

ESG and Sustainable Investment Practices in Indian Banks: A Comparative Performance Analysis in Mumbai

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ABSTRACT

In recent years, the concept of Environmental, Social, and Governance (ESG) practices has emerged as a cornerstone for sustainable development in the global banking sector. The growing environmental consciousness, social responsibility, and demand for transparent governance have compelled banks to integrate ESG principles into their investment and operational frameworks. In India, particularly within metropolitan financial centers such as Mumbai, banks are increasingly adopting sustainability-driven policies to enhance ethical investment behavior and stakeholder confidence. ESG-based banking promotes responsible lending, reduces risk exposure, and supports long-term economic stability. However, variations exist in how public and private sector banks implement ESG initiatives and disclose sustainability performance. This study explores the extent of ESG integration in Indian banks located in Mumbai, comparing ESG performance indicators, sustainability policies, and their implications for investment growth. By analyzing selected banks, the research identifies trends, strengths, and limitations of current ESG frameworks, emphasizing the critical role of ESG in shaping resilient and transparent banking institutions.

The study adopts a comparative analytical framework focusing on both public and private sector banks operating in Mumbai, such as State Bank of India, HDFC Bank, and ICICI Bank. Data were collected from annual sustainability reports, ESG disclosures, and secondary literature to assess environmental responsibility, social engagement, and governance quality. The findings reveal that private banks exhibit higher ESG disclosure transparency, whereas public banks demonstrate stronger social and community outreach programs. Both categories face challenges in achieving uniform ESG reporting standards, though regulatory pressure from SEBI and RBI has accelerated the movement toward sustainability reporting. The results underscore that ESG and sustainable investment practices are essential for modern banking, improving financial stability and aligning with global sustainability goals and the UN SDGs. The study recommends standardized ESG reporting frameworks, investor education, and the strengthening of ESG-oriented investment portfolios to attract foreign capital and enhance India's position in global financial sustainability indices.

Keywords: ESG (Environmental, Social, and Governance), Sustainable Banking, Investment Practices, Comparative Performance Analysis, Mumbai Financial Sector

I. INTRODUCTION

The growing concern for environmental sustainability and social responsibility has significantly transformed the global financial landscape. Environmental, Social, and Governance

(ESG) principles have become a key parameter for assessing corporate responsibility and ethical conduct, especially in the banking and investment sectors. In India, the adoption of ESG frameworks has gained momentum as regulatory bodies such as

SEBI and RBI encourage sustainable banking practices. Banks are now expected to align their financial objectives with environmental stewardship and social welfare goals. The increasing investor preference for ESG-compliant portfolios indicates a paradigm shift from profit-driven to purpose-driven investment behavior. As a result, the integration of ESG in banking is not merely a regulatory requirement but a strategic imperative for long-term resilience.

Mumbai, being India's financial capital, hosts a diverse range of public and private sector banks that play a pivotal role in advancing the ESG agenda. These institutions are not only responsible for providing financial intermediation but also for channeling capital into sustainable ventures. The city's dynamic investment environment offers a unique opportunity to analyze how banks implement ESG frameworks and disclose sustainability practices. Mumbai's banking ecosystem represents both legacy institutions with traditional approaches and modern banks with digital-first sustainability strategies. The comparative performance of these banks provides valuable insights into how ESG compliance influences operational efficiency, investor confidence, and market reputation. The study thus situates Mumbai as a microcosm of India's broader ESG transformation.

The integration of ESG principles within banking extends beyond reputation management—it directly impacts risk mitigation, profitability, and customer trust. Banks that prioritize environmental responsibility, social welfare, and governance transparency tend to attract more investors and maintain stable growth during financial uncertainties. However, disparities exist in the level of ESG adoption between public and private banks, particularly in areas like carbon disclosure, ethical lending, and stakeholder engagement. This study seeks to bridge this knowledge gap by conducting a comparative analysis of ESG and sustainable investment practices among leading banks in Mumbai. By understanding these differences, policymakers and financial institutions can design better frameworks for sustainability reporting and responsible banking governance in India.

II. STATEMENT OF THE PROBLEM

The growing emphasis on ESG compliance presents both opportunities and challenges for the Indian banking sector. While global investors increasingly prefer ESG-oriented banks, many Indian institutions are still struggling to standardize ESG practices across their operations. The absence of uniform metrics for evaluating environmental, social, and governance performance leads to inconsistent reporting and incomplete disclosures. Furthermore, there is limited awareness among stakeholders about how ESG initiatives translate into tangible investment performance and long-term financial stability. This lack of clarity impedes investor confidence and slows the transition toward sustainable finance. Hence, a systematic study is needed to analyze ESG adoption and its impact on banking performance.

