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EVALUATING THE EFFECT OF GREEN BANKING STRATEGIES ON ENVIRONMENTAL SUSTAINABILITY AND PROFITABILITY IN PRIVATE SECTOR BANKS

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Abstract

This examination talks about the effects of green financial strategies on benefit and ecological execution. This research investigates the following important concepts using a sample of 200 respondents from various banks in different areas: green banking policy, daily operations, financing for green projects, environmental performance, and profitability. Reliability and discriminant validity assessments confirm the reliability and uniqueness of the study's scales. As suggested by path coefficient studies, regulations of green banking have the second-strongest positive influence on banks' environmental performance next to supporting or investing in green projects. In addition, profitability is positively related to environmental performance, implying potential financial benefits from following a sustainable approach. The study further shows specific indirect effects, such as the fact that investments in green projects rather than usual operations have a higher influence on environmental performance because of green banking regulations. It is evident from the findings that banks can achieve long-term profitability with sustainability promotion. This goes to prove that green banking regulations and sustainable investments are key in the improvement of financial and environmental performance.

Keywords: Green Banking, Environmental Performance, Profitability, Sustainable Investments, Day-to-Day Operations, Green Projects.

1. INTRODUCTION

The banking industry is significant to economic growth and development, but due to the consumption of resources and its impact on the environment as a result of its financial operations, it also contributes to environmental problems. The strategies of green banking help banks incorporate their operations in tandem with the objectives of environmental sustainability in response to growing environmental concerns and a need for sustainable practices. This is known as "green banking" and takes the form of adopting procedures that reduce its harmful effects on the environment, such as promoting

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environmentally friendly financial goods, putting energy-efficient operations into place, and funding green initiatives like energy-efficient technologies and renewable energy.

Banks in the private sector, in particular, are realizing more and more how crucial it is to implement green banking practices for both their long-term financial success and corporate social responsibility (CSR). Green banking programs have the potential to improve banks' standing, lower operating expenses by using less energy, and draw in eco-aware clients. Moreover, investments that are related to green or environmentally friendly financial services/products, for example, bonds and sustainable loans, present new opportunities for income-generation and market competitiveness.

No matter what these expected advantages, inspecting the effect of green putting money on bank productivity and ecological sustainability is as yet significant. While certain investigations show that green financial upgrades the ecological effects, it stays indistinct how this effects the benefit. The goal of this study is to assess the effect of green financial practices on confidential area banks' monetary results and natural execution. This will zero in on two of the main regions: supportable practices and monetary achievement, and it will illuminate the conceivable compromises and collaborations between these two.

The outcome of this research is expected to expand knowledge about the relationship between environmental sustainability, profitability, and green banking practices. Besides helping private sector banks improve their green banking procedures, this will guide regulators and legislators to make sense in laws promoting environmental stewardship without causing financial instability in the banking industry.

2. LITERATURE REVIEW

Chen et al. (2022) analyzed the association between natural execution and green financial practices with regards to Bangladeshi confidential business banks (PCBs). They gathered data from 330 financial staff individuals utilizing a study strategy. Their examination uncovered that while client related green financial practices didn't display measurable importance, regular tasks and strategy related green financial practices emphatically affected green funding. Besides, banks' ecological presentation was fundamentally improved by supporting green ventures. To work on ecological execution, the review stressed the meaning of integrating green approaches into everyday activities and financing supportable undertakings.

Aslam and Jawaid (2023) accumulated suppositions from 400 financial laborers about the job of (GBAP) in Pakistan. Their exploration showed that GBAP well affected banks' functional, monetary, and ecological execution. The reception of green banking generally affected natural execution out of

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these, trailed by gains in functional and monetary execution. This shows how green banking might further develop bank execution and natural supportability.

Zhang et al. (2022) completed research on what green financial practices mean for natural execution and green money in Bangladesh. According to their analysis, banks' environmental performance and their sources of green finance were both greatly improved by green banking practices. The study also showed that the association between environmental performance and green banking operations was mediated by green funding, indicating that green project investments are essential to strengthening banks' sustainability initiatives. While stressing the advantages of green banking, such as greater competitiveness and lower carbon footprints, the report also noted a number of barriers to its growth, such as low client awareness, high investment costs, and technological difficulties.

