

Factors behind the Adoption of Green Banking by Bangladeshi Commercial Banks

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Abstract

Green banking is the term used by banks to make them much more responsible to the environment. The term green banking means developing inclusive banking strategies which will ensure sustainable economic development. In this study, we have tried to explore the green banking activities of Bangladeshi commercial banks and to find out the reasons behind adopting green banking. We have selected employees as the possible sample of this study and have conducted probability stratified sampling technique. Each bank has been considered as one stratum and the ten commercial banks have been chosen to construct stratum. The total 300 respondents have been drawn probabilistically from ten commercial banks. Factor analysis then has been used to analyze the data and to draw the findings. From the factor analysis, it has been found that six factors namely economic factor, policy guideline, loan demand, stakeholder pressure, environmental interest, and legal factor are the major influencers. These six factors have combined variance of 65.25% of the decision regarding the adoption of green banking by the commercial banks to ensure sustainable economic development.

Keywords: WCED, Sustainable Economic Development, Environmental Risk Management, Internet Banking, SMS Banking, Phone Banking, ATM Banking, and Goodwill Banking

Introduction

Green environment is one of the most important issues in today's world where people from all over the world are raising their voice against environment pollution. Governments in all over the world are working on a balanced development where the country will be able to develop its economy without negative consequence on the environment. Government has developed different framework and strategies to find out the best possible solution in order to protect the country as well as the global environment. The recent RIO+20 summit organized by United Nations which was held in Brazil also focused on how to safeguard global economic growth without destroying the planet in the process. Bangladesh as a part of the global family is considered as the most vulnerable country and would be one of the most severely affected countries for the consequence of environment pollution. Bangladesh as a part of united nation is also working on its internal

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environmental pollution. The country has developed different legislations to be applied on different industries to minimize the damage on its environment. Green banking is one of the important legislations developed by Bangladesh Bank to be applied on Bangladesh financial sector. Bangladesh Bank issued policy guidelines for developing Green Banking practices and Environmental Risk Management and circulars to handle climate change. Green Banking is a Multi-stakeholders' Endeavour where banks have to work closely with government, NGOs, IFIs/IGOs, Central Bank, consumers and business communities to reach the goal. Green Initiatives by banks include internal environment management, environmental financing/ product ecology, environmental disclosure and reporting, formulating and adopting principles and promoting other stakeholders (<http://www.thefinancialexpress-bd.com>).

Being a responsible corporate citizen and with a view to developing green banking practices in the country, Bangladesh Bank issued a circular in February 27, 2011 on Policy Guidelines for Green Banking and stated that "to adopt a comprehensive Green banking policy in a formal and structured manner in line with the global norms so as to protect environment degradation and ensure sustainable banking practices". In line with the instructions of Bangladesh Bank, all banks have taken initiatives to formulate its Green banking policy with an aim to inculcate practices towards optimum usage of natural resources and make every effort for environmental friendly activities.

One of the major factors of the implementation of green banking by the Bangladeshi banks is the pressure from Bangladesh Bank. As a powerful stakeholder, Bangladesh Bank is pushing hard to the commercial banks for the implementation of this green banking. Financial benefit is another reason that works as a motivating variable for the proper utilization of green banking. There are studies showing positive correlation between environmental performance and financial performance (Blacconiere 1993; Hamilton 1995; Hart 1995; Pattern 1993). Thus, it is imperative for the financial institutions in the present context to consider environmental performance in deciding whether to invest in companies or advise clients to do so.

Commercial banks also think about the environment and its responsibility to the protection of the environment and also the consequences of the failure to perform the duty regarding environmental protection. As a result, commercial banks consider that the green banking can help to perform its responsibilities toward the environment. The formation of different rules for environmental management like resource conservation, clean water act, clean air act and toxic substance control act are also viewed as potentially significant contributor to the recent increase in environmental liability for banking institutions.

Failure to fulfill the responsibility for the environment will also reduce the image of the banks which will be costly to repair as today's customers are very much concerned about the environment and these customers want visible attempt from the banks regarding environmental protection.

These factors are considered as the important factors that may prompt commercial banks to adopt green banking. Through this study, we will try to find out the extent of significance of these factors and also the sub factors under each factor.

