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Green Banking Practices and Environmental Performance: How Environmental Awareness and CSR Commitment Shape Bank Sustainability in Bangladesh

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Abstract

The aim of this study is to examine the effects of Green Banking Practices (GBP) and their impacts on Environmental Awareness (EA) and Corporate Social Responsibility (CSR) Commitment, which in turn affects Environmental Performance (EP). Moreover, it explores the mediation effects of EA and CSR Commitment on GBP and EP. Through purposive sampling, 230 data were collected from banking employees of private commercial banks in Bangladesh using a quantitative research design. Initial data analysis was conducted using SPSS 26, and core analysis using Partial Least Squares Structural Equation Modelling. The results show significant associations among GBP, EA, CSR and EP; with EA and CSR have good predictive ability for EP. The findings also show mediation effects of EA and CSR in the relationship between GBP and EP. The findings of this study have both theoretical and managerial implications that could be useful for top management, policy makers and researchers willing to improve EP in emerging economies.

Keywords: Green Banking Practices; Environmental Awareness; Corporate Social Responsibility Commitment; Environmental Performance; Bangladesh.
JEL Classification: G2, M14, L2, N25

1 Introduction

In the past few years, the banking sector in Bangladesh has experienced a high level of modernization and growth (Islam and Mia, 2024). Private Commercial Banks (PCBs) have made the most significant contribution to the economic development of the country among all other types of banks. According to Miah et al. (2018), there were total of sixty scheduled banks functioning in Bangladesh in the year 2023, a large part was covered by PCBs in financial market. Additionally, the total assets of PCBs shared around 60% of the total banking sector assets, whereas their portion in the overall lending portfolio was approximately 50% (Bangladesh Bank, 2024). Further, PCBs also have an imperative role to play in driving financial inclusion by providing the broad range of services and products to different strata of society.

The banking industry has experienced economic expansion, though this expansion has resulted in adverse environmental impacts of its operations. Due to this, there has been an increasing importance of Green Banking Practices (GBP) which emerged as a major strategy in dealing with environmental problems (Zhixia et al., 2018). Additionally, GBP falls under an umbrella of emergent sustainable banking practices that attempts to lessen the environmental impact associated with a bank's functions (Siddik et al., 2024). These practices, in turn, have become very important for the improvement of the environmental

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performance (EP) of banks, such as financing green projects, reduce energy consumption, and paperless banking.

In spite of high interest and awareness regarding green issues in the Bangladesh private banking sector, the practices of banks towards green banking are still inconsistent. Some banks demonstrated significant progress towards embedding environmental sustainability in their operations; others are still behind. Furthermore, the links between GBP, Environmental Awareness (EA), and Corporate Social Responsibility (CSR) Commitment in relation to banking environmental performance (EP) have rarely been investigated. In this regard, some studies have investigated green banking and sustainability; however there has been too little attention toward how EA and CSR Commitment play a mediating role between GBP with the EP of PCBs. Moreover, the real influence of these practices on EP of banks in Bangladesh is also limited. Therefore, it is imperative to investigate how GBP affect EA and CSR commitment of bank employees, which leads to banks overall EP as this will likely fill the literature gap.

There were many reasons why this study was deemed significant. Initially, the PCBs in Bangladesh have become a dominant force in the financial sector and are actively influencing economic growth. Therefore, as environmental pressures grow across the world there is an immense need to know how exactly these banks are adapting GBP in their operational structure which eventually affects their sustainability in the years to come. According to the Green Banking Guidelines of Bangladesh Bank, upto 2023, only 20% PCBs have full implementation status on green banking, and all other remaining banks are going through gradual adoption process. This underscores the need for a better understanding of the internal factors that motivate PCBs to implement GBP. Secondly, environmental performance is still a critical issue regarding sustainability in the sector of financial services. While banks have widely adopted green banking initiatives, the overall effectiveness and influence of these practices on environmental outcomes remain largely unexplored. The environmental performance index of PCBs has continued to show a slight improvement, however there is huge room for further improvement specially in waste management, energy efficiency, and GBP (Bangladesh Bank, 2024).