In Mumbai, where both public and private sector banks dominate the financial landscape, ESG implementation remains uneven. Some institutions excel in social welfare and community outreach, while others lead in green financing and digital transparency. Yet, the comparative effectiveness of these practices in driving sustainable investment outcomes remains underexplored. Public sector banks often face bureaucratic constraints and slow adaptation, while private banks are driven by innovation but may lack inclusivity in social initiatives. This imbalance underscores the need for a comparative study that identifies performance gaps and evaluates how ESG dimensions influence investment attractiveness and operational efficiency among banks in Mumbai.

Another pressing concern is the absence of standardized ESG evaluation tools in the Indian context. While global frameworks such as GRI, SASB, and TCFD provide guidelines, Indian banks interpret them differently. This inconsistency affects the comparability of ESG performance across banks and limits the potential for cross-institutional learning. Moreover, most previous studies on ESG in India have focused on corporate sectors, not banking institutions specifically. Therefore, there exists a research gap concerning how ESG adoption

affects investment decisions, financial stability, and stakeholder engagement in Indian banks. This study addresses this gap by conducting a detailed comparative performance analysis focused on Mumbai-based banks.

III. NEED OF THE STUDY

The need for this study arises from the increasing relevance of ESG practices as determinants of financial stability and investor trust in the banking sector. With global economic uncertainties, banks that prioritize sustainability demonstrate stronger risk management and long-term profitability. In India, ESG integration is still evolving, and understanding its adoption is crucial for aligning banking practices with international sustainability standards. This study aims to provide empirical insights into how ESG implementation influences investment performance and stakeholder relations, thereby contributing to sustainable economic growth. As investors and regulators demand greater accountability, Indian banks must evaluate the real impact of ESG integration on their operational and financial outcomes.

Furthermore, Mumbai, being the nucleus of India's financial activity, offers a diverse landscape of banks that differ in ownership structure, governance style, and sustainability focus. The city's mix of public and private sector banks provides a unique context to examine ESG maturity levels and performance variations. Analyzing these differences can help identify best practices and model frameworks suitable for replication across other regions in India. The study's findings will benefit not only banks but also policymakers, investors, and academicians seeking to understand the practical implications of ESG in investment decision-making and financial governance.

Finally, the study is essential for addressing the research gap between ESG theory and banking practice in India. While ESG has been extensively studied in developed economies, limited literature exists on its integration in the Indian financial system. This research contributes to bridging that gap by providing comparative evidence from Mumbai's banking institutions. It highlights how

ESG adoption can drive responsible investment, improve corporate image, and strengthen resilience against financial shocks. Thus, the study serves as a timely academic and practical contribution to India's transition toward sustainable banking and responsible investment practices.

IV. SCOPE OF THE STUDY

1. **Geographical Scope:** The study is geographically limited to Mumbai, the financial capital of India, which hosts the headquarters and major branches of both public and private sector banks. Mumbai's diverse banking ecosystem provides an ideal setting to evaluate how ESG and sustainable investment practices are integrated in a highly competitive financial environment.
2. **Institutional Scope:** The study includes selected public and private sector banks such as the State Bank of India (SBI), Bank of Baroda, HDFC Bank, ICICI Bank, and Axis Bank. These institutions represent the most influential players in India's financial market and reflect varying degrees of ESG implementation and disclosure practices.
3. **Functional Scope:** The research focuses on evaluating how banks apply ESG principles in lending decisions, investment portfolios, sustainability disclosures, and risk management frameworks. It examines how these practices influence responsible finance and the overall financial stability of banks in Mumbai.
4. **Time Scope:** The study covers a six-month period (April 2025 – September 2025), allowing analysis of ESG adoption trends before and after the COVID-19 pandemic. This timeframe captures evolving regulatory mandates, market expectations, and sustainability reporting developments within the Indian banking sector.
5. **Analytical Scope:** The analysis involves a comparative performance assessment of ESG indicators across selected banks. It uses statistical and descriptive tools to measure the relationship between ESG performance, financial efficiency, and sustainable investment outcomes,

providing actionable insights for policymakers and banking professionals.

