

Green Banking Implementation and its impact on Profitability: A study on IFIC Bank Limited in Bangladesh

Mst. Khadiza Aktar¹

Dept. of Business Administration, Shahjalal University of Science and Technology, Sylhet, Bangladesh

E-mail: khadiza.lucky.bus@gmail.com

Abstract:

Background: Green environment is one of the most important issues in today's world. Governments in all over the world are working for protecting global environment and developing different framework to find out the best possible solution. The study portrays the green banking implementation in IFIC Bank Ltd. For this, status of green banking in IFIC Bank Ltd., policy guidelines of Bangladesh Bank for green banking implementation etc. related literature are reviewed to find a gap. Then a conceptual model is developed for conducting the study. Throughout the study, a sequence is maintained in the fields described related to the topic. The study is based on primary and secondary data highlighting the implementation of Green Banking (Online Banking, Mobile Banking, SMS Banking, Green Financing, ATM service, paper save, etc.) and the impacts of using Green Banking guidelines on profitability on IFIC Bank Ltd in Bangladesh.

Material and Methods: The study is Quantitative in nature. To conduct this research, both primary and secondary data is used. Primary Data are collected by Survey technique through Structured Questionnaire. 20 respondents are taken from the executives of IFIC Bank Ltd. and 3 Branches are selected to conduct survey. Secondary data are collected through document review, annual reports etc. SPSS 20 is used for data analysis of the study which are represented in table, graph, Descriptive statistics is conducted using Likert scale. Correlation is done to analyse independent variables and profitability.

Results: The study finds that overall implementation of 8 dimensions is 4.03 which represents that the respondents are **agreed** that Green Banking Implementation has a direct impact on profitability. Executives are satisfied to the overall green banking activities and agreed that the complexity of manual banking system has lessen due to the implementation of Green Banking that leads to the bank in to door-stream of profitability. Finally, all the findings analysed prove that Green Banking Implementation has a **direct influence** on the profitability of a bank. If all factors of Green Banking are implemented properly, the study concludes that it brings a positive change on net income and overall profitability.

Conclusion: By using updated software, strong IT Infrastructure, it helps the bank to reduce unnecessary costs of operating banking activities and the bank would become a Green Bank in full phase.

Keyword: Green Banking, Implementation, Policy Guidelines, Profitability.

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I. Introduction

Green banking defines as proactive and smart thinking of banking system for future sustainability of our only Spaceship earth (Richard Buckminster Fuller, 2012). Banks all over the world use this concept that evaluates all the factors before giving the loan whether the project is environment-friendly and has any implication on the future people and planet. Bangladesh is considered as environmentally vulnerable country in the global family. In order to cope with other countries, Bangladesh has developed green banking guidelines by the central bank, Bangladesh Bank which has issued policy guidelines for developing green banking implementation to be applied on financial sector of Bangladesh and formulate circulars to handle climate change. That's why this paper portrays the green banking implementation in Bangladesh. As socially responsible corporate citizen and also Bangladesh Bank's guideline IFIC Bank Ltd. has taken various initiatives through the application of environment friendly policies in every sector of its activities and through the elimination of Carbon footprints without changing main banking functions. The study is based on primary and

secondary data highlighting the implementation of Green Banking (Online Banking, Mobile Banking, SMS Banking, Green Financing, ATM service, paper save, etc.) and the impacts of using Green Banking guidelines on profitability on IFIC Bank Ltd.(Real Time Online Banking: MYSIS Online Solutions). There are some sections in this study. This section includes problem statement, objectives of the study. Section 2 contains the literature review part of the study. status of green banking in IFIC Bank Ltd., policy guidelines of Bangladesh Bank for green banking implementation etc. is discussed. Finally, a model is developed for conducting the study. Section 3 includes research design appropriate for this study (population, sample, sample size, sources of data and data analysis method). Section 4 & 5 includes the analysis of collected data and shows the findings. These findings are mainly used to take decisions. Finally, conclusion & recommendations are provided in section 6.

1.1 Problem Statement: Many countries of the world have made commitments necessary to lessen climate change. In developed countries, there are various incentives to promote business which are favorable to the environment. At present, many financial institutions are responding positively towards the society through safeguarding the environment and doing social and environmental reporting. And the banking sector can play a vital role for promoting environment friendly investment. But as a developing country, in some cases the status of green banking implementation in Bangladesh has not been satisfactory compared with many developing and least developed countries, largely due to the lack of awareness. In Bangladesh, the concept of green banking is relatively new and yet to get drive. It is a matter of regret that this concept is not practicing by all banks. However, the banking sector should perform well in this regard. That's why the study tends to find the answer of this question, "What are the initiatives taken by IFIC bank Ltd. for the implementation green banking and the impact of green banking on the profitability of IFIC Bank Ltd.?"

1.2 Research Objectives: The **core objective** of the study is to find out green banking implementation & its impact on Profitability regarding IFIC Bank Ltd. To support main objective, the **specific** objectives are taken for the study effectively, to explore the green banking initiatives in Bangladesh, to check the awareness of green banking among bank employees, associates and general public, finally to recommend the steps necessary to adopt green banking.

