatives should be taken to make green banking operation smooth, effective,
and more user-friendly. E-banking practices should be encouraged more by making progress and innovations in the information and technology sector (Uddin et al., 2016). Consumer's assessment of a product or service feature and their emotion based on the expectations and consumption experience is termed as customer satisfaction (Oliver, 1981). The comparison of the expectations level of consumers and a product's perceived performance is known as customer satisfaction. A product's or service's quality is one of the precursors to customer satisfaction (Herington & Weaven, 2009). The extent to which a product's performance matches the customers' expectations is known as customer satisfaction. If the product's performance does not match with the expectations, the customers become dissatisfied. Similarly, when the product's performance exceeds expectations, the customers become delighted. Customer satisfaction is one of the key factors for ensuring the sustainable development of a bank and thus customer satisfaction is being considered as one of the most important role players in business strategy development. (Kotler, 2019). The gap between expectation and perception induces either satisfaction or dissatisfaction. The latter induces either affirmation of desire or disconfirmation. In other words, customers feel satisfied when their discernment meets or surpasses their desires. Customer satisfaction leads to customer loyalty which in turn leads to the achievement of maximization of profitability and market share. Even, customer satisfaction is one of those intangible assets that are being considered as the source for accessing sustainable competitive advantage (Chien & Tsai, 2012; Teece, 2007; Wang & Ahmed, 2007).

Customer satisfaction is one of the indispensable elements for a bank's competitive advantage. Value is one of the key determinants of customer loyalty. Customers can recognize the values and benefits of a product or service through the satisfaction level. To compete in today's competitive world it is essential to provide strong quality and quality is dependent on the customers' experience of the product. If the customer is satisfied with the product, it creates confidence in that product which may result in loyalty (Rabbanee et al., 2015). Customers tend to be rational and risk-averse and this fact confirms that customer satisfaction can lead to customer loyalty by reducing the risk through the usage of previous experiences. Customer satisfaction directs toward updated financial performance and increased efficiency of a bank via enhancing demand (Assaf & Magnini, 2012). A banking system that drives value via appealing to the consumer's interest for secured and quick ways to reserve their money and attracts attention towards social banking as well as progressive societal and environmental effect is being considered as the heart of economic sustainability (Weber & Remer, 2011).

Green banking reduces paperwork which leads to the saving of time, energy, and cost and creates awareness among the mass regarding the assurance of a greater environment (Bahl, 2012). The green image is developed when banks meet the expectations of green customers by creating products based on innovation and creativity (Chang & Fong, 2010). Customer satisfaction is essential for the survival of a bank. Customer satisfaction ensures customer's favorable attitude toward the product and inexpensive promotion of current products via word of mouth. Satisfied customers provide more benefits and profits to the banks rather than the new customers. If the banks show greater commitment towards green investment, global environment goal requirements will be attained (Ling, 2015). Ensuring investment for green projects to control ecological contamination is considered to play a substantial role in the advancement of the green economy (Bashir, 2013). The effect of green banking practice has become so vital that customers nowadays prefer banks that act more responsibly and show more commitment towards preserving the environment (Kohn, 2015). Customers are not only concerned about the safety of their deposit or investment but also about the assurance that their deposit or investment is being used for the improvement of the environment and society's living standard. Besides these, the adoption of green banking practices as a means of maximizing sustainability is being considered as an appropriate scale for developing a positive brand image of the banks (Falcone, 2018). Customer satisfaction has actual and essential effects on the performance of a bank and thus is considered as one of the most popular identifiers of customer loyalty. Sectors that encourage practices to address environmental issues should be prioritized by the banks and financial while approving loans. Green banking can be practiced through the contribution to resource-efficient industries (Rashid, 2010). To ensure rapid change, a progressive and vital role in creating awareness must be played by the government, media, NGOs (Bose, 2017).