Literature Review

Now a day we hear words like sustainable development, green economy, green marketing, and also the word like green banking. The word green banking has been conceptualized to implement the broader concept like sustainable development. According to World Commission on Environment and Development (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, Rees, and Gareth 1998). *In order to ensure sustainable development, world environmentalist groups consider that green banking would be one of the valuable arms. As a result, today's environmental stakeholders are pushing financial community to strictly implement green banking policy which they consider will help to protect the environment.* "Green banking is generally defined 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" (Schmidheiny and Zorraquin 1996). 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 (Nigamananda Biswas, 2011).

The factors like customer demand and environmental awareness are also influencing Bangladeshi Banks to adopt more environmentally friendly business policies. However, the effect of green banking on variables such as image has not yet been examined. Chang and Fong (2010) do in fact examine the notion of GBI, but only as a driver of satisfaction and loyalty, not as a result of green banking activities. According to their survey on consumers who had the experience of purchasing green or environmental products in Taiwan, a green corporate image exerts a positive effect on green customer satisfaction and green customer loyalty. On the other hand, Chen (2010) suggests that companies develop green banking in order to comply with environmental pressures, obtain competitive advantages, improve corporate image, seek new market opportunities and enhance their product value. However, Chen (2010) does not actually test the relationship between green banking and green image. Moreover, his study is not related to the banking sector but to information technology products.

Hartmann; Ibáñez; and Sainz (2005) relate green banking to green image by testing the green branding effects on attitudes towards the brand. They support that a well-implemented green positioning strategy can lead to more favorable perceptions of the brand, indicating a positive relationship between green marketing and green image. However, their research is limited to an experimental online setting.

Bangladesh Bank has undertaken different steps to make green banking a reality. "Bangladesh Bank has launched the Tk 2.0 billion Green Banking Refinance Scheme in August 3, 2009 to fund renewable energy projects in the country that has been reeling under chronic power cut" (www.thefinancialexpress-bd.com). According to Bangladesh Bank, "People are not aware of our green financing fund. They even do not know from where it is available. This is mainly responsible for the poor disbursement," (www.thefinancialexpress-bd.com).

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).

Despite the factors like customer demand and environmental awareness, there are some other factors that influence banks to implement green banking. Cost saving is one of the important benefits of green banking (Heim and Zenklusen 2005). In few cases the environmental management system resulted in lower risk, greater environmental stewardship and increase in operating profit (Jeucken, 2001). In future, market will reward those industries or the companies, which emerge as the efficient users of the energy and raw materials and will penalize the less efficient one. Further, the investors in the stock market are equally aware of environmental pollution and would take a stand against those industries/institutions that do not comply with pollution norms (Gupta, 2003; Goldar, 2007). According to Nigamananda (2011) “Some other benefits of green banking are: It will rationalize the paper use by giving free access to do all the banking transactions through Internet Banking, SMS Banking, Phone Banking and ATM Banking. Free Electronic Bill Payment Services and E-Remit services for remitting funds to the customers' home country. This is a unique service.

According to Bangladesh Bank, “Implementing green banking policy will generate 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 Green bank policy guideline).

Different commercial banks of Bangladesh have carried out different projects under green banking scheme. One such project is Brac Bank SME loan to Solaric, a local solar manufacturing company which has been producing almost all solar components in the country taking SME loan from the BRAC Bank. The Bank has opted for green energy to run its offices for small and medium enterprises (SME), the bank officials said. It has already installed solar panels in 22 SME Unit Offices across the country. (www.thefinancialexpress-bd.com). Banks like Social Islami Bank Limited (SIBL), Islami Bank Bangladesh Limited (IBBL), Mutual Trust Bank Limited (MTBL), Export Import Bank of Bangladesh (EXIM Bank), Brac Bank etc have adopted the paperless banking policy under the scheme of Green Banking policy as per the direction of Bangladesh Bank. Rajshahi Krishi Unnayan Bank (RAKUB) has adopted green banking scheme and has also decided that it will not invest in the factories polluting natural environment through emitting black smoke, ash and harmful sound. On the contrary, the bank will encourage more production and marketing of bio-fertilizer, biogas and solar panel (www.thefinancialexpress-bd.com).

The banking sector has a significant impact on biodiversity, particularly as it provides financial support to high impact sectors such as forestry, mining, oil and gas, fisheries, water delivery and infrastructure or sectors that are using genetic resources such as biotechnology, pharmaceuticals, agriculture, etc. By incorporating sustainability issues into their lending decisions, these banks can both develop profitable lines of business and help build a cleaner and greener future.