Although GBP has attracted attention recently, there is a gap on how exactly GBP work to affect the environmental performance of the banks in Bangladesh. While past researchers have investigated the effect of GBP on operational and financial performance directly, little study has supported by empirical evidence to examine the mediation effect of EA and CSR commitment between GBP and banks' EP.

The aims of this research are:

i. To examine the effect of GBP on EA amongst employees working in PCBs.

ii. To investigate the effect of GBP on CSR Commitment amongst employees working in PCBs.

iii. To explore the effect of EA on EP amongst employees working in PCBs.

iv. To assess the effect of CSR Commitment on EP amongst employees working in PCBs.

v. To examine the mediating effect of EA between GBP and EP.

vi. To investigate the mediating effect of CSR Commitment between GBP and EP.

The rest of this paper is structured in the following way. Section 1 states the problem statement, the context of studying, and the research objectives. Section 2 presents the literature review on the topic of green banking, corporate social responsibility, environmental awareness, and environmental performance.

Section 3 provides the methodology of the research. The data analysis and the empirical findings are reported in Section 4. The main findings and implications are discussed in Section 5. Lastly, Section 6 presents the conclusion, key findings, and suggestions on the need to improve the environmental performance of Bangladesh's private commercial banks.

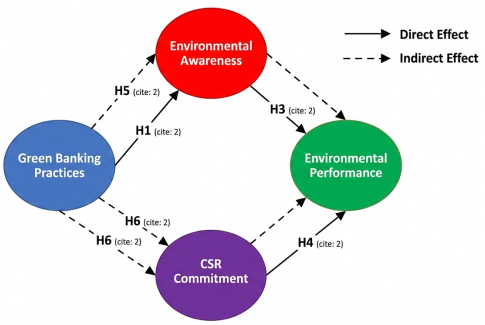

Figure 1: Theoretical Framework

2 Literature Review

2.1 Green Banking Practices and Environmental Awareness in the Banking Sector

Green Banking Practices (GBP) is positively associated with Environmental Awareness (EA) as adoption of GBP often requires increased commitment and understanding towards environmental issues from the banking professionals. In addition, Khan et al. (2024) reported that green practices as used by banks, such as energy efficiency, paperless banking, and sustainable investments lead to environmental consciousness. In order to create sustainability-oriented banks, employees need to have a serious awareness of environmental issues and keep their values aligned with organizational motives (Zhixia et al., 2018). Furthermore, studies by Belgacem and Ejaz (2025) proved that the incorporation of green banking principles within banks contributes to enhanced environmental knowledge position amongst staffs which increases their environmental awareness. The execution of GBP is, therefore, a crucial factor in the increase of EA, thereby fostering a positive linkage between these two constructs.

2.2 Green Banking Practices and Corporate Social Responsibility Commitment in the Banking Sector

Green Banking Practices (GBP) have a direct positive relationship with Corporate Social Responsibility (CSR) Commitment because they both share same goal of environmental stewardship and promoting sustainability. According to Gazi et al. (2024), GBP adoption is mainly due to banks' CSR approach aligned with its environmental performance. Green Banking plans including subsidies to reduce carbon footprints and funds for eco-friendly projects resemble the larger CSR aims at environmental and social improvements (Gazi et al., 2025). It is also argued by Gidage and Bhide (2025) that banks who take part in GBP are more inclined to bond strongly with commitments of CSR as they believe on eco-friendliness important part of their responsibility as a corporate citizen. Likewise, since GBP highlights environmental protection, it often results in a more holistic approach to CSR; which ultimately leads banks to improve their social engagement and corporate reputation (Siddik et al., 2024). Therefore, the application of GBP helps to develop, and strengthen CSR commitment among the private banking organizations.