II. Literature Review

Green banking is a stream of banking in which environmentalism is adopted as the operational base of banking activities in a society. This section focuses on the previous studies relate to green banking implementation in banking sector all over the world. In order to identify the gap of green banking implementation from reviewing the previous studies this regard a conceptual model is developed at the last part of this chapter.

Schmindheiny defines that green banking is generally as promoting environmentally friendly practices that aid customers in reducing their carbon footprint through their banking operation activities. These practices include such things as online banking, statements, bill payments, and account opening. Banks also invest in internal initiatives to reduce their own carbon footprint (Schmindheiny, 1996). While Islam (2010) signifies the banking industry is undergoing computerization, networking and offering of online banking is naturally gaining momentum" (Islam, 2010).

According to Singh B P (2012), green banking avoids as much paperwork as possible and rely on online/electronic transactions for processing so that we get green credit cards and green mortgages. Less paperwork means less cutting of trees. It also creates awareness to business people about environmental and social responsibility to enable them doing an environmental friendly business practice (Singh B P, 2012). Green banking is also called ethical banking or a sustainable banking which is controlled by the same authorities, but with an additional agenda toward taking care of the earth's environment (Bhome, 2013). Green banking rationalizes the paper use by giving free access to do all the banking transactions through Internet Banking, SMS Banking, Mobile Banking and ATM Banking. Free Electronic Bill Payment Services and E-Remit services for remitting funds to the customers' home country. (Biswas, 2011)

According to Ravi Meena, "Green Banking helps in avoiding paper work, creating awareness to business people about environment, providing loans at comparatively lesser rates, environmental standards for lending." (Ravi, 2013)

2.1 Green Banking Implementation and Sustainable Development: The word green banking has been conceptualized to implement the broader concept like sustainable development. According to WCED, "Sustainable development is development that meets the needs of the present without compromising about the ability of future generations to meet their own needs." (Smith, 1998) According to (Fayez Ahmed, 2013), "The implementation of green banking depends on pressure from stakeholders, potentiality for the profitability, concern for the environment, risk minimization, image improvement." Another writer discusses about some factors which are done by banks for the implementation of Green Banking. These are: Online Savings

Account, Paperless Statements, Use Direct Deposit (Most employers will give employees the option to receive their paycheck electronically), Online Bill Payments, Reward Debit and Credit Cards, Net Banking (customers possess an internet banking ID and a password provided by the bank in which the individual customer has an account.) (Ravi, 2013)

2.2 Green Banking Status in IFIC Bank Ltd.: International Finance Investment and Commerce Bank Limited came into existence in 1976. At first it was a joint venture between the Government (32.75% share) and private sponsors and directors (11.31% share) in Bangladesh sector working as a finance company within the country and setting up joint venture banks/financial Institutions abroad. As environmental issues gain greater attention, pressure is being placed on all industries, including financial institutions to implement Green Initiatives. The bank has some strategic priority such as striving for sound business growth by ensuring customer satisfaction through quality and timely services, diversifying loan portfolio through structured finance and expansion of Corporate, SME, Agri and Retail businesses for sustainable business growth and to be a trend-setter in serving the society and remain responsive to the environment.

As green banking implementation, Green Banking Cell has been established at Head Office for continuous monitoring of green banking activities of the bank. The cell is also responsible for designing, evaluating and introducing of innovative green products, green marketing and other green banking related issues.

It is found that following are some of the those that can be taken for going green in banking: Paying bills online, Remote deposit, Online fund transfers, E-statements, Automated clearing house. It creates savings from less paper, less energy, and less expenditure of natural resources from banking activities, Green Accounts (ATM Service), Financing on renewable energy and environment friendly projects, Green Debit Cards/ Credit Cards, Mobile Banking, SMS Banking etc.

Green banking cell gives a set of instructions have been given for In-house Environment Management which includes: All the normal bulbs should be replaced by Compact Fluorescent Light (CFL) or Light Emitting Diode (LED) bulbs; all the vertical blinds should be adjusted to open so that the natural light is coming inside for saving energy; Put the thermostats of the air conditioners not below 24° C; put off the switches of the toilets and other places; standby mode of all the computers should be enabled and set to maximum 15 minutes; while leaving office, please ensure that all the ACs, fans & lights are switched off, all the computers must be shut down; all Circulars, letters etc. with Head Office and Branches should be made through email.

Bank has started setting up of green branches with the provision of the maximum use of natural light, use of renewable energy, use of energy saving bulbs and other equipments, reduced water and electricity use etc. Bank has five (05) solar powered branches-Alankarmore, Kashinathpur, Chandina, Rangamati & Manikganj branches.

To create awareness among the employees & clients on environmental and Green Banking issues, the Bank also arranged few training programs during 2014.

2.3 Status of Green Banking in Bangladesh: Dr. Atiur Rahman (2010), in his paper, focused on the present monetary and credit policy of Bangladesh Bank towards attaining broader financial enclosure. Bangladesh Bank is carry forwarding with technology driven, innovative, environment and low cost banking approach; conveying a qualitative change in banking, preparation of monetary policy, application of advanced banking technology, and use of Information and Communication Technology (ICT) to extend financial services to the door step of common people. To ensure access to financial services for all, various initiatives have been taken like trade finance; digitalization of the financial sector; channeling liquidity into productive and supply augmenting investments including agriculture, SMEs, Green Banking and CSR activities; expected to lead to more broad-based inclusive growth and therefore lessen poverty (Rahman, 2010).