As green banking is gaining momentum in Bangladesh, the aim of this study is to reveal the reasons of adopting green banking strategy by a Bangladeshi banks. Researches in Bangladesh on green banking focus on the scope and the benefits of green banking. In this research, we shall try to reveal what bankers think about green banking. Why more and more banks are adopting green banking policy. Either it is because of the pressure from various stakeholders or to increase the revenue or to protect the environment or to improve the bank image. The answers would be searched through this study.

Rationale of the study

Green banking is considered as one of the tools of ensuring sustainable development where economic activity will not have any negative impact on the environment. Our country is one of the adversely effected countries in the world because of the world carbon dioxide emission. In spite of global economic activity our own business activity is also creating environmental pollution. Green banking as already discussed is considered as a very important tool to protect our environment from our own business activity. Through this study we will try to find out what bankers are thinking about this. What kinds of forces are influencing them to take and to implement green banking strategy? The findings will help the policy makers of Bangladesh Government and Bangladesh Bank to adjust their approach to the banks of Bangladesh.

Objective of the study

We have carried out this study to find out some key issues about green banking of Bangladesh. As a result we have developed some objectives of this study.

Core Objective

The core objective of this study is to find out what factor or factors influence bankers to adopt green banking.

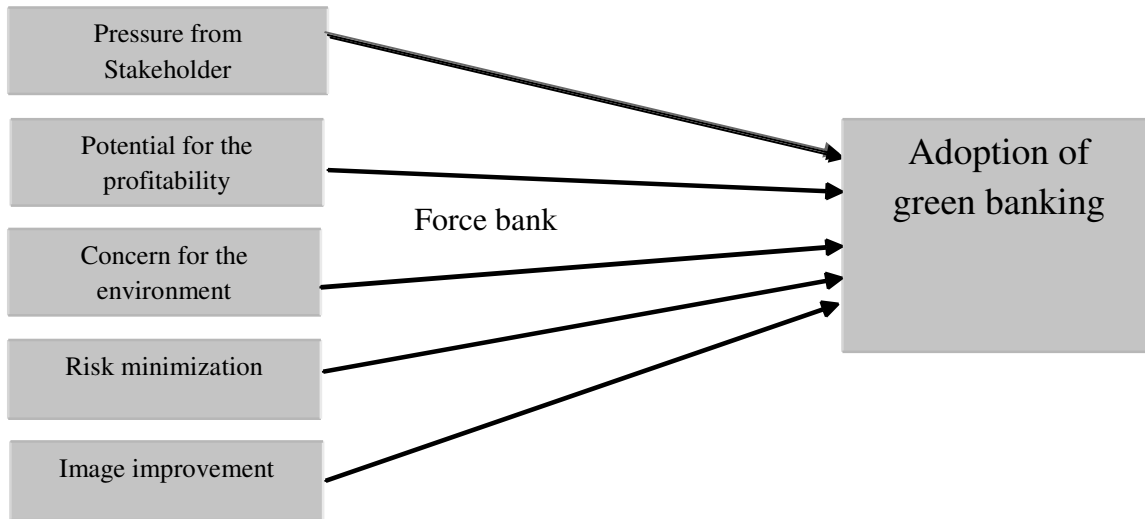
Specific objectives

Some specific objectives of this study are:

1. The role of stakeholders in influencing bankers to implement the different aspects of green banking.
2. The role of profit potential in adopting green banking strategy.
3. The role of improving brand image through adopting green banking strategy.
4. The concern of environment that influences bankers to adopt green banking.

Model of the study

This study will be conducted on the basis of a graphical model which will show the interconnections of green banking among some variables that were identified through literature review.



Methodology of the study

This research is descriptive in nature as the data is quantitative in nature. Questionnaire has been used to collect the data and it has been structured in nature. Personal interviewing method then has been used to collect the data.

In this study, Likert scaling technique has been used to code data. In this likert scaling technique, 5 response categories have been used ranging from 1(minimum) to 5 (maximum). The label of these 5 response categories are like 1= strongly disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly agree.

The target population of this research work is defined as follows:

Element: All the male and female who do job in bank as officer or the upper level position.