2.3 Environmental Awareness and Environmental Performance in the Banking Sector

Environmental Awareness (EA) has positive impact on banks' Environmental Performance (EP), as awareness of environmental issues increase the likelihood of banking firms adopting more sustainable practices. Relatedly, the argument by Khan et al. (2024) is that employees with more EA will tend to exercise environmentally responsive behaviors expected

to foster the overall EP of the banks. In line with this, Miah et al. (2018) posited that employees that are environmentally aware and possess environmental knowledge plays a significant role in promoting green initiatives aimed to improve waste management, reduce energy consumption, and ultimately enhance the banks' EP. This creates an environmental culture within the organization that triggers actions to enhance operational performance, increased efficiency and reduce ecological impact (Belgacem and Ejaz, 2025). Such alignment of individual and organizational values towards environmentally sustainable practices, therefore yields a positive impact of EA on EP.

2.4 Corporate Social Responsibility Commitment and Environmental Performance in the Banking Sector

Corporate Social Responsibility (CSR) Commitment is positively associated with Environmental Performance (EP) in banks, because commitment to CSR often leads organizations to incorporate environmental sustainability in their work processes. Referring to a study done by Islam et al. (2023), the banks that had excellent strategies of CSR were found to develop favorable environmental attitude, implying great responsibility towards the environment. Additionally, CSR measures, like adopting green policies, lowering carbon emissions, and making investments in environmental-friendly projects are directly related to a better EP. In accordance with Gonenc and Scholtens (2019), banks that are more committed to CSR are more likely as well as better equipped to adopt environmentally friendly technologies and methods with the end of reducing their environmental impact. Therefore, CSR commitment ensures the proactiveness of the bank towards sustainability based on which it shapes their future business actions in order to meet global environmental goals (Abbas et al., 2025) and also helps to improve the banks reputation relatively as an environmentally responsible organization.

2.5 Mediation of Environmental Awareness

The influence of Green Banking Practices (GBP) on banks' Environmental Performance (EP) is mediated by the extent of Environmental Awareness (EA) among employees, because a higher level of EA strengthens the efficacy of GBP in fostering environmental results. The studies of Belgacem and Ejaz (2025) proposed that if employees are more environmentally aware then they can be the best implementers and advocators of GBP which eventually helps in enhancement EP. In addition, the research performed by Khan et al. (2024) contended that GBP namely eco-friendly initiatives and energy efficiency may introduce a more environmentally conscious culture to bank personnel. This awareness in turn motivates behaviors that have a direct positive impact on environmental performance (Miah et al., 2018), thus providing theoretical support for the proposition that EA mediates the effect of GBP on EP. Therefore, EA support the green practices acceptance and execution contributing for a higher impact on EP through GBP adoption.

2.6 Mediation of Corporate Social Responsibility Commitment

Corporate Social Responsibility (CSR) Commitment mediates the correlation between Green Banking Practices (GBP), and banks Environmental Performance (EP) as they usually include environmental sustainability in their CSR initiatives. Supporting this view, Gazi et al. (2024) argued that banks are increasingly adopting CSR policies to ensure their environmental aspirations by integrating them into their strategies, which is consistent with GBP namely waste management, eco-friendly investments, and energy saving. Over time, this leads to CSR commitment, which

reinforces these green banking implementations and achieves long-term sustainability in promoting a sense of responsibility (Gonenc and Scholtens, 2019). Correspondingly, Islam et al. (2023) in their findings highlighted that CSR-driven initiatives, in the form of greener technologies and promoting environmentally friendly practices, will lead to enhanced EP. These findings indicate that CSR commitment helps to operationalize GBP which in turn leads to EP, elucidating how GBP impacts on EP through the mediating role of CSR.

3 Hypotheses Development

H1: Green Banking Practices (GBP) will be positively related to Environmental Awareness (EA).

H2: GBP will be positively related to Corporate Social Responsibility (CSR) commitment.