2.4 Policy guideline of Bangladesh Bank for green banking implementation: Bangladesh Bank has outlined a detailed policy guidelines for implementing Green Banking by their Circular No. 02 dated February 27, 2011. According to Bangladesh Bank, "Implementing green banking policy generates the following benefits for the banks: (1) increase goodwill or improve brand image by showing their commitment to save and protect the environment; (2) reduce giving loans to certain environmentally harmful projects; (3) check the necessary environmental due diligence factors before lending a loan/investment; (4) make efficient and effective use of resources and channel financing in an environment friendly manner; (5) introduce new technology in banking operations that would not only benefit our customers but also increase the productivity of our employees; (6) reduce carbon foot print in all branches and Head Offices of all banks; and (7) create awareness amongst the stakeholders about environmental and social responsibility enabling them to adopt environmental friendly business practices. (Bangladesh Bank guidelines)

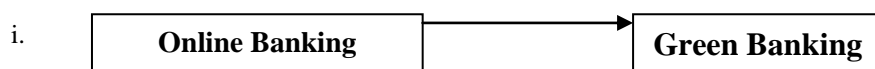
Another initiative that Bangladesh Bank has taken is about the interest rate related to green banking loan. "Bangladesh Bank (BB) has increased the interest rate for green banking aiming to encourage the

commercial banks to strengthen disbursement of the loan under its refinance scheme, officials said” (www.thefinancialexpress-bd.com).

2.5 Impact of Green Banking on Environment: Blacconiere(2011) stated that environmental impact of bank’s external activity was huge though difficult to estimate. Thus, encouraging environmentally responsible investments and careful lending should be one of the responsibilities of the banking sector(Blacconiere, 2011)The bank should go green and play a pro-active role to take environmental and ecological aspects as part of their lending principle, which would force industries to go for mandated investment for environmental management, use of appropriate technologies and management systems (Hayder, 2012).While green banking is not yet a key reason for most customers to select one financial institution over another, customer demands and greater environmental awareness are driving a number of financial institutions to go green. (Biswas, 2011)

2.6 Impact of Green Banking on Profitability: Profitability refers to the state or condition of yielding a financial profit or gain. Profitability measures how well a firm is performing. If all factors of Green Banking are implanted in full phase it reduces operating cost and it impacts in income statement of a firm. That reduction of cost increases the revenue amount. S. and Verma, S. (1999) determined the factors influencing the profitability of public sector banks by making use of ratio of net profits as percentage of working funds. They concluded that spread and burden play a major role in determining the profitability of commercial banks.

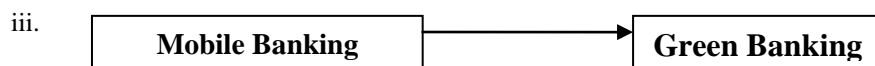
2.7 Conceptual Model of the study:The study agrees with the Author, Biswas (2011) who mentioned four variables of Green Banking in his paper. These are: Online Banking, SMS Banking, Mobile Banking, and ATM Banking. In this study I will try to focus on another four variables along with the aforementioned variables.



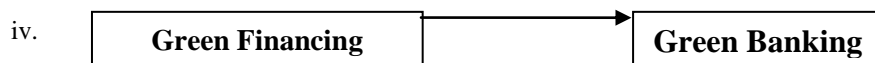
Online Banking is the easiest way to help environment by eliminating paper waste, saving gas and carbon emission, reducing printing costs and postage expenses. So, there is a relationship between Online Banking and Green Banking.



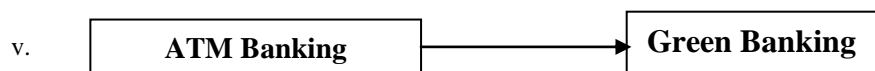
SMS Banking enhances the implementation of Green Banking by providing many facilities to the customers.



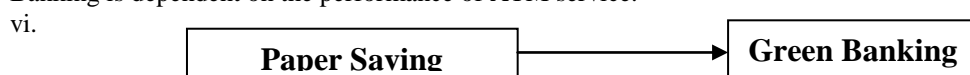
Mobile payments are also green solutions that help the environment, we save natural resources. So, it leads to the Banking Systems as Green Banking.



As a driver of green banking supports all initiatives for eco-friendly business activities and energy efficient industries will be given preference in financing.



If the ATM services of a Bank is strong customers can get quick service and saves energy, time. So, Green Banking is dependent on the performance of ATM service.

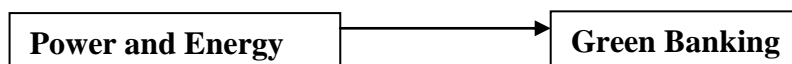


If any Bank uses recycle paper products, paper wastage is reduced and ultimately Green Banking is implemented properly.



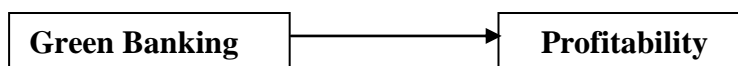
A Green Branch is featured by the provision of the maximum use of natural light, use of renewable energy, use of energy saving bulbs and other equipment, reduced water and electricity use, use of recycled water etc. So, it is a way of implementing Green Banking

viii.