Bose, Khan, and Monem (2021) used information from 172 firm-year observations from 2008 to 2014 to investigate the connection between a bank's financial performance and its green banking performance. According to their data, cost effectiveness is the main factor driving the favorable correlation between green banking performance and financial performance. They did discover, though, that political ties had a detrimental effect on this association, indicating that political and regulatory considerations may have an impact on how successful green banking programs are. This study was noteworthy since it concentrated on Bangladeshi regulations, providing a distinct viewpoint on the impact of mandated green banking regulations on financial results.

Rehman et al. (2021) examined Pakistan's embrace of green banking practices, highlighting the contribution of green project financing and policy-level initiatives to improving environmental performance. Their research, which was founded on the Sustainable Resource Investment (SRI) hypothesis, discovered that the adoption of green banking practices was significantly impacted by everyday operations, policy decisions, and investments in green projects. This study emphasizes how crucial it is to take a holistic approach to green banking, where operational procedures and policy support are in line with sustainable development objectives.

3. RESEARCH METHODOLOGY

3.1.Research Design

The purpose of this descriptive and correlational study is to examine how bank profitability is affected by green banking policies, daily operations, financing and investing in green projects, and environmental performance. Using a cross-sectional research approach, the study gathers information from bank managers and staff via surveys.

3.2.Population and Sample

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Employees of banks that are putting green banking policies and practices into effect make up the study's population. A wide range of banking experts from different parts of India are represented in the sample. The sample was chosen using a convenience sampling technique because the goal was to find people who had relevant expertise with green banking practices. There are 200 responses in all, 94 of whom are men (47%) and 106 of them are women (53%). A variety of age categories are also represented in the sample, including those aged 20–30 (26%), 31–40 (46%), 41–50 (21%), and over 50 (7%). The sample is further divided into geographical areas and banks.

3.3.Data Collection

To gather primary data, a structured questionnaire was used. To find out how respondents feel about green banking policy, daily operations, financing green projects, and environmental performance, the survey has both closed-ended and Likert-scale questions. Additionally, secondary data about the financial and environmental performance of banks was gathered from annual reports and other published sources.

3.4.Variables and Constructs

The study investigates the following key variables:

- **Green Banking Policy**: Bank policies that support environmental sustainability.
- **Day-to-Day Operations**: The bank's operational procedures that support sustainability.
- **Funding or Investing in Green Projects**: The amount of money banks invest in environmental sustainability programs.
- **Bank Environmental Performance**: The banks' total environmental performance as measured by emissions, resource use, and sustainability programs.
- **Profitability**: The profitability of banks as a measure of their financial performance.

3.5.Instrument and Measurement

Based on pre-existing frameworks, the questionnaire was created with scales to measure each construct. Good internal consistency was shown by the high reliability values for the majority of the constructs (Green Banking Policy: 0.950, Funding for Green Projects: 0.935, Bank Environmental Performance: 0.830, and Profitability: 0.805). By comparing the square root of each construct's Average Variance Extracted (AVE) to the correlations between constructs, discriminant validity was examined. The findings demonstrated that every construct was unique and assessed several ideas.

3.6.Data Analysis Techniques

The sample's demographic characteristics was investigated using descriptive statistics. Cronbach's Alpha was used for reliability analysis in order to make sure the scales were internally consistent. To determine whether the builds were unmistakable, discriminant legitimacy was assessed utilizing the

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Fornell-Larcker basis. The immediate and roundabout connections between the develops were tried utilizing way investigation using primary condition demonstrating (SEM). To assess the heading and strength of the associations between bank execution and green financial practices, way coefficients were determined. To survey the interceding job of mediating factors, for example, financing or putting resources into green ventures and everyday activities, in the connection between bank ecological execution and green financial approach, explicit aberrant impacts were processed.

4. RESULT AND DISCUSSION

The sample demographic analysis indicates relatively balanced distribution in gender, age, bank, and state categories. Regarding gender, there are more females than males, signifying the diversified representation in the study. The highest number is recorded in the age category of 31-40 years, which would represent mid-career professionals engaged with the green initiatives of the banking sector.