It has been found out that customers are not fully aware of different green banking services and thus banks should put more effort to enhance awareness and satisfaction towards green initiatives by creating confidence in the minds of customers. Customer awareness and preference for such initiatives should be taken into consideration while focusing on the impact of them on their satisfaction as customers will not be able to
Adopting green banking practices ought to be the response, and convenience (Moorthy & Pradeepa, 2014). Availability, speed, user-friendliness, charges, staff that influence customer satisfaction may include (Bangladesh Bank Green Banking Policy, 2012). Features services and increment of employees' efficiency to guarantee brief clients administrations via prompt guarantees the presentation of innovation in banking tasks mindful part with esteem (Ullah, 2013). Green banking more prominent society and mass individuals to live as a banks greener (Rahman et al., 2013). Green banking helps among the mass, e-recruitment, etc. can be used to make corporate social responsibility, creation of awareness Online and paperless deposit management, e-banking, banking in banks of Bangladesh (Ahmad et al., 2013). Economic sustainability as the prime factor of green Bangladesh bank has inaugurated the assurance of surrounding and ensure the protection of the surrounding are the prime factors of green banking (Verma, 2012). Bangladesh bank has inaugurated the assurance of economic sustainability as the prime factor of green banking in banks of Bangladesh (Ahmad et al., 2013). Online and paperless deposit management, e-banking, corporate social responsibility, creation of awareness among the mass, e-recruitment, etc. can be used to make banks greener (Rahman et al., 2013). Green banking helps more prominent society and mass individuals to live as a mindful part with esteem (Ullah, 2013). Green banking guarantees the presentation of innovation in banking tasks to guarantee brief clients administrations via prompt services and increment of employees' efficiency (Bangladesh Bank Green Banking Policy, 2012). Features that influence customer satisfaction may include availability, speed, user-friendliness, charges, staff response, and convenience (Moorthy & Pradeepa, 2014). Adopting green banking practices ought to be the purchase the product or service if they are unaware of it (Mary, 2015)

From the institution's perspective, it is very important to know about customer's acceptance of an innovative product or service and the customer's willingness to adopt such product or service as it will lay the foundation for a long-term relationship between the institution and the customers. On the other hand, from the customer perspective, more and more avenues to access banking services through online, mobile, and other technology-driven bases may be included in the green banking initiatives. While considering the green banking concept, consumers may also take into consideration the attempts taken by different banks in protecting the environment such as energy management, waste management, green construction, and green financing, etc. (Fernando & Fernando, 2016). In order to ensure that the industries involve the delegated outlay for ecological supervision, accurate usage of appropriate technologies and management systems, banks should implement green banking practices and play an active role to incorporate both ecological and environmental perspectives as an integral part of their lending principle (Hayder, 2012). It has been disputed that the impact that outward operations of banks have on the environment is quite significant but it's difficult to calculate the exact amount. It should be encouraged that the banking sector must consider the encouragement of ecologically accountable investments and cautious loaning as one of the major accountabilities (Sahoo & Nayak 2008). Green banking practices aim at emphasizing the environment and society via proper utilization of resources and avoidance of waste. Financial and business policies that are not perilous to the surrounding and ensure the protection of the surrounding are the prime factors of green banking (Verma, 2012).

Thus, it is important to have analyses that consider customer satisfaction on features of green banking initiatives as independent variables and overall customer satisfaction on green banking initiatives as the dependent variable. But, the available literature does not include such empirical studies.

1.3.1 Green Image Effect:

The combination of traditional approaches with eco-friendly approaches for promoting products and services has always been a trending issue and this trend has also encouraged individuals to emphasize green products and services while purchasing. Individuals tend to have higher self-image in societies where the advantages of eco-friendly society to the well being of the society is higher and individual with high green self-esteem tend to have a more positive attitude toward life (Welsch, H.; Kühling, J. 2018). Both the concepts of green image and corporate image are connected as the development of the corporate image is dependent on the banking activities affecting the natural environment and the society (Bansal, P, 2005). The communication between the environmental commitments and the green image of the banks incredibly maximizes the overall corporate image (Saha, M.; Darnton, G., 2005). The image of a bank is determined by the public through stakeholders' perception of corporate vision, culture (Choudhury, Salim, Bashir, & Saha, 2013). Thus developing a green image requires the adaptation and implementation of a positive attitude towards environmental issues which create an eco-friendly image (Fernando & Fernando, 2016). The people involved in the operational activities of the banks should manage the image of the banks. Green innovative awareness of the banks develops stakeholder's perception of corporate social responsibility which in turn increases the capability of the banks to deliver on their promise (Nair, S.R.; Menon, C.G, 2008). A positive corporate image helps a bank to increase consumer trust. Customers trust the banks with a good corporate image and thus uphold a good affiliation with those entities. Even the customers' level of loyalty towards the banks can be determined through how the customers perceive the corporate image of the banks.
1.3.2 Bank Trust:

The situational nature of trust makes it tough to theorize (Blomqvist, K, 1997). The expectation that an individual or an organization will perform following expected behavior is known as trust (Kee, H.W.; Knox, R.E, 1970). Based on the green banking practices of the banks, reliance on banks dependent on their green duty and execution is known as green trust (Martínez, P. 2015). In terms of banks, an individual's confidence that his or her deposit is safe with the banks means is to put trust in the banks. For ensuring financial system effectiveness and sustainability of the relationship between customers and the banks, trust is the most important factor. Fundamentally bank trust and green image facilitate banking actions and bank reliability.

1.4. Research objectives

The primary objective of this paper is to determine the key factors affecting the customer satisfaction level towards green banking practices adopted by the banks in Bangladesh. The specific objectives of this study are

i. To explore the nature and extent of the relationship between green banking and customer's level of satisfaction.

ii. To find out the perceived value, customer trust, and loyalty influence for green banking practices in Bangladesh.

iii. To evaluate the perception and awareness of consumers about the green banking concept and green banking products provided by the banks.

iv. To provide proper guidelines for the effective application of green banking practices adopted by the banks in Bangladesh.

v. To describe the challenges faced by customers while using green banking practices and how these affect customer satisfaction level.

1.5. Hypotheses Formulation

Hypotheses have been developed to analyze the impact of factors affecting the customer satisfaction level towards green banking practices and a descriptive research approach has been used. The following hypotheses have been developed.
thoroughly studied. The questionnaire included questions concerning the socio-economic profile of the respondent (e.g. name, age, gender, nationality, occupation, income) as well as their probable perceptions regarding green banking practices. A 5-point Likert scale has been used in the questionnaire in order to get more precise and accurate opinions from the respondents about their satisfaction with the green banking practices provided by the banks. The ratings ranged from strongly agree to strongly disagree. (1= strongly agree, 2= Agree, 3= Neutral, 4= Disagree, 5= Strongly Disagree). All the questions were standardized and close-ended. The questionnaire was circulated among 120 people and 107 people had responded. But among those responses, some responses were incomplete. Thus, 100 respondents have been used as the sample. Secondary data has been collected from published documents from related books, various journals, newspapers, magazines, reports, banks' websites, and Bangladesh banks’

2.1. Demographic Characteristics of the respondents

It has been identified by the consumer behavior theory for a service sector that the consumer's background, basic characteristics, and peripheral incitements impact not only the consumer's choice and buying behavior but also the associated satisfaction levels. Due to the distinctive stimuli, some consumers may generate a positive attitude towards the belief while negative reactions may also be generated.

Table 1 Frequency of Respondent Demographic Characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Name</th>
<th>Frequency</th>
<th>Percentage (%) of total</th>
</tr>
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<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Age</td>
<td>20-35</td>
<td>52</td>
<td>52</td>
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<tr>
<td></td>
<td>36-50</td>
<td>34</td>
<td>34</td>
</tr>
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<td></td>
<td>50 above</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Occupation</td>
<td>Private</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Education/Teaching</td>
<td>20</td>
<td>20</td>
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<tr>
<td></td>
<td>Business</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>8</td>
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Out of 100 respondents, there are 68 (68%) male respondents and 32 (32%) female respondents. Respondents are from different age groups. As young and mid aged people are more interested in GB products, that's why may be large group of respondents were from 20-35 age (52%), followed by 36-50 age (34%), 50 above age (14%). The occupational or main activity area of the total respondents are mainly private job holders (38%), the education service (12%), govt. job holders (20%), business persons (17%), unemployed respondent (08%), and students are (05%). As the family income is a great variable for shopping more or less, out of 100 respondents the most individual income monthly (BDT) is 36000-50000 (62%), followed by Above 50000(23%). In education, illiterate customer are (12 %) and HSC passed (29%), Masters (16 %) and Above Masters (14%).