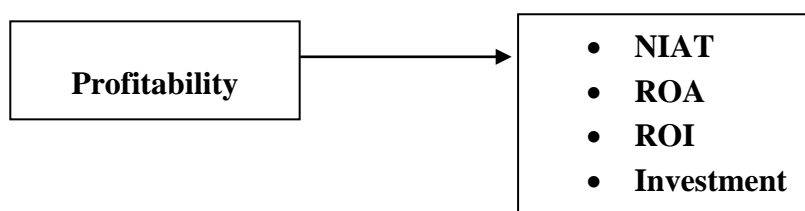
Solar energy must be used to save environment. There should be a clear and specific plan to use the solar power. The energy efficient lights must be used. Use of printers must be limited when load shedding.

ix.



There is a strong relationship between the two concepts “Green Banking” and “Profitability”. Green Banking reduces the cost of stationary; hence it indicates the level of profitability. Profitability is related with the implementation all the activities of Green Banking.

x.



The Level of Profitability presents in terms of Net Income After Tax, Return on Assets (ROA), Return on Investment (ROI), Total investment etc.

A graphical model which will show the interconnections of green banking among some variables that were identified through literature review:

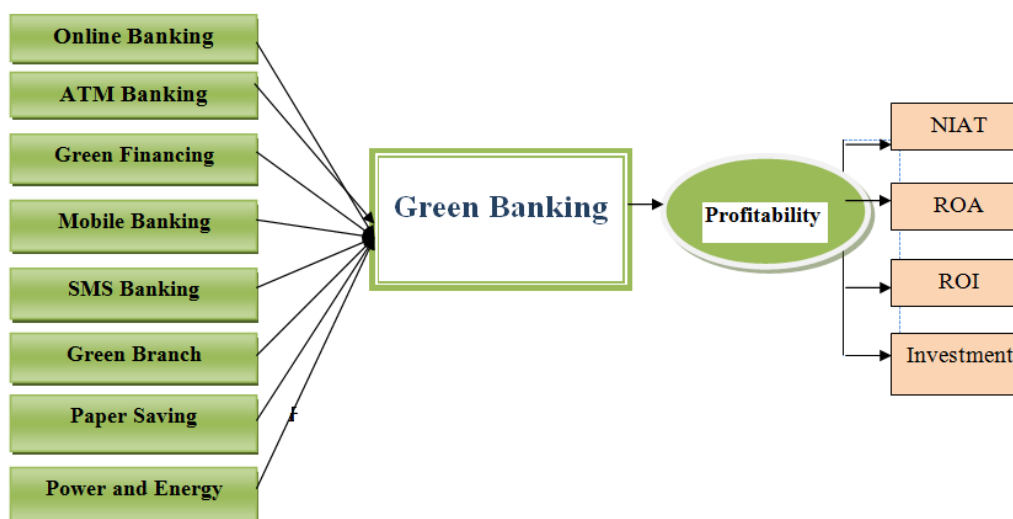


Figure2.1 Conceptual Model of the Study

III. Methodology of the Study

3.1 Research design for this study: Research Design is a detailed outline of how data is to be collected, what instruments will be employed, how the instruments will be used and the intended means for analysing data collected (Bhattacharjee, 2012). According to the topics requirements and information gathered, the study thinks that quantitative method is appropriate for the study.

3.1.1 Population: The population of this study is all the branches of IFIC Bank Ltd.

3.1.2 *Sample:* As a sample, the Amberkhana, Subidbazar, and Sylhet Branch of this bank is used in this study. This study is conducted based on convenience sampling method as it is very difficult to reach all the branches to see the application of Green Banking during the internship period.

3.1.3 *Sample Size:* 20 respondents have taken to collect information randomly. The collected data are analyzed in the perspective of progress and adequacy of green banking activities in Bangladesh.

3.1.4 *Data Sources:* Primary data are collected from the respondents' using questionnaire. 20 employees of three different branches of IFIC Bank are involved in this regard. Secondary data are collected from document review, annual reports from the year 2011 to 2015.

3.1.5 *Questionnaire:* Structured questionnaire, dichotomous, nominal etc. are used to collect the required data.

3.2 Data analysis and interpretation: In this study, all the data are represented through graphical form and then interpreted. Statistical Package for the Social Sciences (SPSS 22) is mostly used to summarize and illustrate the collected data systematically. Collected data are analyzed and presented in the form of table, graphs and chart. To get major findings of the study, data are interpreted in correlation analysis.

IV. Data Collection and Analysis

This section focuses the data which are collected from survey and document review and which are related to the objectives of the study. Firstly, study analyses the executive opinion on green banking implementation. Secondly, status of green banking implementation at IFIC Bank Ltd. is focused by this study.

4.1 Green Banking Implementation

Table 4.1.1 Descriptive statistics of Executives' Opinion on Green Banking Implementation at IFIC Bank Ltd.

