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"Sustainability disclosure of Indian banks and Their Relationship with Bank Attributes"

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Abstract

The Business Responsibility and Sustainability Reporting (BRSR) framework, formed by the Securities and Exchange Board of India (SEBI), aims to increase accountability and transparency in sustainability efforts of Indian entities. However, inconsistent reporting practices hinder comparison and evaluation of sustainability commitment. This study develops a Sustainability Business Disclosure Index (SBDI) to fill the gap in standardized measurement tools and evaluate the relationship between SBDI, foreign association, bank size, and age. The study collected data from Moneycontrol.com on public and private sector banks. Content analysis was used to measure the level of disclosure on a binary scale, while SPSS software was used to analyze the data. The descriptive statistics are used to assess disclosure levels, while correlation and regression techniques are applied to examine the relationship between disclosure and institutional characteristics. The cross-sectional study found that Indian banks provide more information about non-financial reporting other than financial information. The findings have practical implications for the banking sector in India, as the SBDI could become an industry standard for assessing and evaluating banks' sustainability disclosures. It can be utilized by regulatory bodies like RBI and SEBI to create clear and transparent reporting guidelines. The SBDI would offer investors and stakeholders a reliable metric to assess banks' sustainability commitments, increasing trust and accountability.

Keywords- Sustainability Disclosure, ESG, content analysis, Disclosure Index, SBDI, sustainability reporting, Banks' Sustainability Reporting, BRSR reports

Paper type: Research paper

1. Introduction

As a crucial part of the financial industry, banks play a significant role in the economy's ability to develop sustainability because they provide capital and have a substantial impact on society and the economy, while financial institutions do not directly influence the environment extensively through their operations, the projects or businesses they finance, such as mining companies, oil and gas firms, and others, can negatively affect the environment. In the global economy, social and environmental impact disclosures are rapidly replacing environmental disclosures as requirements for sustainability reporting in businesses (Gray & Milne, 2002). Various organizations, such as the Task Force on Climate-related Financial Disclosures (TCFD), the Global Reporting Initiative (GRI), and the Sustainability Accounting Standards Board (SASB), are working to define materiality and establish standards to facilitate the inclusion of these elements in the investment process. The Ministry of Corporate Affairs (MCA) published the Voluntary Guidelines on Corporate Social Responsibility in 2009, marking the beginning of ESG reporting in India. With the introduction of Business Responsibility Reporting (BRR), Corporate Social Responsibility (CSR), internal reporting (IR), the National Guidelines on Responsible Business Conduct (NGRBC), and the latest addition, the Business Responsibility and Sustainability Report (BRSR), the reporting landscape has evolved significantly since then. The World Commission on Environment and Development (WCED) produced the Brundtland Report, which established the widely accepted definition of sustainability. According to this report (WCED, 1987, p. 43), "Development which meets the needs of the present without compromising the ability of future generations to meet their own needs" is what is meant by sustainable development (World Commission on Environment & Development, 1987). Since the late 1990s, the Global Reporting Initiative (GRI) has led the way in sustainability reporting, helping governments and companies understand and communicate their impact on critical issues like corruption, human rights violations, and climate change. GRI aims to use its multi-stakeholder network and sustainability standards to enable decision-makers to work toward a more sustainable economy and planet (Gaudencio et al., 2020). According to a global KPMG survey conducted in 52 countries in 2020, financial stakeholders are increasingly recognizing sustainability, or ESG reporting, as an essential component of corporate reporting.

The BRSR is the latest and most significant step to ensure investors have access to standardized disclosures on ESG concerns (SEBI, 2021).While many nations still report sustainability voluntarily, many countries—including India—are embracing international norms to establish guidelines for corporate ESG data reporting. Unlike ESG reports, also known as sustainability reports, are official publications that disclose a company's ESG impacts and progress toward its sustainability goals. The business responsibility report (BRR) was replaced by the BRSR Framework, which was implemented by LODR Regulation 34(2)(f) in May 2021 and mandates the top 1,000 listed companies to annually report ESG-related information starting in the fiscal year 2022–2023. By promoting transparency and risk management, ESG reporting enhances corporate governance. It fosters communication and trust, increasing stakeholder engagement. Additionally, it helps create long-term value by reducing risks, attracting ethical investors, and promoting environmentally responsible corporate practices. In an ever-changing global business environment, Indian organizations can greatly benefit from adopting ESG reporting in terms of performance, reputation, and sustainability (Abdul Rahman & Alsayegh, 2021)

Objectives of the Study

1. To draw attention to Indian banks' degree of sustainability disclosure.

2. To create a Sustainability Business Disclosure Index to gauge how much information is included in reports about non-financial matters.