V. OBJECTIVES OF THE STUDY AND HYPOTHESES

Objectives	Relevant Hypotheses (H ₀)
1. To analyze the ESG adoption practices of selected public and private sector banks in Mumbai.	H ₀₁ : There is no significant difference in ESG adoption between public and private sector banks.
2. To evaluate the relationship between ESG performance and investment efficiency of banks.	H ₀₂ : ESG performance has no significant impact on the investment efficiency of banks.
3. To compare the disclosure transparency of sustainability reports among selected banks.	H ₀₃ : There is no significant difference in sustainability disclosure transparency between selected banks.
4. To assess the influence of ESG compliance on investor trust and financial stability.	H ₀₄ : ESG compliance does not significantly affect investor trust or financial stability.
5. To recommend policy measures for improving ESG reporting and sustainable banking frameworks.	H ₀₅ : Policy interventions do not significantly improve ESG adoption in banking institutions.

VI. REVIEW OF LITERATURE

Kumar & Singh (2022) – ESG Adoption in Indian Banking Sector, Kumar and Singh (2022) conducted an empirical study on ESG adoption in Indian banks, focusing on how environmental, social, and governance factors influence financial performance. The study analyzed data from 20 major banks across India and found that banks with higher ESG scores exhibited stronger risk management and better investment outcomes. The authors highlighted that private sector banks were generally more transparent in ESG reporting, whereas public sector banks excelled in social responsibility initiatives. Their research emphasized the need for standardized ESG metrics and suggested that ESG integration is directly linked to investor trust and long-term sustainability in banking operations.

Sharma & Patel (2021) – Sustainable Investment Practices and Banking Efficiency, Sharma and Patel (2021) examined the impact of sustainable investment practices on operational efficiency in Indian banks. Using a mixed-method approach, the study revealed that banks incorporating ESG principles into their investment portfolios experienced lower default risks and improved financial stability. The authors also noted that regulatory compliance with SEBI and RBI guidelines significantly influenced ESG disclosure practices. The research concluded that embedding

ESG considerations in banking operations is critical not only for ethical reasons but also for improving overall institutional performance and attracting responsible investors.

Rao (2020) – Comparative Analysis of ESG Reporting in Public vs Private Banks, Rao (2020) conducted a comparative study between public and private sector banks in India regarding ESG reporting practices. The study revealed that private banks demonstrated higher levels of transparency and adherence to global ESG standards, while public banks were stronger in social and community outreach programs. The research highlighted gaps in uniform ESG reporting standards and suggested that regulatory intervention could help align reporting practices. This study provides a foundation for understanding performance differences in ESG adoption between different types of banking institutions.

Mehta & Joshi (2019) – ESG and Investor Confidence in Indian Financial Markets, Mehta and Joshi (2019) explored the relationship between ESG compliance and investor confidence in Indian financial markets. Their study concluded that investors increasingly prefer banks that demonstrate strong environmental and governance practices. ESG adoption was found to reduce perceived investment risks, enhance corporate reputation, and improve long-term returns. The authors emphasized

that banks integrating ESG principles not only benefit financially but also gain competitive advantages in attracting domestic and international investors.

Verma & Desai (2023) – ESG Disclosure and Sustainable Banking in Mumbai, Verma and Desai (2023) specifically focused on ESG disclosure practices in Mumbai-based banks. The study analyzed annual reports and sustainability documents from major banks over a five-year

period. Findings indicated that while ESG adoption is growing, the quality and consistency of disclosures vary widely. Private banks were more proactive in publishing detailed ESG reports, whereas public banks prioritized social and governance initiatives. The research recommended the development of standardized ESG frameworks and stronger regulatory enforcement to improve transparency, accountability, and sustainable investment practices in Mumbai's banking sector.

VII. RESEARCH METHODOLOGY

Components	Details
Research Design	The study follows a descriptive and comparative research design aimed at analyzing and comparing ESG adoption and sustainable investment practices among selected banks in Mumbai.
Nature of Study	The research adopts a mixed-method approach, combining both quantitative (numerical ESG indicators, financial data) and qualitative (content analysis of sustainability reports) techniques.
Sampling Technique	A purposive sampling method is employed to select banks based on their market presence, ESG disclosures, and accessibility of sustainability data.
Sample Size	The study includes five major banks — two public sector banks (SBI, Bank of Baroda) and three private sector banks (HDFC Bank, ICICI Bank, Axis Bank).
Data Collection	The study relies primarily on secondary data obtained from sustainability and annual reports, SEBI filings, RBI bulletins, and other verified financial databases. Supplementary insights are drawn from existing literature and regulatory circulars related to ESG compliance.
Study Period	The study covers a sixteen-month period from April 2025 to September 2025, reflecting the most recent ESG performance trends and sustainability disclosure updates within the Indian banking sector.
Data Analysis Tools	Statistical analysis is conducted using SPSS and Microsoft Excel to perform descriptive statistics, correlation analysis, and comparative ESG scoring. Thematic analysis is also applied to interpret qualitative data from sustainability reports.
Variables Studied	The key variables include Environmental, Social, and Governance (ESG) dimensions, investment efficiency, financial performance, and stakeholder transparency.
Expected Outcome	The study is expected to identify performance gaps between public and private sector banks in ESG adoption, highlight best sustainability practices, and propose policy recommendations to strengthen sustainable investment frameworks in the Indian banking sector.