Executives' Opinion on GBI	Frequency			Percent		
	Yes	No	Partial	Yes	No	Partial
1. Bank follows the Green Banking Policy of BB	20	-	-	100	-	-
2. Reduction of paper wastage through Green Banking	20	-	-	100	-	-
3. Customers' cash-in & cash-out through Mobile Banking	17	3	-	85	15	-
4. Bank use daylight and proper ventilations	11	6	3	30	55	15
5. Positive impact of Green Banking on Profitability	20	-	-	100	-	-
6. Green banking is helpful to the environment	20	-	-	100	-	-
7. The updated software used in the operation of bank	15	-	5	75	-	25
8. Bank uses e-statement for customers	10	2	8	50	40	10
9. Bank should increase green invest at low interest rate	20	-	-	100	-	-

Source: The author, based on survey findings

From the above table, it is cleared that IFIC Bank Ltd. follows Green Banking Policy of Bangladesh Bank. All respondents (executives) are agreed to Green Banking Policy. It is noticed at the above table that green banking implementation reduces the paper wastage of traditional banking system. The table represents the positive impacts of green banking on profitability as the cost of stationary reduces because of the savings of extra paper. The table also shows the customers' involvement with Mobile Banking. 17 respondents (85%) out of 20 have said that customers perform cash-in and cash-out through Mobile Banking for easy transaction, time save, cost saves. In this case, customers are benefited from this service which leads to increase the number of customers. By this green banking is implemented. From the table, it is noticed that some branches (30%) of IFIC bank use daylight instead of electric lights and they have proper ventilation in lieu of air conditioning. Other branches are not use daylight yet because of the location case. Branches those are located besides large multi-storeyed buildings can't use daylight. Green Banking implementation has a positive impact on the profitability of IFIC Bank Ltd. If all factors of Green Banking are implemented properly, it is said that it brings a positive change on net income and overall profitability. All respondents agree that green banking is helpful to the environment. 75% used updated software in the operation of the bank. Bank also uses e-statement, circular, letters etc. are sent to the email instead of paper work. To increase the practice of green banking all respondents agreed that bank should increase green investment at low interest rate.

Table 4.1.2 level of satisfaction about Green Banking Implementation

Options	Frequency			Percent		
	Satisfactory	Neutral	Highly Satisfactory	Satisfactory	Neutral	Highly Satisfactory
1. Present Condition of Bank's implementation of GB	17	-	3	85	-	15
2. Condition of SMS Banking as part of GB	13	2	5	65	10	25
3. Investment of IFIC Bank Ltd. in green projects	19	-	1	95	-	5
4. Cost level decreases for the implementation of GB	4	-	16	20	-	80

Source: The author, based on survey findings

After look through the above table (Table 4.1.2), it is cleared that green banking implementation position of IFIC Bank Ltd. is at satisfactory level (85%) and all executives are pleased with new technologies and IT infrastructure. As a part of Green Banking, SMS Banking plays an important role on green banking implementation. The present condition of SMS Banking is satisfactory (65%) in this regard. It is also noticed from the above table that 95% respondents say that IFIC Bank Ltd. invests a huge amount of money for increasing green projects and the return is at satisfactory level. From the above table, descriptive statistics shows that for the reason of implementing green banking, cost incurred is decreasing year to year. As cost is decreased then net profit is increased. So, it is concluded that green banking implementation brings a positive impact on profitability.

Table 4.1.3 Descriptive Statistics using Likert Scale

Options	Frequency				Percent			
	Strongly Agree	Agree	Neutral	Disagree	Strongly Agree	Agree	Neutral	Disagree
1. Online Banking reduces the complexity of traditional banking system	6	14	-	-	30	70	-	-
2. Bank provides security & confidentiality to customers through online banking	14	6	-	-	70	30	-	-
3. Bank provides all statement to customers through Online	2	14	2	2	10	70	10	10
4. Customers know their account balance through SMS Banking	6	14	-	-	30	70	-	-
5. Role of Green banking in economic growth & protection of environment	8	12	-	-	40	60	-	-
5. Bank consider environmental issues while investing in any project	11	8	-	1	55	40	-	5

Source: The Author, based on survey findings

There are 5 point scale like strongly agree, agree, neutral, disagree, strongly disagree, but none gives opinion as strongly disagree. That is why it is omitted from the above table. Descriptive Statistics in table (Table 4.1.3) shows that 70% of the executives agree that the complexity of traditional banking system reduces through the implementation of online banking which leads to positive impact on profitability. From the above table, it is cleared that executives are strongly agree (70%) that the security & confidentiality provided to customers' by IFIC Bank Ltd. through online banking. Customers ID and accounts are fully secured because their software is updated and it smoothly works with direction. From the above table, it is noticed that customers can collect necessary information such as solvency certificate, monthly statement, circular of different schemes etc. through online. The table shows a positive status on green banking implementation. 14 respondents out of 20 have agreed

that customers can know their account balances, money transfer amount through SMS Banking. The executives of bank have told that green banking plays a vital role in economic growth and it protects the environment. 60% respondents are agreed to this. The above data shows that IFIC Bank Ltd. always consider the environmental issues when they invest money in different projects. They don't invest in the sectors those are harmful for environment.

Table 4.1.4 ATM services of IFIC Bank Ltd.