3. To conduct an empirical assessment of the correlation between sustainability disclosure, foreign association, bank size, and age.

2. Literature Review and Hypothesis

2.1 Revolution of sustainability disclosure

The "National Guidelines on Responsible Business Conduct" (NGRBC) principles serve as the foundation for ESG, which UN SDGs, UN GRI, and UN Guiding Principles. Investors would find India to be a more appealing investment destination if Indian enterprises adopted sustainability-centric reporting. Globally, investors are starting to view business operations differently and are placing a greater premium on non-financial reporting, which is why non-financial reporting is growing in popularity. In September 2015, India joined the UN Sustainable Development Goals. India's score on the “Sustainable Development Goals” (SDG) 2020 index is 61.92 out of 100, placing it 117th out of 193 countries. Nonetheless, India's advancement in this area has been

significantly aided by the Government of India's ongoing flagship initiatives, which include the "Swachh Bharat Mission (SBM), Beti Bachao Beti Padhao (BBBP), Pradhan Mantri Awas Yojana (PMAY), Pradhan Mantri Jan-Dhan Yojana (PMJDY), Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY), and Pradhan Mantri Ujjwala Yojana (PMUY)" (Debnath & Kanoo, 2023)The recent years have seen SEBI implement various ESG measures, leading to increased disclosure in India, as it is now viewed as essential for businesses. The Business Responsibility and Sustainability Reporting (BRSR) framework, based on nine NGRBC principles, emphasizes customer welfare, regulatory compliance, ethics, transparency, sustainability, and protection of the environment, while also focusing on the well-being of employees and stakeholders (Ph & Technology, 2022). ICAI's Sustainability Reporting Standards Board is improving non-financial reporting by broadening metrics for Sustainable Development Goals and establishing sustainability disclosure benchmarks. The Sustainability Reporting Maturity Model (SRMM) model 1.0 serves as a self-evaluation tool for organizations to assess their maturity level, pinpoint improvement areas, and strategize to enhance sustainability reporting, which in turn boosts their environmental and social impact to further achieve SDGs https://www.icai.org/ . NSE and BSE have released 38 integrated sector-specific guides for the Business Responsibility and Sustainability Report (BRSR) format, outlining SEBI's mandated parameters and disclosure techniques. These guidelines align with five global reporting frameworks and SEBI's Standardized Industry Classification System. The BRSR framework, introduced for FY 2022-23, marks a significant advancement in India's sustainability reporting, reflecting a growing awareness among stakeholders about non-financial disclosures, though further efforts are needed to enhance its acceptance (Mishra & Deb, 2018; Rupam Majumder & Dr. Ahmed Hussain, 2023).

2.2 Theoretical Framework

2.2.1 Legitimacy theory

Researchers have extensively employed legitimacy theory to elucidate specific organizational practices concerning social and environmental transparency. According to legitimacy theory, firms can condition how the relevant public perceives them by using implicit mechanisms such as social and environmental disclosure. This allows them to gain or maintain legitimacy, which in turn affects societal perception (Cho & Patten, 2007). Petroleum companies' increased environmental disclosures, influenced by size and Alyeska variables, support legitimacy theory, suggesting that threats to a firm's legitimacy encourage more social responsibility information in its annual report

(Patten, 1992). Since not all stakeholders view legitimacy in the same manner, legitimacy is reliant on the disclosure tool's credibility. Therefore, organizations need to know which stakeholder interests need to be taken care of first (Monfardini et al., 2013). One possible explanation for the declining trend of volunteer social and environmental reporting could be found in legitimacy theory (Tilling, 2010). The proactive strategy is planning disclosure to avoid issues with legitimacy from emerging (van Staden & Hooks, 2007). The research demonstrates a reactive strategy, particularly in cases where environmental performance and disclosure are negatively correlated.

2.2.2 Stakeholder theory

Stakeholder theory states that to be answerable to investors, businesses must weigh the expectations and interests of numerous stakeholders, some of which may be affected by or influence the organization's activities (Bonnafous-Boucher & Rendtorff, 2016). Additionally, stakeholder theory is a helpful paradigm for reporting on sustainability and monitoring corporate social performance(Harvey & Schaefer, 2001). In examining how stakeholder theory might be used to explain corporate social disclosure, the study finds important connections between stakeholder power, strategic positioning, and financial performance (Roberts, 1992). According to the study, stakeholders' expectations can be balanced by having an environmental committee at the board level and a diverse, independent corporate board that works together to balance financial and non-financial aims (Liao et al., 2015).