H3: EA will be positively related to Environmental Performance (EP).

H4: CSR commitment will be positively related to EP.

H5: EA will play a positive mediation role in the relationship between GBP and EP.

H6: CSR commitment will play a positive mediation role in the relationship between GBP and EP.

4 Methods

4.1 Population and Sampling

In this study, the banking employees in the private commercial banks (PCBs) of Bangladesh were the target group because they have first-hand experience of the application of Green Banking Practices (GBP), Corporate Social Responsibility (CSR) commitment, Environmental Awareness (EA) and Environmental Performance (EP). The purposive sampling method, which is a type of non-probability sampling, was used to make sure that the respondents possessed the necessary knowledge and participation in green banking programs. Even though purposive sampling can give rise to researcher bias because of subjective choices of participants and may lead to questions of representativeness, these limitations were overcome by using well-defined selection criteria and targeting employees with first-hand experience of or acquainted with green banking operations. The researcher also minimized bias by administering a standardized questionnaire that had operationalized constructs and ensuring that respondents had equal data collection procedures. All these steps, along with strict data screening and reliability verification, contributed to the validity and credibility of the findings of the study. This methodology was used to ensure that the data were collected by people who are best able to offer informed and relevant data to establish the effect of GBP on the environmental performance of PCBs in Bangladesh.

The G*Power formula, widely used in the social science field, was employed to calculate the sample size. A minimum of 88 is set as sample size based on effect size 0.05, power 0.90 and one tailed paths to endogenous constructs. This ensures that we have the full power to discover significant relationships in GBP, EA, CSR Commitment, and EP. Likewise, Hair et al. (2017) propose the 10 times rule for PLS-SEM to enhance representativeness, reduce sampling errors and enhance interpretation-based on statistical robustness, thus considering a sample size of 230 as acceptable.

4.2 Data Collection

The data were collected for the study by interacting with the Human Resource (HR) department of different private commercial banks (PCBs) in Bangladesh. This was accomplished through personal and professional networks, as well as an official letter of authorization to guarantee clearance for data collection. HR departments assisted with getting access to full-time employees, which were the focus pop-

ulation for our study.

With the cooperation of branch managers in selected private commercial banks, questionnaires were distributed among and collected from banking employees. The data were collected through survey-based questionnaires in English to ensure they were consistent and clear. All survey questionnaires included a cover letter explaining the purpose of the research, assuring them that their responses would be kept confidential, and stressing that participation was voluntary. A cross-sectional research design was adopted for the study to be able to capture data at a single point in time as well as examine the associations amongst Green Banking Practices, Environment Awareness, Corporate Social Responsibility Commitment and Environmental Performance of PCBs.

4.3 Measurement

The variables of Green Banking Practices (GBP), Corporate Social Responsibility (CSR) Commitment, Environmental Awareness (EA), and Environmental Performance (EP) were measured by a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) in addition to collecting demographic information from the participants. The measurement instrument of GBP was adapted from Chen et al. (2013), CSR Commitment from Haski-Leventhal (2013), EA from Zameer et al. (2021) and EP in the studies conducted by Sajan et al. (2017). A pretest was carried out to control any problems that may have arisen during data collection. According to Tan et al. (2020), pre-testing is essential in order to remove any potential problems of ambiguity in the questions that impair respondents' ability to interpret and respond as desired. The questionnaire was then sent to expert researchers, and all vague terms or instructions were removed or modified.

4.4 Data Analysis

The coding, screening, and verification of accuracy in the early stages of data processing were performed with SPSS software. SmartPLS 4 was used for the principal analytical procedures and applied Partial Least Squares Structural Equation Modeling (PLS-SEM) instead of Covariance-Based SEM (CB-SEM). We chose PLS-SEM because of its excellent performance in predictive contexts, especially for small to medium sample sizes, and its ability to handle non-normal data distributions without assuming strict distributional assumptions. Additionally, PLS-SEM is a more suitable framework for exploratory study and theory development, as it relates our research objective which aims to investigation rather than validation of a theory. This is consistent with Hair et al. (2017), who stressed that PLS-SEM can improve the predictive power of endogenous constructs and allows the estimation of formative and reflective measurement models simultaneously to assess complex structural equation models easily.

