



FROM CSR TO CLIMATE RISK BASED DISCLOSURE: A TREND ANALYSIS OF SUSTAINABILITY REPORTING IN SELECTED INDIAN SCHEDULED COMMERCIAL BANKS

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Abstract

Purpose: Concern for the environment has grown in recent years as a result of a number of environmental challenges, including climate change, water pollution, global warming, and the disposal of hazardous waste. This resulted change in consumer preferences and increase demand for green financial products. This study aims to examine the sustainability reporting practices of the selected Indian banks, focussing mainly on the transition from the traditional CSR disclosures to the modern climate – risk reporting also making comparisons between public and private sector reporting practices.

Methodology: The research utilizes secondary data and employs descriptive research approach. Content analysis has been conducted to look at how certain banks address sustainability. The study was improved by using reports from four banks: two public banks (the State Bank of India and the Bank of Baroda) and two private banks (“Axis Bank and HDFC Bank”). It also used reports from specific publications, websites, and other sources.

Findings: Study revealed significant improvement in the sustainability reporting practices among scheduled commercial banks due to growing consciousness about the environment on the part of Indian banking sector firms. Corporate social responsibility was found to be the consistently reported dimension, while there was a steady increase in climate risk reports. The private sector banks were found to have achieved greater maturity and consistency in reporting sustainability information compared to their counterparts in the public sector.

Practical Implications: This study offers various implications such as it provides information that banks can use to improve sustainability reporting practices, along with highlighting the significance of climate risk reporting. This information can be used by regulatory agencies to develop better mechanisms of accountability, transparency, and reporting in banks. Moreover, this study offers comparisons between private and public banks and offers managerial insights, along with increasing awareness among customers about sustainable banking.

Keywords: CSR, banking sector, sustainable reporting, climate risk, ESG, green banking.

Introduction

The depletion of resources, declining environmental standards, and social inequity have heightened apprehensions regarding the necessity for a more sustainable society and economy. (Sebastião, et al., 2024; Gu & Wang, 2022; Fatima & Elbanna, 2023) In the modern world, addressing sustainability in the financial sector is now unavoidable; the idea of sustainable development changes as we realize that we cannot jeopardize future generations (ROGERS, 2004; Garbie, 2015; Sebastião, et al., 2024).. In order to achieve optimal financial results, enhance the image of the company, pursue social benefit, and transparently customize stakeholder interactions, it was revealed that there is an unfavourable association between corporate governance procedures and CSR in 2018 (Fiandrino, et al., 2019). Corporate social responsibility is of paramount importance following significant financial crises and business controversies. Corporate social responsibility (CSR) and sustainability operate efficiently collectively (Farooq, et al., 2024). But in this setting, the manufacturing industry—especially the banking sector—has gotten far more attention than the services sector, which is crucial to a country's economy and greatly advances sustainable development. (Quarshie, et al., 2016). In the current economic period, sustainability is the trendier idea. Every business sector has had to strategically balance environmental, social, and governance issues in recent decades in order to create long-term value and satisfy the demands of a sustainable future. In order to facilitate the comprehensive view of transparency, accountability, and sustainability for a more stable and successful economy, integrated reporting procedures reveal both financial and non-financial information. By engaging in community development initiatives and safeguarding against unknown financial losses, this reporting method can increase stakeholder



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value. By fostering moral behaviour and socially conscious endeavours, corporate governance serves as a crucial indicator for achieving the Sustainable Development Goals. (Swain & Dey, 2026; Aras & Crowther, 2008)

The majority of the literature now in publication focuses on generic CSR or ESG disclosures without particularly addressing the growing significance of climate-related hazards, despite earlier research having looked at corporate social responsibility and sustainability reporting procedures in the banking sector in particular (Alharasis, 2025). Understanding the shift from standard CSR reporting to disclosures focused on climate risk has also received little attention, especially in light of recent regulatory changes. Comprehensive studies that compare disclosure methods between public and private sector banks and examine sustainability reporting patterns throughout the years are scarce in the Indian context. This disparity emphasizes the necessity of a targeted examination of how sustainability reporting has changed to take climate risk into account in the banking industry.