2.2.3 Institutional theory

To explain behavioral variation in disclosure levels, institutional theory (1957) investigates the relationship between institutions and behavior, taking into account factors at the corporate and national levels (Leong & Hazelton, 2019). Automobile firms' social and environmental reports demonstrate their growing proficiency with stand-alone reporting (Russo-Spena et al., 2018). Some scholars have recently developed novel ideas in the field of institutional theory, such as "institutional logics" and "institutional work" (Thornton et al., 2013). The particular "institutional logic" that "both regularizes behavior and provides opportunities for agency and change" has an impact on both individual and organizational behavior (Thornton et al., 2013). "Institutional work," which is described as "the broad category of purposive action aimed at creating, maintaining, and disrupting institutions," is the other new idea generated from institutionalism (Faragó, 2008).

2.2.4 Agency theory

In business administration studies, agency theory—which Jensen & Meckling, 1976 established in the 1970s is used to describe interactions between boards, shareholders, managers, and stakeholders, and focuses on delegating. According to Korean family groups family control has an impact on environmental performance disclosure, enhancing reputation but decreasing controlling power, and the impact is contingent upon the extent of family ownership and the presence of the CEO (Terlaak et al., 2018).

2.2.5 Signaling theory

A company's reputation and dedication to sustainability can be improved by disclosing its views and actions on social and environmental issues. Studies indicate that there is a negative link between internationalization and a good relationship with profitability when it comes to GRI sustainability reporting. High-commitment CSR firms are more likely to get assurance and offer stand-alone reports (Clarkson et al., 2019).

2.2.6 Attribution theory

Attribution theory contends that freely revealing somewhat negative information might enhance a company's reputation and management has no incentive to disseminate false information (Jahn & Brühl, 2019). CSR performance and environmental labor performance have a major impact on investment decisions, and investors dismiss good company news in the absence of trustworthy disclosure (Cohen et al., 2017).

2.2.7 Social movement theory

This study looks at how media coverage and other crucial stakeholders can affect organizational processes in activist rallies against US (Returns & Soule, 1990).

2.2.8 Structuration theory

"The structure theory," a social theory, holds that society is a dynamic process that is influenced by human behavior and evolves and space (Powers & Giddens, 1988). The "strong structuration theory offers a four-part framework to help understand the duality between agent and structure and (Coad et al., 2016; Whittington, 2015).

2.3 Hypotheses Development

To understand the relationship between institutional features and sustainability reporting in banking firms, our study investigates three hypotheses based on agency theory, legitimacy theory, stakeholder theory, and signaling theory.

2.3.1 Bank Size

Prevailing research show that larger businesses typically provide higher-quality and more thorough information in their sustainability reports (Maurya & Singh, 2022; Miklosik et al., 2021; Patten, 1992, 2002; Reverte, 2009). Features of larger organizations include substantial social and environmental repercussions and great public visibility (Cowen et al., 1987). Additionally, because they are more the public observation than smaller businesses, they have more funds available for NFD investment (Rahman Belal, 2001), and strive to project a favorable impression on their stakeholders (Patten, 2002; Welbeck et al., 2017a).

H0: The size of the Bank significantly improves the Sustainability Business Disclosure Index.

H1: The size of the Bank does not significantly improve the Sustainability Business Disclosure Index.

2.3.2 Bank Age

The amount of corporate disclosure is determined in part by the firm's age. Because of their extensive expertise, older companies are probably going to reveal a lot more information than newer ones, (Akhtaruddin, 2005; Owusu-ansah & Owusu-ansah, 2018). Most of the researchers discovered a favorable correlation between the age of the company and the quantity of sustainability and CSR reporting (Fahad & Kb, 2018; Zakimi & Hamid, 2004).Few studies have discovered a negative correlation between a company's age and sustainability disclosure (Bhayani, 2012a; Hossain & Reaz, 2007)

H0: The Age of the Bank significantly improves the Sustainability Business Disclosure Index.

H1: The Age of the Bank significantly does not improve the Sustainability Business Disclosure Index.