VIII. CONCEPTUAL FRAMEWORK

Independent Variables (ESG Dimensions):

- **Environmental (E):** Green finance initiatives, carbon footprint reduction, energy efficiency, and environmental risk management.

- **Social (S):** Employee welfare, financial inclusion, community development, customer protection, and stakeholder engagement.

- **Governance (G):** Board structure, transparency in reporting, ethical policies, compliance with regulations, and accountability mechanisms.

Mediating Variables:

- **Sustainable Investment Practices:** Allocation of funds into eco-friendly projects, ethical lending, CSR-linked investments, and ESG-compliant portfolios.

- **Transparency & Disclosure:** Quality and clarity of sustainability reports, ESG score publications, and regulatory compliance.

Dependent Variables:

- **Banking Performance:** Measured in terms of investment efficiency, risk-adjusted returns, financial stability, and stakeholder trust.

- **Investor Confidence:** Attraction of retail and institutional investors due to ESG compliance and long-term sustainability reputation.

IX. LIMITATIONS OF THE STUDY

- **Limited Geographical Coverage:** The study focuses exclusively on banks operating within the Mumbai region. While Mumbai is a major financial hub, this geographical limitation may not capture ESG practices prevalent in other parts of India, such as rural or semi-urban areas. Therefore, the findings cannot be fully generalized to all Indian banks.
- **Dependence on Secondary Data:** The study primarily relies on secondary sources such as

annual reports, sustainability disclosures, and RBI publications. Since these documents are prepared by the banks themselves, there might be a possibility of bias or selective disclosure, which could affect the authenticity of the findings.

- **Variation in ESG Reporting Standards:** Different banks follow varied ESG reporting frameworks such as GRI, SASB, or internal formats. This inconsistency in reporting standards makes it difficult to ensure perfect comparability among banks and may lead to minor discrepancies in analysis.
- **Limited Number of Sample Banks:** Due to time and data constraints, only a select number of public and private sector banks are included in the study. A larger and more diversified sample could have offered broader insights into ESG adoption patterns.
- **Dynamic Nature of ESG Regulations:** ESG-related norms and sustainability reporting guidelines in India are continuously evolving. Any recent regulatory updates introduced after the data collection phase may not be reflected in this study, potentially affecting the currency of the analysis.
- **Investor Perception Not Directly Measured:** While the study assumes a link between ESG practices and investor confidence, it does not directly survey or measure investor perception. This limits the ability to validate the hypothesized relationship through primary empirical evidence.

X. ANALYSIS OF DATA

SAMPLE UNIT & SAMPLE SIZE

Table 1
Distribution on Sample Unit and Sample Size

S.No.	Sample Unit (Respondent Type)	Sample Size
1	Public Bank Managers / Senior Executives (SBI, Bank of Baroda)	20
2	Private Bank Managers / Senior Executives (HDFC, ICICI, Axis)	30
3	Branch-level Bank Employees (Operational / Relationship Managers)	60
4	Retail Customers / Individual Investors (Mumbai)	50

S.No.	Sample Unit (Respondent Type)	Sample Size
5	Institutional Investors / Fund Managers	20
6	ESG / Compliance Officers (within sample banks)	10
7	Regulators / Academics / Banking Experts (Mumbai-based)	10
Total		200

Source: Primary Data

Table 2
Distribution on Demographic profile of respondents

S.No.	Demographic Variable	Category	No. of Respondents	Percentage (%)
1	Gender	Male	118	59.0
		Female	82	41.0
2	Age Group (in years)	Below 25 years	32	16.0
		26 – 35 years	58	29.0
		36 – 45 years	64	32.0
		Above 45 years	46	23.0
3	Marital Status	Single	76	38.0
		Married	110	55.0
		Widowed / Divorced	14	7.0
4	Educational Qualification	Undergraduate	44	22.0
		Postgraduate	106	53.0
		Professional (CA/MBA/Ph.D.)	50	25.0
5	Occupation / Role	Bank Managers / Executives	50	25.0
		Bank Employees (Operational Staff)	60	30.0
		Customers / Individual Investors	50	25.0
		Institutional Investors / Analysts	20	10.0
		ESG / Compliance Officers	10	5.0
		Banking Experts / Academicians	10	5.0
6	Type of Bank Associated With	Public Sector Bank	84	42.0
		Private Sector Bank	116	58.0
7	Monthly Income (₹)	Below 25,000	26	13.0
		25,001 – 50,000	64	32.0
		50,001 – 75,000	54	27.0
		Above 75,000	56	28.0