Sampling unit: Individual employee

Extent: Branches of the banks in Dhaka City

Employee designation is the identification number of sampling unit and it is used as sampling frame. Probability stratified sampling technique has been used to conduct the survey. We have considered each bank as one stratum. We have also chosen 10 strata as ten commercial banks have been chosen for sampling purpose. We have considered the green banking activities of the banks of Bangladesh as criteria to be included into stratum and have chosen those banks that have significant green banking activities. The selection of stratum has been based on the secondary data. We have then selected samples from each stratum by using simple random sampling

procedure. The total of 300 samples were chosen for the data collection purpose. We picked 30 samples from each stratum.

As the objective of this study is to find out the factor or factors that influence banks to undertake green banking activities, factor analysis comes as the first analysis tool. Factor analysis has been used to find out the answers to all the questions that we have generated. Through careful secondary data analysis like literature, newspaper, we have been able to pinpoint some initial variables that have been considered as an influential element that force banks to undertake green banking strategy. These variables have been initially mentioned in literature review part.

Analysis

By conducting factor analysis, we have tried to identify the factors behind adopting green banking policy. The first step in this analysis has been to measure the appropriateness of factor analysis and the following results here have been produced to make the decision.

Hypothesis testing

$H_0: R^2_{pop}=0$ The variables are uncorrelated in the population.

$H_1: R^2_{pop} \neq 0$ The variables are correlated in the population.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.656
Bartlett's Test of Sphericity	Approx. Chi-Square
	361.122
	df
	153
	Sig.
	.000

Hypothesis can be tested through Bartlett's Test of Sphericity. So the above significant value of Bartlett's Test of Sphericity rejects the null hypothesis. A high value of chi square leads a .000 significant value which ultimately rejects null hypothesis. As a result it can be said that factor analysis is an appropriate technique where all the variables are correlated in the population.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy is another important method to determine the appropriateness of factor analysis. A value greater than 0.5 indicates that correlation between pairs of variables can be explained. Here the result is .666 which is positive and is a sign of the appropriateness of factor analysis.

Table 2: Correlation matrix

	V 1	V 2	V 3	V 4	V 5	V 6	V 7	V 8	V 9	V 10	V 11	V 12	V 13	V 14	V 15	V 16	V 17	V 18
V 1	1.0																	
V 2	.24	1.00																
V 3	.11	.239	1.00															
V 4	.29	.366	.463	1.00														
V 5	-.00	.077	-.131	.000	1.00													
V 6	.04	.119	.093	-.056	.487	1.00												
V 7	-.13	.026	.023	-.114	.119	.175	1.00											
V 8	-.02	.111	.219	.036	.094	.080	-.056	1.00										
V 9	.09	-.036	.356	.257	-.171	.004	.094	.187	1.00									
V 10	.31	.342	-.034	.252	.389	.299	.204	-.120	-.064	1.0								
V 11	.15	.400	.187	.171	-.324	.029	.048	.168	.109	-.123	1.00							
V 12	.17	.408	-.040	.012	.020	.126	.150	.154	-.064	.047	.298	1.000						
V 13	.06	.121	.409	.056	-.121	.146	.076	.387	.200	-.281	.204	.198	1.000					
V 14	.03	.116	.249	.154	-.048	.084	.045	.462	.307	-.079	.379	.138	.336	1.00				
V 15	.20	.024	.174	.029	-.103	.125	-.104	.145	.149	.141	-.07	-.009	.164	.176	1.00			
V 16	.13	.107	.352	.196	.074	.171	.186	.279	.281	-.027	.261	.096	.250	.367	.011	1.00		
V 17	.10	.097	.433	.240	-.076	-.007	-.092	.335	.334	-.211	.144	.039	.538	.336	.031	.386	1.00	
V 18	.22	.146	.339	.432	.031	.119	-.109	.168	.327	-.079	.208	.059	.262	.391	-.010	.362	.428	1.00

Correlation matrix provides an idea about the relationship among the variables. It also gives an initial idea about the set of factors the can be generalized.

Relationship set

There is a high correlationship among V2 (Consumer pressure), V 11 (Collecting Green Banking Fund from CB), and V 12 (High Demand for Green Banking Loan).

There is a strong correlationship among V 3 (Bangladesh Bank Instructions), V 4 (Policy Support to Clients), V 9 (Employee Productivity), V 13 (Paperless Banking to Reduce Transaction Cost), V 16 (Higher Operating Profit), V 17 (Country Energy Efficiency) and V 18 (Global Warming).