The following Table (Table 4.1.4) shows the services of ATM Booths of the bank. The executives are agreed (55%) that ATM service of IFIC Bank is very good.

		Frequency	Percent	Valid Percent
Valid	Good	5	25.0	25.0
	Very Good	11	55.0	55.0
	Excellent	4	20.0	20.0
	Total	20	100.0	100.0

Source: The Author, based on survey findings

4.2 Impact of Green Banking Implementation at IFIC Bank Ltd.:

Table 4.2.1 Green Banking Implementation

Factors	2011	2012	2013	2014	2015
Online Banking	✓	✓	✓	✓	✓
ATM Service	✓	✓	✓	✓	✓
Green Financing	✓	✓	✓	✓	✓
Mobile Banking	-	-	✓	✓	✓
SMS Banking	-	-	✓	✓	✓
Green Branch	-	✓	✓	✓	✓
Paper saving	-	-	✓	✓	✓
Power and Energy	-	✓	✓	✓	✓

Source: The author, construct based on Annual Report 2011-15

From the above table, it is seen that different variables are added to green banking implementation from year to year. Bank is implementing online banking, ATM banking, and investing in green projects in full phase from 2011. Mobile banking, SMS banking is implemented from 2014. As the bank is engaged to green banking activities, it reduces the wastage of paper from 2013. In 2012, Bank first set solar panel in one branch to operate its banking activities without using electricity. Gradually other branches are using solar system.

Table 4.2.2 Total Investment Portfolio (BDT in Millions)

Year	2011	2012	2013	2014	2015
NIAT	1647	1105	1346	1545	887
Total Assets	91,541	114,729	132,062	156,338	178,334
Investments	12,199	15,671	21,171	22,845	28,497
Investment Income	1,778	1,814	2,170	2,377	2,375
ROI	14.58%	11.58%	10.25%	7.22%	6.48%
ROA	0.93%	1.07%	1.09%	1.07%	0.53%

Source: Annual Report 2011-2015

Table 4.2.3 Descriptive statistics

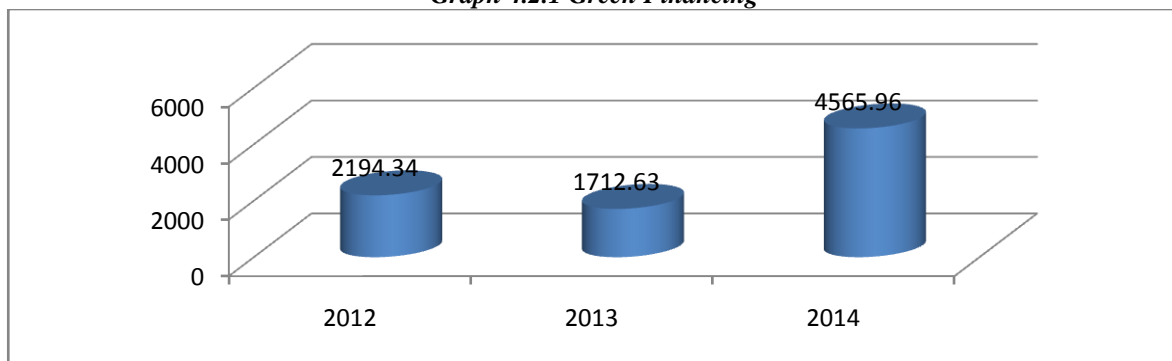
	Years	Min	Max	Mean	Std. Deviation
NIAT	5	887	1647	1278.20	361.560
Total Assets	5	69565	156338	112847.0	33880.313
Return on Asset	5	.01	.02	.0123	.00640
Investment	5	9635	22845	16304.20	5661.264
Investment Income	5	1541	2377	1936.00	333.583
Return on Investment	5	.10	.16	.1256	.02588

Green Financing	3	1713	4566	2824.31	1527.423
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Source: The author, based on Annual Reports 2011-2015

Descriptive analysis shows the mean value of NIAT is 1278.20 and Std. Deviation is 361.560 (Table-4.2.3) while the above graph shows that Net Income after Taxes is increasing year by year but fluctuating in year 2015. The amount was highest in 2011 with 1647 BDT in Million. The above table illustrates the total assets of the Bank from 2011-2015. In this table, it is seen that total assets is increasing year by year while descriptive analysis (Table 4.2.3) shows that the mean value of total assets is 112847.0 and Std. Deviation is 33880.313. Descriptive analysis shows the mean value of investment is 16304.20 and Std. Deviation is 5661.264 while the above table shows that Total investment is increasing year by year. The mean value of Investment Income is 1936 and Std. Deviation is 333.583 while the above table (Table 4.2.2) shows that it is increasing year by year. The minimum and maximum amount of investment is shown in table 4.2.3. The table illustrates the ROI of the Bank from 2011-2015. In this table, it is seen that ROI is decreasing year by year while descriptive analysis (Table 4.2.3) shows that the mean value of ROI is 0.1256 and Std. Deviation is 0.02588. Descriptive analysis shows the mean value of ROA is 0.0123 and Std. Deviation is 0.0064 (Table-4.3.3) while the above table (Table 4.3.2) shows that it is fluctuating in 2011. Then it is increasing lightly year by year. The Highest ROA was achieved in 2013 as the bank was invested more in that year.