Table 1: Sample Demographic

Sample Profile	Category	Frequency	Percentage (%)
Gender	Male	94	47
	Female	106	53
Age	20-30 years	52	26
	31-40 years	93	46
	41-50 years	42	21
	Above 50	13	7
Name of the Bank	HDFC	50	24
	ICICI	40	26
	Kotak Mahindra	20	21
	Axis	25	7
	IndusInd	20	15
	IDBI	30	5
	Yes Bank	15	2
State	Madhya Pradesh	35	14
	Maharashtra	20	12
	Uttar Pradesh	24	21
	New Delhi	10	7
	Chhattisgarh	15	15
	Assam	5	10
	Karnataka	16	10
	Uttarakhand	24	5
	West Bengal	30	4
	Punjab	21	2

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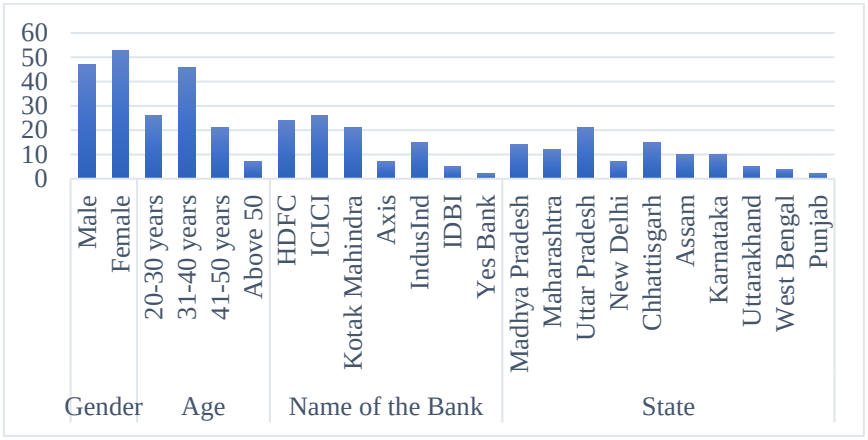

Figure 1: Graphical Representation of Sample Demographic

Younger staff and those in the age group of 41-50 years are also represented, though in lesser number, showing a mix of experiences in the sample. About the banks, the presence of bigger institutions like ICICI and HDFC is high, indicating that they seem to be more engaged with green banking practices, whereas the relatively smaller banks like Axis and Yes Bank have a minor share. Geographically, the Uttar Pradesh and Madhya Pradesh states are the hotspots where more economic activity is happening, thus contributing a larger sample and pointing out their central role in green banking practices. Other regions have smaller representations and point to varying levels of green banking adoption across India. Overall, the demographic breakdown points to a wide reach of green banking with concentric concentrations that occur in key regions and major banks.

Table 2: Analysis of Reliability

Variables	**Cronbach's Alpha**	**Comparable Value**	**Explanation**	**Number of Statements**
Green Banking Policy	0.950	0.8	Reliable and consistent	7
Day-to-Day Operations	0.710	0.8	Reliable and consistent	8
Funding or Investing in Green Projects	0.935	0.8	Reliable and consistent	9
Bank Environmental Performance	0.830	0.8	Reliable and consistent	5
Profitability	0.805	0.8	Reliable and consistent	5

Majority of the constructs have good to excellent internal consistency, based on the reliability analysis. The constructions of Bank Environmental Performance 0.830, Funding or Investing in Green Projects 0.935, Green Banking Policy 0.950, and Profitability 0.805 all exceed the recommended Cronbach's Alpha cutoff of 0.8, thus showing a high degree of consistency and dependability. With a Cronbach's Alpha of 0.710, the Day-to-Day Operations construct is well below optimal but still shows enough

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reliability, meaning that further improvements are required to enhance consistency. The investigation concludes that generally the scales are dependable enough, with only slight modifications needed in the day-to-day operation.