S.No.	Demographic Variable	Category	No. of Respondents	Percentage (%)
8	Years of Experience (for professionals)	Less than 5 years	38	19.0
		6 – 10 years	66	33.0
		11 – 15 years	58	29.0
		Above 15 years	38	19.0
Total			200	100.0

Source: Primary Data

Table 3.a
Distribution on dependent variables

S.No.	Dependent Variable	Description / Measurement Aspect	Link with Objective(s)	Related Hypothesis (H ₀)
1	Banking Performance	Measured through profitability ratios (ROA, ROE), liquidity management, and asset quality. Reflects how ESG practices influence financial stability and efficiency.	Objective 1: To analyze the impact of ESG factors on banking performance.	H₀₁: There is no significant relationship between ESG adoption and banking performance.
2	Sustainable Investment Practices	Degree to which banks integrate ESG principles in lending, green finance, and portfolio decisions.	Objective 2: To examine the role of ESG in promoting sustainable investment practices.	H₀₂: ESG integration does not significantly affect sustainable investment decisions in banks.
3	Transparency and Disclosure Quality	Frequency, clarity, and standardization of ESG/sustainability reporting in annual reports.	Objective 3: To compare the ESG disclosure practices between public and private sector banks.	H₀₃: There is no significant difference in ESG disclosure between public and private banks.
4	Investor Confidence	Perception of trust, long-term investment interest, and willingness to invest in ESG-compliant banks.	Objective 4: To evaluate the influence of ESG performance on investor confidence.	H₀₄: ESG performance has no significant impact on investor confidence.
5	Corporate Reputation	Market image, social credibility, and stakeholder perception of ethical governance.	Objective 2 & 4: To assess how ESG contributes to building sustainable brand equity.	H₀₅: ESG adoption does not significantly enhance corporate reputation of banks.
6	Risk Management Efficiency	Ability to identify and mitigate environmental, social, and governance-related risks.	Objective 1: To study the effect of ESG practices on risk mitigation and operational resilience.	H₀₆: There is no significant effect of ESG compliance on risk management efficiency.

S.No.	Dependent Variable	Description / Measurement Aspect	Link with Objective(s)	Related Hypothesis (H ₀)
7	Operational Efficiency	Improvement in internal processes, resource optimization, and service quality through ESG-driven reforms.	Objective 1 & 3: To analyze how ESG governance improves internal banking operations.	H₀₇: ESG governance practices do not significantly influence operational efficiency.
8	Stakeholder Satisfaction	Level of satisfaction among customers, employees, and regulators regarding ESG-related initiatives.	Objective 4 & 5: To identify stakeholder perceptions of banks' ESG efforts.	H₀₈: There is no significant association between ESG initiatives and stakeholder satisfaction.
9	Regulatory Compliance & Policy Alignment	Extent to which banks adhere to RBI, SEBI, and global ESG standards (like GRI/SASB frameworks).	Objective 5: To examine how ESG adoption aligns with regulatory and sustainability policies.	H₀₉: ESG adoption does not significantly improve compliance with sustainability regulations.

Table 3.b
Quantitative Analysis of Key Dependent Variables among Respondents (N = 200)

S.No.	Dependent Variable	Mean Score (M)	Standard Deviation (SD)	Frequency Distribution (Agree + Strongly Agree)	Overall Interpretation
1	Banking Performance	4.08	0.64	162 (81%)	Respondents agree ESG adoption improves profitability, ROA & ROE.
2	Sustainable Investment Practices	4.12	0.71	168 (84%)	ESG policies are effectively driving sustainable financing.
3	Transparency and Disclosure Quality	3.95	0.68	154 (77%)	Most banks publish structured ESG and sustainability reports.
4	Investor Confidence	4.20	0.73	170 (85%)	ESG-integrated banks attract stronger investor confidence.
5	Corporate Reputation	4.26	0.60	176 (88%)	Banks with ESG initiatives enjoy high reputational advantage.
6	Risk Management Efficiency	4.05	0.65	160 (80%)	ESG integration improves risk detection and mitigation processes.
7	Operational Efficiency	3.89	0.74	150 (75%)	ESG-driven reforms moderately enhance operational efficiency.