2.3.3 Foreign Association

Businesses that expand internationally may find that their efforts at “non-financial disclosure” (NFD) and ‘corporate social responsibility’ (CSR) rise as they build a reputation for being good citizens and are rewarded by new global (Chapple & Moon, 2005; Meek et al., 1995; Welbeck et

al., 2017). The compliance of a company with foreign business system reporting regulations regarding non-financial disclosure (NFD) can be greatly impacted by its global presence (Robb et al., 2001). The percentage of sales that are exported to other nations serves as an operational me (Chapple & Moon, 2005; Depoers, 2000)(Chapple & Moon, 2005; Depoers, 2000), and Common-law nations rely heavily on private sector actors, including financially motivated shareholders, to determine government (Ball et al., 2000). Government, labor, and capital agents, among other organizations that enter into contracts with the company, are given a great deal of political sway in code-law countries(Joshi & Gao, 2009).

H0: The Foreign Association of the Bank significantly improves the Sustainability Business Disclosure Index.

H1: The Foreign Association of the Bank significantly does not improve the Sustainability Business Disclosure Index.

3 *Research Design*

3.1 *Sampling method*

The study adopted a cross-sectional approach to examine BSBR Reports on the environmental disclosure practices of Indian banks. The sampling method was non-probability sampling with the certain criteria following in Table -1 for the sampling process. The total samples selected for analysis is 26 public and private banks in India.

Table: - 1 Number of samples

INFORMATION	BANKS
Total number of Banks (Both Public and Private Banks)	37
Total Number of Banks that have not disclosed sustainability reports.	11
Final sample	26

Source: Authors own work

3.2 Data

The data was collected for the year 2023-2024 from Moneycontrol.com based on banks' market capitalization, and both public and private sector banks were included in this study for the analysis of Business responsibility and sustainability reports of banks.

3.3 Research model & Variable

Sustainability reporting and business accountability are the sources of dependent variables used in this study. Researchers measured the level of disclosure using a content analysis method on a binary scale (0,1) and created a Sustainability Business Disclosure Index (SBDI). This method has been consistently and widely used in previous empirical studies on CSR/sustainability and environmental disclosure worldwide to assess annual reports, standalone reports, or any other document to determine the extent of required disclosure and the presence or absence of quantitative information (Aggarwal & Singh, 2019; Branco & Rodrigues, 2008; Buallay, 2020; Khaled Hossain et al., 2018; Kumar et al., 2023; Kumar & Prakash, 2019; Ramdhony, 2015).

Past literature as well as national and international SR standards—such as the equator principle and NGVs GRI, G4, UNDC, and others were use to create a comprehensive sustainability Business Disclosure Index (SBDI) that covers 11 dimensions (table 2) of SR disclosure indicators out of a total of 134. (Refer to Appendix 1 for specifics.)

Table 2: Source of dimension for SRDI

Dimensions	Source
1. General **2. Policy & Management Process** **3. Business Ethics & Accountable** **4. Product Life Cycle & Sustainability** **5. Employee Well-being** **6. Stakeholder Engagement** **7. Human Rights** **8. Environment** **9. Public Advocacy** **10. Inclusive Growth** **11. Customer Relationship**	(Aggarwal & Singh, 2019; Branco & Rodrigues, 2008; Buildings, 2019; Bukhari et al., 2021; Debnath & Kanoo, 2023; García-Torea, 2023; Global Reporting Initiative, 2013; Gray, 1994; Guidelines, 2013; ICAI, 2014; Kumar et al., 2023; Roberts, 1992; SEBI, 2021)

Table 3: Outline of Independent and Dependent Factors

Dependent Variable	Symbol	Functioning	Data Source

Sustainability Business Disclosure Index	SBDI	SBDI is computed by dividing the total number of indicators by the combined score on all dimensions.	Authors calculation
Independent Variable			
Bank Age	BAGE	Establishment year of Banks (Natural logarithm of years since incorporation)	Annual Reports and BSBR Reports
Bank Size	BSIZE	Markets Capitalization of Banks (Natural Log of total assets)	Annual Reports and BSBR Reports
Foreign association	BFOREIGN	Variable with a value of 1 if the bank conducts business internationally and 0 otherwise.	Annual Reports and BSBR Reports

Source: Authors own work

A score of "0" has also been applied to items revealed as "not applicable or NO" to penalize banks for not disclosing the same items that have been verified by other financial institutions. As a result, the scores of each item are summed together to determine the sustainability disclosure score for each SR dimension, which is then used to determine the SBDI.