Graph 4.2.1 Green Financing



As looked at the above graph (Graph-4.2.1), it is noticed that amount investing in green financing sector is fluctuating year by year while descriptive analysis shows that the mean value of Green Financing is 2824.31 and Std. Deviation is 1527.423. (Table 4.2.2).

V. Analysis & Findings:

This section analyses the collected data are presented in the section 4. All the data collected are analysed and major findings are summarized at the end of the section.

5.1 Executives' Opinion on Green Banking Implementation at IFIC Bank Ltd.:

Table 5.1.1 Descriptive Statistics (Model summary)

Factors		Mean value	Remark
Online banking			
	Reduction of complexity	4.3	Agree
	E-statement	3.52	More or less agree
	Security and confidentiality	4.7	Strongly agree
	Overall	4.17	Agree
ATM Banking			
	Sufficiency of ATM Booth	2.7	More or less agree
	Service of ATM Booth	4.6	Strongly agree
	Overall	3.65	More or less agree
Green Financing			
	Consideration of issues of environment	4.1	Agree
	Investment in green projects	4.3	agree
	Interest rate on financing	3.2	Neutral

	Overall	3.87	More or less agree
Mobile Banking			
	Pay PDB & Gas bill	3.4	Neutral
	Cash-in & cash-out	4.2	Agree
	Overall	3.8	More or less agree
SMS Banking			
	Comfort ability	4.7	Strongly agree
	Service Quality	4.4	Agree
	Overall	4.55	Strongly agree
Green Branch operation		3.8	More or less agree
Reduction of paper wastage		4.9	Strongly agree
Power and Energy			
	Use of daylight	3.5	Neutral
	Proper ventilation	3.8	More or less agree
	Less use of electric bulbs	3.1	Neutral
	Overall	3.47	Neutral
Green Banking implementation		4.03	Agree

The above table shows data analysis related to eight dimensions of Green Banking implementation according to the conceptual model developed in section 2. The table shows the executives' opinion on green banking implementation and its impact on profitability of the bank. All these dimensions are considered for analyzing opinion of executives based on 5 pointlikert scale. These points are: (5 = Highly satisfied, 4 = satisfied, 3 = neutral, 2 = dissatisfied, 1 = strongly dissatisfied). Here, the study considers some points from its own view for measuring the mean values (4.51-5 = strongly agree, 4-4.5 = agree, 3.51-4 = more or less agree, 3-3.5 = Neutral, 2- 3 = More or less disagree, 1-2 = Strongly disagree) and analyzing green banking implantation.

In case of online banking, table shows mean value is 4.17 which indicate respondents are satisfied and agree that online banking strengthens green banking. In case of ATM banking, table shows mean value is 3.65 which indicate respondents are more or less satisfied and lightly agree that ATM banking can be a better dimension green banking if this sector is well patronized. In case of green financing, table shows mean value is 3.87 which indicate some respondents are remain neutral and some respondents are satisfied comment that green banking is implemented if bank invest more in green projects. In case of mobile banking, table shows the mean value is 3.8 which indicate respondents are not more satisfied but they comment it is increasing. In case of SMS banking, the above table shows mean value is 4.55 which indicate respondents are strongly satisfied. This table shows the mean value of green branch operation is 3.8. It represents that executives are agreed to the initiatives and service of green branch. Respondents are strongly satisfied for the reduction of paper wastage and it represents mean value 4.9 in the above table. And finally, the eighth dimension shows mean value 3.47 which represents the less satisfaction of respondents in power and energy saving.

Overall mean scale of 8 dimensions is **4.03** which represents that the respondents are **agreed** that Green Banking Implementation has a direct impact on profitability. Executives are satisfied to the overall green banking activities and agreed that the complexity of manual banking system has lessen due to the implementation of Green Banking that leads to the bank in to door-stream of profitability.

5.2 Impact of Green Banking Implementation at IFIC Bank Ltd:

The following table (Table 5.2.1) shows the correlation among all independent variables and dependent variable (profitability of green banking) and correlations among them are analyzed following Pearson correlation technique. We see from the table that there is a positive relationship between Net Income after Taxes (NIAT). Here, NIAT is earned with amount 0.74 (Million Taka) from green financing against the total NIAT. If more money is invested in green financing, then NIAT is increasing positively and it brings a positive impact on overall profitability.

Table 5.2.1 Relationship between Green Investments

		NIAT	Total Assets	ROA	Investment	Investment Income	ROI	Green Financing
NIAT	Pearson	1						
	Sig.							
Total Assets	Pearson	.162	1					

	Sig.	.795						
ROA	Pearson	.655	-.640	1				
	Sig.	.231	.245					
Investment	Pearson	.232	.981	-.575	1			
	Sig.	.707	.003	.311				
Investment Income	Pearson	.192	.971	-.594	.977	1		
	Sig.	.757	.006	.291	.004			
ROI	Pearson	-.097	-.945*	.656	-.953	-.882	1	
	Sig.	.877	.015	.230	.012	.048		
Green Financing	Pearson	.740	.833	-.217	.556	.672	-.25	1
	Sig.	.469	.373	.861	.624	.531	.836	

This table shows that there is a positive relationship between investment and green financing. After analyzing 5 years data from annual reports, it is cleared that bank invest a small amount in green financing (Graph 4.2.1) against total investment (Table 4.2.2). The table shows that 0.556 Million Taka is invested by bank in green financing out of total investment of the bank. If more amounts are invested in green projects, it will bring a great impact on profitability of the bank. It is also shown in the above table that there a positive relationship between investment income and green financing. If the total investment is increased, then ROI increased. More investment income is earned including green financing sector.