5 Results

5.1 Respondents' Demographic Details

The demographic characteristics of the survey participants are presented in Table 1. The demographic breakdown reveals that males constitute 63% of the respondents, while females account for 37%. Most of the participants were aged 31–40 years (44.3 per cent), and a significant portion of the respondents completed the education level of Masters (79.1 per cent). The descriptive analysis revealed that 44.8 per cent of the respondents had experience of 2 to 5 years in the Banking sector. Concerning respondents' job level in the bank, 43.5 per cent of participants performed the role at Low-level management in the banking sector. Finally, a considerable number of the participants, 48.7%, reported receiving the salary range of 30,001 - 60,000 Taka.

Table 1: Respondents' Demographic Details (N=230)

Characteristics	Category	N	%
Gender	Male	145	63
	Female	85	37
Age	Below 30 years	43	18.7
	31–40 years	102	44.3
	41–50 years	71	30.9
	51 years or above	14	6.1
Highest education	Bachelors	48	20.9
	Masters	182	79.1
Length of service	Below 2 years	37	16.1
	2–5 years	103	44.8
	6–10 years	77	33.4
	11 years or more	13	5.7
Job level	Senior management	18	7.8
	Mid-level management	82	35.7
	Low-level management	100	43.5
	Others	30	13.0
Monthly salary	Over 1,00,000 Taka	12	5.2
	60,001–1,00,000 Taka	68	29.6
	30,001–60,000 Taka	112	48.7
	Less than 30,000 Taka	38	16.5
Total		**230**	**100.0**

Source: Author's own work

5.2 Model Assessment

Using SmartPLS version 4, the data analysis was performed through Partial Least Squares Structural Equation Modeling (PLS-SEM), as per the guidance of Hair et al. (2017). These methods have the merits of, identifying the explained variance for endogenous variables, obtaining reflective and formative measurement model estimates, and testing intricate models (Hair et al., 2017). A two-step approach was used to analyze the hypothesized relationships in accordance with Anderson and Gerbing (1988) recommendations. The first step involves assessing the reliability and validity of the measurement model; whereas, the second involves examining relationships as proposed in the studies (Henseler et al., 2016). Finally, with 5000 resamples, the significance of the path coefficients and their factor loadings were tested using the bootstrapping method (Hair et al., 2017).

5.2.1 Test of the Measurement Model

As recommended by Henseler et al. (2016), internal consistency, discriminant and convergent validity, and indicator reliability were all analyzed in terms of the relationship among variables. Following the study of Ringle et al. (2012), we initially calculated the composite reliability (CR), Cronbach's alpha coefficients, and factor loadings in first-stage analysis of the data. The results were in line with the suggested thresholds mentioned in Table 2 from the literature references. This study has supported the validity of the measurement according to the recommendations of prominent scholars (Anderson and Gerbing, 1988; Hair et al., 2014), in that all CR values were above .80, Cronbach's alpha coefficients were all well over .70, and factor loadings are higher than .50.

As per the guidelines of Henseler et al. (2016), the study measured convergent validity using the average variance extracted (AVE). The results of AVE for all constructs were greater than the minimum threshold of 0.50, which revealed the convergent validity (see Table 2).