There is a strong correlationship among V 5 (Pressure from Environmentalist Group), V 6 (Pressure from International organization), and V 10 (High Interest Rates for Green Banking Loan).

There is a strong correlationship between V 8 (Improving Brand Image) and V 14 (Reduced Utility Cost under GB).

Table 3: Communalities

	Initial	Extraction
Civil Society Encouragement	1.000	.526
Consumer Pressures	1.000	.691
Bangladesh Bank Instructions	1.000	.559
Policy Support to Clients	1.000	.735
Pressure from Environmentalist Group	1.000	.851
Pressure from International organization	1.000	.614
Avoiding Clients related Legal Problems	1.000	.824
Improving Brand Image	1.000	.573
Employee Productivity	1.000	.595
High Interest Rates for Green Banking Loan	1.000	.776
Collecting Green Banking Fund from CB	1.000	.680
High Demand for Green Banking Loan	1.000	.632
Paperless Banking to Reduce Transaction Cost	1.000	.587
Reduced Utility Cost Under GB	1.000	.500
Lower Credit Risk of Green Banking Loan	1.000	.846
Higher Operating Profit	1.000	.526
Country Energy Efficiency	1.000	.617
Global Warming	1.000	.615

The initial value for each variable under communalities table is 1 as the unities were inserted in the diagonal of the correlation matrix. The next column gives the data of the extracted values of each variable. The extracted values are less than the initial value because all the 18 factors will not be retained and this will be explained later in the analysis.

Table 4: Initial eigenvalue

Component	Total	% of Variance	Cumulative %
1	3.911	21.730	21.730
2	2.214	12.302	34.031
3	1.684	9.355	43.386
4	1.576	8.755	52.141
5	1.244	6.913	59.054
6	1.115	6.196	65.250
7	.935	5.194	70.444
8	.850	4.720	75.165
9	.747	4.147	79.312
10	.664	3.691	83.003
11	.553	3.070	86.073
12	.540	3.001	89.074
13	.460	2.558	91.632
14	.367	2.036	93.668
15	.330	1.834	95.503
16	.319	1.771	97.274
17	.282	1.569	98.842
18	.208	1.158	100.000

The table initial eigenvalue shows the value of eigenvalue. The eigenvalue for a factor explains the power of variance. The eigenvalue of component 1 is 3.911 which have 21.73% variance power. The total 18 components have 100% variance power. As a result, component one has 21.730% of the variance of the adoption of green banking policy and component two has 12.302% of the variance and so on.

Table 5: Extraction Sums of Squared Loadings

Component	Total	% of Variance	Cumulative %
1	3.911	21.730	21.730
2	2.214	12.302	34.031
3	1.684	9.355	43.386
4	1.576	8.755	52.141
5	1.244	6.913	59.054
6	1.115	6.196	65.250

Extraction sums of squared loadings show those variables that are retained. Here 6 components are retained which have total 66.250% of the total variance. Here those components are retained whose eigenvalue is more than one.

Determination of the number of the factors

One very important question of factor analysis is how many variables are to be extracted. There are several theoretical instructions about the extraction of the factors. Here in this study, we are extracting 6 factors and our decision is based on the following grounds:

1. We are extracting those factors whose eigenvalue is more than 1 and 6 factors have that score.
2. The cumulative variance of six factors is 65.25% which is satisfactory and that's why we are extracting six factors.
3. Scree plot also gives an idea about the number of factors to be extracted. The following scree plot also shows the number of factors to be extracted.