Literature Review

There are very few disclosures regarding sustainability within financial institutions operating in Ghana. The least disclosed information relates to environmental and energy issues. There is a positive correlation between sustainability disclosure and reputation, foreign ownership, and government ownership. The level of sustainability disclosure was not correlated with board size and gender diversity. Further, there are differential impacts on the different dimensions of the sustainability index (Arkoh & Hussain, 2026).¹⁶⁴

This study uses a modified "environmental, social, and governance" disclosure index based on previous research to evaluate bank sustainability reports from 2010 to 2024. Multivariate regression analysis of the study's findings indicates that Jordanian banks with more EM practices are more likely to receive a higher sustainability score. This implies that Businesses with better "environmental, social, and governance" policies may use ESGs to improve information transparency and draw in investors that respect ethical investing and sustainability disclosures. This conclusion is supported by each of the three fundamental elements of sustainability reporting (Alharasis, 2025).

The study encountered that most aspects of corporate governance have a positive but statistically insignificant link to financial success (ROE), except for CEO duality. CSR as a moderating variable and how it interacts with CEO duality have a big effect on financial performance. But the size or scope of the public insurer's business also has an effect on the returns to equity holders (Swain & Dey, 2026).

Green finance greatly improves sustainability performance by encouraging eco-friendly investments. By translating green finance initiatives into observable sustainability gains, CSR mediates this relationship. In order to ensure that CSR efforts are sincere and successful, stakeholder demands moderate the relationship between CSR and sustainability. These results underline the strategic significance of CSR and stakeholder involvement and support legitimacy and stakeholder theories (Darsono , et al., 2025).

The findings of this study indicate that ESG disclosures have gained significant relevance due to the ongoing changes in the region, particularly with initiatives like Saudi Arabia's Vision 2030 and the UAE's Green Economy Strategy. Nevertheless, ESG reporting remains inconsistent even among non-GCC countries, which highlights the importance of governance quality in the context of disclosure reliability. In terms of research clusters, this study concentrates on topics such as corporate governance, integrated reporting, board composition, and performance; however, these topics are insufficiently integrated, which contributes to the fragmented structure of the knowledge base. There is relatively little information about macro-institutional, enforcement, and socio-political determinants, including those existing beyond the GCC region; however, there is relatively much information about internal governance mechanisms. Finally, the methodology of ESG disclosure studies primarily relies on quantitative firm-level analysis(Seow & Ellili, 2026).

CSR committees, banks are much more likely to fund green products and renewable energy projects if they have to report on their sustainability. Regulatory environments and policies affect how different countries use green finance (Sourour & Habiba, 2026).



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Here the study demonstrates companies are committed to making the world greener by reducing greenhouse gas emissions, using more renewable energy, using less energy and water, and putting in place waste and water treatment programs all over the place. Several companies have set goals for lowering emissions and using renewable energy. They have also increased their R&D and capital spending on ESG priorities. Many companies have improved their ESG reporting and compliance with regulations, and they have also started projects to measure the impact of ESG. It looks like big manufacturing companies are starting to report on their environmental sustainability, but there are still big gaps in the reports and the risk of greenwashing, which needs careful attention from lawmakers (Verma & Panwar, 2026).

According to the survey, banks have a high level of ESG disclosure, but their devotion to the integrated reporting's guiding principles is not entirely consistent. Readability, accessibility, and performance, as well as strategic goals and an explanation of how banks balance sustainability and economic factors while creating value, are the primary gaps. Therefore, the study supports the inferences of earlier research, which show that even with the implementation of new required reporting regulations, the dangers of greenwashing are still generous (Appolloni, et al., 2026).

Objectives of the study

1. To examine the overall trend in sustainability reporting in selected Indian banks over the study period.
2. To analyse the shift in focus from CSR disclosures to climate-related disclosures.
3. To make a comparison of sustainability reporting practices between public and private sector banks.
4. To analyse the overall disclosure percentage of the sustainability variables which are taken up for the study.

Methodology

The study employs a descriptive research design on secondary data and quantitative research design to examine the sustainability practices of selected Indian banks. This study exclusively relies on secondary sources i.e. from annual reports, sustainability reports, integrated reports and BRSR reports which were publicly available and other relevant disclosures published on the official websites of the selected banks.