Table 3: The Method of HTMT

Variables	1	2	3	4
CSR Commitment				
Green Banking Practices	0.546			
Environmental Performance	0.428	0.663		
Environmental Awareness	0.372	0.721	0.684	

Source: Author's own work

Based on the recommendations of Henseler

Table 2: Measurement Model Assessment

Variables	Items	Loadings (>0.5)	AVE (>0.5)	CR (>0.8)	Cronbach's Alpha (>0.7)
Green Banking Practices	GBP1	0.861	0.661	0.843	0.871
	GBP2	0.725			
	GBP3	0.614			
	GBP4	0.513			
	GBP5	0.639			
	GBP6	0.718			
CSR Commitment	CSR1	0.552	0.573	0.882	0.728
	CSR2	0.626			
	CSR3	0.745			
	CSR4	0.518			
	CSR5	0.836			
	CSR6	0.672			
	CSR7	0.591			
	CSR8	0.848			
Environmental Awareness	EA1	0.671	0.622	0.817	0.775
	EA2	0.566			
	EA3	0.728			
	EA4	0.741			
	EA5	0.525			
Environmental Performance	EP1	0.837	0.591	0.834	0.824
	EP2	0.649			
	EP3	0.721			
	EP4	0.583			

Note: AVE = Average Variance Extracted; CR = Composite Reliability

Source: Author's own work

et al. (2015), heterotrait-monotrait (HTMT) ratio method was calculated to test discriminant validity (DV). As suggested by Henseler et al. (2015), the HTMT ratios should be less than 0.85, in order for evaluating DV adequate. The DV of the constructs was also established on the basis of HTMT results presented in Table 3 that indicated an empirical confirmation as all the HTMT ratios were lower than 0.85.

After the evaluation of the reliability and validity of the measurement model, structural model estimation was conducted. As recommended by Hair et al. (2017), the current study also conducted a PLS bootstrapping at the full model level for 5,000 resamples to derive estimates of path coefficients and their t-values. A one-tailed test was carried out as the hypotheses were directional.

All four hypotheses are supported by the results in Table 4. Hypothesis 1 is supported as GBP has a significant effect on EA ($\beta = .242$, $t = 4.138$). The results reveal that Hypothesis 2 is supported with GBP having a stronger effect on CSR ($\beta = 0.331$, $t = 7.316$). Supporting Hypothesis 3, EA has a significant and positive influence on EP ($\beta = 0.353$, $t = 8.185$). Finally, the Hypotheses 4 is also accepted as the CSR has a significant positive influence on EP ($\beta = 0.424$, $t = 6.514$). Each relationship is statistically significant as well and consistent with the model assumptions, confirming the theoretical validity of the model.

This study also used 5,000 resamples in a bootstrapping approach recommended by Preacher and Hayes (2008) to test for the significance of EA and CSR as mediator. Our bootstrapping results on Table 5 now provide support to H5, in the sense that EA is indeed a stronger

Table 4: Results of Hypotheses Testing (Direct Relationships)

Hypotheses	Relationship	β	SE	t-value	Decision
H1	GBP → EA	0.242	0.052	4.138	Supported
H2	GBP → CSR	0.331	0.048	7.316	Supported
H3	EA → EP	0.353	0.046	8.185	Supported
H4	CSR → EP	0.424	0.065	6.514	Supported

Source: Author's own work
Note: GBP=Green Banking Practices, EA=Environmental Awareness, CSR=Corporate Social Responsibility Commitment, EP=Environmental Performance.

mediator between GBP and EP ($\beta = 0.106$, $t = 3.541$; $p < .01$). Similarly, H6 is also positively supported with a significant mediating effect for CSR in the relationship between GBP and EP ($\beta = 0.143$, $t = 5.713$, $p < 0.01$).

6 Discussion

The results of this research are in line with our hypothesis that Green Banking Practices (GBP) have a positive connection with Environmental Awareness (EA). Supporting this view, previous researches like Khan et al. (2024) pointed out that environmentally friendly activities within banks serve to increase the EA of both the internal members and consumers. In addition, studies of Belgacem and Ejaz (2025) showed that sustainable banking activities such as eco-efficient products and green financing help increase the EA among customers. This notion was also agreed by Zhixia et al. (2018) positing that operationalizing GBP not only helps to minimize the environmentally negative impact of a financial institution but also brings about an all-encompassing societal transformation on environmental matters. In sum, GBP within a bank enhance EA, implying that banks are significantly responsible in advancing sustainability both internally and in their communities.