3.4 Research Model

$$SBDI = \alpha + \beta 1BAGE + \beta 2BSIZE + \beta 3BFOREIGN + error$$

α = Intercept

β = slope

BAGE = Natural Logarithm of Bank established year

BSIZE = Natural logarithm of Bank Market Capitalization

BFORIGN = Foreign Association of Banks

Table 4: Names of Banks and their established year, market Capitalizations, and foreign associations

No.	Bank Name	Year	Market Capitalization (cr.)	Internationalization
1.	Bank of Baroda	1908	108314.18	YES
2.	Panjab National Bank	1849	93879.92	YES
3.	Union Bank	1919	85576.71	YES
4.	Indian Overseas Bank	1937	79427.94	YES
5.	Canara Bank	1906	77916.89	YES
6.	Indian Bank	1907	51268.58	YES
7.	UCO Bank	1943	47094.52	YES
8.	Bank of India	1906	45549.58	YES
9.	Central Bank	1911	41147.65	NO
10	Bank of Maharashtra	1935	32276.9	NO
11	Panjab & Sind Bank	1908	29361.37	NO
12	HDFC Bank	1994	1183174.86	YES
13	ICICI Bank	2000	690126.1	YES
14	Kotak Mahindra Bank	1985	353752.42	YES
15	Axis Bank	1994	335583.14	YES
16	IndusInd Bank	1994	128154.71	YES
17	IDBI Bank	2004	74191.58	YES
18	Yes Bank	2003	71673.84	YES
19	IDFC First Bank	2014	60951.29	NO
20	AU Small Finance Bank	1996	50492.47	NO
21	Bandhan Bank	2014	36454.84	NO
22	Federal Bank	1931	35690.82	YES
23	Karur Bank	1916	13732.92	NO
24	Ujjivan Small Finance Bank	2016	11467.49	NO
25	Karnataka Bank	1924	9412.47	NO
26	TBM	1921	8030	NO

Source: Authors own work

4. Results & Findings

4.1 *Descriptive statistics*

1. Sustainability Business Disclosure Index

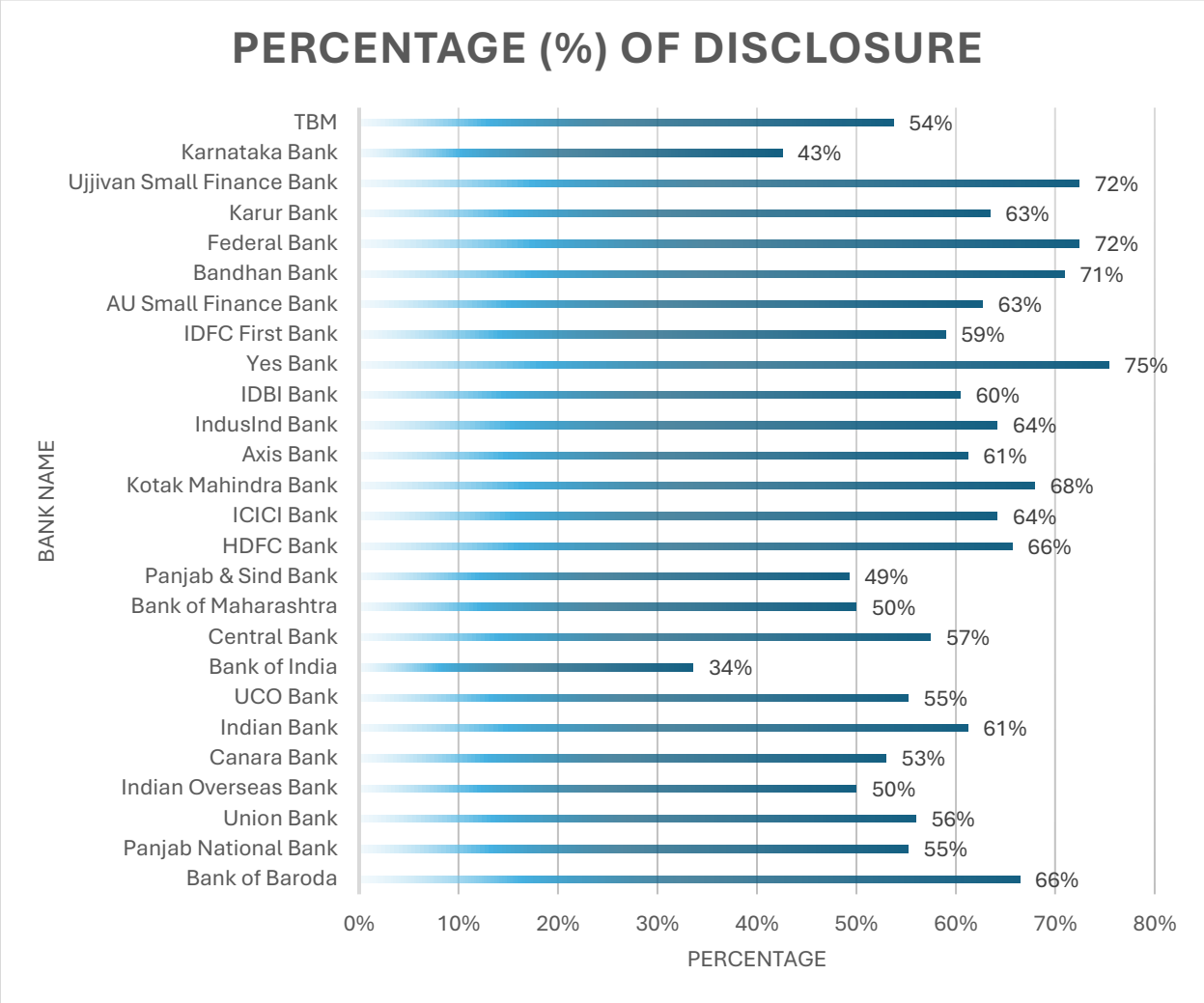
Table: 5 SUSTAINABILITY REPORTING DISCLOSURE SCORE