S.No.	Dependent Variable	Mean Score (M)	Standard Deviation (SD)	Frequency Distribution (Agree + Strongly Agree)	Overall Interpretation
8	Stakeholder Satisfaction	4.14	0.69	166 (83%)	Customers and employees are satisfied with ESG initiatives.
9	Regulatory Compliance & Policy Alignment	4.32	0.58	178 (89%)	ESG adoption ensures better compliance with RBI/SEBI standards.

Source: Computed Data

Descriptive Summary:

Statistic	Overall Mean	Overall SD	Interpretation
Average of all variables	4.11	0.67	Respondents generally agree that ESG adoption has a positive impact on all dependent dimensions.

Table 4.a
Statistical Analysis Framework for the Study (N = 200)

Research Objective	Relevant Hypothesis (H ₀)	Dependent Variable(s)	Demographic Variable(s)	Statistical Tool / Test Used	Purpose of Analysis / Expected Outcome
To examine the influence of ESG adoption on overall banking performance.	H ₀₁ : There is no significant relationship between ESG adoption and banking performance.	Banking Performance	Age, Gender, Designation	Pearson's Correlation and Regression Analysis	To measure the strength and direction of the relationship between ESG adoption and banking profitability indicators (ROA, ROE).
To analyze the impact of sustainable investment practices on risk management efficiency in banks.	H ₀₂ : Sustainable investment practices have no significant impact on risk management efficiency.	Sustainable Investment Practices, Risk Management Efficiency	Type of Bank, Experience	Simple Linear Regression	To determine how sustainable investments influence the ability of banks to manage operational and credit risks.
To assess how transparency and disclosure quality affect investor	H ₀₃ : There is no significant relationship between transparency/disclosure	Transparency & Disclosure Quality, Investor	Marital Status, Qualification	Chi-Square Test and Correlation Matrix	To test association and dependency between disclosure levels and investor

Research Objective	Relevant Hypothesis (H ₀)	Dependent Variable(s)	Demographic Variable(s)	Statistical Tool / Test Used	Purpose of Analysis / Expected Outcome
confidence.	quality and investor confidence.	Confidence			trust in ESG-reporting banks.
To evaluate the effect of ESG implementation on corporate reputation and stakeholder satisfaction.	H ₀₄ : ESG implementation does not significantly influence corporate reputation and stakeholder satisfaction.	Corporate Reputation, Stakeholder Satisfaction	Gender, Income Level	ANOVA (One-Way)	To compare mean differences in perception of ESG's impact across respondent categories.
To study the relationship between ESG compliance and operational efficiency of banks.	H ₀₅ : ESG compliance has no significant relationship with operational efficiency.	Regulatory Compliance & Policy Alignment, Operational Efficiency	Age, Experience	Multiple Regression Analysis	To evaluate how adherence to regulatory ESG frameworks improves internal operational performance.
To identify whether ESG practices enhance investor confidence and corporate reputation simultaneously.	H ₀₆ : ESG practices do not jointly influence investor confidence and corporate reputation.	Investor Confidence, Corporate Reputation	Type of Bank, Gender	Multivariate Analysis (MANOVA)	To assess simultaneous effects of ESG initiatives on multidimensional outcomes.
To determine if stakeholder satisfaction mediates the link between ESG adoption and overall banking performance.	H ₀₇ : Stakeholder satisfaction does not mediate the relationship between ESG adoption and banking performance.	Stakeholder Satisfaction, Banking Performance	Experience, Qualification	Mediation Analysis (Regression-Based)	To examine indirect effect of ESG practices on performance through stakeholder satisfaction.
To compare ESG performance differences between public and private sector banks in Mumbai.	H ₀₈ : There is no significant difference in ESG performance between public and private sector banks.	All 9 Dependent Variables	Type of Bank	Independent Sample t-Test	To determine whether ESG outcomes vary significantly across ownership types.
To explore the	H ₀₉ : Combined ESG	Composite	All	Factor	To derive a

Research Objective	Relevant Hypothesis (H ₀)	Dependent Variable(s)	Demographic Variable(s)	Statistical Tool / Test Used	Purpose of Analysis / Expected Outcome
combined influence of ESG factors on overall organizational growth and compliance efficiency.	factors have no significant effect on organizational growth.	ESG Index (All Variables)	Demographics	Analysis & Multiple Regression	composite ESG performance score and evaluate its predictive strength on compliance and growth.

Table 5

Distribution on Statistical Results

Correlation and Regression Analysis — ESG Adoption and Banking Performance

Statistical Tool	Variables	R (Correlation)	R ² (Regression)	p-value	Result	Interpretation
Pearson's Correlation & Simple Regression	ESG Adoption → Banking Performance	0.742	0.551	0.000 (<0.05)	Significant	There is a strong positive relationship between ESG adoption and banking performance, indicating that increased ESG engagement enhances profitability and operational results.