The study period spans multiple years, that is from 2018 to 2024 which helped in the assessment of trends and changes in sustainability reporting practices over time. The selected banks for the analysis were State Bank of India, Bank of Baroda which are public banks and Axis Bank, HDFC Bank which are private sector banks. The chosen banks have been instrumental in representing a considerable portion of the Indian banking industry and can be used to make an elaborate study on sustainability. The data for the paper were collected using an analysis of the published documents where sustainability issues were identified and structured.

Consequently, a disclosure index is developed to enable trend and comparative analysis. This index consists of five variables Corporate Social Responsibility (CSR), Environmental, Social and Governance (ESG) practices, climate risk disclosure, emissions disclosure, and net-zero commitments. Content analysis is utilized to evaluate sustainability disclosures in specific banks. A binary scoring system is used, where a value of 1 is given if a certain disclosure is present and 0 if it is not. Each item was carefully examined and the score was given according to these criteria mentioned earlier and the scores were aggregated for each dimension for analysis. Also, descriptive statistical techniques were used percentages, averages, and trend analysis. These methods helped in identifying patterns, differences, and improvements in the sustainability reporting by the selected banks. The banks were also compared to determine their relative performances along various dimensions of sustainability.

For ensuring consistency in the entire coding and evaluation procedure, uniform coding procedures and criteria have been used throughout. Microsoft Excel and other statistical tools were employed for coding the data, tabulation, computations, and graphical representation. The methodology followed in this study is a systematic way for evaluating sustainability disclosures and helps in gaining insights into sustainable banking practices in India.



Analysis and Discussion

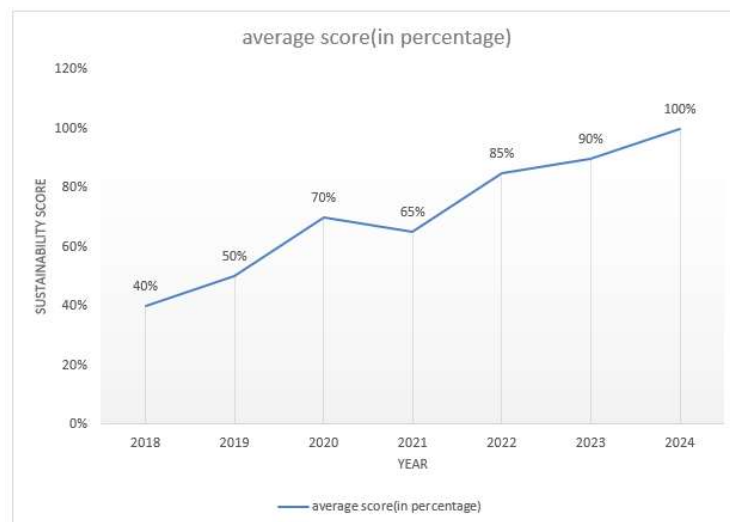
1 - To scrutinise the trend and evolution of sustainability reporting practices among selected Indian banks over the study period.

Table 1- Year wise average scores of sustainability disclosures

Year	Average score (in percentage)
2019	50%
2020	70%
2021	65%
2022	85%
2023	90%
2024	100%

Source – Prepared by the author using data from Annual Reports and Sustainability Reports of “State Bank of India”, “Bank of Baroda”, “Axis Bank”, and “HDFC Bank” (2018–2024).

Figure 1 – Year wise average scores of sustainability disclosures



Source – Author’s compilation using secondary data

Table 1 and figure 1 shows average trend in the form of the average scores of sustainability disclosures of the selected four banks calculated with the help of content analysis scores over the period 2018 to 2024. This interprets an overall increasing trend in the disclosure’s practices leading to continuous improvement in sustainable reporting. We can observe that in the initial year 2019 the average score is 50 % which is low but it gradually improved in the year 2024 which is to 100%.

Also, we can notice a sudden dip between 2020 -2021 this may be partially attributed to COVID-19 pandemic, which caused economic activity to be disrupted and directed organizational attention toward pressing operational and financial issues. However, the consistent rise in the average score in further years i.e. 85% in 2022, 90% in 2023 and 100% in 2024, shows banks are increasingly adopting more inclusive and structured reporting practices, moving from traditional CSR disclosures toward broader ESG and climate risk-oriented reporting.