No.	Bank Name	Yes	Total	% of disclosure
1.	Bank of Baroda	89	134	66%
2.	Panjab National Bank	74	134	55%
3.	Union Bank	75	134	56%
4.	Indian Overseas Bank	67	134	50%
5.	Canara Bank	71	134	53%
6.	Indian Bank	82	134	61%
7.	UCO Bank	74	134	55%
8.	Bank of India	45	134	34%
9.	Central Bank	77	134	57%
10.	Bank of Maharashtra	67	134	50%
11.	Panjab & Sind Bank	66	134	49%
12.	HDFC Bank	88	134	66%
13.	ICICI Bank	86	134	64%
14.	Kotak Mahindra Bank	91	134	68%
15.	Axis Bank	82	134	61%
16.	IndusInd Bank	86	134	64%
17.	IDBI Bank	81	134	60%
18.	Yes Bank	101	134	75%
19.	IDFC First Bank	79	134	59%
20.	AU Small Finance Bank	84	134	63%
21.	Bandhan Bank	95	134	71%
22.	Federal Bank	97	134	72%
23.	Karur Bank	85	134	63%

24.	Ujjivan Small Finance Bank	97	134	72%
25.	Karnataka Bank	57	134	43%
26.	TBM	72	134	54%

Source: Authors own work

Figure: 1 Percentage of banks SBDI



Source: Authors own work

According to the survey, 70% of banks released standalone sustainability reports on their websites, and less than 30% of banks in our sample did not publish their reports using the GRI framework, the most well-liked and extensively utilized ESG framework. The primary driver behind banks' sustainability reporting standards, particularly private banks like ICICI Bank, IndusInd Bank,

HDFC Bank, Kotak Mahindra Bank, Axis Bank, and IDFC First Bank, is regulatory pressure. Sustainability reports are also released by public sector banks such as Bank of India, CANARA Bank, PNB IOB, BOB, etc.

Figure 1 illustrates the percentage of banks' sustainability business disclosure index scores. Based on our analysis, finally, it can be said that 'Yes bank' do provide more information than other financial institutions about non-financial reporting, and Bank of India's "Business Responsibility and Sustainability Report" includes less information about non-financial facts. Bank of Baroda, which is the highest market capitalization in the public sector bank discloses 66% of the information in their BRSR reports and HDFC bank which is also the highest market capitalization in private sector bank disclose 66% in their BRSR reports. Bank of India, Karnataka Bank, and Panjab& Sind Bank disclose less than 50% of their BRSR reports' information in their standalone reports about non-financial information.