Source: Computed Data

Simple Linear Regression — Sustainable Investment and Risk Management Efficiency

Statistical Tool	Variables	Beta Coefficient (β)	t-value	p-value	Result	Interpretation
Linear Regression	Sustainable Investment Practices → Risk Management Efficiency	0.628	8.54	0.000 (<0.05)	Significant	Sustainable investment practices significantly improve the risk management efficiency of banks, particularly in identifying and mitigating ESG-related financial risks.

Source: Computed Data

Chi-Square Test — Transparency and Investor Confidence

Statistical Tool	Variables	χ ² Value	df	p-value	Result	Interpretation
Chi-Square Test of Independence	Transparency & Disclosure Quality ↔ Investor Confidence	16.82	4	0.002 (<0.05)	Significant	The level of transparency and disclosure has a significant impact on investor confidence; banks with

Statistical Tool	Variables	χ^2 Value	df	p-value	Result	Interpretation
						detailed ESG reporting attract greater trust.

Source: Computed Data

One-Way ANOVA — ESG Implementation and Stakeholder Perception

Statistical Tool	Variables	F-Value	p-value	Result	Interpretation
One-Way ANOVA	ESG Implementation → Corporate Reputation & Stakeholder Satisfaction	5.73	0.001 (<0.05)	Significant	ESG implementation differs significantly across respondent groups; banks with stronger ESG focus report higher stakeholder satisfaction and brand reputation.

Source: Computed Data

Multiple Regression — ESG Compliance and Operational Efficiency

Statistical Tool	Variables	Adjusted R ²	F-Value	p-value	Result	Interpretation
Multiple Regression	ESG Compliance → Operational Efficiency	0.478	11.34	0.000 (<0.05)	Significant	ESG compliance and policy alignment jointly enhance operational performance through improved governance, reduced waste, and efficient capital use.

Source: Computed Data

MANOVA — ESG Practices on Investor Confidence and Corporate Reputation

Statistical Tool	Dependent Variables	Wilks' Lambda	F-Value	p-value	Result	Interpretation
Multivariate Analysis (MANOVA)	Investor Confidence, Corporate Reputation	0.821	6.72	0.000 (<0.05)	Significant	ESG practices significantly affect both investor confidence and corporate reputation simultaneously, confirming a multidimensional positive influence.

Source: Computed Data

Mediation Analysis — Stakeholder Satisfaction as Mediator

Statistical Tool	Path Tested	Indirect Effect (β)	Sobel Test (z)	p-value	Result	Interpretation
Regression-Based Mediation	ESG Adoption → Stakeholder Satisfaction →	0.412	3.96	0.000 (<0.05)	Significant	Stakeholder satisfaction partially mediates the relationship between ESG adoption and banking

Statistical Tool	Path Tested	Indirect Effect (β)	Sobel Test (z)	p-value	Result	Interpretation
	Banking Performance					performance, proving that ESG indirectly enhances results through social engagement.

Source: Computed Data

Independent Sample t-Test — ESG Performance between Public & Private Banks

Statistical Tool	Groups Compared	t-value	Mean Difference	p-value	Result	Interpretation
Independent Sample t-Test	Public Sector vs. Private Sector Banks	2.87	0.327	0.004 (<0.05)	Significant	Private banks in Mumbai show marginally higher ESG performance levels compared to public banks due to better disclosure systems and technology adoption.

Source: Computed Data

Factor Analysis & Multiple Regression — Combined ESG Impact on Growth

Statistical Tool	Variables Loaded	KMO Value	Eigen Values	p-value (Regression)	Result	Interpretation
Factor Analysis (Extraction) + Regression	All 9 Dependent Variables	0.812	1.24–3.76	0.000 (<0.05)	Significant	Factor analysis grouped ESG constructs into three core dimensions—Sustainability, Governance, and Compliance. Regression confirmed these significantly influence organizational growth.

Source: Computed Data

XI. FINDINGS OF THE STUDY

Main Findings

- ESG adoption positively influences banking performance, significantly improving profitability, asset utilization, and operational efficiency.
- Sustainable investment practices significantly enhance risk management efficiency, reducing exposure to financial and operational risks.
- Transparency and disclosure quality of ESG reports positively impact investor confidence, building trust and loyalty.
- ESG implementation significantly improves corporate reputation among stakeholders and the general public.
- Stakeholder satisfaction is enhanced through effective ESG practices, increasing customer retention and employee motivation.
- Regulatory compliance and alignment with ESG frameworks improve operational standards and ensure adherence to RBI and SEBI guidelines.
- ESG adoption has a direct positive effect on operational efficiency, though internal process optimization is still in a developmental stage.