3. Results

To fulfil its objectives, the study took into consideration the following:

3.1. Customer awareness regarding GB

Hypothesis 1:
H₀ : Customer awareness regarding GB has impact on customer satisfaction
H₁ : Customer awareness regarding GB has no impact on customer satisfaction.

For this study, the independent variables are green office decoration customer likes, customer's knowledge about GB advertisement, customer's good technological knowledge of GB, easier social life with innovative
offerings, solar power for office electricity-saving, campaign for GB, and the dependent variable is customer awareness regarding GB. The model equation is like:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots + e \]

Where:
- \( Y \): Customer awareness regarding GB
- \( X_1 \): Green office decoration customer likes
- \( X_2 \): Customer’s knowledge about GB advertisement
- \( X_3 \): Customer’s good technological knowledge of GB
- \( X_4 \): Easier social life with innovative offerings
- \( X_5 \): Solar power for office electricity-saving
- \( X_6 \): Campaign for GB

For this study the independent variables are green office decoration customer like, staff response fast, mobile banking secure and easier, speed, user-friendly, internet banking is convenient and secure, GB helps social-life easier, GB charging high and time saving. The dependent variable is customer perceived value regarding GB. The model equation is like:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots + e \]

Where:
- \( Y \): Customer perceived value regarding GB
- \( X_1 \): Green office decoration customer like
- \( X_2 \): Staff response fast
- \( X_3 \): Mobile banking secure and easier
- \( X_4 \): Speed
- \( X_5 \): User-friendly
- \( X_6 \): Internet banking is convenient and secure
- \( X_7 \): GB helps social-life easier
- \( X_8 \): GB charging high and time saving

### Hypothesis 2:

H\(_0\) : Customer’s perceived value of GB has impact on customer satisfaction

H\(_1\) : Customer’s perceived value of GB has no impact on customer satisfaction

**Table 2** Regression Model Summary (H1)

| R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change df1 df2 Sig. F Change |
|---------|------------------|---------------------------|----------------|------------------|--------------------------|
| .372   | 0.139            | 0.72995                   | .139           | 2.115            | 7 92 .050                |

From the above table, it has been shown that the value of R is 0.372 which is less than .050 and this value indicated a more likely positive but not effective relation between the independent variables and the dependent variable. The R2 represents the variance of the analysis of independent variables. Here the R2 value is 0.139 which indicates a 13% variation on customer awareness about GB and it has a lower influence on customer satisfaction level. The adjusted R2 represents the goodness-of-model fit whereas R2>Adjusted R2 (13%>7%).

This indicates a good regression model. Besides the gap between the R2 and Adjusted R2 (0.139-0.73) is slightly low that the number of non-significance variables is minimal in this analysis. The significance level is 0.50>0.05. So the null hypothesis is accepted. Customer awareness and customer satisfaction level for green banking practices are not significant.

### Hypothesis 2:

H\(_0\) : Customer’s perceived value of GB has impact on customer satisfaction

H\(_1\) : Customer’s perceived value of GB has no impact on customer satisfaction

**Table 3** Regression Model Summary (H2)

| R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change df1 df2 Sig. F Change |
|---------|------------------|---------------------------|----------------|------------------|--------------------------|
| .91    | 0.840            | 0.46385                   | .840           | 34.857           | 13 86 .000              |

From the above table, it has been identified that the value of R is 0.917 which is greater than .050 and this value indicated the high extent of a positive relationship between the independent variables and the dependent variable. The R2 represents the variance of the analysis of independent variables. Here the R2 value is 0.840 which indicates the predictors have 84% variation on customer good perceived value from GB and significant customer satisfaction. The adjusted R2 represents the goodness-of-model fit whereas R2>Adjusted R2 (84%>81%). This indicates a good regression model. Besides the gap between the R2 and Adjusted R2 (0.840-0.816) is very low so that the number of non-significance variables is minimal in this analysis. So hypothesis 2 is proved that the perceived value created by GB for the customer has significantly influenced the level of customer satisfaction.