4.2 Descriptive Statistics and Findings

Table:6 Descriptive statistics

Name	SBDI	Year	Foreign association	Market capitalization
Mean	0.596	3.908	0.615	11.058
Standard error	0.018	0.193	0.097	0.236
Median	0.605	4.454	1	10.931
Standard Deviation	0.093	0.984	0.496	1.208
Kurtosis	1.09	-0.578	-1.898	0.634
Skewness	-0.762	-0.799	-0.503	0.572
Minimum	0.34	1.791	0	8.990
Maximum	0.75	5.153	1	13.983
Count	26	26	26	26

Table 6: SPSS

By offering a comprehensive summary of the elements of the data set, descriptive statistics assist researchers in characterizing, summarizing, and drawing conclusions about the variables they are researching. The statistics that are descriptive of the Sustainability Business Disclosure index in this empirical study reveal that the data are negatively skewed, with a mean of 0.596 and a standard

deviation of 0.093. The data for the variable 'year' is negatively skewed, with a mean of 3.908 and a standard deviation of 4.454. The data is negatively skewed for the variable 'foreign association' where the mean is 0.615 and the standard deviation is 1, while the data is positively skewed for the variable 'market capitalization' where the mean is 11.058 and the standard deviation is 10.931.

Table: 7 Correlation Analysis between variables

	Year (X1)	Foreign Association (X2)	Market capitalization (X3)	SBDI (Y)
Year (X1)	1			
Foreign Association (X2)	0.1719	1		
Market capitalization (X3)	-0.1917	0.6617	1	
SBDI (Y)	-0.5628	0.1345	0.2784	1

Table 6: SPSS

The analysis shows that the correlation between year and foreign association is 0.1719, which is a positive relationship; between year and market capitalization is -0.1917, and between year and SBDI is -0.5628, which both have a negative relationship. The correlation between foreign association and market capitalization is 0.66174, and between foreign association and SBDI is 0.1345; both are positively related. Finally, the correlation between market capitalization and SDBI is 0.2784, which is also positive.

4.3 Regression Analysis and Findings

Table:8 Regression statistics

Name	Multiple regression (R)	R square	Adjusted R-squared	Standard Error	Observations
Value	0.6099	0.3720	0.2864	0.0786	26

Table 8: SPSS

Relationship between the study's independent and dependent variables. A great deal of earlier research has employed regression (Alsaeed, 2006; Authors, 2017; Bhayani, 2012; Cowen et al.,

1987; Hossain & Reaz, 2007; Kaium Masud et al., 2017; Khaled Hossain et al., 2018; Kumar et al., 2023; Wallace & Naser, 1995). The multiple correlation coefficient, denoted by the letter "R," is worth a given. R is one metric that can be used to assess how well the dependent variable—in this case, the SBDI—was predicted. In this instance, a result of 0.6077 suggests a strong degree of prediction. The amount of the dependent variable's variation that the independent variable can account for is represented by the "R Square," which stands for the R Square value, also known as the coefficient of determination. Stated differently, it refers to the percentage of variation that the regression model explains that is not accounted for by the mean model. Our result of 0.3720 shows that our independent factors can account for 37.20 percent of the variability of our dependent variable, the SBDI.

Table:9 ANOVA Analysis

Name	Df	Sum of squares	Mean Square	F	Significance F
Regression	3	0.8058	0.0268	4.3447	0.0150
Residual	22	0.1360	0.0061		
		0.2165			

Table 8: SPSS

a. Dependent Variable: SBDI (Y)

b. Predictors: (Constant), market capitalization (X3), year (X1), foreign association (X2)

The F-ratio in the ANOVA table indicates how well the regression model fits the data. The dependent variable, $F(3,25) = 4.3447$, $p<0.05$ is determined to be statistically significant by the independent factors. The table reveals that the data fit the regression model satisfactorily.

Table:10 Model coefficient estimates

	Coefficients	Standard error	t- stat	P-value	Lower 95%	Upper 95%	Collinearity Tolerance	Statistics VIF
intercept	0.7830	0.2286	3.4249	0.0024	0.3088	1.2571		

Year	-0.0567	0.0178	-3.1882	0.0042	-0.0937	-0.0198	.804	1.243
Foreign association	0.0433	0.0462	0.9367	0.3590	-0.0526	0.1392	.469	2.131
Market capitalization	0.0007	0.0190	0.0417	0.9670	-0.0387	0.0403	.466	2.147

Table 11: Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	(constant)	Year (X1)	Foreign Association (X2)	Market Capitalization (X3)
1	1	3.667	1.000	.00	.00	.01	.00
	2.	.286	3.583	.00	.01	.49	.00
	3.	.044	9.091	.01	.67	.01	.03
	4.	.002	38.769	.99	.31	.49	.97

The unstandardized coefficients indicate the degree to which the dependent variable varies with an independent variable when all other independent variables are held constant. In this instance, think about the impact of the year. For the year, the unstandardized coefficient, B1, is -0.0567. This indicates that the SBDI decreases by 0.0567 for every year that a bank's age increases, and for the foreign association the unstandardized coefficient B2 is 0.0433, this indicates that SBDI has also been disclosed by the foreign association.