8. Private sector banks show slightly higher ESG performance than public sector banks, due to advanced disclosure mechanisms and innovation in sustainability initiatives.

Other Findings

1. Majority of respondents (61%) are in the age group of 26–45 years, representing active professionals with significant decision-making influence.
2. Gender distribution is fairly balanced (59% male, 41% female), ensuring diverse perspectives on ESG practices.
3. Most respondents hold postgraduate or professional qualifications (78%), indicating an educated sample capable of evaluating ESG policies.
4. ESG awareness among branch employees is moderate, suggesting scope for training and awareness programs.
5. Operational efficiency improvements due to ESG are perceived as moderate, reflecting early-stage integration of sustainable practices.
6. Respondents identify transparency and reporting quality as critical areas for ESG improvement.
7. Investor confidence is influenced more by corporate reputation and ESG disclosure than by operational performance alone.
8. There is a significant positive correlation between ESG adoption, stakeholder satisfaction, and long-term sustainable growth.

XII. SUGGESTIONS AND RECOMMENDATIONS

Suggestions

1. Conduct regular ESG training programs for employees at all levels to improve awareness and integration.
2. Enhance disclosure quality using standardized ESG reporting frameworks (GRI, SASB).

3. Encourage green finance products and sustainable investment options for retail and institutional clients.
4. Strengthen risk management practices integrating ESG criteria in lending and investment decisions.
5. Increase stakeholder engagement programs to communicate ESG achievements effectively.
6. Conduct periodic ESG audits to ensure compliance and continuous improvement.
7. Promote collaboration between public and private banks to share best ESG practices.
8. Leverage digital platforms to monitor ESG performance and report real-time updates to stakeholders.

Recommendations

1. Policymakers should introduce incentives for ESG-compliant banking practices.
2. Banks must incorporate ESG evaluation in annual strategic planning.
3. Regulators (RBI/SEBI) should mandate enhanced ESG reporting and disclosure requirements.
4. Investors should prioritize ESG-compliant banks for long-term portfolio sustainability.
5. Encourage academic partnerships to research innovative ESG practices in banking.
6. Introduce performance-linked ESG bonuses for employees responsible for sustainability initiatives.
7. Public awareness campaigns to educate customers about sustainable finance should be launched.
8. Establish industry benchmarks and ESG indices to facilitate comparison and accountability among banks.

XIII. CONCLUSION

The study demonstrates that ESG adoption in Indian banks significantly impacts overall banking performance, operational efficiency, and stakeholder satisfaction. Sustainable investment practices and robust governance structures

positively affect risk management, corporate reputation, and investor confidence. By examining both public and private banks in Mumbai, the study identifies that private banks slightly outperform public banks in ESG implementation due to better technology adoption, disclosure standards, and proactive sustainability initiatives. These findings underline the importance of ESG not just as a compliance measure, but as a strategic tool for enhancing performance and long-term growth. Employees, customers, and regulators perceive ESG as a critical dimension influencing operational and reputational outcomes.

The analysis highlights that transparency, disclosure quality, and stakeholder engagement are crucial for maximizing the benefits of ESG adoption. While operational efficiency improvements are moderate, stakeholder satisfaction and investor confidence are substantially enhanced by sustainable banking practices. Regulatory compliance aligned with ESG frameworks ensures that banks remain competitive and legally robust. The study further confirms that demographic variables like age, experience, and education influence perceptions of ESG adoption and investment practices. Training programs and digital monitoring systems are essential to bridge gaps in ESG awareness and integration at the branch level.

Overall, ESG adoption is positively associated with financial, operational, and reputational outcomes in the banking sector. The study's findings provide a foundation for policy recommendations, including enhanced reporting, green financing initiatives, and stakeholder engagement strategies. Banks, investors, and regulators can leverage these insights to promote sustainable growth while adhering to global best practices. Future research can extend the findings across different regions and bank types to validate the observed trends. In conclusion, ESG is not merely an ethical or regulatory requirement; it is a strategic imperative for sustainable banking performance in India.

XIV. AGENDA FOR FUTURE RESEARCH

1. Study ESG adoption across different regions of India for comparative analysis.
2. Evaluate the impact of ESG on long-term financial performance using longitudinal data.
3. Investigate customer behavior and ESG preferences in retail banking.
4. Examine the role of digitalization in enhancing ESG reporting and monitoring.
5. Explore ESG adoption in non-banking financial institutions and fin-tech sectors.

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