Figure 1: Scree plot

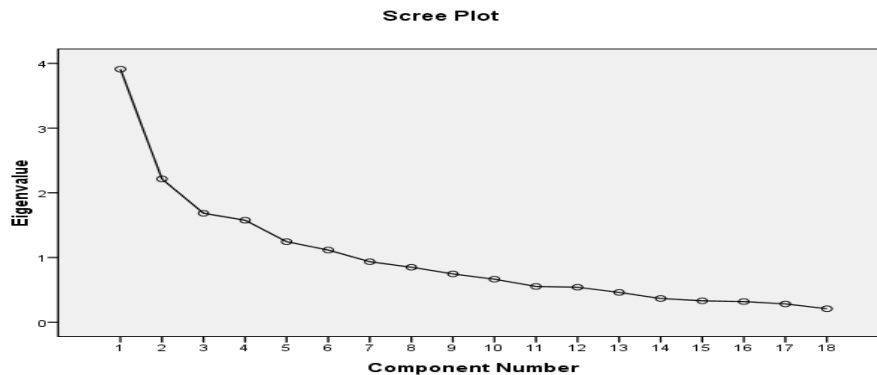


Table 6: Factor matrix

	Component					
	1	2	3	4	5	6
Civil Society Encouragement	.292	.392	-.460	.049	.271	.005
Consumer Pressures	.383	.539	-.274	-.411	.013	-.098
Bangladesh Bank Instructions	-.036	.668	-.134	.246	-.074	.162
Policy Support to Clients	.270	.497	-.542	.242	-.236	-.077
Pressure from Environmentalist Group	-.110	.314	.468	.608	-.094	-.377
Pressure from International organization	.157	.148	.510	.547	.088	-.033
Avoiding Clients related Legal Problems	.016	.253	.437	-.166	-.381	.629
Improving Brand Image	.517	-.111	.387	-.064	.302	-.220
Employee Productivity	.517	-.184	-.043	.323	-.122	.415
High Interest Rates for Green Banking Loan	-.076	-.125	.826	.194	.045	.184
Collecting Green Banking Fund from CB	-.167	-.005	.489	-.624	-.121	.096
High Demand for Green Banking Loan	.251	.316	.088	-.663	.136	-.061
Paperless Banking to Reduce Transaction Cost	.624	-.224	.289	-.103	.229	-.028
Reduced Utility Cost Under GB	.649	-.093	.224	-.092	.098	.038
Lower Credit Risk of Green Banking Loan	.195	.778	-.049	.254	.070	.362
Higher Operating Profit	.609	.063	.238	.073	-.285	.089
Country Energy Efficiency	-.045	-.257	.074	.163	.685	-.218
Global Warming	-.028	.014	-.118	.219	.647	-.279

This factor matrix is an unrotated factor matrix which shows the relationship between the factors and the individual relationships. One major problem of this unrotated factor matrix is that one variable is sometimes related to several factors which create interpretation problem. Here civil society encouragement is associated with factor 2 and three and policy supports to clients is associated with factor 1 and 3. In order to solve this problem, rotated factor matrix is important because it will solve the problem.

Table 7: Rotated factor matrix

	Component					
	1	2	3	4	5	6
Civil Society Encouragement	-.114	.430	.359	.073	.385	-.215
Consumer Pressures	-.020	.270	.150	.767	.068	-.049
Bangladesh Bank Instructions	.339	.620	.003	-.084	.171	.153
Policy Support to Clients	-.103	.816	.203	.017	.051	-.121
Pressure from Environmentalist Group	-.031	-.022	-.075	.904	-.154	-.054
Pressure from International organization	.195	-.028	.084	.715	.120	.206
Avoiding Clients related Legal Problems	-.056	-.094	.095	.158	-.075	.879
Improving Brand Image	.728	-.017	.093	.142	.077	-.091
Employee Productivity	.508	.270	-.214	-.195	.207	.371
High Interest Rates for Green Banking Loan	-.455	.207	.565	.243	.355	.145
Collecting Green Banking Fund from CB	.254	.158	.659	-.335	-.118	.175
High Demand for Green Banking Loan	.204	-.181	.740	.075	-.009	.061
Paperless Banking to Reduce Transaction Cost	.741	.090	.107	-.066	.108	.056
Reduced Utility Cost Under GB	.629	.211	.172	-.019	.081	.152
Lower Credit Risk of Green Banking Loan	-.027	.893	-.073	.005	.202	-.034
Higher Operating Profit	.428	.421	.077	.139	-.132	.349
Country Energy Efficiency	-.090	.450	-.055	-.059	.625	-.096
Global Warming	.356	.170	.057	.084	.659	-.124

From the above rotated factor matrix, it will be possible to interpret the extracted factors with the percentage of variance explained and also the variables to be included in each factor.