The analysis of the data confirms that the GBP is positively correlated with Corporate Social Responsibility (CSR) commitment. Past research conducted by Gazi et al. (2024) agreed with this results and argued that integrating environmentally responsible banking into a bank's CSR strategy supports its overall commitment to societal well-being through environmental responsibility. In line with this, Gidage and Bhide (2025) suggested financial organizations that embed sustainability in their practices become more committed to CSR functions as they acknowledge the nexus between economic success and societal-environmental objectives. Further, as supported by past researchers (Gazi et al., 2025; Siddik et al., 2024), GBP increase the CSR profile of a bank by positively impacting their reputation as well as strengthening the trust among stakeholders. These results provide evidence that the GBP is a vital driver strengthening the wider CSR endeavors, consistent with the notion that sustainable banking practices are closely associated with CSR in bank-

Table 5: Results of Hypotheses Testing (Indirect Relationships)

Hyp.	Relationship	Indirect effect	SE	t-val.	95% CI	Decision
H5	GBP→EA→EP	0.106	0.029	3.541	[0.052, 0.165]	Supported
H6	GBP→CSR→EP	0.143	0.031	5.713	[0.094, 0.182]	Supported

Source: Author's own work
Note: GBP=Green Banking Practices, EA=Environmental Awareness, CSR=Corporate Social Responsibility Commitment, EP=Environmental Performance.

ing industry.

The findings have supported the hypothesis that EA is positively correlated with Environmental Performance (EP). Empirical research conducted by Khan et al. (2024) were aligned with this results by concluding that increased bank-level EA is found to drive proactive EP and management. Moreover, Miah et al. (2018) argued that banks with greater EA would be more inclined to implement various environment-friendly practices and policies that that can bring about a significant positive change on their EP. Likewise, this view was consistent with Belgacem and Ejaz (2025), who found that banks adopting the basic components of having strong EA performs better in terms of sustainability measures like implementation of green policies and reduction of their carbon footprint. Altogether, the scholarly literature implies that banks developing a stronger EA are likely to see significant improvements in their EP, indicating that improved environmental practices and outcomes can derive from enhanced EA among private banking organizations.

This study demonstrates a strong positive relationship between the Corporate Social Responsibility (CSR) commitment and Environmental Performance (EP). The findings corroborate the conclusions of Islam et al. (2023), who opined that Banks that have embedded CSR into their strategic objectives result in enhanced EP contributing towards sustainable practices and operations. Relatedly, the comprehensive study of Gonenc and Scholtens (2019) implied that CSR commitment motivates banks to implement more environmentally friendly measures that make them become more sustainable and foster their reputation as well as compliance with regulatory standards. Also, CSR-oriented banks will be able to perform better environmentally by executing green policies, minimizing waste, and reducing the harmful impacts on the environment (Abbas et al., 2025). These results underscore the idea that banks' commitment to CSR is positively associated with their EP, highlighting the positive role CSR plays in sustainable banking practices in the banking industry.

The hypothesis is supported that the relationship between Green Banking Practices (GBP) and Environmental Performance (EP) is positively mediated by Environmental Awareness (EA). Allied to this notion, the prior research conducted by Khan et al. (2024) explained that GBP together with increased EA helped the banks to perform better in their noble cause of improving environmental outcomes. These findings are in agreement with Miah et al. (2018) reporting that EA plays a key role in influencing the effectiveness of GBP to translate into sound EP. The works of Belgacem and Ejaz (2025) also lent support to this observation, as it illustrates that when stakeholders adopt sustainable banking in their awareness list, the impact of GBP on overall EP becomes more significant. The above-mentioned results are consistent with the view that EA positively mediates the association between GBP and improved EP in the banking sector of Bangladesh.