If total investment is increased, then the return on green financing is increased. So, there is a scope to invest more in green financing.

The above table shows that Investment income 0.977 BDT in Million and NIAT 0.232 is earned against total investment. The total investment was 0.981 BDT in Million from Total assets. Also all other independent variables mentioned in table have strong positive relationship with one another and the relationships are also significant with p-value 0.000 in each case at 5% level of significance. These bring a positive impact of green banking on profitability of the bank by utilizing the 8 dimensions discussed in section 2.

5.3 Findings of the study:

After completing the data analysis part, the findings of the study are discussed here. In this section, summary of findings from the data analysis section will be presented. For any kind of research work, it is essential to show its various findings in a short discussion.

Firstly, the study found that there is a positive impact of impact of green banking on profitability IFIC Bank Ltd. in different aspects like implementation of online, ATM, mobile, SMS, Green Financing, paper saving, green branch, power and energy save.

Secondly, the study found that the bank provides full security & confidentiality to customers' by through online banking. Customers ID and accounts are fully secured because their software is updated and it smoothly works with direction. The implementation of online banking reduces the complexity of traditional banking system (Table 4.1.3) which leads to positive impact on profitability of the Bank.

Thirdly, the study found that Green Banking avoids as much paper work as possible and rely on online/ electronic transactions for processing (Table 4.1.2). IFIC Bank Ltd. have reduced the use of paper through issuing e-transaction advices to their corporate customers, communicating through electronic media

Fourthly, the study has identified that mobile banking provides a solution to the problem of bringing financial services to the rural poor. The study found that customers can perform cash-in and cash-out activities through Mobile Banking for easy transaction, time save, cost saves. (Table 4.1.1, Table 4.2.1, Table 5.1.1). In this case, customers are benefited from this service which leads to increase the number of customers. By this green banking is implemented.

Fifthly, the study found that the ATM service of IFIC Bank is very good though the number of ATM booths is not sufficient at all. The Bank use 1075 shared ATMs Bank reduces 5% of consumption of energy & utility by implementing Green Banking activities. (Table 4.1.4, Table 4.2.1)

Sixthly, the study has identified that the interest rate of that loan in green projects is comparatively less with other loans because green banks give more importance to environmentally friendly factors - ecological gains. The Bank has given emphasis on introducing more green products which eco-friendly and socially acceptable.

Seventhly, it is cleared that Bank also involves creating awareness to banking business people about environmental and social responsibility enabling them to do an environmentally friendly business practice (Table 4.1.1, 4.1.2, 4.1.3, Table 4.2.1, Table 5.1.1)

Eighthly, by comparing investment income (Table 4.2.2) with total investment, it is clear that the year in which investment is higher, Return on Investment (ROI) is also higher in those years. It results high NIAT of Green Financing which proves that green banking implementation brings a positive impact on the profitability of IFIC Bank Ltd.

Ninthly, as per Bangladesh Bank Circular, IFIC Bank Ltd. has been set for 5% of total funded loan for achieving annual direct green finance target during the year 2015 i.e. Tk.750.00 million.

Finally, all the above findings analyzed prove that Green Banking Implementation has a direct influence on the profitability of a bank. If all factors of Green Banking are implemented properly, we can say that it brings a positive change on net income and overall profitability. By using updated software, strong IT Infrastructure, it helps the bank to reduce unnecessary costs of operating banking activities and the bank would become a Green Bank in full phase.

VI. Conclusion and Recommendations

The study reaches in a conclusion summing up the findings that helps one to realize the actual scenario of the study area and the gap of desired findings from the study. The Study is concerned with the green banking implementation and its impacts on the profitability of IFIC Bank Ltd. Green Banking indicates endorsing environment-friendly banking and financial products, services and practices with the ultimate objective of reducing carbon footprint and managing the environment in an intelligent and sustainable manner, while at the same time running the business profitably. There were some limitations regarding the scope of the study. This study is conducted to 5 years financial data but it would be fruitful if the data taken was more than 5 years (10 or 20 years). The study would be resourceful if the executives were selected from Head office instead of branch. In this case, future studies should examine a broad amount of data from different banks for a large number of years and compare the situation Green Banking Implementation to measure the impacts of it on profitability. Some recommendations in such perspective are:

Firstly, the bank should encourage their employees to prevent any wasteful use of natural resources and emission of greenhouse gasses.

Secondly, Bank should increase fund of green financing at low interest rate.

Thirdly, the study suggests that Bank can increase their profitability by reducing or recycling of waste generated and also by adopting green banking.

Fourthly, banks should do environmental impact assessment in which they design the environmental system to evaluate the risk involved before investing in different projects;

Fifthly, bank should also adopt environmentally sustainable technologies which minimizes risk, saves cost and enhance the bank's reputation.

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