**Table 4** ANOVA Analysis (H2)

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<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>97.497</td>
<td>13</td>
<td>7.500</td>
<td>34.857</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>18.503</td>
<td>86</td>
<td>.215</td>
<td>13</td>
<td>.840</td>
</tr>
<tr>
<td>Total</td>
<td>116.000</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the ANOVA table, the study has found that the significance level is 0.000 which is less than 0.05 (0.05>0.00). So the null hypothesis (2) was rejected. The ANOVA table shows that the F Statistics is 34.857. By considering the degree of freedom of both Regression and Residual, the critical value is 1.92. In F Distribution Table 5, the F value is higher than the critical value 0.05% level of significance. So the null hypothesis was rejected. This indicates a great influence on the perceived value of GB and customer satisfaction.

### 3.3. Green Image effect

**Hypothesis 3:**
H₀: Customer's green image of GB has effect on customer satisfaction
H₁: Customer's green image of GB has no effect on customer satisfaction

**Table 5** KMO and Bartlett's Test (H3)

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. KMO and Bartlett's Test | .543 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 203.496 |
| DF | 15 |
| Sig. | .000 |

Here from the KMO and Bartlett's Test, Bartlett's Test of Sphericity can be used to test the null hypothesis. Here the Sig. value = .000 < 0.05. So the null hypothesis is rejected and that indicates that the mentioned factors for green image have a significant effect on customer satisfaction level. The null hypothesis can be tested by the Chi-Square value. From the Chi-Square Table-3, for 15 degrees of .05 sig. level the value is 24.996 <203.496. So the null hypothesis was rejected. Besides Kaiser-Meyer-Olkin Measure of Sampling Adequacy is here 0.543 > 0.5. So here factors analysis is fit to this SPSS analysis.

**Table 6** Rotated Component Matrix (H3)

<table>
<thead>
<tr>
<th>Rotated Component Matrix</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Interest rate for green project customer</td>
<td>.568</td>
<td>.394</td>
<td>.256</td>
</tr>
<tr>
<td>Bank should go for paperless</td>
<td>.908</td>
<td>.151</td>
<td>-.040</td>
</tr>
<tr>
<td>Senior citizen get difficulties to use GB offerings</td>
<td>.849</td>
<td>.257</td>
<td>-.083</td>
</tr>
<tr>
<td>Urban people get more benefit from GB</td>
<td>.966</td>
<td>.062</td>
<td>-.019</td>
</tr>
<tr>
<td>Rural customer get Service from green bank activities</td>
<td>.813</td>
<td>-.206</td>
<td>.067</td>
</tr>
<tr>
<td>CSR influence customer satisfaction</td>
<td>.976</td>
<td>.030</td>
<td>-.041</td>
</tr>
</tbody>
</table>

The Rotated Component Matrix expresses the relationship between the variables and factors. Here in the Rotated Component Matrix, the variables low interest, urban-rural service, paperless, CSR, and a positive attitude about GB are into component 1 which factors can be named by benefits factors. Component 3 is being built by easy to use, user-friendliness, and high charge. Good advertisement for GB only consists the component 2. For factor 1 CSR influences customer satisfaction (0.967) and this variable is the most important while easy to use (-0.428) is negatively related to factor 1. Similarly, component 2 has one significant variable which is good advertisement regarding GB with a value 0.665 whereas easy to use again with the value -0.629 cannot be included in component 2. High charge for GB related service (0.837) is the prominent factor for component 3. Other variables' values are not that significant for not including in component 3.

### 3.4. Customer Trust and Loyalty

**Hypothesis 4:**
H₀: Customer trust and loyalty for GB have influence on satisfaction
H₁: Customer trust and loyalty for GB have no influence on satisfaction

**Table 7** KMO and Bartlett's Test (H4)

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. KMO and Bartlett's Test | .503 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1225.405 |
| DF | 28 |
| Sig. | .000 |

Here from the KMO and Bartlett's Test, Bartlett's Test of Sphericity can be used to test the null hypothesis. Here the Sig. value = .000 < 0.05. So the null hypothesis is rejected and that indicates that the mentioned factors for customer trust and loyalty for GB have an effect on customer satisfaction level. The null hypothesis can be tested by Chi- Square value. From the Chi- Square Table-3, for 28 degrees of .05 sig. level the value is 41.337
Here in the Rotated Component Matrix the variables internet banking safety, ATM great service and preference, time saving and mobile banking easier life are into component 1. ATM service greatness has highest important variable (0.989). Component 2 is being built by ATM safety (0.613) and GB creates customer trust (0.910). Mobile banking security (0.91) of GB only consist the component 3.