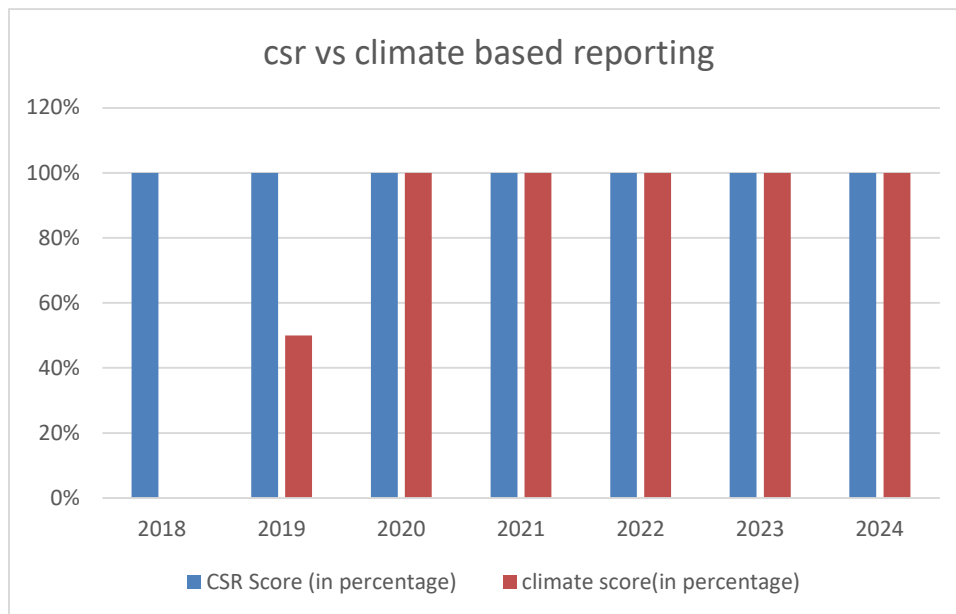
2- To assess the evolving shift in emphasis from traditional CSR disclosures to climate-related reporting among selected banks during the study period which is from 2019-2024

Table – 2 Comparison of CSR and climate risk-based scores

Year	CSR Score (in percentage)	Climate score (in percentage)	Level
2018	100%	0%	high/low
2019	100%	50%	high/low
2020	100%	100%	high/high
2021	100%	100%	high/high
2022	100%	100%	high/high
2023	100%	100%	high/high
2024	100%	100%	high/high

Source – Authors ‘compilation using data from Annual Reports and Sustainability Reports of “State Bank of India”, “Bank of Baroda”, “Axis Bank”, and “HDFC Bank” (2018–2024).

Figure – 2 Comparison of CSR and climate risk-based scores



Source - Author’s compilation using secondary data



Figure 2 and table 2 shows the comparative analysis of CSR and climate – relate disclosures score over the time period 2018-2024. This interpret that CSR disclosures are consistent throughout the seven years of study that is complete 100% disclosure by all the banks. This shows that CSR has become an important and stable component of banking disclosures.

In contrast, if we see the climate scores, they are negligible in the initial year that is 0 %, further in 2019 the climate reporting increased to 50 % which is an impressive increasing trend and following that in next coming years we can see 100% climate risk-based disclosure. This trend implies a growing emphasis on the increasing awareness of the climate related risks which the banking industry is including it in its disclosures which shows the rising importance of addressing ecological issues, the increasing importance of sustainability and environmental risk considerations within the banking sector.

The comparison reveals a major shift from traditional CSR-oriented reporting to broader disclosures on sustainability and climate change. Although CSR remained an important reporting domain, banks gradually expanded their scope to encompass climate-related issues, emissions, and environmental commitments. CSR remained a big reporting area, and banks slowly started to include climate issues, emissions and environmental commitments in their focus.

3 - To compare the sustainability disclosure performance of public and private sector banks based on average scores over the study period.