Table 8: Factor labeling

Factor	Factor importance (% variance explained)	Loading	Variables included in the factor
F 1	Economic factor (21.730%)	.728	Improving Brand Image
		.508	Employee Productivity
		.741	Paperless Banking to Reduce Transaction Cost
		.629	Reduced Utility Cost Under GB
		.428	Higher Operating Profit
F 2	Policy Guideline (12.302%)	.430	Civil Society Encouragement
		.620	Bangladesh Bank Instructions
		.816	Policy Support to Clients
		.893	Lower Credit Risk of Green Banking Loan
F 3	Loan Demand (9.355%)	.565	High Interest Rates for Green Banking Loan
		.659	Collecting Green Banking Fund from CB
		.740	High Demand for Green Banking Loan
F 4	Stakeholder Pressure (8.755%)	.767	Consumer Pressures
		.904	Pressure from Environmentalist Group
		.715	Pressure from International organization
F 5	Environmental Interest (6.913%)	.625	Country Energy Efficiency
		.659	Global Warming
F 6	Legal Factor (6.196%)	.879	Avoiding Clients related Legal Problems

Findings

At the very beginning, hypothesis testing is used to identify the existence of relationship between the variables and the population. The analysis suggests that the relationship exists between these two groups. Appropriateness of factor analysis is measured through Kaiser-Meyer-Olkin test and the result indicates that factor analysis is the perfect method of analyzing the data. Initial eigenvalue shows the power of individual component. Among 18 components, 6 components are retained on the basis of eigenvalue. These six components have total 65% of variance. As a result it can be summarized that these six components have 65% influential power in adopting green banking by commercial banks. The total eighteen variables are extracted into six factors and these six factors are labeled as follows: Economic factor, policy guideline, loan demand, stakeholder pressure, environmental interest and legal factor.

Finally it can be said these six factors make the main reasons behind adopting green banking by Bangladeshi commercial banks. Banks are adopting green banking policy because it thinks avoiding green banking will not only create some legal problems from various stakeholders but it will also be economically wrong. Commercial banks also understand adopting green banking will improve its brand image to its market and especially among the environmentally conscious citizens. Banks are also adopting green banking to generate money, avoiding legal pressure, satisfying various stakeholders and also to protect the brand value.

Suggestions

Banks in Bangladesh are continuously working on green banking policy to make themselves more responsible corporate citizen. This study reveals that the banks are pursuing green banking because of some multifaceted factors. The banks think that green banking is not going to erode its profitability rather it will help the bank to reduce its operating cost and also help to find some non-traditional sources of lending. As the consumers are becoming more concerned about the environment and they are realizing that banks can play a major role by stop investing in environmentally hazardous projects, inaction from the side of banks may deteriorate its brand value. The banks understand these things and that's why our finding tells the same story. This study reveals the above findings and the following suggestions are given to Bangladesh Bank:

- Bangladesh Bank should focus on all the key benefits of green banking to the commercial banks in order to fully implement green banking.
- Bangladesh bank should explain the economic benefits of green banking to the commercial banks in details.
- It should also remind the responsibility of all the commercial banks to protect the environment and explain how various measures under green banking can help protect the environment.
- It should also remind the legitimate power it has as a stakeholder of the banking sector and should apply as the last resort to enforce green banking completely.

- Commercial banks should promote its green banking activities to attract environment conscious customers and also to aware stakeholders that it is fully committed to the environment of the country.
- Commercial banks should make all the steps to make all the branches as Green branches by establishing solar panel, fully fledged internet and paperless banking etc.
- Employees should be properly trained about green banking in terms of green banking loan, internal green environment etc.
- It should develop green fund portfolio for the environmentally friendly projects with a lower interest rate.
- High demand and high interest rates are the two important characteristics of green banking loan. So banks should develop proper plan to capture this market.
- Commercial banks should have close monitoring on the projects operated under green funding to ensure commercial viability as these kinds of projects have a significant failure rate.
- Different stakeholders like environmentalist group, civil society and Bangladesh bank are putting pressure on commercial banks for green banking and banks should properly address their concerns through multiple actions as explained earlier.
- Finally the commercial banks may be held responsible in future for the pollution by its own clients as these banks provide the loan to these clients and banks should think twice before investing in environmentally harmful projects.

Conclusion

Bangladesh is one of the severely affected countries of global environmental pollution. In order to protect our future generation, we need to create pressure on global community to reduce global carbon dioxide emission. On the other hand, we will have to take strong stance against our internal polluters. As banks indirectly contribute to environmental pollution through investing in different pollutant industries, we will have to take steps against all the wrong doing. Bangladesh Bank which has the legal power to shape the behavior of the banks, it will have to force all the banks to implement green banking policy to curb its own environmental pollution, giving loans to environmentally friendly projects and reducing investment in environmentally harmful projects. This green banking can play a significant role in implementing the broader concept like sustainable economic development.

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