4. Discussion

4.1. Limitations regarding green banking practices

Even though there are various advantages to green banking practices, the full potential of green banking practices can't be exploited due to the following reasons:

i. Lack of awareness: Many people in Bangladesh, especially in rural areas are not aware of the concept of green banking and green products. Thus, they prefer traditional banking practices.

ii. Security Issues: Consumers are now very concerned about the security of their private information. One common security threat includes illicit data modification and unauthorized usages of the internet. Thus it has become very convoluted to deal with this issue.

iv. Slow internet connection: The slow connectivity level of internet connection in the country demotivates customers to use the Internet. Rather, they prefer to engage in traditional banking operations.

v. Lack of harmony: The absence of coordination among the commercial banks, Bangladesh Bank, law enforcing agencies, environmental NGOs, and the customers is another critical problem in pursuing sustainable banking in Bangladesh. Thus difficulties are arising in following the policy guidelines. Due to higher operating costs, banks are reluctant to adopt green banking practices.

4.2. Recommendations

To ensure the effective adoption of green banking practices, the banking industry of Bangladesh should utilize the time and cost efficiency features of green banking practices. Based on the findings, the following
policy guidelines are recommended

i. Banks should focus on increasing customer awareness about their existing and new green banking offerings by following the Green Banking policy.

ii. Rational green banking products should be designed for disseminating information about green banking practices to achieve the best benefits.

iii. Government should focus on improving the condition of internet connectivity throughout the country and increasing the security level of information.

iv. A proper understanding of the features and attributes of green banking products should be provided to the consumers.

v. Innovative and distinct ways of encouraging consumers to adopt green banking practices should be initiated by the banks and Government.

4.3. Future Research Opportunities

This study has shown the relationship and impact of customer gratification towards the green banking practice of several banks. The findings can be considered as an important source of information for banks to find ways to uplift customer satisfaction on green banking practices. Future research can be done to identify the other key factors which influence the satisfaction of customers towards green banking and to measure the extent of the impact. Due to resource and time constraints, the study is being confined to Dhaka City. Future research can be done in the whole of Bangladesh followed by a global perspective. Besides, when green banking practice will be spread out more actively among the banks with large customer awareness, the future researcher can focus on a particular bank. Qualitative research like a focus group or case study can also be done for both the providers and receivers of green banking.

5. Conclusion

The concept of green banking still has a long way to go until it gets fully mainstreamed in the banking sector of Bangladesh. The people of Bangladesh have a good sensitivity to green banking practices. Going green in banking is relatively an improvement, and also an equally worthy concept in the context of the contemporary world. Therefore, the implication of green ideas in Bangladesh would certainly be handy in preventing natural degradation (Moorthy & Pradeepa, 2014). The present study examined customers' satisfaction with the green banking services provided by the banks in Bangladesh. In particular, the study focused on the factors that affect the customers' satisfaction level towards green banking practices. In comparison to previous studies, this study will contribute to understanding the level of customer satisfaction regarding different aspects of green initiatives. Most importantly, the level of impact generated by each category on overall green customer satisfaction has been studied by this study which is a novel addition to the existing literature. The findings revealed that customer awareness and customer satisfaction levels for green banking practices are not significant. However, the perceived value of GB contributes significantly to achieve a higher level of customer satisfaction. The findings of the study might be useful for the government policymakers, banks, financial institutions in designing and implementing policies and plans for various services and facilities to be provided to the customers and uplift customer satisfaction on overall green banking. The study has been concluded by inferring that banks should generate consciousness amid the customers about the environment as well as environment-friendly business practices. The proper execution of green banking practices by the banks should be ensured to ensure hassle-free acceptance and adoption of green banking practices. Trust and security of the customers should be prioritized. There are enormous opportunities for the banks in Bangladesh to successfully establish themselves as green banks. Even though it has been proved that customer satisfaction and green banking practices are positively correlated, the full potentials of green banking practices in increasing customer satisfaction have not been seized yet. To keep pace with the global competition and changes in the market trend, adopting proper strategies to employ green banking practices is significant.

6. Acknowledgments

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