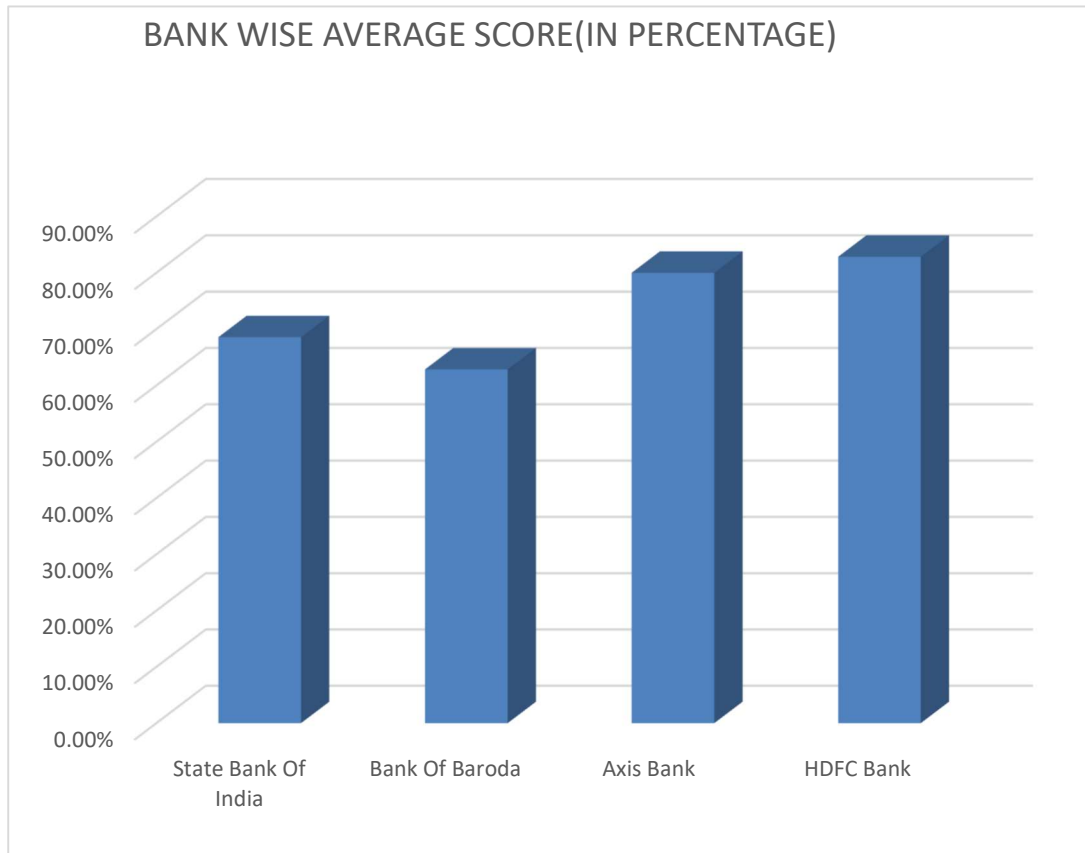
Table – 3 Comparison between private and public sector banks in sustainability disclosure practices

BANK TYPE	BANK NAME	BANK WISE AVERAGE SCORE (IN PERCENTAGE)
Public	State Bank of India	68.57%
Public	Bank Of Baroda	62.85%
Private	Axis Bank	80%
Private	HDFC Bank	82.85%

Source – Authors ‘compilation using data from Annual Reports and Sustainability Reports of “State Bank of India”, “Bank of Baroda”, “Axis Bank”, and “HDFC Bank” (2018–2024).



Figure – 3 Comparison between private and public sector banks in sustainability disclosure practices



Source – Author’s compilation using secondary data

In Table 3 and figure 3 shows the of sustainability reporting disclosures between the public sector and private sector banks. In this we can see that there is a noticeable difference between the sustainability disclosure practices of the two categories of the bank that is the public sector and private sector banks. If we take up average score of public sector bank category it is 65.71% and in the private bank category it is 81.45%. It shows that in comparison the performance of private sector banks is better than the public sector banks among the four scheduled banks taken up for this study in the sustainability disclosures.

Nevertheless, the performance of public is not poor, reflecting the growing importance of sustainability and climate-related reporting across the Indian banking sector. From this we can interpret that the private sector banks exhibit stronger performance in sustainability disclosures than the private sector bank during the time period 2018 to 2024. This can be explained by the higher degree of strategy focus on ESG practices, increased stakeholder demands, more transparency measures, and quicker adaptation to international sustainability reporting developments in private organizations.