The unstandardized coefficient for the market capitalization B3 is 0.007. This indicates that the SBDI has been disclosed more when market capitalization has been disclosed more. Bank attributes like age are discovered to significantly impact on SBDI as shown in Table 9 as ($P < .05$)

and foreign association and market capitalization do not have a significant effect on SBDI as shown in Table 9 (P>.05). we found an insignificant association between foreign associations and SBDI in our sample data which is supported by Some further studies (Maurya & Singh, 2022a) and (Bhayani, 2012b) and (Bhayani, 2012b). while market capitalization also has an insignificant association with SBDI as shown in Table 9 as (P>0.05) in sample data which is supported by other studies (Akhter et al., 2023; Maurya & Singh, 2022b; Owusu-ansah & Owusu-ansah, 2018b), but and (Owusu-ansah & Owusu-ansah, 2018a; Reverte, 200(G finds significance at a 5% level

5 Conclusion

This study investigates variables related to the Sustainability Business Disclosure Index, which was developed by researchers using binary coding, content analysis, and data from bank BRSR reports. The SEBI amendment required banks to disclose non-financial items at the end of the year. A disclosure index was used in the study to measure sustainability disclosure based on 26 banks' BRSR reports from 2021-22. Factors such as bank age, calculated using the natural logarithm of the year of establishment; bank size, measured by the natural logarithm of market capitalization; and foreign association were considered. The study aimed to identify factors significantly associated with increased sustainability disclosure in banks, in response to the SEBI amendment. The results show that the year variable and SBDI were negatively correlated, contradicting the null hypothesis. Although not statistically significant at the 1% level, the foreign association variable 2 showed a positive effect on SBDI. Additionally, the positive unstandardized coefficient indicated a trend of SBDI increasing with market capitalization. The positive unstandardized and standardized coefficients suggest a potential positive relationship between market capitalization and SBDI, despite the lack of statistical significance.

6 Limitations and Future Directions

Empirical studies often lack a comprehensive understanding of complex occurrences due to narrowly specified research questions, self-developed indices, and cross-sectional studies. Longitudinal studies, while superior for exploring causal linkages and temporal dynamics, may face challenges with participant retention and data collection. Interdisciplinary studies involving psychology, sociology, anthropology, and economics provide a thorough understanding of complex events. The process of identifying and categorizing the reported sustainability information may involve subjective judgment due to the use of content analysis as the method of information gathering.

Abbreviations

SBDI- Sustainability Business Disclosure Index

BRSR- Business Responsibility and Sustainability Reporting

ESG- Environmental, Social, and Governance

α = Intercept

β = slope

BAGE = Natural Logarithm of Bank established year

BSIZE = Natural logarithm of Bank Market Capitalization

BFORIGN = Foreign Association of Banks

X1- year

X2- foreign association

X3- market capitalization

TCFD- Task Force on Climate-related Financial Disclosures

GRI- Global Reporting Initiative

SASB- Sustainability Accounting Standards Board

MCA- Ministry of Corporate Affairs

BRR- Business Responsibility Reporting

CSR- Corporate Social Responsibility

IR- Internal Reporting

NGRBC- National Guidelines on Responsible Business Conduct

WCED- World Commission on Environment and Development

GRI- Global Reporting Initiative

SBM- Swachh Bharat Mission

BBBP- Beti Bachao Beti Padhao

PMAY- Pradhan Mantri Awas Yojana

PMJDY- Pradhan Mantri Jan-Dhan Yojana

DDUGJY- Deen Dayal Upadhyay Gram Jyoti Yojana

PMUY- Pradhan Mantri Ujjwala Yojana

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Figure Legends and 'Table Legends

Table:1 sample included for the analysis are 26 Indian banks

Table:2 sustainability dimensions with their citations

Table: 3 Variable descriptions and their meaning

Table: 4 data normalization table and their value

Table: 5 Percentage of banks SBDI

Table: 6 Description of descriptive statics with their value

Table: 7 Correlation Analysis between variables

Table:8 Regression statistics

Table:9 ANOVA Analysis

Table:10 Model coefficient estimates

Table 11: Collinearity Diagnostics