The data analysis supports the hypothesis that CSR commitment mediates the relationship between Green Banking Practices (GBP) and Environmental Performance (EP). The mediating role of CSR commitment has been documented by previous studies like Islam et al. (2023) who demonstrated that stronger CSR commitments of banks increase significantly the effective implementation of GBP, which improves EP. These findings echo the results reported by Gonenc and Scholtens (2019) who argued that, CSR initiatives also help facilitate the outcomes of sustainable banking practices, since a blend of environmental stewardship with financial goal allows for superior environmental results. In line with this, Abbas et al. (2025) reached the conclusion that CSR improves stakeholder engagement and, subsequently, the beneficial effects of GBP on EP. Such findings corroborated the study

hypothesis which indicated that CSR commitment mediates the relationship between GBP and EP to encourage a further differentiation in terms of more impactful and sustainable environmental practices within the context of the banking industry.

7 Conclusion and Policy Recommendations

To conclude, this study demonstrates that Green Banking Practices (GBP) have a significant effect on Environmental Performance (EP) in Bangladesh, where Environmental Awareness (EA) and Corporate Social Responsibility (CSR) are the key mediating variables. The results underline the predictive capacity of the EA and CSR to improve EP, highlighting the need to practice sustainable banking. These insights have useful insights to policymakers, banking managers, and researchers seeking to achieve better environmental results in emerging economies.

Thus, Bank managers can learn from the results of this study that Green Banking Practices (GBP) are effective means in influencing environmental awareness (EA) and CSR commitment within their organizations. Moreover, managers must actively incorporate environmentally-sensitive initiatives in the form of green financing and resource-efficient activities to increase EA in their CSR architecture. Such an integration can not only be beneficial for the environment by enhancing EP but can also improve the reputation of the bank among its stakeholders as a pioneer in sustainability.

Further, HR managers can take a lead role in instituting staff training programs that embrace the concept of sustainability and embed environmental responsibility as part of organizational culture. It is very important to raise EA among employees, as this will make the positive impact of GBP on EP more pronounced.

Insights generated from this study can inform policymakers when drafting regulations, which will both promote the GBP and reward those institutions with solid commitments to CSR. Indeed, policymakers can incentivize banks to integrate environmental sustainability into their business policies and provide them with an enabling environment that encourages sector-wide EP improvements. The study also recommends that CSR should be incorporated into strategic planning and corporate policy of top management. Embracing CSR into the corporate strategy will help in GBP to achieve better performance and a sustainable harmony with business operations.

Against this backdrop, it may be concluded that top management should pay more attention to EA and CSR commitment as they mediate the relationship between GBP and EP, indicating that these factors are essential mechanism for long-term accomplishment of sustainable banking practices. In the end, these suggestions offer a roadmap to boost EP by using an integrated approach of GBP, CSR commitment and EA.

8 Limitations and Directions for Future Research

There are a number of limitations in the current study that create opportunities for future research. This study was limited to banking employees in Private Commercial Banks in Bangladesh, and hence the findings might not be generalizable across other industries, cultural contexts or job roles.

Secondly, the cross-sectional design used in this study limited the capacity to establish causal relationships between variables thereby future research should address this limitation by using experimental or longitudinal designs that contribute to better exploring causality.

In addition, although this study revealed Corporate Social Responsibility (CSR) commitment and Environmental Awareness (EA) as

mediators in the association between Green Banking Practices (GBP) and Environmental Performance (EP), future studies could examine more variables which have a mediating role, such as Employee Engagement and Managerial Support.

This study finally highlights that there has been little research conducted on the effect of GBP, CSR commitment, and EA toward EP in non-western cultures. To explore potential cultural variations in how these impact EP, it would be interesting to compare Western and non-Western cultures in future research.

Disclosure Statement

Views expressed in this paper are the authors' own and do not necessarily reflect the views of institutions they are affiliated with.

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