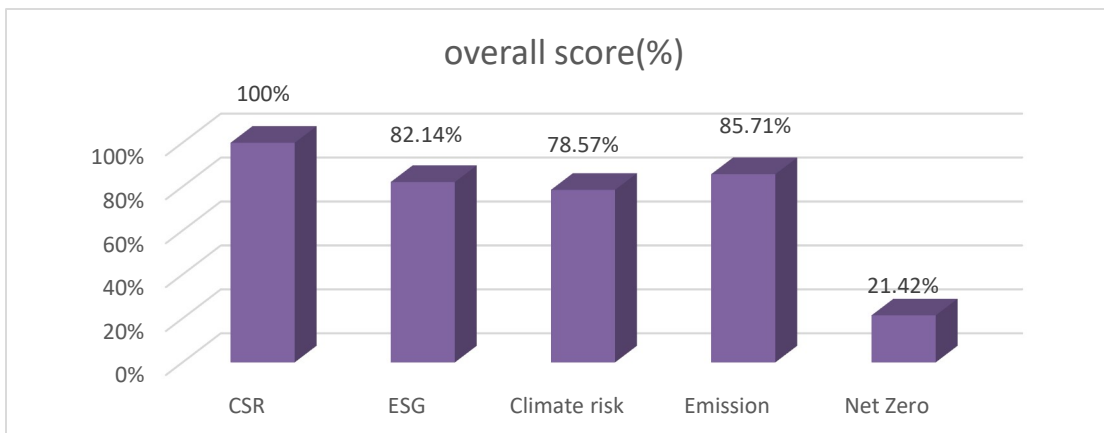
4 - To analyse the overall disclosure percentage of the sustainability variables which are taken up for the study.

Table – 4 Variable wise sustainability disclosures

Variables	overall score (%)
CSR	100%
ESG	82.14%
Climate risk	78.57%
Emission	85.71%
Net Zero	21.42%

Source – Authors ‘compilation using data from Annual Reports and Sustainability Reports of “State Bank of India”, “Bank of Baroda”, “Axis Bank”, and “HDFC Bank” (2018–2024).

Figure – 4 Variable wise sustainability disclosures



Source – Author’s compilation using secondary data

Table 4 and figure 4 shows the overall score of variables which are being used in this study for the time period 2018 – 2024. The findings have indicated that the CSR have recorded the highest overall scores among all the variables discussed here. This shows that the CSR has become a stable and well disclosed component in sustainable disclosures across all banks taken up for the study. This also shows the greater emphasis on CSR activities and related reporting practices in banking industry. After this the second highest variable is the emission with 85.71% indicates the growing awareness and increasing attention towards the environmental concern and emission related reporting. After emission next variable with third highest score is the ESG which have achieved an overall score of 82.14% which shows that banks are increasingly adopting and incorporating broader environmental, social, and governance considerations into their reporting frameworks.



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Climate risk related disclosures have recorded a score of 78.57% highlighting the importance of addressing climate risk in the banking industry. Although the score of climate risk related concern is lower than the scores of ESG, Emission then too it suggests the increasing awareness of the climate related risks and incorporating them into reporting frameworks. In contrast we can see that net zero variable have recorded the lowest score that is 21.42% which shows that although the banks are concerned about the environment, commitments related to carbon neutrality and long-term decarbonization strategies are still at an emerging stage among the selected banks. The comparatively low score of the net zero variable, while banks are showcasing their concern and awareness about the climate related issues, indicates that the banks are improving in the terms of discussing sustainability and climate-related issues but proper net-zero commitments and complete transition plans are still not popular to be adopted across this sector.

Major Findings

The analysis of annual and sustainability reports of the taken scheduled commercial banks have given great insights towards the increasing trend of the sustainability reporting. The analysis has shown that the sustainability reporting disclosure practices are on rise which shows the growing concern towards the environment in the Indian Banking sector. The findings have also indicated that CSR have become a well-established disclosure which is included by every bank and reported effectively too. The findings also indicate that although the weight of climate risk-based reporting is less as compared to CSR a gradual shift has been observed from CSR to climate risk-based reporting practices. This indicates the growing awareness among the banking sector and the need to incorporate climate risk-based disclosures reporting.