Table 3: Utilizing the Fornell-Larcker criterion to determine discriminant validity

Constructs	Banks Environmental Performance	Day-to-Day Operation	Funding or Investing in Green Projects	Green Banking Policy	Profitability
Banks Environmental Performance	0.774				
Day-to-Day Operation	0.367	0.717			
Funding or Investing in Green Projects	0.368	0.142	0.866		
Green Banking Policy	0.754	0.158	0.768	0.884	
Profitability	0.274	0.607	0.122	0.178	0.792

The Fornell-Larcker criterion is adopted to check the discriminant validity of the constructs and is found that the constructs are unique and measure several concepts. One important measure for assessing discriminant validity is through diagonal values, where these values are greater than off-diagonal correlations, thereby indicating the square root of Average Variance Extracted (AVE) for every construct. In contrast to the correlations with other constructs, like 0.367 for Day-to-Day Operations and 0.368 for Funding or Investing in Green Projects, the AVE value of the Banks Environmental Performance construct is 0.774. Further evidence for discriminant validity arises from the fact that the AVE value of Funding or Investing in Green Projects is 0.866 and its correlation with Green Banking Policy is lower than its AVE at 0.768. With an AVE of 0.884, the Green Banking Policy construct is measurably assessing a dimension different from the correlations it displays towards other constructs, including Day-to-Day Operations (0.158) and Profitability (0.178). Lastly, profitability possesses adequate discriminant validity with an AVE of 0.792 because its correlations with other constructs are lower than its own AVE value. Overall, the results of Fornell-Larcker criterion show that the constructs are different from one another, which proves that the measuring model is appropriately discriminable.

Table 4: Path coefficient

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Paths	Path Coefficients
Banks Environmental Performance → Profitability	0.274
Day-to-Day Operation → Banks Environmental Performance	0.234
Funding or Investing in Green Projects → Banks Environmental Performance	0.938
Green Banking Policy → Banks Environmental Performance	0.359
Green Banking Policy → Day-to-Day Operation	0.160
Green Banking Policy → Funding or Investing in Green Projects	0.768

From the way coefficient information, it is clear that green financial strategy significantly affects banks' ecological presentation (0.359), while subsidizing or putting resources into green activities meaningfully affects banks' natural exhibition (0.938). Banks' natural exhibition emphatically influences productivity (0.274). Everyday activities respectably influence banks' natural exhibition (0.234), while subsidizing or putting resources into green undertakings (0.768) and everyday tasks (0.160) are both affected by green financial approach. All things considered, therefore, green policies and investment in sustainable initiatives have come to be important drivers of banks' environmental performance and profitability.

Table 5: Particular Indirect Impacts

Specific Indirect Paths	Specific Indirect Effects
Green Financial Approach → Everyday Activity → Banks Natural Execution pathway	0.042
Green Financial Strategy → Subsidizing or Putting resources into Green Undertakings → Banks Natural Execution way	0.718

Specific indirect effects help to explain the mediation process since they indicate how one construct impacts another via an intervening variable. For instance, the particular roundabout impact along the Green Financial Approach → Everyday Activity → Banks Natural Execution pathway is 0.042. Such a worth is exceptionally low, and this demonstrates that while Green Financial Strategy impacts the natural exhibition of banks through their day-to-day tasks, such impact is tiny. This suggests that with progress in everyday tasks, green strategies of banks affect ecological execution.

Be that as it may, the particular roundabout impact of 0.718 is profoundly critical for the Green Financial Strategy → Subsidizing or Putting resources into Green Undertakings → Banks Natural Execution way. Thusly, through interests in green undertakings, the Green Financial Strategy by implication affects banks' ecological presentation, as shown by major areas of strength for this worth. The significant impact reveals that regulations in favor of environmentally friendly banking practices

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are a must to encourage investments in green initiatives, which significantly enhance the environmental performance of the bank. The association through investments in green projects is stronger even if the indirect impacts are generally positive. This goes to show how important it is to achieve environmental objectives with focused green investments.

5. CONCLUSION

The report provides insightful information regarding how green banking policies influence the profitability and environmental performance of banks. Results showed that a bank's environmental performance is significantly affected by its green banking policy, financing for sustainable projects, and daily operations. Most important among these was financing or investing in green projects, which significantly improved environmental results. The report also stresses the point that environmental performance adds value to profitability; thus, it is shown that green practices in banks can boost financial performance along with supporting sustainability. It also exhibits how green banking practices which support investments in environmentally friendly initiatives, have a positive indirect impact on environmental performance. All things considered, this study underlines the importance of including sustainability into banking operations and investments. This is to the point that green banking practices are not only good for the environment but also important in boosting the long-term profitability and competitiveness of banks.

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