It was also found that private banks performance was better than public sector banks, private banks demonstrated better consistency in sustainability reporting practices. Although public sector banks showed significant improvement over time, private sector banks maintained a relatively higher level of reporting maturity throughout the period under review. A notable finding of the study revealed variable wise disclosure which showed the good average scores for each variable except net zero which shows that although the banks are aware about the environmental issues, climate risk still commitments to net zero emission is still lacking and are not been adopted appropriately.

Practical Implications of the Study

The insights of the study have provided several implications to various stakeholders including banks, regulators, investors, policymakers, and researchers. Firstly, this study will provide the information about the growing importance climate risk-based disclosures which will in turn help the banking institutions in enhancing their sustainability reporting framework, improve disclosure quality, and develop more comprehensive sustainability strategies aligned with global best practices.

Secondly this study will provide the valuable knowledge to regulators and standard-setting bodies. The finding of the study can assist the policymakers assessing the effectiveness of existing frameworks available for reporting and can identify areas where additional guidance is required or if there is any requirement of disclosure of some other variable. Improved frameworks for reporting will help in greater transparency, accuracy and promote greater accountability among financial institutions.

Third, it will be helpful in increasing the awareness among banking customers to go more for green banking products and help them in increasing the awareness and knowledge about these products which will be helpful in tackling the rising ecological issues. Furthermore, the comparison between public and private sector banks would provide great managerial insights. The findings suggest that bank with more inclusive disclosure practice will be more likely to be positioned in the eyes of the stakeholders.

Lastly, the study is of great importance to academic and research community. The findings pave the way for further research in the same and similar areas as well as add to the growing literature base in sustainability reporting, climate risk disclosure, and responsible banking practices. The findings of this study also draw attention to the growing importance of climate transparency in banking and the changing role of sustainability reporting towards sustainable development.



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Limitations of the study

Although the study dives into the modern spectrum of reporting done by the banks, moving from traditional CSR practices to climate risk related disclosures it is prone to certain limitations which are being addressed here. Firstly, this study is based on secondary data solely which is collected from annual reports and sustainability reports which can be affected due to the reporting bias or the other reason can be selective disclosure practices. The researcher was unable to independently verify the accuracy and completeness of the disclosed information.

Secondly, the sample taken for this study is of only four banks that is two public sector banks and two private sector banks which implies that these findings are not generalizable on the entire Indian banking industry. Also, this study only focussed upon the banking industry specifically so this study can be applied to other sectors so it remains restricted to one sector. Additionally, this study is based on the public available information and neither it incorporates the primary data nor it take up stakeholder perspectives which could have provided the deeper qualitative insights into sustainability reporting practices.

Lastly, although the selected time taken for the study helps taking up recent developments related to sustainability reporting, it may not be sufficient for capturing long-term structural changes in sustainable reporting practices in the banking sector. However, in spite of these drawbacks, the study gives insights into how Indian banks have moved from their CSR reporting practices to climate-related reporting.

Future scope of the study

This study offers several avenues for future research in the area of sustainability disclosures including climate related reporting. First the future studies can broaden the scope further than banking sector and include industries such as manufacturing, energy, information technology, insurance, and pharmaceuticals helping in getting a bigger picture of sustainability disclosures across different industries. Comparative analysis across different can also be done in future for deeper insights in this area.

Secondly, in future researches can include larger sample size by taking up larger number of public and private sector banks, regional banks, cooperative banks, international financial institutions so that results obtained are more generalizable. Also, the cross-country comparisons can be done in future to examine the sustainability related disclosure frameworks across different regulatory and economic environment.

Also, future researches can incorporate primary data through surveys, interviews, observations and expert opinions from bank managers, sustainability officers, regulators, investors and other stakeholders. The inclusion of qualitative aspects of this area will be of much advantage in understanding the motivation and challenges behind understanding the sustainability reporting practices. Combined approaches consisting of both qualitative and quantitative can also be used for future.

The study may further take bigger time frame or they can use longitudinal research designs which can capture a long-term picture of sustainability and climate – related disclosures practices. Moreover, the future studies can include more advanced analytical methods and study the relationship elements such as market reputation, investor confidence, business governance, financial success, risk management practices, and sustainability disclosures. This would help provide profounder vision into the transparency, credibility, and strategic relevance of sustainability reporting practices in the evolving business environment.

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